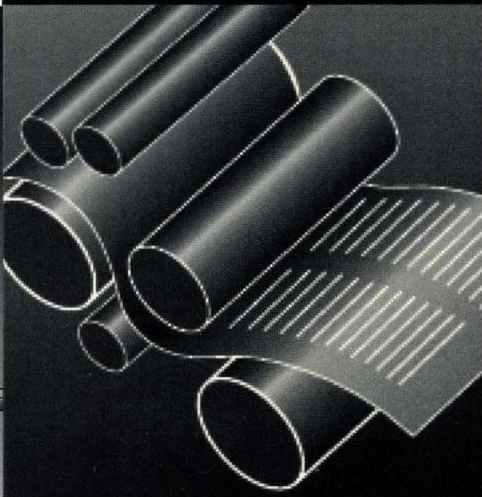
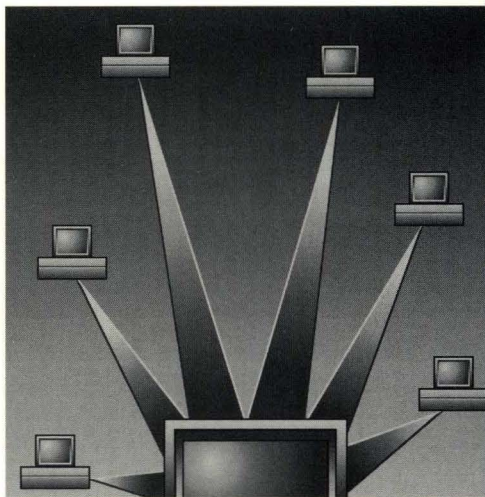


THE HIGH PERFORMANCE PRINT SERVER FOR YOUR NETWORK

LAN PRESS™  
JET PRESS™



INSTALLATION AND OPERATION GUIDE

LAN PRESS / JET PRESS

INSTALLATION AND OPERATION GUIDE

**LANpress/JetPress Installation and Operation Guide**  
**P/N 61-1067-001 Rev. A (29 July 1994)**

Copyright © 1990, 1991, 1992, 1993, 1994 by Castelle  
3255-3 Scott Boulevard  
Santa Clara, CA 95054

**Print Server Serial Number** - Find the eight-digit serial number on the LANpress™ or JetPress™ and write it here. The serial number is located on the bottom of the LANpress unit, or on the JetPress' circuit board. You may need this number when you install or reconfigure the print server.

--	--	--	--	--	--	--	--

Castelle is committed to the highest level of customer support and service. If you experience a problem with any of our products, please call us at (408) 496-0474 and ask for Technical Support, or you can send e-mail to [support@castelle.com](mailto:support@castelle.com). Our Customer Support fax number is (408) 492-1338. If sending a fax, please include a summary of your question, along with sample documents, and your fax/phone numbers. We will fax a reply or follow up via telephone.

The Castelle bulletin board number is (408) 496-1807. It can be reached using a modem with the following settings: 1200, 2400, 9600, or 14400 baud, no parity, eight data bits, and one stop bit.

All Rights Reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form by any means without the written permission of Castelle.

Castelle makes no representations or warranties with respect to the contents or use of this manual and specifically disclaims any express or implied warranties on merchantability or fitness for any particular purpose. Information in this document is subject to change without notice and does not represent a commitment on the part of Castelle.

This product contains computer software Copyright © 1982, 1986, 1988 Regents of the University of California. All rights reserved.

All trademarks are the property of their respective holders.  
LANpress and JetPress are registered trademarks of Castelle, Inc.  
PostScript is a registered trademark of Adobe Systems, Inc.  
HP, LaserJet, and PCL, HP-UX, and OpenView are registered trademarks of Hewlett-Packard, Inc.  
PC and PC AT are trademarks of International Business Machines Corporation.  
MS-DOS is a trademark of Microsoft, Inc.  
Novell, NetWare, and NetWare Management System are registered trademarks of Novell, Inc.  
SCO is a registered trademark of The Santa Cruz Operation, Inc.  
Sun, Sun-OS, Sun Workstation, SPARC, Sun-3, and SunNet Manager are registered trademarks of Sun Microsystems, Inc.  
UnixWare is a registered trademark of Univel  
UNIX is a registered trademark of Unix Systems Laboratories, Inc.

## FCC Information

**Warning** - This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with this manual, may cause interference to radio communications. It has been type tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

The user may not under any circumstances other than specified in the manual, under installation and maintenance sections, attempt any service, adjustments, or repairs on this unit. It must be returned to the factory or authorized service agency for all such work.

# Table of Contents

---

<b>Chapter 1: Introduction</b> . . . . .	<b>1-1</b>
About This Manual . . . . .	1-1
EXTRA Models with UNIX Support . . . . .	1-3
Where to Look . . . . .	1-4
Installation Overview . . . . .	1-5
Terms and Concepts . . . . .	1-5
How LANpress/JetPress Works . . . . .	1-7
How LANpress/JetPress Works as a NetWare Print Server . . . . .	1-8
How LANpress/JetPress Works as a NetWare Remote Printer . . . . .	1-8
How LANpress/JetPress works as a UNIX print server . . . . .	1-9
LANpress/JetPress NetWare Configuration Software . . . . .	1-9
<b>Chapter 2: Hardware Installation, LANpress</b> . . . . .	<b>2-1</b>
Connecting The Cables . . . . .	2-1
<b>Chapter 3: Hardware Installation, JetPress MIO</b> . . . . .	<b>3-1</b>
Setting Token Ring Data Rate . . . . .	3-1
Hardware Installation . . . . .	3-2
Installing JetPress MIO Hardware . . . . .	3-2
<b>Chapter 4: Hardware Installation, JetPress XIO</b> . . . . .	<b>4-1</b>
Hardware Installation . . . . .	4-1
Installing JetPress XIO in the Printer . . . . .	4-2
Printer Configuration . . . . .	4-3
Using PostScript Cartridges . . . . .	4-4
<b>Chapter 5: LANpress/JetPress NetWare Setup</b> . . . . .	<b>5-1</b>
Installing LANpress/JetPress as a NetWare Print Server . . . . .	5-2
NetWare 4.0 Print Server Installations . . . . .	5-4
Installing LANpress/JetPress as a NetWare Remote Printer . . . . .	5-4
Before Running CPADMIN . . . . .	5-5
Running CPADMIN . . . . .	5-6
<b>Chapter 6: Changing LANpress/JetPress Print Server Configuration</b> . . . . .	<b>6-1</b>
Using CPADMIN . . . . .	6-1

Change Queues Serviced by Printer . . . . .	6-2
Change Printer Port Configuration . . . . .	6-2
Change Master File Server . . . . .	6-3
Rename Print Server . . . . .	6-4
Set Print Server Password . . . . .	6-4
Set Queue Polling Time Interval . . . . .	6-4
Reset Print Server . . . . .	6-5
Print Server Information . . . . .	6-5
<b>Chapter 7: Advanced Configuration Using LPCONFIG . . . . .</b>	<b>7-1</b>
Using LPCONFIG . . . . .	7-2
Show Current Settings . . . . .	7-3
Reset (Reboot) LANpress/JetPress . . . . .	7-3
Rename Print Server . . . . .	7-4
Set Password . . . . .	7-4
Turn Configuration Report Off/On . . . . .	7-4
Select Configuration Report/Banner Page Format . . . . .	7-5
Set Parallel Port Interval . . . . .	7-6
Set Queue Polling Interval (Print Server) . . . . .	7-7
Set Ethernet Network Type . . . . .	7-7
Configure Token Ring Source Routing . . . . .	7-8
Set Token Ring Local Address . . . . .	7-9
Set Token Ring Broadcast Type . . . . .	7-9
Set Master File Server . . . . .	7-10
Set Network Operating System (EXTRA Units Only) . . . . .	7-10
Set UNIX IP Address (EXTRA Units Only) . . . . .	7-10
Set UNIX Default Gateway (EXTRA Units Only) . . . . .	7-11
Set UNIX Subnetwork Mask (EXTRA Units Only) . . . . .	7-11
Set Serial Port Baud Rate . . . . .	7-11
Restore Factory Defaults . . . . .	7-11
<b>Chapter 8: Troubleshooting/Answers to Common Questions . . . . .</b>	<b>8-1</b>
Light Behavior . . . . .	8-1
Troubleshooting . . . . .	8-4

Installation Troubleshooting . . . . .	8-4
After Installation . . . . .	8-5
Green Light Off/Red On Error . . . . .	8-5
Jobs Don't Print . . . . .	8-6
Can't Print to Queue, or Incorrect Results . . . . .	8-7
Renaming Print Server . . . . .	8-7
Incorrect PROM Version . . . . .	8-8
Report Printing on Dot Matrix Printers . . . . .	8-8
Answers to Common Questions . . . . .	8-9
Avoiding Reboot with Print Server Status/Control . . . . .	8-9
Don't Like Diagnostic . . . . .	8-9
Installing the Print Server on a Second File Server . . . . .	8-10
Using LANpress/JetPress 3.1 or Later With Earlier Releases . . . . .	8-12
<b>Chapter 9: UNIX Print Server Setup . . . . .</b>	<b>9-1</b>
Step 1: Add the Print Server to <i>/etc/hosts</i> . . . . .	9-1
Step 2: Extract LANpress/JetPress' software . . . . .	9-1
Step 3: Set the IP Address with <i>psbrarp</i> . . . . .	9-2
Step 4: Configure the Print Server . . . . .	9-4
<b>Chapter 10: UNIX Print Queue Setup . . . . .</b>	<b>10-1</b>
SunOS 4.x and Solaris 1.x . . . . .	10-1
Solaris 2.x (SunOS 5.x) and UnixWare 1.x . . . . .	10-3
SCO version 3.2 2 . . . . .	10-5
HP-UX version 9.0 . . . . .	10-8
<b>Chapter 11: Using LANpress/JetPress with UNIX . . . . .</b>	<b>11-1</b>
lpd Filters . . . . .	11-1
Banner Pages . . . . .	11-1
Printing Priority . . . . .	11-2
Adding a RARP Table Entry . . . . .	11-2
Restarting or Rebooting the Print Server . . . . .	11-3
<b>Chapter 12: Print Server UNIX Utilities . . . . .</b>	<b>12-1</b>
Extracting the Utilities . . . . .	12-1
uxconfig . . . . .	12-2

Using uxconfig . . . . .	12-3
Show Current Settings . . . . .	12-3
Reset (Reboot) LANpress/JetPress . . . . .	12-4
Change IP Address . . . . .	12-4
Set Default Gateway . . . . .	12-4
Set Subnetwork Mask . . . . .	12-5
Set Network Operating System . . . . .	12-5
Turn Configuration Report Off/On . . . . .	12-5
Select Configuration Report/Banner Page Format . . . . .	12-6
Set Parallel Port Strobe Interval . . . . .	12-6
Set Serial Port Baud Rate . . . . .	12-7
psbrarp . . . . .	12-8
etherhex . . . . .	12-9
<b>Chapter 13: UNIX Troubleshooting . . . . .</b>	<b>13-1</b>
Long Boot Time . . . . .	13-1
Spooler Execution Error . . . . .	13-1
Network Error . . . . .	13-1
Spooler Communication Error . . . . .	13-2
Print Server Error . . . . .	13-2
<b>Chapter 14: Technical Support . . . . .</b>	<b>14-1</b>
Troubleshooting Information . . . . .	14-1
How to Reach Us . . . . .	14-1
Returning Defective Products . . . . .	14-2
<b>Appendix A: LANpress/JetPress Specifications . . . . .</b>	<b>A-1</b>
<b>Appendix B: Pin-Out Diagrams . . . . .</b>	<b>B-1</b>
<b>Appendix C: Configuring Token Ring Data Rate (2+2) . . . . .</b>	<b>C-1</b>
<b>Appendix D: SNMP Features (LANpress 2P Only) . . . . .</b>	<b>D-1</b>

# Chapter 1

---

## Introduction

The Castelle LANpress and JetPress are network print servers that you can use on Novell NetWare networks. The hardware is either a small portable box (LANpress), or a circuit board that plugs into the printer's Optional I/O or Modular I/O port (JetPress). Connect it anywhere on your network, and connect up to four print devices to it (depending on LANpress or JetPress model). Then use the LANpress/JetPress software to quickly and easily set up your LANpress/JetPress as either a NetWare print server or remote printer.

Network users can print using the same NetWare utilities they are already familiar with, including CAPTURE, NPRINT, and PCONSOLE.

Some LANpress and JetPress units are designated EXTRA, for example LANpress 2+2EXTRA. EXTRA units can be installed as print servers on both NetWare and UNIX networks. EXTRA units are only available with Ethernet network connection. In this manual, the EXTRA designation is used only when discussing the differences between EXTRA and non-EXTRA units. EXTRA models are only available with Ethernet network connection.

In print server mode, most LANpress/JetPress models can service up to 32 print queues on up to eight file servers. The exception to this is LANpress 2+2EXTRA, which can service up to 64 queues on up to 16 file servers.

## About This Manual

---

This manual describes installing and setting up your LANpress or JetPress under Novell NetWare, and in some UNIX environments. It describes the complete LANpress and JetPress product families, including:

- **LANpress 2+2** (2 parallel, 2 serial ports)
- **LANpress 2P** (2 parallel ports)
- **LANpress 1+1** (1 parallel, 1 serial port)
- **LANpress 1P** (1 parallel port)
- **JetPress MIO PLUS** (Fits HP LaserJet 4 and other printers with MIO slot; has 1 parallel and 1 serial port for two additional printers)



- **JetPress MIO** (Fits HP LaserJet 4 and other printers with MIO slot)
- **JetPress XIO** (Fits HP LaserJet Series II and Series III printers, and other printers with XIO slot)

**Note:** In previous Castelle publications, JetPress XIO was called simply "JetPress."

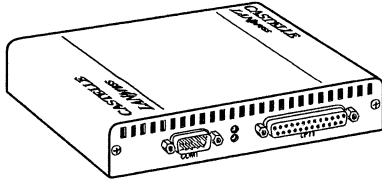


Figure 1-1. LANpress 1+1 (LANpress 2P and 1P similar)

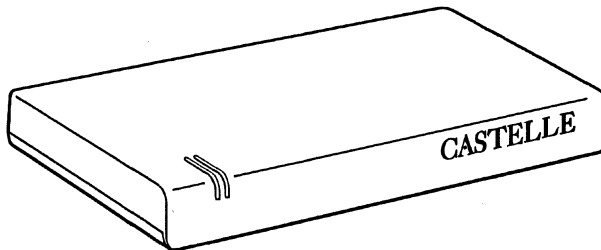


Figure 1-2. LANpress 2+2

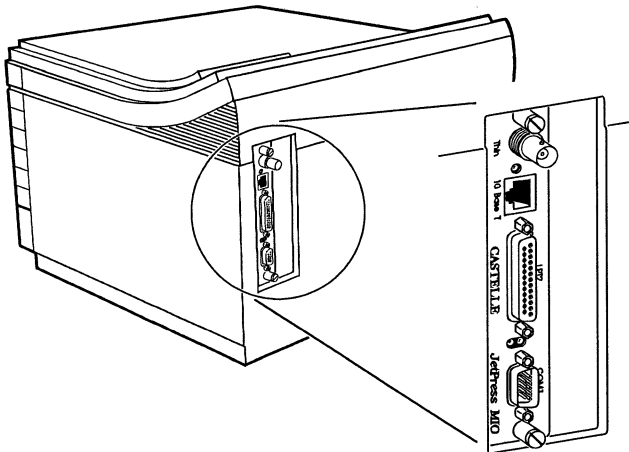


Figure 1-3. JetPress MIO PLUS (JetPress MIO Similar; Shown installed in HP LaserJet 4)

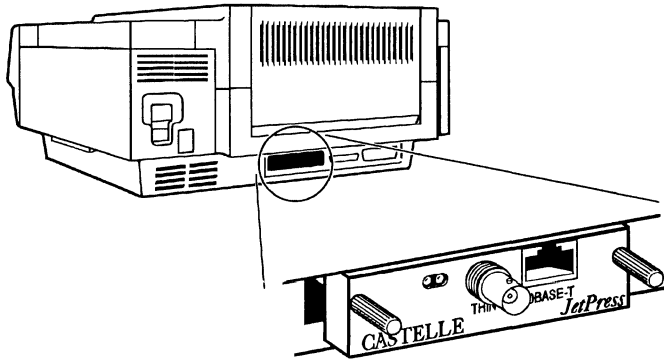


Figure 1-4. JetPress XIO (Shown Installed in HP LaserJet Series II Printer)

For a matrix showing the LANpress/JetPress product family, see Appendix A of this manual.

This manual assumes the reader's basic familiarity with DOS commands and conventions, and with the Novell NetWare environment, particularly with regard to print server functions.

## EXTRA Models with UNIX Support

---

LANpress and JetPress EXTRA units can be installed as print servers on both NetWare and UNIX networks. The following EXTRA models are available:

- LANpress 2+2EXTRA
- LANpress 2P EXTRA
- LANpress 1+1EXTRA
- JetPress MIO PLUS EXTRA
- JetPress XIO EXTRA

Installing and using EXTRA models under UNIX is documented in chapters 9 through 13 of this manual. The following UNIX versions are supported:

- SunOS 4.x/Solaris 1.x
- Solaris 2.x (SunOS 5.x)
- Univel UnixWare version 1.x
- SCO UNIX 3.2 2, with SCO TCP/IP 1.2
- HP/UX version 9.0

## Where to Look

The following table describes where to look for information in this manual:

	Chapter:	Title:	Read for:
	Chapter 1	Introduction	General information, installation overview
Hardware Installation Chapters	Chapter 2	Hardware Installation, all LANpress models	Instructions on connecting LANpress to the network
	Chapter 3	Hardware Installation, JetPress MIO	Instructions on installing JetPress MIO and connecting it to the network
	Chapter 4	Hardware Installation, JetPress XIO	Instructions on installing JetPress and connecting it to the network
Print server configuration and setup for NetWare	Chapter 5	LANpress/JetPress Setup	Instructions on LANpress/JetPress setup using CPADMIN
	Chapter 6	Changing LANpress/JetPress Print Server Configuration with CPADMIN	Instructions on changing LANpress/JetPress configuration using CPADMIN
	Chapter 7	Advanced Configuration Using LPCONFIG	Instructions on configuring how LANpress/JetPress operates on the network, using LPCONFIG
	Chapter 8	Troubleshooting/Answers to Common Questions	Possible solutions to common problems relating to the print server
Print Server configuration and setup for UNIX; applies only to EXTRA models	Chapter 9	UNIX Print Server Setup	Configuring the LANpress/JetPress to service UNIX print queues
	Chapter 10	UNIX Print Queue Setup	Setting up print queues for the print server on various UNIX systems
	Chapter 11	Using the Print Server with UNIX	General information on using the print server under UNIX
	Chapter 12	Print Server UNIX utilities	Instructions on using the print server's UNIX utilities
	Chapter 13	UNIX Troubleshooting	Possible solutions to common problems relating to the print server
	Chapter 14	Technical Support	Contacting Castelle Technical Support to resolve problems with LANpress/JetPress
	Appendix A	Specifications	LANpress and JetPress technical data
	Appendix B	Pin-out Diagrams	Pin connection descriptions for LANpress/JetPress ports, and correct serial cable pin connections
	Appendix C	Configuring Token Ring Data Rate (LANpress 2+2)	Switching 2+2 Token Ring from 16 Mbps to 4 Mbps
	Appendix D	SNMP Features (LANpress 2P)	Using LANpress 2P's SNMP Features

## Installation Overview

---

Installing LANpress/JetPress is a simple operation:

1. Decide whether you want to set LANpress/JetPress up as a print server or remote printer. (See *How LANpress/JetPress Works*, in this chapter.)
2. If you have LANpress 2+2 Token ring, and you want to install it on a 4 Mbps network, see Appendix C to change the jumper settings inside the unit. The default jumper settings are for 16 Mbps.
3. Install LANpress hardware on the network:
  - See Chapter 2 for all LANpress models
  - See Chapter 3 for JetPress MIO (LaserJet 4 and other printers with MIO-type option slot)
  - See Chapter 4 for JetPress XIO (LaserJet Series II and other printers with XIO-type option slot)
4. If installing as a remote printer, complete preliminary configuration using PCONSOLE. (See Chapter 5.)
5. Use CPADMIN to set up LANpress/JetPress as a NetWare print server or remote printer. (See Chapter 5.)

and/or

Use `psbrarp` and `uxconfig` to set up LANpress/JetPress EXTRA as a UNIX print server. (See Chapters 9 and 10)

## Terms and Concepts

---

**Automatic language switching** is a feature of some print devices wherein the printer detects whether jobs sent to it are in PCL (HP LaserJet language) or PostScript, and prints jobs in either language correctly.

The **host print device** or **host printer** refers to the printer or plotter where the a JetPress board is installed.

The **master file server** stores data required for LANpress/JetPress to operate as a NetWare print server. Each LANpress/JetPress print server has one master file server, which you designate during initial setup with CPADMIN.

A **print queue** is a directory on a file server where a print job is stored as a file, until the print server sends the job to the assigned printer.

A **print server** moves jobs from print queues to printers.

A **remote printer** is a shared printer connected elsewhere on the network, but under the control of a NetWare print server. Traditionally, a remote printer is connected to a network workstation running NetWare's RPRINTER.EXE, but LANpress/JetPress and its printers can also function as remote printers.

A **configuration report** prints each time LANpress/JetPress is reset. If the unit is installed as a NetWare print server, the configuration report lists: print server name, master file server, queue-port assignments, and serial port settings. If LANpress/JetPress is installed as a NetWare remote printer, the configuration report lists: the unit's serial number, the print server LANpress/JetPress operates under, LANpress/JetPress port-printer assignments, and serial port settings. For EXTRA units installed as UNIX print servers, the configuration report lists: print server IP address, default gateway, subnetwork mask, serial port settings, and TCP/IP port number.

A **diagnostic report** prints only in the event of a problem. The diagnostic report contains information very helpful to Castelle Technical Support in resolving problems.

Note: For JetPress MIO, if the unit is booted but cannot communicate over the network, the diagnostic report prints to LPT1. If a failure occurs during the board's power-on boot tests, the diagnostic report prints to LPT2, if available.

**LANpress 1P** has one parallel port (LPT1). It is available only in Ethernet 10Base-T.

**LANpress 1+1** has one parallel port (LPT1), and one serial port (COM1). It is available in Ethernet 10Base-T/BNC and Token Ring versions.

**LANpress 2P** has two parallel ports (LPT1, LPT2). It is available in Ethernet 10BASE-T/BNC and Token Ring versions.

**LANpress 2+2** has two parallel ports (LPT1, LPT2), and two serial ports (COM1, COM2). It is available in Ethernet and Token Ring versions.

**JetPress MIO PLUS** is a JetPress MIO board that lets you connect a total of three printers to the network: the host print device, plus 2 additional printers. The additional printers are connected to the board's parallel and serial ports (LPT2 and COM1). Figure 1-3 shows a JetPress MIO PLUS.

Note: Throughout this manual the term "JetPress MIO" is used to refer to all JetPress MIO models. Where necessary, the term "PLUS" may be used to distinguish models with parallel and serial ports from those without external ports.

**EXTRA**, as in LANpress 2+2EXTRA or JetPress XIO EXTRA, means the print server can also be installed as a UNIX print server. For the LANpress 2+2, the EXTRA version also serves more print queues on more file servers (64 queues on 16 file servers, as opposed to 32 queues on 8 servers) than the standard version. EXTRA models are only available with Ethernet network connection.

Note: Where necessary, the term "EXTRA" is used in this manual to distinguish models with UNIX support from those without UNIX support.

The **MIO slot** (Modular Input/Output slot) is found on some printer or plotter models, such as the HP LaserJet 4, 4M, and the DesignJet 600. The MIO slot supports network interface boards, such as JetPress MIO, that allow you to connect the printer directly to a Local Area Network (LAN).

The **XIO slot** (eXtended Input/Output slot) is found on some printer models, such as the HP LaserJet Series II printers. The XIO slot supports network interface boards, such as JetPress XIO, that allow you to connect the printer directly to a Local Area Network (LAN).

**Resetting** (or Rebooting) LANpress or JetPress causes it to reinitialize and print a new configuration report. There are several ways to reset LANpress/JetPress:

- For LANpress, disconnecting and then reconnecting the unit's power cable.
- For JetPress, switching the host printer off and back on again.
- Using CPADMIN (see Chapter 6).
- Using LPCONFIG *serial\_number* N=E|T RESET (see Chapter 7).
- For EXTRA units installed as UNIX print servers, using `uxconfig host_name reset` (see Chapter 12).

## How LANpress/JetPress Works

---

LANpress and JetPress operate in the following Novell NetWare environments: 2.x, 3.x., and 4.x. You can configure LANpress/JetPress to print NetWare jobs in either of two modes:

1. Print Server mode (recommended)
2. Remote Printer mode

You can also configure LANpress/JetPress as a UNIX print server.

---

## How LANpress/JetPress Works as a NetWare Print Server

---

In *print server* mode, the LANpress/JetPress performs all print server functions. No VAP (Value Added Process), or NLM (NetWare Loadable Module), is required. The network user issues a print command at a workstation, and the job is moved across the network to the file server, where it is placed in a print queue. When the printer is ready, the LANpress/JetPress print server moves the job from the print queue to the printer.

Using LANpress/JetPress in print server mode provides the highest printing speed while retaining the control, security, and convenience of a Novell NetWare print server. Each LANpress/JetPress, in print server mode, requires a connection to a file server.

Users can print to LANpress/JetPress just as they would to any other Novell print server, using NetWare print commands.

LANpress/JetPress operates like any Novell print server, servicing the assigned queues in a round robin fashion. This means that in queues of the same priority, LANpress/JetPress services the first job in a queue, then the first job in the next queue. In queues of different priorities, LANpress/JetPress services all jobs in a higher priority queue before those in a lower priority queue. LANpress/JetPress supports encrypted passwords.

If desired, you can use Novell's PCONSOLE to assign print server operator status, and then use Print Server Status/Control to configure LANpress/JetPress temporarily (without rebooting) and to monitor and control printer status on-the-fly. For more information about configuring LANpress/JetPress with Print Server Status/Control, see Chapter 8: *Troubleshooting/Answers to Common Questions*.

---

## How LANpress/JetPress Works as a NetWare Remote Printer

---

As a *remote printer*, LANpress/JetPress emulates a workstation running Novell's RPRINTER.EXE program, and operates under the control of a Novell NetWare print server. The print server can be either a dedicated workstation running PSERVER.EXE or a file server running PSERVER.NLM. (A LANpress or JetPress remote printer cannot operate under the control of a LANpress print server.)

In remote printer mode, when a printer connected to LANpress/JetPress is ready, the Novell print server moves the job from the print queue to the LANpress/JetPress remote printer.

All configuration changes are made using PCONSOLE. This includes: adding or deleting queues, changing queue priorities, or changing file server assignments. For configuration changes to go into effect, the print server controlling LANpress/JetPress must be rebooted.

As with all Novell remote printers, LANpress/JetPress' print speed is slower in remote printer mode than in print server mode. Remote printer installation is somewhat less convenient than print server installation.

The main advantage of remote printer mode is that connection to a file server is not required. This makes remote printer mode desirable in installations with limited available file server connections. Each NetWare print server can support 16 printers (NetWare versions 2.x, 3.x) or 256 printers (NetWare 4.0x and greater) and requires only one file server connection.

## How LANpress/JetPress works as a UNIX print server

---

For each of the supported UNIX systems, the LANpress/JetPress provides a remote BSD (lpd) print service. Jobs are submitted and controlled the same way they are submitted and controlled for any remote BSD host. The print server supports the printing of:

- Binary data streams (as for raw PCL, PostScript, or printer-specific printing)
- Formatted ASCII print streams requiring carriage return insertion and tab expansion

The print server services print jobs from both UNIX and Novell NetWare. To serve UNIX print jobs, the UNIX installation described Chapters 9 and 10 must be performed.

**Note:** It is easiest to install the print server on UNIX after it has already been installed under NetWare. This reduces the time required for the print server's initial boot.

## LANpress/JetPress NetWare Configuration Software

---

LANpress/JetPress comes with the following software for installing and configuring on Novell NetWare networks:

- CPADMIN--a menu-driven DOS utility used for print server or remote printer setup. You **must** use CPADMIN for the initial installation, whether installing LANpress/JetPress as a print server or remote printer.

After installation, if LANpress/JetPress is operating as a print server, CPADMIN is the only configuration software necessary. You can use CPADMIN to add or delete queues, change port configurations, rename the print server, or configure LANpress/JetPress to service queues on other file servers, among other tasks.

- LPCONFIG--a DOS command-line utility used for configuring LANpress/JetPress' network operating characteristics.



After installing LANpress/JetPress on the master file server with CPADMIN, you can also use NetWare's PCONSOLE 3.x or 2.15c to perform all configuration tasks *except*:

- renaming on the master file server,
- changing password on the master file server, or
- selecting a new master file server.

# Chapter 2

## Hardware Installation, LANpress

This chapter describes installing your LANpress hardware in a Token Ring or Ethernet network.

Regardless of your LANpress model, hardware installation is very simple. Just connect the network cable, printer cables, and power cable, then power on the unit.

Please perform the procedures described in this chapter before proceeding to the NetWare or UNIX setup chapters (Chapter 5 for NetWare, Chapters 9 and 10 for UNIX). LANpress must be connected to the network and powered on *before* software setup.

## Connecting The Cables

Before installing LANpress write down the 8-digit LANpress serial number, found on the bottom of the unit. You'll need it during software setup.

For LANpress Token Ring, the default data rate is 16 Mbps. If your network uses 4 Mbps, you must change the unit's Token Ring data rate. On LANpress 1+1 and 2P units, this is controlled by the switch shown below.

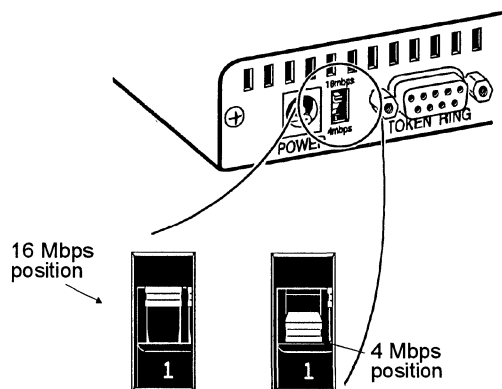


Figure 2-1. Token Ring Data Rate Switch, LANpress 1+1 and 2P

For LANpress 2+2 Token Ring units, the Token Ring data rate is controlled by jumpers inside the unit. If you are installing LANpress 2+2 token ring on a 4 Mbps network, see Appendix C for instructions on opening up the LANpress and changing the jumpers.

If your LANpress is Token Ring, connect the network cable, as shown below. LANpress 2P models have both STP and UTP connectors; all other models have only the STP connector. (LANpress 2P shown; other models similar).

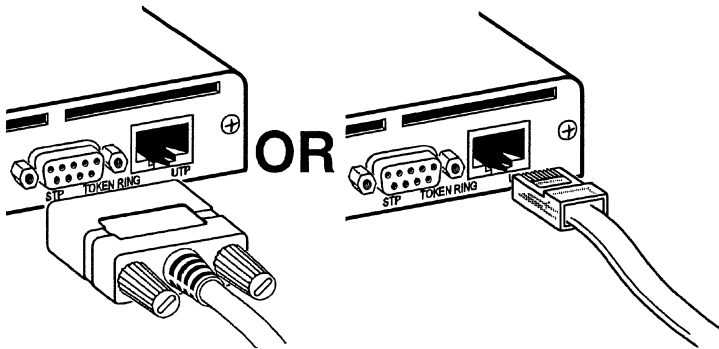


Figure 2-2. Connecting the Token Ring Network Cable (2P shown; Others Similar)

If your LANpress is Ethernet, it may have only 10BASE-T, or it may have both 10BASE-T and Thin (BNC) connectors. Connect your network cable to the appropriate connector on the LANpress.

The figure below shows a LANpress Ethernet with 10Base-T and BNC connectors. On these units, you can use either connector, as appropriate. (No switch or jumper settings are required.)

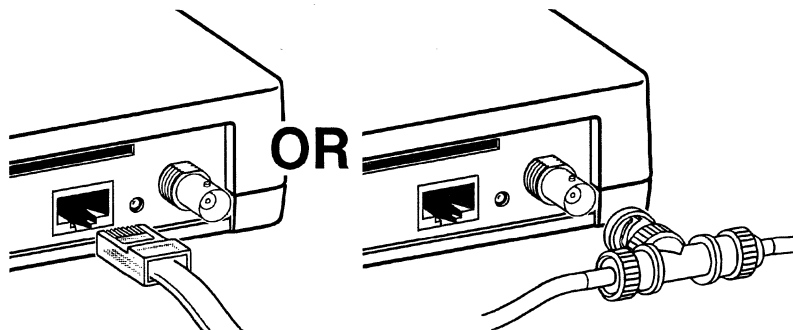


Figure 2-3. Connecting the Ethernet Network Cable (2+2 Shown; 1+1 Similar)

Connect up to four printer cables, as shown below (LANpress 2+2 shown; 1+1 similar).

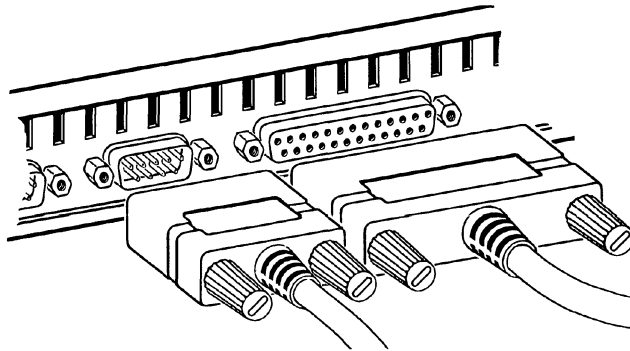


Figure 2-4. Connecting Printers to the LANpress (2+2 shown; 1+1 Similar)

**Note:** If you are connecting a relatively fast printer (such as an HP LaserJet III Si or 4 Si) to a LANpress 2P or 2+2EXTRA, connect that printer as follows:

- For LANpress 2+2EXTRA, connect the printer to LANpress' LPT2 port.
- For LANpress 2P, connect the printer to LANpress' LPT1 port.

For LANpress 2P and 2+2EXTRA, the maximum data rate of the parallel port listed above is significantly greater than the other, but this difference only shows up when using relatively fast printers.

If you do not have any printer connected to the LANpress' LPT1 port, use CPADMIN or LPCONFIG (explained later in this manual) to set the LANpress to print configuration reports on LPT2 and not LPT1 (the default setting). If the LANpress tries to print reports to a port where no printer is connected, it displays the green on/red on light state that means that a printer needs attention.

Connect the power supply to LANpress, as shown below, then plug it in to a power source.

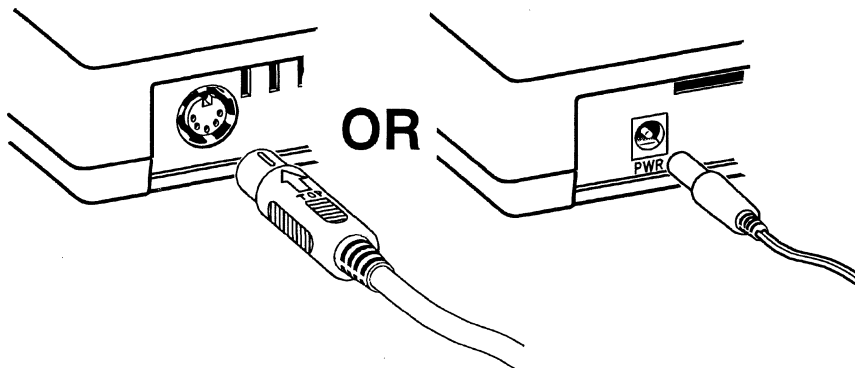


Figure 2-5. Connecting the Power Supply (2+2 Shown; Other LANpresses Similar)

Power-on the printers. Note that the serial printer should always be powered on after LANpress is powered on, and powered off before LANpress is powered off. (The serial printer should be last on, and first off.) If this sequence is not followed, no harm to LANpress or the printer results, but extraneous characters may be sent to the printer, and the printer may need to be reset.

LANpress has two indicator lights that indicate its operating state. The lights are in different locations on the various LANpress units:

- On LANpress 2+2 units, the lights are located side-by-side on the unit's front panel
- On LANpress 1+1 units, the lights are located one above the other between the unit's parallel and serial connectors
- On LANpress 2P units, the lights are located one above the other near the unit's power connector

The lights blink as the unit runs through its power-on tests. Eventually, the red light comes on and stays on and a diagnostic report showing "failed configuration" prints to LPT1. Normally, this would indicate an error condition. *However, at this stage of installation, this is normal behavior.*

**Note:** It may take several minutes for the unit to finish its boot attempt. You don't have to wait for this; you can begin the software setup of the unit while it attempts to boot.

Proceed to Chapter 5 for instructions on LANpress/JetPress software setup for NetWare. See Chapters 9 and 10 for setup of LANpress EXTRA units for UNIX.

# Chapter 3

## Hardware Installation, JetPress MIO

This chapter describes JetPress MIO hardware installation. It contains the following sections:

- Setting Token Ring Data Rate - if you have a JetPress MIO Token Ring, and your network transmits data at 4 Mbps, refer to this section for instructions on external switch settings. Otherwise, go on to the next section.
- Installing JetPress MIO Hardware - contains instructions on installing JetPress MIO in the printer or plotter's modular I/O slot.

Please perform the procedures described in this chapter before proceeding to the NetWare or UNIX setup chapters (Chapter 5 for NetWare, Chapters 9 and 10 for UNIX). JetPress MIO must be installed in the host print device, connected to the network, and powered on before software setup.

## Setting Token Ring Data Rate

JetPress MIO Token Ring is capable of communicating at two rates of speed: 4 Mbps or 16 Mbps. The factory default mode is 16 Mbps.

JetPress MIO's data rate is controlled by two switches on the board's panel, visible through the oval-shaped cutout. (See Figure 3-1 for location.)

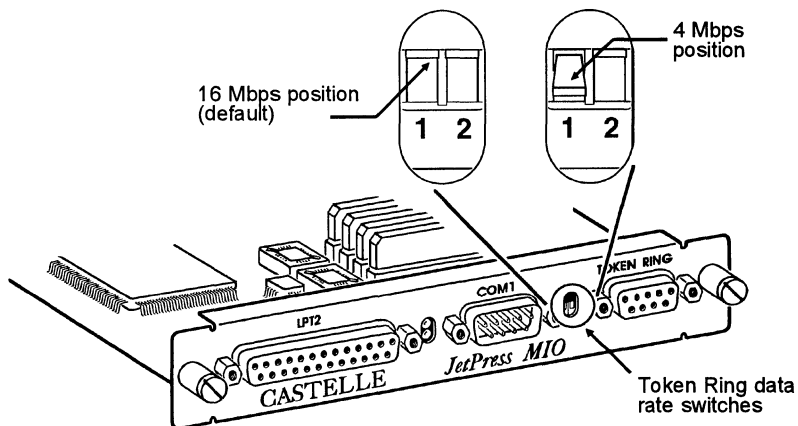


Figure 3-1. Setting JetPress MIO's Token Ring data rate

If your network uses 4 Mbps communication, you must set JetPress MIO's switches to the 4 Mbps position shown in Figure 3-1.

For successful software setup, JetPress MIO Token Ring must be configured to communicate at the data rate required by your network.

## Hardware Installation

---

Your JetPress MIO package includes:

- JetPress MIO board
- Installation software diskette(s)
- This manual

You must provide:

- Network connection for JetPress MIO (Ethernet Thin, Ethernet 10BASE-T, or Token Ring)
- The host laser printer or plotter
- (Optional) Up to two printers, and cables, to connect to JetPress MIO PLUS's parallel and serial ports. (Serial cable pin-outs are described in Appendix B of this manual.)

The JetPress MIO board is installed in the modular I/O slot of a printer or plotter.

## Installing JetPress MIO Hardware

---

Locate the modular I/O slot on the rear of the printer or plotter. In the Hewlett Packard LaserJet 4, it may be covered by a metal plate marked "AUX-I/O."

If you can't locate the modular I/O slot on your printer or plotter, check the print device's documentation. In some print device documentation, the MIO slot may be referred to as the "optional interface connector" or the "multiple interface slot."

**Note:** Your printer or plotter may have a parallel and/or serial port that allows you to connect it directly to one or more workstations. When JetPress MIO is installed, the printer can receive jobs sent over the network, as well as jobs sent to it through its parallel and serial ports.

1. Switch the printer or plotter OFF.
2. If present, remove the cover from the modular I/O slot.

3. Locate the eight-digit serial number on the JetPress MIO board. The serial number is located on the component-side of JetPress MIO. Write the number here:

\_\_\_\_\_.

The serial number is required for software installation. There is also a box for the serial number on the first page of this manual. For convenience, you can also write the serial number in the box.

4. Insert the JetPress MIO card into the modular I/O slot of the printer or plotter:

While facing rear of printer:	Insert board with component side facing:
HP 4 or 4M	right
HP 4Si or 4Si MX	left (bottom slot only)
HP IIISi	left
HP PaintJet XL 300	up

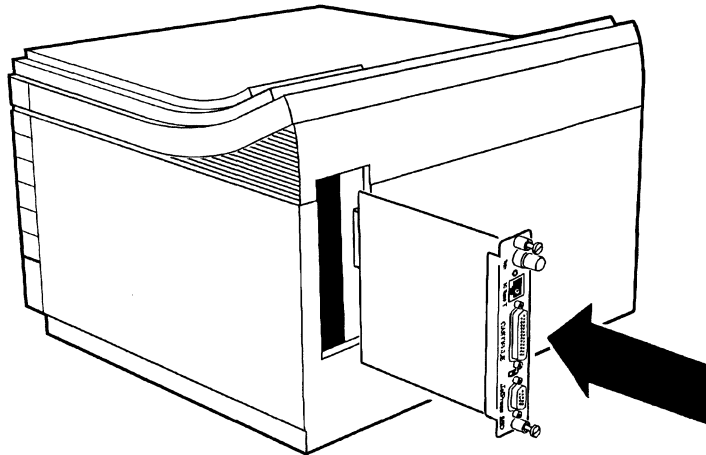


Figure 3-2. Installing JetPress MIO (HP LaserJet 4 shown. MIO slot location and board orientation may differ, depending on printer model.)

5. Tighten the mounting screws with a straight-slot screwdriver, or by hand.



6. Connect the JetPress MIO to the network. (If your JetPress MIO Ethernet has both Thin and 10BASE-T connectors, simply attach the appropriate connector. No jumper or switch settings are required.)

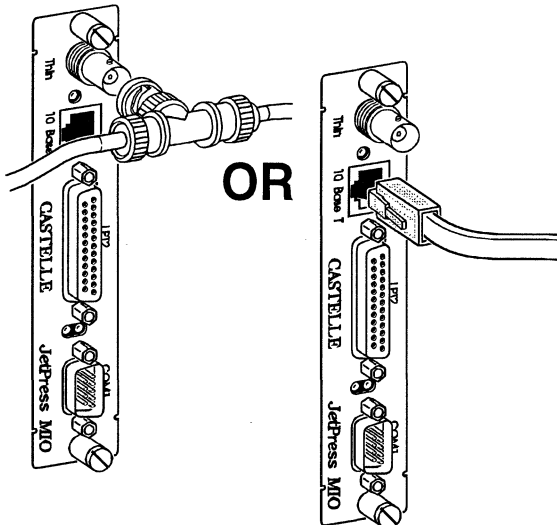


Figure 3-3. Connecting JetPress MIO Ethernet to the network (your board orientation may differ, depending on printer model)

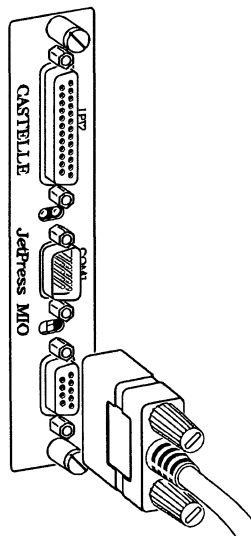


Figure 3-4. Connecting JetPress MIO Token Ring to the network (your board orientation may differ, depending on printer model)

7. (Optional) If your JetPress MIO is a "PLUS" board (that is, it has external parallel and serial ports LPT2 and COM1):
  - a. Connect a parallel cable to JetPress MIO's LPT2 port. Connect a print device configured for parallel I/O to the cable.
  - b. Connect a serial cable to JetPress MIO's COM1 port. Connect a print device configured for serial I/O to the cable. (See Appendix B for serial cable diagrams.)

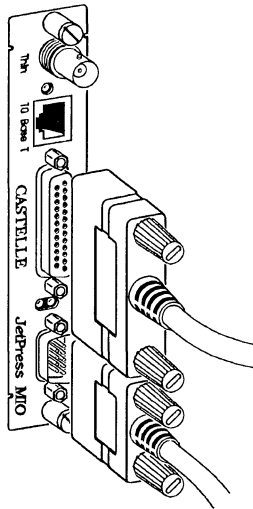


Figure 3-5. Connecting parallel and serial cables (JetPress MIO Ethernet shown. JetPress MIO Token Ring similar. Board orientation may differ, depending on printer model.)

8. Power on the printer or plotter where JetPress MIO is installed. Power on the printers or plotters connected to JetPress MIO's parallel and serial ports, if any.

When the host print device is powered on, it automatically detects that JetPress MIO is installed in its modular I/O slot.

**Note:** The printers connected to JetPress MIO's parallel and serial ports should be last on, first off. Power on the host print device, then power on parallel and serial printers. Power off parallel and serial printers *before* powering off the host print device. If you reset the host printer, you may have to take the printer connected to LPT2 off-line and then on-line again in order for JetPress MIO to print jobs.

After the host print device is booted, JetPress MIO's lights blink as the unit runs through its power-on tests. Eventually, the red light comes on; a diagnostic report showing "failed configuration" may print out. Normally, this would indicate an error condition. *However, at this stage of installation, this is normal behavior.*

**Note:** It may take several minutes for the unit to finish its boot attempt. You don't have to wait for this; you can begin the software setup of the unit while it attempts to boot.

Proceed to Chapter 5 for instructions on LANpress/JetPress software setup for NetWare. See Chapters 9 and 10 for setup of JetPress MIO EXTRA units for UNIX.

# Chapter 4

---

## Hardware Installation, JetPress XIO

This chapter describes JetPress XIO hardware installation. It explains the following tasks:

- Installing JetPress XIO in the printer
- Configuring the printer

Please read these sections and perform the procedures described in the above order before proceeding to the NetWare or UNIX setup chapters (Chapter 5 for NetWare, Chapters 9 and 10 for UNIX). JetPress XIO must be connected to the network and powered on *before* software setup.

## Hardware Installation

---

Your JetPress XIO package includes:

- JetPress XIO board
- Installation software diskette(s)
- This manual

You must provide:

- Network connection for JetPress XIO (Ethernet Thin, Ethernet 10BASE-T, or Token Ring)
- The host laser printer

The JetPress XIO board is installed in the Optional I/O slot of a laser printer. The Optional I/O slot is located on the back of the printer as shown in the illustration later in this chapter.

**Important:** After installing JetPress XIO, do not connect any cable to the printer's parallel port until after the JetPress XIO is booted and operating (green light on, red off). The JetPress XIO will not boot properly while there is a cable connected to the printer's parallel port.

## Installing JetPress XIO in the Printer

Locate the Optional I/O slot on the rear of the printer. Figure 4-1 shows the Optional I/O slots as found in the Hewlett Packard LaserJet Series II, IID, III and LaserJet IIID.

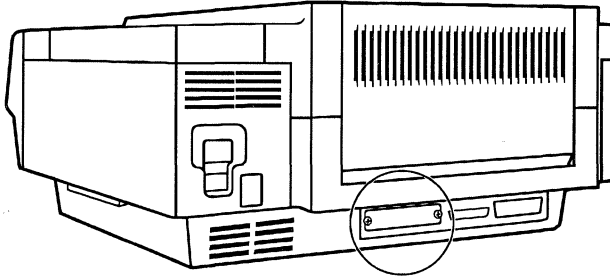


Figure 4-1. Optional I/O Port Location, HP LaserJet Series II (Series III Printers Similar)

1. Switch the printer OFF.
2. Disconnect the parallel or serial cable from the printer.
3. Remove the metal cover from the Optional I/O slot.
4. Check the JetPress XIO's jumper settings against the following figures to make sure they are set up properly for your installation.

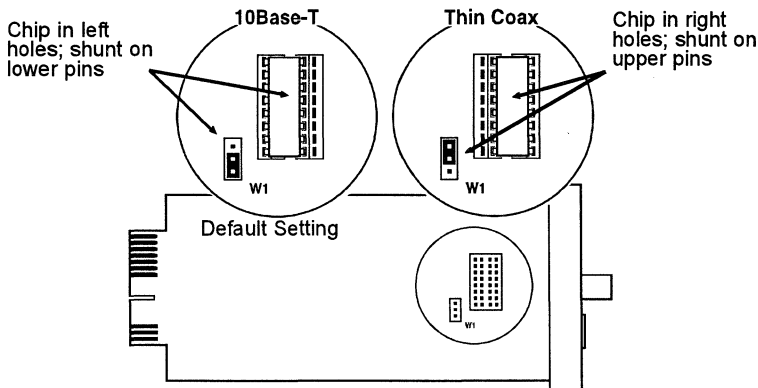


Figure 4-2. Jumper Settings, JetPress XIO Ethernet Connection

**Important:** On JetPress Ethernet boards, the 10BASE-T/thin jumpers consist of both a chip in a two-position socket, and a plastic shunt block on a three-pin stake. Both must be properly positioned as shown above.

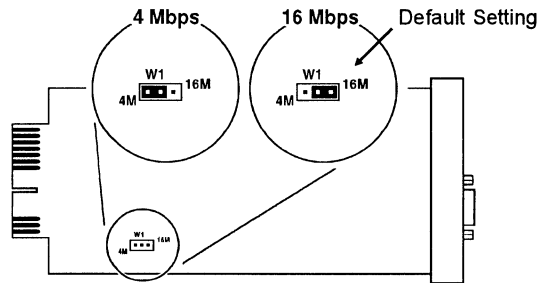


Figure 4-3. Jumper Settings, JetPress XIO Token Ring Data Rate

5. Locate the eight-digit serial number on the JetPress XIO board. The serial number is located on the component-side of JetPress XIO Ethernet, or on the solder-side of JetPress XIO Token Ring. Write the number here:

The serial number is required for software installation. There is also a box for the serial number on the first page of this manual. For convenience, you can also write the serial number in the box.

6. Insert the JetPress XIO card into the Optional I/O slot of the printer. In most laser printers, insert the board with the component side of the JetPress XIO card **down**.

Tighten the mounting thumbscrews by hand.

7. Connect the JetPress XIO to the network.

## Printer Configuration

When the printer is switched ON, it automatically detects that JetPress XIO is installed in the Optional I/O slot. The printer adds the OPTIONAL selection, in addition to the other I/O selections, to the Configuration Menu. The procedure to configure HP printers to use the Optional interface is described below.

1. Turn printer power ON.
2. When the printer signals READY, press the ON LINE key to toggle the printer from ON LINE (the automatic setting) to OFF LINE.
3. Enter the printer configuration menu by holding down the MENU key for about five seconds. (LaserJet IID, III, and IIID printers display AUTO CONT=OFF. LaserJet II printers display SYM SET = ROMAN8, or the printer's current symbol set.
4. Press the MENU key repeatedly until the I/O SELECTION menu appears.

5. Using the “+” or “-” buttons on the keypad, select I/O = OPTIONAL from the menu.
6. Press the ENTER key.
7. Press the ON LINE key to toggle back to on-line. The printer displays READY.
8. JetPress’ lights blink as the unit runs through its power-on tests. Eventually, the red light comes on and a diagnostic report showing "failed configuration" prints out. Normally, this would indicate an error condition. *However, at this stage of installation, this is normal behavior.*

**Note:** It may take several minutes for the unit to finish its boot attempt. You don’t have to wait for this; you can begin the software setup of the unit while it attempts to boot.
9. Proceed to Chapter 5 for instructions on LANpress/JetPress software setup for NetWare. See Chapters 9 and 10 for setup of JetPress MIO EXTRA units for UNIX.

---

## Using PostScript Cartridges

---

Note the following important points when installing or using JetPress XIO in a printer in which you are using a PostScript cartridge:

- After resetting or switching on the printer, allow about a minute for the printer to initialize before using CPADMIN or LPCONFIG to install or configure the JetPress XIO. The JetPress XIO may not respond if the initialization is not complete.
- Always switch the printer off and back on again after running CPADMIN.
- When using a PacificPage PostScript cartridge, switch the printer to PCL mode before running CPADMIN or LPCONFIG. Then return the printer to PostScript mode afterwards.
- When using a PacificPage PostScript cartridge in HP LaserJet Series II printers, resetting the printer switches the printer from OPTIONAL I/O to SERIAL I/O. You must switch the printer back to OPTIONAL I/O after every time the printer is reset.
- The Adobe PostScript cartridge does not support OPTIONAL I/O and therefore cannot be used with JetPress XIO.

# Chapter 5

---

## LANpress/JetPress NetWare Setup

This chapter describes using the CPADMIN utility to set up your LANpress/JetPress as either a NetWare print server or a NetWare remote printer. This chapter contains the following sections:

- Installing LANpress/JetPress as a Print Server
- Installing LANpress/JetPress as a Remote Printer

**About CPADMIN** Use CPADMIN for your initial LANpress/JetPress setup. After setting LANpress/JetPress up on at least one file server, you can use CPADMIN or PCONSOLE, if desired, to configure LANpress/JetPress to service queues on other file servers. If you have questions while using CPADMIN, press F1 for on-line help.

**Before installation** Read *Terms and Concepts* in Chapter 1.

Decide whether you want to use LANpress/JetPress as a print server or as a remote printer. If you need more information, see Chapter 1.

Connect LANpress/JetPress to the network, following the instructions in the appropriate chapter:

- LANpress (all models): Chapter 2
- JetPress MIO: Chapter 3
- JetPress XIO (formerly called just "JetPress"): Chapter 4

LANpress/JetPress must be connected to the network and powered on before setup.

At a workstation with a high-density 3.5-inch floppy drive, use the DOS COPY command (as in "copy a:\*.\*") to copy utilities from the LANpress/JetPress diskette to a network directory or local hard drive. (If you don't want to copy all utilities, we recommend copying, at minimum, CPADMIN.EXE, CPADMIN.CWA, and CPADMIN.HLP.)

The LANpress/JetPress installation and configuration software is also available on 5.25-inch diskettes by request from Castelle Customer Support. Please call or fax in your request. Note that you can also download the software from the Castelle BBS. Telephone, fax, and BBS numbers for Castelle are located on the first page of this manual.



---

## Installing LANpress/JetPress as a NetWare Print Server

---

This section describes, in the simplest terms, installing LANpress/JetPress as a NetWare print server using CPADMIN. You can configure a number of parameters using CPADMIN, either during or after installation. For detailed instructions on configuring specific items with CPADMIN, see Chapter 6.

Follow these steps to install LANpress/JetPress as a print server.

1. Make sure that LANpress/JetPress is powered on and connected to the network.
2. Log in as SUPERVISOR (ADMIN for NetWare 4.0x) or equivalent to a file server on the network.

**Important:** For installations on NetWare 4.0x file servers, the file server you are installing the print server on must be in bindery emulation mode. To verify bindery emulation mode, go to the server console and type SET BINDERY CONTEXT. Make sure the bindery context is set to the organizational unit containing the group(s) that will be using the print server's queues. For more information about NetWare 4.0x installations, see the following section *NetWare 4.0x Print Server Installations*.

3. From the network or local drive where you copied LANpress/JetPress utilities, enter **CPADMIN**.

**Note:** CPADMIN requires about 380Kb of conventional memory.

4. Select "Install New LANpress/JetPress".
5. Enter the eight-digit LANpress/JetPress serial number. If you forgot to write it down earlier, the serial number is located:
  - on the bottom of LANpress units
  - on the component side of JetPress MIO and JetPress XIO ethernet boards
  - on the solder side of JetPress XIO Token Ring boards
6. Select "Print Server" for the operating mode. (For instructions on installing as a remote printer, see *Installing LANpress/JetPress as a Remote Printer*, later in this chapter.)
7. Rename the print server (optional, but recommended). The serial number is the default name. For later configuration, particularly if you have more than one LANpress or JetPress, renaming is recommended. Enter up to 47 characters. The following characters are **not** allowed: Ctrl / \ : ; , \* ? | + = [ ] " < > and space. Period (.) is allowed, if not the first character.

8. Select the master file server.
9. Configure LANpress/JetPress ports. (To successfully set up LANpress/JetPress, you must configure at least one port by assigning at least one queue to it.) If configuring a serial port, serial parameters for the port and printer or plotter must match.
  - a. Select a printer port in the Printer Port(s) list.

For JetPress, the print server's LPT1 port is the MIO or XIO slot in which the board is installed.
  - b. In the Printer Port Configuration screen, make changes to port settings as desired.

You can turn configuration report printing on or off for each port, and specify the language in which the report prints, ASCII or PostScript. For printers that support automatic language switching, and for which automatic language switching is enabled, choose either ASCII (PCL) or PostScript.

For printers that do not support automatic language switching, or if automatic language switching is disabled, set banner/report format to match the printer's current language.
  - c. Press ENTER to access the Serviced Queue list.
  - d. Press INSERT to display a list of file servers. Select a file server upon which you have supervisor privilege. (Assigning a queue on a file server actually installs the print server on that file server. You can install most LANpress or JetPress models on a maximum of eight file servers; the exception is LANpress 2+2EXTRA, which you can install on up to 16 file servers.)
  - e. Select one or more queues from the Queue Name list. Press F5 for multiple selections. You can create a new queue by pressing INSERT and entering a valid, unique queue name. Press ENTER to select queue(s).
10. After configuration, the port is "Installed." If desired, repeat step 9 to configure another port.
11. When finished configuring ports, press ESC. Select Yes to install and reset the LANpress/JetPress, or select No to return to the Print Port Configuration screen. To quit without installing, press ALT X.

After a successful setup, LANpress or JetPress' red light goes off, the green light lights, and a configuration report prints to LPT1 (the default setting), or to the printer designated for configuration reports. LANpress/JetPress is now ready to service queues.

---

## NetWare 4.0 Print Server Installations

---

When installing LANpress/JetPress on Novell NetWare 4.0x file servers, observe the following points:

- For installations on NetWare 4.0x file servers, the file server must be in bindery emulation mode. To verify bindery emulation mode, go to the server console and type SET BINDERY CONTEXT. Make sure the bindery context is set to the organizational unit containing the group(s) that will be using the print server's queues. If the bindery context is blank, the file server is not in bindery emulation mode. See your NetWare 4.0x manuals for information on setting the bindery context.
- The group EVERYONE of the context in bindery emulation is automatically added as a user of all of the print server's queues. If that group does not exist in the bindery context, CPADMIN creates it.
- The print server can only be installed on one file server per organizational unit. Since the resources of any server within the organizational unit are available to all users of the organizational unit, this should not be a problem.
- The queues created in CPADMIN exist as objects in both Directory Services and Bindery Emulation, while the print server itself is only a bindery object.

---

## Installing LANpress/JetPress as a NetWare Remote Printer

---

Perform the following two procedures, *Before Running CPADMIN*, and *Running CPADMIN*, to install LANpress or JetPress as a NetWare remote printer.

You can install one or more of the LANpress/JetPress' ports when configuring the unit as a remote printer. If configuring only one port, select LPT1, which must always be configured before other ports. For JetPress, the print server's LPT1 port is the MIO or XIO slot in which the board is installed.

When installing LANpress/JetPress as a NetWare remote printer, there is no reason to use LPCONFIG to change the unit's print server name or password. As a remote printer, LANpress/JetPress operates under the control of a print server elsewhere on the network, and does not need to be assigned its own print server name or password.

**Important:** For LANpress/JetPress EXTRA units, if the unit is configured as a NetWare remote printer, it cannot be used as a UNIX print server.

## Before Running CPADMIN

Before invoking CPADMIN to install LANpress or JetPress as a remote printer, you must:

1. Decide which Novell print server LANpress/JetPress will operate under. (LANpress must be installed under a Novell print server running PSERVER. It cannot be installed as a remote printer under another LANpress/JetPress print server.) Write the Novell PSERVER print server name here:  
\_\_\_\_\_.
2. Invoke PCONSOLE.
3. Select Print Server Information, and choose the print server name from step 1. (This is the print server you are installing LANpress/JetPress under.)
4. Select Print Server Configuration, then Printer Configuration.
5. Choose a printer port number to assign to LANpress/JetPress port LPT1. Write the Novell printer number in the table following (next page).
6. In the Printer # Configuration screen, choose one of the Type values shown in the following table, as appropriate. (Remember, depending on the model, your LANpress/JetPress has some, but not all, of the ports shown.)

LANpress/JetPress port:	Write Novell print server printer number below:	Choose PCONSOLE Type:
LPT1		Remote Parallel, LPT1
LPT2		Remote Parallel, LPT2
COM1		Remote Serial, COM1
COM2		Remote Serial, COM2

7. Press ESC, save changes, press ESC.
8. Select Queues Serviced by Printer from the Print Server Configuration menu.
9. Assign a queue to the print server port you just configured.
10. Repeat steps 3-9 for each print server port that you are assigning to a LANpress/JetPress port.
11. Exit PCONSOLE. Stop and restart the print server.

---

## Running CPADMIN

---

1. Make sure that LANpress/JetPress is powered on and connected to the network.
2. Log in to the network with supervisor privilege.
3. From the network or local drive where you copied LANpress/JetPress utilities, enter **CPADMIN**.
4. Select "Install New LANpress/JetPress".
5. Enter the eight-digit LANpress/JetPress serial number. If you forgot to write it down earlier, the serial number is located:
  - on the bottom of LANpress units
  - on the component side of JetPress MIO and JetPress XIO ethernet boards
  - on the solder side of JetPress XIO Token Ring boards
6. Select "Remote Printer" for the operating mode. (For instructions on installing as a print server, see *Installing as a Print Server*, earlier in this chapter.)
7. In the Novell print server list, select the print server configured earlier.
8. Select a LANpress/JetPress port. (LPT1 must be installed before other ports.)
9. Enter the number of the print server port to which you are assigning the LANpress/JetPress port. Valid port numbers are 0-256 for NetWare 4.0x, or 0-15 for earlier NetWare versions.
10. If desired, repeat steps 8 and 9 to configure other ports.
11. When finished configuring LANpress/JetPress ports, press ESC. Select Yes to install and reset the remote printer. Select No for further configuration. To exit without installing, press ALT X.

After a successful setup, LANpress or JetPress' red light goes off, the green light lights, and a configuration report prints to the printer designated for configuration reports. (Default for LANpress is LPT1; default for JetPress is the printer JetPress is installed in.)

# Chapter 6

---

## Changing LANpress/JetPress Print Server Configuration

After LANpress/JetPress is installed and operating as a NetWare print server, you can change its basic operating parameters using CPADMIN. You can complete the following tasks with CPADMIN:

- Change queues serviced by printer
- Change printer configuration
- Change master file server
- Rename print server
- Set password
- Set queue polling interval
- Reset (reboot) print server
- View information about your print server hardware

**Important:** LANpress/JetPress must be powered on and connected to the network during configuration.

## Using CPADMIN

---

1. Log in to the network with supervisor privilege.
2. From the network or local drive where you copied LANpress/JetPress utilities, enter **CPADMIN**.
3. Select Change LANpress/JetPress Print Server Configuration.
4. Highlight the print server you would like to configure, and press ENTER. If the LANpress/JetPress you want to configure does not appear in the list, check to see that the LANpress/JetPress is powered on and connected to the network.
5. Select an option from Print Server Configuration Options.

**Note:** If this LANpress/JetPress has older firmware (PROMs, or Programmable Read-Only Memory), only three options are selectable: Change Queues Serviced by Printer, Reset Print Server, and Print Server Information. For information on upgrading, see Chapter 8.

6. See the appropriate section of this chapter for detailed instructions.

## Change Queues Serviced by Printer

---

1. Select Queues Serviced by Printer from Print Server Configuration Options.

If this LANpress/JetPress has older firmware (PROMs), you must specify the *current* master file server. (This does not change the master file server.) If you don't know which file server is LANpress/JetPress' master file server, reboot LANpress/JetPress and check the configuration report.

2. Select a LANpress/JetPress printer port. A list of currently serviced queues and file servers displays.
3. To delete a queue, highlight the queue and press DELETE. (To delete multiple queues, highlight each queue and press F5. Then press DELETE.)
4. To add a queue to the list, press INSERT. Select a file server where you would like LANpress/JetPress to service a queue.
  - a. A list of queues on the selected file server displays. To create a new queue, press INSERT and enter the queue name. To add an existing queue, highlight the queue name and press ENTER. (To select multiple queues, highlight each queue name and press F5. When finished selecting, press ENTER.)
  - b. Set queue priority. 1, the default, is highest. 10 is the lowest.
5. When finished adding or deleting queues, press ESC. Select Yes to save changes.
6. In the Print Server Configuration Options menu, press ESC, or select Reset Print Server. Choose Reset.

## Change Printer Port Configuration

---

1. Select Change Printer Port Configuration from Print Server Configuration Options.
2. Select a LANpress/JetPress port.
3. In the Printer Configuration screen, you can complete the following tasks:
  - a. Change printer port name.
  - b. Turn configuration report printing on/off. (Pressing any alphanumeric key toggles values.) If connecting a print device that supports neither ASCII nor PostScript, turn configuration report printing OFF.
  - c. For LANpress 1+1, 2P, 2+2EXTRA, or JetPress MIO PLUS' LPT2 port, set the parallel port strobe interval in microseconds. Options are: Slowest (8), Slow (4), Normal (2, the default), Fast (1), and Fastest (.625).

The default is sufficient in most cases. If, however, you have an older, slower printer, or you are using a parallel cable longer than 10 feet, and output is garbled, or missing characters or lines, slowing print speed may help. Select Slowest or Slow.

If you have a new, fast printer, such as a LaserJet 4, selecting Fast or Fastest may increase print speed.

- d. Select configuration report, diagnostic report, and banner page format. Use the default (ASCII), unless the printer connected to the port is PostScript.
4. If configuring a serial port, you can also set the following:
    - a. Set baud rate to 300, 600, 1200, 2400, 4800, 9600 (default), 19200, or 38400. (Note that some versions of PCONSOLE do not display values greater than 9600.)
    - b. Set data bits to 7 or 8 (default).
    - c. Set stop bits to 1 (default), 1.5, or 2.
    - d. Set parity to None (default), Even, or Odd.
    - e. Set X-on/X-off handshake. Yes enables xon/xoff software handshake. No disables xon/xoff--no software handshake. When No is selected, hardware handshake (CTS) is activated.
  5. When finished, press ESC, ENTER to save changes.
  6. In the Print Server Configuration Options menu, press ESC, or select Reset Print Server. Choose Reset.

## Change Master File Server

---

Using CPADMIN is the only way to change LANpress/JetPress' master file server.

1. Select Change Master File Server from Print Server Configuration Options.
2. From the list of file servers on the network, select a file server.
3. If prompted, enter your login name and password.

**Note:** You must log in as SUPERVISOR, or as a user with supervisor rights.
4. Press ESC. In the What to Do Next text box, select Reset.



## Rename Print Server

---

Always use CPADMIN (or LPCONFIG) to rename on the master file server. Never use PCONSOLE to rename the print server on the master file server.

Because CPADMIN renames the print server on all file servers where it services queues, it is preferred over LPCONFIG for renaming.

1. Select Rename Print Server from Print Server Configuration Options.
2. Enter a print server name, up to 47 characters. The following characters are **not** allowed: Ctrl / \ ; , \* ? | + = [ ] " < > and space. Period (.) is allowed, as long as it is not the first character of the name.
3. In the Options menu, press ESC. Select Reset.

## Set Print Server Password

---

A password is not required for LANpress/JetPress operation. If you choose to assign one, using CPADMIN is somewhat easier than using LPCONFIG. CPADMIN changes the print server password on all file servers where it services queues.

Never use PCONSOLE to assign or change a password on the master file server.

1. Select Set Password from Print Server Configuration Options.
2. Type the password. Press ENTER.
3. In the Options menu, press ESC. Select Reset.

## Set Queue Polling Time Interval

---

Use this command to change the interval at which the parallel port(s) check queues for waiting print jobs. To reduce network traffic, you can increase the polling interval from the default (5 seconds) to up to 30 seconds.

1. Select Set Queue Polling Time Interval from Print Server Configuration Options.
2. Enter a value, in seconds, from 1 to 30.
3. In the Options menu, press ESC.
4. Select Reset to implement your changes.

## Reset Print Server

---

Select Reset Print Server from Print Server Configuration Options.

OR

If you have made changes to the print server's configuration, press ESC in Print Server Configuration Options. You are prompted to reset the print server, continue without resetting, or discard all changes (without resetting).

LANpress/JetPress must be reset (rebooted) after:

- Adding or deleting a queue from a port's service list
- Changing a port's name or configuration (includes turning configuration report on/off, or changing report format from ASCII/PCL to PostScript)
- Changing master file server
- Setting queue polling interval
- Setting network configuration with LPCONFIG (packet size, Ethernet network type, Token Ring source routing, broadcast routing, or local address)
- Restoring factory defaults (with LPCONFIG)

If you find resetting LANpress/JetPress disruptive, see *Answers to Common Questions* in Chapter 8 for an alternative solution.

## Print Server Information

---

This option displays information about the selected print server hardware: firmware (PROM) version, and Castelle print server model.



# Chapter 7

---

## Advanced Configuration Using LPCONFIG

LPCONFIG is a command-line DOS/NetWare utility used for configuring LANpress/JetPress' network communication. Because it configures higher-level operation, LPCONFIG is probably used less frequently than CPADMIN, which installs the print server and performs routine tasks such as adding or deleting queues. CPADMIN is described earlier in this manual.

LPCONFIG and CPADMIN perform some of the same tasks, such as: renaming print server, changing password, and setting queue polling time. When a task can also be performed with CPADMIN, CPADMIN is usually the most convenient method.

LANpress/JetPress must be powered on, connected to the network, and installed with CPADMIN prior to configuring with LPCONFIG.

With LPCONFIG, you can perform the following tasks:

- Show current settings (SHOW)
- Reset (reboot) LANpress/JetPress (RESET)
- Rename print server (NN=)
- Assign print server password (NP=)
- Turn configuration report printing on or off (PAN=, SEN=)
- Set banner page, configuration, and diagnostic report format to ASCII or PostScript (PAN=, SEN=)
- Set parallel port interval for LANpress 1P, 1+1, 2P, 2+2EXTRA, or JetPress MIO PLUS (SPAN=)
- Set print server queue polling time interval (T=)
- Set Ethernet network type (C=)
- Set Token Ring source routing (C=)
- Set Token Ring local address (L=)
- Select Token Ring broadcast type (BR=)
- Set serial port baud rates (BAUDn=)
- Set whether LANpress/JetPress serves NetWare only, UNIX only, or both (NOS=)
- Set IP address for UNIX (IPA=)

- Set default gateway address for UNIX (ROUTE=)
- Set subnetwork mask for UNIX (MASK=)
- Return LANpress/JetPress to factory default settings (VA)

## Using LPCONFIG

---

To use LPCONFIG, log in to the network with supervisor privilege. Where indicated, you must log in to the master file server to successfully complete the command. Correct LPCONFIG syntax is shown below, followed by an explanation of command conventions.

**LPCONFIG** *serial\_number* N=E|T [*options*]

**LPCONFIG** Information that must be entered is shown in upper case. When typing, you can use upper or lower case: LPCONFIG is not case-sensitive.

*serial\_number* Words that appear in italics are variables. Substitute the pertinent information for the variable when typing the command. You must always enter the eight-digit LANpress/JetPress serial number when using LPCONFIG.

| A | (pipe) character means "either/or". You have a choice between two items separated by a |. To use LPCONFIG, you must enter N=E if your LANpress/JetPress is Ethernet. Enter N=T if your LANpress/JetPress is Token Ring.

[ ] Brackets indicate that the enclosed item is optional. If not entered, the default value is used.

A listing of the options explained in this chapter is shown below. When using LPCONFIG, you can enter more than one option at a time.

LPCONFIG *serial\_number* N=E|T [SHOW] [RESET] [NN=*new\_name*]  
 [NP=*new\_password*] [PAn=NORP|RP] [SEn=NORP|RP] [PAn=PCL|PS]  
 [SEn=PCL|PS] [SPAn=*speed*] [T=*polling\_time*] [C=*ethernet\_type*]  
 [C=*source\_routing*] [L=*local\_address*] [BR=*broadcast\_type*] [NOS=N|U|A]  
 [IPA=*ip\_address*] [ROUTE=*gateway\_address*] [MASK=*subnet\_mask*]  
 [BAUDn=*baud\_rate*] [VA] [S=*master\_file\_server*]

Each of these options is explained in a section of this chapter. For a complete list of LPCONFIG options, just type LPCONFIG and press <Enter>. This causes LPCONFIG to print a complete list of options to your computer screen.

**Note:** One option that appears on the screen listing but is not explained in this chapter is MODE. This option is used only for debugging, and in installations on Japanese versions of NetWare.

---

## Show Current Settings

---

### **LPCONFIG *serial\_number* N=E|T SHOW**

This command displays settings for the options described in this chapter, as appropriate to your LANpress/JetPress model. It also shows the current master file server. Changing the master file server is described in Chapter 6.

LPCONFIG SHOW also displays the recommended setting for an option that is usually not changed, network packet size. (Packet size sets the size of packets that LANpress/JetPress sends across the network.)

---

## Reset (Reboot) LANpress/JetPress

---

### **LPCONFIG *serial\_number* N=E|T RESET**

This command resets the specified LANpress/JetPress. When in print server mode, LANpress/JetPress must be reset (rebooted) after:

- Adding or deleting a queue from a port's service list
- Changing a port's name or configuration (includes turning configuration report on/off, changing report format, changing a serial port's baud rate, or changing a parallel port's strobe interval)
- Setting queue polling interval
- Setting network configuration (includes Ethernet network type, Token Ring source routing, broadcast routing, or local address)
- Restoring factory defaults
- Changing the print server's NOS setting
- Changing the unit's name or password

You can use the RESET command on its own, as in example 1, below. Or, for convenience, you can include the RESET command at the end of a string, as in the second example.

Example 1: LPCONFIG 05024922 N=t RESET

Example 2: LPCONFIG 05024922 N=t PA1=norp SE1=rp RESET

## Rename Print Server

---

**LPCONFIG** *serial\_number* N=E|T NN=*new\_name*

For NN=*new\_name*, enter up to 47 characters. The following characters are **not** allowed: Ctrl / \ : ; , \* ? | + = [ ] " < > and space. Period (.) is allowed, as long as it is not the first character of the name.

You must log in to the master file server to rename the print server. Default name: LANpress/JetPress' eight-digit serial number.

When the print server is renamed, the new name is written to the unit's hardware (EEPROM), and also assigned in the Novell bindery on the master file server. If LANpress/JetPress is configured to serve queues on other file servers, use PCONSOLE to assign the same new name on all the other file servers.

For a more convenient method of renaming, use CPADMIN, which renames the print server on all file servers where it services queues.

Example: LPCONFIG 03205980 N=E NN=lpsales1

## Set Password

---

**LPCONFIG** *serial\_number* N=E|T NP=*new\_password*

You must log in to the master file server to change the password.

For NP=*new\_password*, up to 127 characters are possible (but the actual number of characters that you can enter is limited by DOS). To delete a previously defined password enter "NP=". Default password: no password.

After changing the password on the master file server, you must assign the same print server password on all file servers where LANpress/JetPress services queues. You can use PCONSOLE, if desired.

For a more convenient method of changing password, use CPADMIN. CPADMIN changes the print server's password on all file servers where it services queues.

Example: LPCONFIG 03205980 N=e NP=orange

## Turn Configuration Report Off/On

---

**LPCONFIG** *serial\_number* N=E|T PAn|Sen=NORP|RP

Use this command to enable or disable configuration report printing for the specified port. By default, configuration reports print to LPT1.

PAn represents a LANpress or JetPress parallel port number. Enter PA1 for LPT1 or PA2 for LPT2.

**Note:** For JetPress, use LPT1 for the printer in which the JetPress is installed.

SE*n* represents a LANpress or JetPress serial port number. Enter SE1 for COM1, or SE2 for COM2.

RP enables configuration report printing. Enter PA*n* or SE*n*=RP to enable configuration report printing for the specified port.

NORP disables configuration report printing. Enter PA*n* or SE*n*=NORP to disable configuration report printing for the specified port.

Example: LPCONFIG 05024922 N=t PA1=norp SE1=rp

## Select Configuration Report/Banner Page Format

---

**LPCONFIG** *serial\_number* N=E|T PA*n*|SE*n*=PCL|PS

This command sets a port's report and banner page format when LANpress/JetPress is in print server mode. When LANpress/JetPress is in remote printer mode, it sets report format, but not banner page format.

The default format is ASCII (PCL). Set the format to PostScript (PS) for any port where a PostScript printer is connected.

SE*n* represents a LANpress or JetPress serial port number. Enter SE1 for COM1, or SE2 for COM2.

PA*n* represents a LANpress or JetPress parallel port number. Enter PA1 for LPT1 or PA2 for LPT2.

**Note:** For JetPress, use LPT1 for the printer in which the JetPress is installed.

Enter PA*n* or SE*n*=PS to select PostScript format for the specified port.

Enter PA*n* or SE*n*=PCL to select ASCII format for the specified port.

If configuring LPT1, in print server mode, this command sets the format for configuration reports, diagnostic reports, and banner pages. If configuring LPT1 when LANpress/JetPress is in remote printer mode, this command configures configuration and diagnostic report format only.

Since diagnostic reports print only to LPT1, configuring any other port has no effect on diagnostic report format.

Note that you can turn configuration report printing on/off for a specific port using the RP|NORP option, described earlier in this chapter.

Example: LPCONFIG 05024922 N=t PA1=ps SE1=pcl



## Set Parallel Port Interval

**LPCONFIG** *serial\_number* N=E|T SPA*n*=S1|S2|S3|S4|S5

This command sets the parallel port strobe interval.

**Note:** This command only applies to LANpress 2P, 2+2EXTRA, LANpress 1+1, LANpress 1P, and to the external LPT2 port of JetPress MIO PLUS. It does not apply to the printer in which a JetPress is installed, nor to standard LANpress 2+2.

SPA*n* represents a LANpress or JetPress parallel port number. Enter SPA1 for LPT1 or SPA2 for LPT2.

The default interval is S3 (2 microseconds).

If you have a newer printer, such as a LaserJet IIIsi, IIIP, or 4, changing the interval to a faster setting than the default (S3, or 2 microseconds) may improve print speed. (Leaving it at the default causes no harm.)

If your printer produces output with garbled characters, or missing characters or lines, slowing print speed by specifying S1 or S2 may help. (These problems may occur if you have an older, slower dot matrix printer, or if you are using a parallel cable over 10 feet long.)

**Note:** For LANpress 2P and 2+2EXTRA, setting the strobe interval with either SPA1 or SPA2 sets the strobe interval of both parallel ports. This means that for LANpress 2P or 2+2EXTRA you must be careful to set the strobe interval no faster than your slowest printer can handle.

For SPA*n*=, enter one of the values shown in the following table.

LANpress/JetPress Parallel Port Intervals		
Value	Description	Strobe speed (microseconds)
S1	slowest	8
S2	slow	4
S3	medium (default)	2
S4	fast	1
S5	fastest	.625 (Except LANpress 2P) .5 (LANpress 2P)

## Set Queue Polling Interval (Print Server)

---

**LPCONFIG** *serial\_number* N=E|T T=*polling\_time*

Use this command to change the interval at which the port(s) check queues for waiting print jobs. To reduce network traffic, you can increase the polling interval from the default (5 seconds) to up to 30 seconds.

*polling\_time* values are 1 to 30 (seconds).

Polling time is not configurable if LANpress/JetPress is operating as a remote printer.

Example: LPCONFIG 05024922 N=t T=20

## Set Ethernet Network Type

---

**LPCONFIG** *serial\_number* N=E C=*ethernet\_type*

C=*ethernet\_type* specifies the communication standard in use.

In print server mode, this parameter is optional, unless your network uses a communication standard other than IEEE 802.2, IEEE 802.3, or Ethernet II Novell type 8137, the three most common in Novell NetWare networks.

When booted in print server mode, LANpress/JetPress attempts to log in to a file server using IEEE 802.2/802.3. If it cannot log in, it switches to Ethernet II Novell type 8137 and attempts to log in.

If your network uses Ethernet II type 8137, you may want to configure LANpress/JetPress so that the default network protocol is Ethernet II type 8137. (When set to 8137, LANpress/JetPress no longer searches first for an 802.2/802.3 file server, and thus boots faster.) If your network uses a communication standard other than those listed above, you *must* use this parameter to configure LANpress/JetPress to use the appropriate network communications standard.

Ethernet II Novell type 8137 and IEEE 802.2/802.3 packets are shown in the following tables.

Ethernet II packet				
Destination	Source	Type		Data
6 bytes	6 bytes	2 bytes		46-1500 bytes
		81	37	

IEEE 802.2/802.3 packet			
Destination	Source	Length	Data
6 bytes	6 bytes	2 bytes	46-1500 bytes

Enter one of the following hexadecimal values for `C=ethernet_type`:

**0001 through 05ff** configures LANpress/JetPress for 802.2/802.3 only.

**8137** configures LANpress/JetPress for Ethernet II type 8137.

**0000** (hexadecimal) configures LANpress/JetPress for both 802.2/802.3 and Ethernet II type 8137.

Example: `LPCONFIG 03200078 N=e C=8137` (sets Ethernet II type 8137.)

## Configure Token Ring Source Routing

`LPCONFIG serial_number N=T C=source_routing`

In Token Ring networks, `C=source_routing` specifies source routing, non-source routing, or auto-switching between the two. (The factory default is auto-switching between the two.)

Token Ring networks may or may not use IBM-style source routing.

LANpress/JetPress Token Ring can operate in source routing and non-source routing networks. When booted, LANpress/JetPress attempts to communicate using source routing. If this does not work, LANpress/JetPress automatically switches to non-source routing. In non-source routing mode, LANpress/JetPress supports the IEEE 802.5 1985 specification and the emerging source-routing transparent (SRT) standard.

If desired, you can configure LANpress/JetPress to use either source routing or non-source routing only (without auto-switching).

Enter one of the following hexadecimal values for *C=source\_routing*:

**C=0** (the factory default) specifies switching between source routing and non-source routing as required.

**C=1** specifies non-source routing only.

**C=2** (or above) specifies source routing only.

Example: LPCONFIG 0504021 N=t C=2

---

## Set Token Ring Local Address

---

**LPCONFIG *serial\_number* N=T L=*local\_address***

*L=local\_address* sets a 6-byte hexadecimal local address in Token Ring networks. Each byte consists of two hexadecimal digits. Factory default: 000000000000 (no local address).

See your network administrator for a local address. It may also be helpful to refer to the IEEE 802.5 specification for 48-bit addresses. (16-bit addresses are not supported.) Before assigning, write the local address here:

\_\_\_\_\_.  
The 802.5 local address bit is set when the address is stored.

Example: LPCONFIG 0504021 N=T L=300123abc4f0 (Sets the local address to 700123abc4f0. See your IEEE 802.5 specification manual if you have questions.)

---

## Set Token Ring Broadcast Type

---

**LPCONFIG *serial\_number* N=T BR=A|S**

In Token Ring networks, this command sets LANpress/JetPress' broadcast type. The broadcast type is relevant only in networks using source routing. Options are BR=A (all routes) or BR=S (single route, the default).

BR=A selects all-routes broadcast. In all-routes broadcast, LANpress/JetPress sends packets to a given destination across every possible route in the network. The destination may receive multiple copies of a single packet.

BR=S selects single-route broadcast. In single-route broadcast, LANpress/JetPress sends only one copy of a packet to a given destination.

Example: LPCONFIG 05080270 N=T BR=a

---

## Set Master File Server

---

**LPCONFIG** *serial\_number* N=E|T S=*file\_server\_name*

This command writes the name of the LANpress/JetPress' master file server into the unit's non-volatile memory (EEPROM). You can also use this command as a diagnostic tool, to check communication with the LANpress/JetPress unit.

**Important:** Using this command to change the master file server name in the LANpress/JetPress' EEPROM does not install the unit on the new file server. The proper way of installing LANpress/JetPress on a different master file server is to use CPADMIN's Change Master File Server selection. See Chapter 6 for more information about this.

Example: LPCONFIG 05080270 N=E S=marketing

---

## Set Network Operating System (EXTRA Units Only)

---

**LPCONFIG** *serial\_number* N=E NOS=N|U|A

This command sets the network operating system for the LANpress/JetPress. This option only applies to EXTRA versions of LANpress/JetPress.

NOS=N selects NetWare as the LANpress/JetPress' operating system. Under this setting, the print server only serves NetWare print queues. It does not send a RARP broadcast at boot time, and does not attempt to serve UNIX print queues.

NOS=A selects both NetWare and UNIX as the LANpress/JetPress' operating system. Under this setting, the LANpress/JetPress attempts to find a NetWare master file server at boot time, and also sends a RARP broadcast to determine its UNIX IP address.

NOS=U selects UNIX as the LANpress/JetPress' operating system. Under this setting, the print server only serves UNIX print queues. It does not attempt to locate its NetWare master file server at boot time, and does not serve NetWare print queues.

Example: LPCONFIG 05080274 N=E NOS=U

---

## Set UNIX IP Address (EXTRA Units Only)

---

**LPCONFIG** *serial\_number* N=E IPA=*ip\_address*

This command writes the LANpress/JetPress' UNIX IP address into the LANpress/JetPress' EEPROM. When using this command, enter the IP address in dotted decimal format.

Example: LPCONFIG 0504021 N=E IPA=192.9.200.201

---

## Set UNIX Default Gateway (EXTRA Units Only)

---

**LPCONFIG** *serial\_number* N=E ROUTE=*ip\_address*

This command writes the IP address of the default router (the router or gateway the print server uses to send data to other IP segments) into the the LANpress/JetPress' EEPROM. When using this command, enter the default gateway's IP address in dotted decimal format.

Example: LPCONFIG 05080270 N=E ROUTE=192.9.201.27

---

## Set UNIX Subnetwork Mask (EXTRA Units Only)

---

**LPCONFIG** *serial\_number* N=E MASK=*subnet\_mask*

This command writes the LANpress/JetPress' subnetwork mask into the the LANpress/JetPress' EEPROM. When using this command, enter the subnetwork mask in dotted decimal format.

Example: LPCONFIG 05080270 N=E MASK=255.255.240.0

---

## Set Serial Port Baud Rate

---

**LPCONFIG** *serial\_number* N=E|T BAUD*n*=*baud\_rate*

This command sets the baud rate for the print server's serial port(s). BAUD1 sets the baud rate for the COM1 port; BAUD2 sets the baud rate for the COM2 port. Valid baud rates are 300, 600, 1200, 2400, 4800, 9600, 19200, and 38400.

Example: LPCONFIG 05080270 N=E BAUD1=19200

**Important:** You must be logged into the LANpress/JetPress' master file server to use this command.

**Note:** For long serial cables (over about 50 feet) the faster baud rates may cause garbled output at the printer, even if those rates are supported by the printer.

---

## Restore Factory Defaults

---

**LPCONFIG** *serial\_number* N=E|T VA

This command most of the values discussed in this chapter to factory defaults. The values not effected by this command are:

- UNIX IP Address
- UNIX Default Gateway
- UNIX Subnetwork Mask

Because this command deletes the master file server, you must reinstall the print server with CPADMIN in order to re-assign a master file server.

# Chapter 8

---

## Troubleshooting/Answers to Common Questions

This chapter is divided into the following sections:

- **Light Behavior**--describes LANpress/JetPress indicator light behavior, including power-on sequence, normal behavior, and errors.
- **Troubleshooting**--contains information on solving the most common problems that occur during software installation, or during use.
- **Answers to Common Questions**--answers some of the questions most commonly asked about configuring LANpress/JetPress.

For UNIX troubleshooting, see Chapter 13: *UNIX Troubleshooting*.

## Light Behavior

---

All LANpress/JetPress models have two lights, red and green, that indicate the operating state. Green on, red off indicates LANpress/JetPress' normal operating mode. (LANpress and JetPress MIO Ethernet units also have an additional green light near the Ethernet connector that shows Ethernet network activity.) Following is a brief explanation of indicator light activity.

**Power-on** Immediately after LANpress/JetPress is powered on:

*Green on* Loading code from EEPROM into RAM

*Red off* (Applies to LANpress 2P Only)

*Green blink* Signals start of power-on test sequence

*Red blink*

*Green blink* Test 1: CPU

*Red off*

*Green blink* Test 2: ROM checksum

*Red off*

*Green blink* Test 3: EEPROM checksum test

*Red off*

*Green blink* Test 4: Main board RAM test

*Red off*

*Green blink* Test 5: TRAP 0 test

*Red off*



*Green blink* Test 6: unimplemented test  
*Red off*

*Green blink* Test 7: unimplemented test  
*Red off*

*Green blink* Test 8: unimplemented test  
*Red off*

*Green blink* Test 9: serial port test  
*Red off*

*Green blink* Test 10: LAN interface test  
*Red off*

*Green blink* Test 11: LAN interface interrupt test  
*Red off*

*Green blink* Test 12: unimplemented test  
*Red off*

**NetWare Booting** After the test sequence, the following light behaviors occur. Exception: LANpress/JetPress EXTRA units for which the NOS parameter is set to U will skip to the UNIX Booting sequence. See Chapter 6 or 7 for more information about NOS.

*Green/Red blink* LANpress/JetPress is looking for the master file server.  
*(about 2 seconds per cycle)* Normally, this behavior lasts less than two cycles.

**UNIX Booting** For LANpress/JetPress EXTRA units, one of the following light behaviors may occur. If NOS is set to U, UNIX booting occurs *instead* of NetWare booting. If NOS is set to A, UNIX booting occurs *after* NetWare booting. If NOS is set to N, UNIX booting does not occur. See Chapter 6 or 7 for more information about NOS.

*Green/Red blink* RARP broadcast; LANpress/JetPress' IP address not set in  
*(about 4 cycles per second)* EEPROM (i.e. is set to factory default of 0.0.0.0)

**or**

*Green blink* RARP broadcast; LANpress/JetPress' IP address already set in  
*(about 4 cycles per second)* EEPROM

**Normal mode** Normally, the LANpress/JetPress should be in the following state:

*Green on* LANpress/JetPress booted and ready for use.  
*Red off*

Note that if the lights show ready for use, but jobs don't print, the problem is most likely configuration-specific. See *Troubleshooting*, later in this chapter, for possible solutions.

**Errors** The following LED states indicate LANpress/JetPress or printer errors:

*Green on* A printer needs attention in order to print a job. It may be out of paper, off line, powered off, or not connected to the LANpress/JetPress.  
*Red on*

*Green off* Error condition. Some possible causes and solutions for this problem are discussed in the *Troubleshooting* section of this chapter.  
*Red on*

When LANpress/JetPress is in this state, a diagnostic report prints to a designated port. If you have not already done so, connect a printer to LPT1. (The default diagnostic report format is ASCII, so use an ASCII printer, unless you have used CPADMIN or LPCONFIG to set report format to PostScript.)

*Green off* If a power-on test fails, the green light stays off and the red light  
*Red blinking* blinks in accordance with the test number.

**Note:** For JetPress MIO installed in an HP LaserJet 4, 4M, or IIISi printer, the printer's control panel may display "80 service (01m)" when a power-on test error occurs. If this happens, it may mean that the JetPress board is not tightly seated in the printer's MIO socket. Try powering off the host printer (and any other printer connected to the JetPress), reseating the JetPress MIO in the printer, and then powering the printer back on.

Also, when a power-on test fails, JetPress MIO PLUS prints the diagnostic report to the LPT2 parallel port. Connect an ASCII printer to the LPT2 port to get this report.

If a test failure occurs, a diagnostic report prints to a designated port, as described previously. Contact Castelle Technical Support as directed in Chapter 14, *Technical Support*.

## Troubleshooting

---

This section describes possible solutions to some of the most common problems that occur during LANpress/JetPress installation or use.

### Installation Troubleshooting

---

- ? **I'm trying to install a LANpress/JetPress, but after I enter the serial number, CPADMIN displays an "Unable to locate...serial number...." message.**
- Did you enter the correct serial number?
  - Is the unit powered on?
  - Is the network cable connected to LANpress/JetPress?
  - For JetPress, is the board firmly seated in the printer's MIO or XIO slot? Is the printer powered on?
  - In Token Ring networks, make sure that you have chosen the correct communication speed. (LANpress/JetPress' default is 16 Mbps.) LANpress 1+1, LANpress 2P, and JetPress MIO all have an external switch, described in Chapter 2 (LANpress) or Chapter 3 (JetPress MIO). JetPress XIO has an on-board jumper, described in Chapter 4. LANpress 2+2 has internal jumpers, described in Appendix C.
  - Try using LPCONFIG (located on the same diskette as CPADMIN) to set the unit's master file server as follows:

**LPCONFIG** *serial\_number* N=*network\_type* S=*server*

where *serial\_number* is the unit's eight-digit serial number

*network\_type* is **E** for ethernet or **T** for Token ring

*server* is the name of the file server you want to use as the print server's master file server.

For example: **LPCONFIG 03402345 N=E S=MARKETING**

If LPCONFIG successfully sets the master file server, it responds with a message such as "File server MARKETING is now defined as the master file server."  
Reboot the LANpress/JetPress and try using CPADMIN again.

- ? **I'm installing LANpress/JetPress as a remote printer, and CPADMIN displays a "port number is invalid" message when I enter a printer port number.**
- Did you configure the printer port, and assign a queue to the port using PCONSOLE before invoking CPADMIN?

- Did you configure the print server port correctly? (See *Before Running CPADMIN* in Chapter 5.)
  - Is that print server port currently being used by another printer?
  - Did you reboot the print server after configuring the port and assigning a queue?
- ? How do I set up my plotter to work with LANpress or JetPress MIO PLUS' serial port?**
- Install LANpress/JetPress hardware and software following the procedures in Chapters 2 (LANpress), or 3 (JetPress MIO PLUS), and Chapter 5.
  - Connect the plotter to a LANpress or JetPress MIO PLUS' serial (COMx) port, using a cable that conforms to the serial cable pin-out diagram in Appendix B.
  - On the plotter, enable hard-wire, and set communication to half-duplex.
  - In CPADMIN, make sure that X-on/X-off handshake is set to Yes for the port where the plotter is connected. If configuration report printing is enabled for the port where the plotter is connected, disable it (select Off).
  - Make sure that the serial communication parameters for the plotter and LANpress/JetPress' serial port match.

---

## After Installation

---

### Green Light Off/Red On Error

- ? I completed software installation with CPADMIN, but LANpress/JetPress can't log in to the network (green light off, red on). What's wrong?**

There are a number of possible causes for this problem. Following is a list of possible causes and solutions.

- **Check the network connection.** Is LANpress/JetPress connected to the network?
- **Is LANpress/JetPress Token Ring using the correct data rate?** The factory default is 16 Mbps.
  - LANpress 2+2 has two internal jumpers. See Appendix C for information on moving the jumpers.
  - LANpress 1+1 and 2P units have an external switch. See Chapter 2 for more information.
  - JetPress MIO has an external switch. See Chapter 3 for more information.
  - JetPress XIO has an internal jumper. See Chapter 4 for more information.

- **If LANpress/JetPress has been renamed or has had its password changed, was that change made on the master file server using CPADMIN or LPCONFIG?** If LANpress/JetPress is renamed or has its password changed on the master file server using PCONSOLE, the change is not recognized by the LANpress/JetPress hardware.

For a name change, check the diagnostic report printed to LPT1 (LANpress) or on the host printer (JetPress). The current LANpress/JetPress hardware name appears in the second line of the diagnostic report. Log in to the master file server and invoke PCONSOLE. Rename LANpress/JetPress, using the name contained in the diagnostic report. Reboot the LANpress/JetPress. Then invoke CPADMIN or LPCONFIG and rename LANpress/JetPress as desired. (Note that you do not need to reboot LANpress/JetPress after a name or password change.)

### **Jobs Don't Print**

---

- ? **I sent a job to a queue serviced by my LANpress/JetPress print server, but it didn't print. What's wrong?**

There are a number of possible causes for this problem. Following is a list of possible causes and solutions.

- **Verify that LANpress/JetPress is powered on and connected to the network, and that the target printer is connected to LANpress/JetPress, online, and has paper.**
- **Is the queue serviced by more than one LANpress/JetPress port?** If so, check all printers that service the queue. The job may have printed on a printer other than the expected target printer.
- **Check LANpress/JetPress' configuration.** Has the queue been assigned to a LANpress/JetPress port? If configuring with PCONSOLE, is the file server where the queue resides included in LANpress/JetPress' service list?
- **Is the data you are sending correctly formatted for the target printer?** If not, either send the job to a queue serviced by a printer that accepts the data as formatted, or from within your application, select a printer driver appropriate to the target printer before queuing the job.
- **If using a non-ASCII printer (such as a pen plotter), specify "no banner" when printing. If using a PostScript printer, either specify no banner when printing, or use CPADMIN to set banner page format to PostScript.** For NPRINT and CAPTURE, "nb" specifies no banner page.

- **If printing to a queue serviced by a serial printer, check serial parameters and the serial cable.** Do the printer's serial parameters match LANpress/JetPress' serial parameters? See *Change Printer Port Configuration* in Chapter 6. Does the serial cable work with LANpress/JetPress? Try using a null modem cable. See Appendix C for more information about serial cable pinouts.

### **Can't Print to Queue, or Incorrect Results**

---

- ? **I just added a queue to my LANpress/JetPress using PCONSOLE, but I can't print to it. What's the matter?**

When you change LANpress/JetPress configuration, you must reset (reboot) the LANpress/JetPress (unless you've made a temporary change using PCONSOLE's Print Server Status/Control). If adding queues with CPADMIN, the program saves your configuration and performs a remote reset before exiting when you select Reset Active Print Server.

- ? **My graphics files don't print correctly. What's wrong?**

Specify "no tabs" when printing. (For NPRINT and CAPTURE, "nt" specifies no tabs. See your NetWare documentation for more information.)

- ? **I just edited a LANpress/JetPress print server port configuration using PCONSOLE. I rebooted the unit, the green light is on, and a configuration report printed, but none of my jobs are printing. What's wrong?**

Did you change the printer type? LANpress/JetPress' LPT1 port must always be "Parallel, LPT1." LPT2 must always be "Parallel, LPT2" and COM1 must always be "Serial, COM1." CPADMIN does not allow the printer type to be edited. PCONSOLE does, but LANpress/JetPress ports must always be configured in accordance with the above values.

### **Renaming Print Server**

---

- ? **I renamed my LANpress/JetPress on the master file server using PCONSOLE, but ...it still shows up under the old name in CPADMIN.**  
or  
**...I reset the unit, but it printed a "failed configuration" report and wouldn't boot (red LED on, green off).**

Use PCONSOLE to restore the old name, reboot LANpress/JetPress, and then use CPADMIN or LPCONFIG to change the name.

Always use CPADMIN or LPCONFIG to rename on the master file server. These utilities write the name to LANpress/JetPress' EEPROM (electrically erasable programmable read-only memory); PCONSOLE does not.

## **Incorrect PROM Version**

---

- ? I selected an item in CPADMIN's Print Server Configuration Options menu, but CPADMIN displayed an error message saying that the print server did not have the right version of PROMs. What's the matter?**

The LANpress/JetPress you selected has older firmware (that is, PROMs, or Programmable Read-Only Memory). When configuring such a unit, CPADMIN has two available options: Change Queues Serviced by Printer, or Print Server Information. Selecting other options displays an error message.

If you would like to fully configure this LANpress/JetPress with CPADMIN, or use LPCONFIG Rev. 3.3, you can purchase an upgrade kit, and install updated PROMs. Call Castelle Sales at (408) 496-0474 for information. After a hardware upgrade, the unit must be re-installed with CPADMIN.

If you choose not to upgrade, you can use older LANpress/JetPress utilities (PSINSTALL, LPCONSOL) to install or configure older units. (Note that some older utilities do not work with LANpress/JetPress Rev. 3.3)

## **Report Printing on Dot Matrix Printers**

---

- ? I have my LANpress/JetPress set up so that its configuration reports print to a dot-matrix printer. Whenever it prints one of these reports, the printer switches to bold characters. What's the matter?**

When LANpress or JetPress prints a configuration report, it sends an escape sequence to the printer to prepare it for the report. For some dot-matrix printers, this sequence switches the printer to bold text. If this happens with your dot-matrix printer, you can do one of several things:

- Restore the printer to normal fonts by resetting it every time a report prints.
- Configure the LANpress/JetPress to print configuration reports to some other printer, or to not print them at all.

See Chapter 7 for information on using LPCONFIG to set up configuration report printing.

---

## Answers to Common Questions

---

This section answers some of the most commonly asked questions about configuring and using LANpress/JetPress.

### Avoiding Reboot with Print Server Status/Control

- ? **How can I avoid having to reset my LANpress/JetPress print server after each configuration change? It's disrupting users' print jobs.**

If rebooting LANpress/JetPress after configuration changes is inconvenient, you can use PCONSOLE's Print Server Status/Control to create temporary configurations. Then use PCONSOLE's Print Server Configuration to enter the same changes into the file server's permanent database. Since the temporary changes go into effect immediately, you can use your new configuration without rebooting LANpress/JetPress. When LANpress/JetPress is rebooted, the temporary changes are erased, and the permanent changes go into effect.

- ? **I'm trying to use PCONSOLE's Print Server Status/Control, but I can't edit any settings. What's wrong?**

Unless you are a print server operator, Print Server Status/Control is read-only.

To assign print server operator status, log in with supervisor privilege. Invoke PCONSOLE, select Print Server Information, and select the print server name. Then select Print Server Operators. Press INSERT, and add your login name to the list of print server operators.

### Don't Like Diagnostic

- ? **I don't like the diagnostic report that prints when LANpress/JetPress has a network problem. Can I turn it off?**

The diagnostic report prints only in the event of a network or hardware problem. It contains valuable information that assists Castelle customer service in diagnosing problems. Turning the report off is **not** recommended.

For some customers, however, who have very special requirements, there is a way to turn the diagnostic report off, using the SETDIAG command.

**Castelle strongly recommends leaving the diagnostic report enabled (the default setting).**

**WARNING:** *If the diagnostic report is disabled, and a problem prevents LANpress/JetPress from communicating with its master file server, there is no way to re-enable diagnostic printing. Disabling diagnostic printing could severely limit Castelle Technical Support's ability to help in the event of a problem.*



SETDIAG syntax is shown below:

SETDIAG *serial\_number* N=E|T YES|NO

*serial\_number* is the eight-digit LANpress/JetPress serial number, found on the bottom of the unit.

For N=E|T, enter N=E if your LANpress/JetPress is Ethernet. Enter N=T if your LANpress/JetPress is Token Ring.

Enter NO to disable diagnostic printing, or YES (the default) to enable it.

### **Installing the Print Server on a Second File Server**

**? How do I install my LANpress/JetPress print server on a second file server with CPADMIN?**

CPADMIN is the required method for initial installation, and is the easiest method for configuring LANpress/JetPress on a second file server. In CPADMIN, select Queues Serviced by Printer. A list of file servers displays. Select the file server where you would like to install LANpress/JetPress, then assign at least one queue. Save your changes, and select Reset Print Server.

**? I installed my LANpress/JetPress print server with CPADMIN, but now I'd like to configure it on a second file server using PCONSOLE. What do I need to do?**

To configure the print server to service queues on a second file server using PCONSOLE, follow these steps:

1. Install on at least one file server using CPADMIN.
2. Log in to the master file server, and invoke PCONSOLE (386, or version 2.15c or higher).
3. In PCONSOLE, add the second file server to the service list. Select:
  - Print Server Information,
  - Print Server Configuration,
  - File Servers To Be Serviced.Press INSERT, and add the second file server to the service list.
4. Configure the print server on the file server you just added to the service list. In PCONSOLE, select:
  - Change Current File Server.Log in to the file server you just added to the service list.

5. Create the LANpress/JetPress print server on the new file server. Select:
  - Print Server Information,
  - Press INSERT,
  - Enter the LANpress/JetPress print server name. (Give it the same name as on the master file server.)
  
6. Configure print server ports. Select:
  - Print Server Information,
  - Print Server Configuration,
  - Printer Configuration.
  - Select a port. Do not change the default Type for any port.
  - If configuring LPT1, select Printer 0.
  - If configuring LPT2, select Printer 1.
  - If configuring COM1, select Printer 3.
  - If configuring COM2, select Printer 4.
  
7. Assign print queues to print server ports. Select:
  - Print Server Information,
  - Print Server Configuration,
  - Queues Serviced by Printer. Select a port.
  - Press INSERT to display available queues.
  
8. Authorize the print server to service the queues. Select:
  - Print Queue Information,
  - Queue Servers. Press INSERT to display Queue Server Candidates.
  
9. Exit PCONSOLE. Reset LANpress/JetPress using CPADMIN, or using LPCONFIG *serial\_number* N=E|T RESET, or manually.

**Note:** If you want to avoid resetting, in PCONSOLE, select Print Server Information. If you have not already done so, add your login name as a print server operator. Then select Print Server Status/Control, and make all the changes described in steps 3-8 under Print Server Status/Control.

## Using LANpress/JetPress 3.1 or Later With Earlier Releases

- ? **I have older LANpress/JetPress print servers on my network. Can I use the utilities from LANpress/JetPress 3.1 or later with these units? Can I use the older utilities with LANpress/JetPress 3.1 or later hardware?**

When using LANpress/JetPress Rev. 3.1 or later in a network that includes LANpress or JetPress units of pre-3.1 revisions, it may be helpful to be aware of the following:

**Using CPADMIN with LANpress Rev. 2.1.x or JetPress Rev. 3.0.x** --You can use the LANpress/JetPress Rev. 3.1 or later CPADMIN utility to assign or delete queues on older units, do a remote reset, or view print server information. You cannot use CPADMIN version 3.1 or later to install earlier (pre-3.1) units.

Also, if you attempt to use version 3.1 or later software to configure features that were not present on earlier units, you will get an error message that tells you the LANpress/JetPress does not have the correct version PROMS for those features.

**How to Determine Firmware Level** -- To determine the firmware revision of a given unit, invoke CPADMIN (it's on the LANpress/JetPress floppy diskette). Select Change LANpress/JetPress Configuration. Select the print server from the list of Castelle print servers. In the Print Server Configuration Options menu, choose Print Server Information. The unit's firmware level displays on your screen.

**Configuring LANpress/JetPress Rev. 3.1 or Later with Older Software** -- The utilities shipped with LANpress/JetPress Rev. 3.1 and later, CPADMIN and LPCONFIG, are all that is required for installing/configuring a 3.1 and later unit. If you have older LANpress/JetPress utilities, and would like to use them with Rev. 3.1 or later LANpress/JetPress, please observe the following:

- The PSINSTAL installation utility does not assign a master file server for Rev. 3.1 or later units. Use CPADMIN instead.
- The LPCONSOL utility does not work for renaming or changing password on Rev. 3.1 or later units. For changing password or renaming, use CPADMIN instead.
- The PSCGNAME command-line name change utility does not work on Rev. 3.1 or later units. Use CPADMIN instead.

# Chapter 9

---

## UNIX Print Server Setup

This chapter tells how to set up EXTRA versions of LANpress/JetPress to communicate with UNIX hosts. The procedures in this chapter assume that you've already installed LANpress/JetPress hardware according to the procedures in Chapter 2, 3, or 4.

After you complete the procedures in this chapter, go to Chapter 10: *UNIX Print Queue Setup*, and follow the procedures that match the UNIX hosts you are installing LANpress/JetPress on.

### Step 1: Add the Print Server to */etc/hosts*

---

Create a new entry in the */etc/hosts* file on all hosts where you want to support printing to the LANpress/JetPress, or on an NIS server. The entry must include:

- A unique IP address. You can assign any IP address that suits your network
- A unique hostname for LANpress/JetPress
- An alias for LANpress/JetPress (optional)
- A comment (optional)

The syntax for the */etc/hosts* entry is as follows:

*IP\_Address hostname alias # comment*

For example:

```
192.10.2.77 hawaii h50 # Castelle 06000001
```

This example assigns the host name **hawaii** and the alias **h50** to the LANpress/JetPress with IP address **192.10.2.77**. The alias and comment are optional.

### Step 2: Extract LANpress/JetPress' software

---

All of LANpress/JetPress support software for UNIX is supplied in 'tar' format on a 3.5-inch floppy disk. Use the tar command as described in this procedure to extract the software into a directory such as */usr/lib/psd*.

1. Log in as root.
2. Create a directory on your host, for example, **psd** in */usr/lib*

3. Change directory to the new directory.
4. Extract the program files from the LANpress/JetPress' UNIX distribution floppy using the tar command that matches your system:

SunOS, Solaris, SCO, and UnixWare	<code>tar xvf /dev/rfd0</code>
HP-UX	<code>tar xvf /dev/floppy/c201d0s0</code>

5. Invoke the print server's *extract.sh* shell script :

```
sh extract.sh
```

This script prompts you to select your UNIX version from a list, and then removes all of the files that are not relevant to your installation.

**Note:** You should also copy or move the LANpress/JetPress' utilities to an administrative directory for future reference. Access to the utilities should be restricted to users with root privilege.

### Step 3: Set the IP Address with *psbrarp*

This section tells how to use the utility *psbrarp* utility to set the print server's IP address. There are actually three ways to set the print server's IP address during the initial setup:

- If there is a NetWare workstation on the network, you can use the print server's LPCONFIG to write the IP address directly into the print server's EEPROM. This utility also lets you configure the print server's default gateway and subnetwork mask. This is probably the most convenient way of setting the LANpress/JetPress' UNIX IP address if there is a NetWare workstation on the same network as the print server. LPCONFIG also lets you set the unit's subnetwork mask and default gateway. See Chapter 7 for more information about LPCONFIG.
- You can use *psbrarp* (as documented in this step) to provide a reply to the RARP broadcast the print server sends when it boots.
- You can add an entry for the print server to the host's (or a name server's) */etc/ethers* table and let the print server get its IP address from the *rarpd* daemon. This is handy if other devices on your net are also using RARP and you have *rarpd* active. For more information about this, see the section *Adding a RARP Table Entry* in Chapter 11: *Using the Castelle Print Server*.

We chose to document the `psbrarp` method in this section because it works well in the majority of installations.

**Important:** `psbrarp` only sets the LANpress/JetPress' IP address when its current IP address is 0.0.0.0 (the factory default). After the initial setting of the IP address, use `uxconfig` or `LPCONFIG` to change the IP address. See Chapter 7 for more information about `LPCONFIG`. See Chapter 12 for more information about `uxconfig`.

Follow these instructions to set the LANpress/JetPress' IP address with `psbrarp`:

1. Use the command `'netstat -i'` to list the names of the interfaces that are enabled on the network.
2. If you haven't already done so, connect LANpress/JetPress to the network and power it on.

**Note:** The print server must be powered on and connected to the same IP segment as the host on which the `psbrarp` command is issued.

3. Watch the LANpress/JetPress' LEDs during the boot cycle. When its red and green LEDs flash in quick succession (about four cycles per second), it has reached the state where it is waiting for a RARP reply.

**Note:** If the LANpress/JetPress has not been installed under NetWare at this time, it takes LANpress/JetPress about eight minutes to get to the state where it is waiting for a RARP reply. However, booting takes this long only when LANpress/JetPress is in its unconfigured state. After configuring the LANpress/JetPress' NOS setting according to the procedures in *Step 4: Configure the Print Server* (next page), the LANpress/JetPress takes only a few seconds to boot. See *Long Boot Time* in Chapter 13 for more information.

4. Any time after the LEDs start to indicate the waiting-for-rarp-reply state, execute `psbrarp` as follows:

```
psbrarp serial_number IP_address interface_name
```

Where:

- *serial\_number* is the serial number of the LANpress/JetPress.
- *IP\_address* is the IP address you want to assign to the LANpress/JetPress.
- *interface\_name* is the network interface name reported by `'netstat -i'`.

For example:

```
psbrarp 06000001 111.33.55.77 le0
```

This example assigns the IP address 111.33.55.77 to the LANpress/JetPress with serial number 06000001 on the network interface le0.

If the `psbrarp` command is successful, the light behavior changes to green flashing, red off to indicate that the IP address is stored.

5. Reboot the LANpress/JetPress by powering it off and back on again.

The new IP address is listed on the configuration report printed by the LANpress/JetPress after the unit is rebooted. The configuration report also lists the method by which LANpress/JetPress determined its IP address:

- [H/W] - When this appears on the configuration report, it means LANpress/JetPress received no reply to its RARP broadcast at boot time and used the IP address in its non-volatile memory (EEPROM). For example:

```
INTERNET ADDRESS [H/W] : 254.254.254.254
```

- [RARP by...] - When this appears on the configuration report, it means that LANpress/JetPress received a reply to its RARP broadcast, and used the IP address that it received. This line also lists the IP address of the host that sent the RARP reply. For example:

```
INTERNET ADDRESS [RARP by 253.253.253.253] : 254.254.254.254
```

**Important:** If LANpress/JetPress receives a RARP reply that gives a different IP address than the one in its EEPROM, it uses the IP address received through RARP, but does not write it to the EEPROM.

## Step 4: Configure the Print Server

---

After setting LANpress/JetPress' IP address, the next step is to set the following three parameters in LANpress/JetPress' EEPROM:

- The IP address of the router or gateway that LANpress/JetPress uses to send data to other IP segments
- The print server's subnetwork mask
- The network operating systems you are installing LANpress/JetPress under (UNIX, NetWare, or both)

The procedures in this step tell how to use LANpress/JetPress' `uxconfig` utility to set these parameters. The utility `uxconfig` can also be used to set other important parameters for LANpress/JetPress and its printer ports. For more information about `uxconfig`, see Chapter 12.

**Note:** The print server must already have its IP address and a host name in order to use `uxconfig`. If you cannot ping the print server, you cannot use `uxconfig`.

Follow this procedure:

1. If you have not yet done so, power on the LANpress or JetPress print server, and wait for it to boot. If the LANpress/JetPress has not been installed under NetWare at this time, it takes LANpress/JetPress about eight minutes to boot. After configuring the LANpress/JetPress' NOS setting according to the procedures in this procedure, the LANpress/JetPress takes only a few seconds to boot. See *Long Boot Time* in Chapter 13 for more information.
2. Invoke the `uxconfig` utility as follows:

```
uxconfig host_name [route=rout_addr] [mask=mask] [nos=netsys]
```

Where:

*host\_name* is LANpress/JetPress' host name. This is the name that appears in the `/etc/hosts` entry that matches LANpress/JetPress' IP address.

*rout\_addr* is the IP address of the router or gateway LANpress/JetPress uses to send data to other IP segments.

*mask* is the subnetwork mask you want LANpress/JetPress to use.

*netsys* is the network operating system you are installing LANpress/JetPress under. If you are only installing LANpress/JetPress under UNIX, enter U. If you are installing LANpress/JetPress under both UNIX and NetWare, enter A.

Omit options and parameters that you do not want to set at this time. If you wish, you may set these separately at a later time. See Chapter 12 for more information about using `uxconfig`.

For example:

```
uxconfig hawaii route=60.74.254.111 mask=255.240.0.0 nos=U
```

or

```
uxconfig hawaii nos=u
```

3. Invoke `uxconfig` again as follows to check LANpress/JetPress' configuration:

```
uxconfig host_name show
```

For example:

```
uxconfig hawaii show
```

This causes `uxconfig` to show LANpress/JetPress' configuration information on the screen.



4. When you are done configuring LANpress/JetPress with `uxconfig`, reboot LANpress/JetPress by powering it off and back on again, or by invoking `uxconfig` as follows:

**`uxconfig host_name reset`**

For example:

**`uxconfig hawaii reset`**

5. For LANpress print servers, check that the printer on the LPT1 port is connected, powered on, and switched ON LINE.

After rebooting LANpress/JetPress, a configuration report prints to LPT1. Check the report for the unit's INTERNET ADDRESS. Make sure the address matches the address you intended to assign.

# Chapter 10

---

## UNIX Print Queue Setup

This chapter describes the setup of print queues on the UNIX types supported by EXTRA versions of LANpress/JetPress. Use the section of this chapter that applies to your UNIX system.

### SunOS 4.x and Solaris 1.x

---

As of the publication date of this manual, the LANpress/JetPress has been tested with SunOS versions 4.0, 4.0.3, 4.1.2 2, and 4.1.3. We expect that the print server will work properly with SunOS versions 4.0 or later.

Follow this procedure to set up a print queue on the SunOS 4.x or Solaris 1.x UNIX host that prints through the Castelle print server.

1. Login to the host as root.
2. Edit the host's `/etc/printcap` file to configure for printing to the Castelle print server. To configure printing through the Castelle print server, create an entry in `/etc/hosts` similar to this:

```
t_oahu|toh|LaserJet III in lab(text)|:\
:lp=:rm=hawaii:rp=lpt1.nt.nl:\
:sd=/usr/spool/hawaii-lpt1.text:\
:lf=/usr/spool/hawaii-lpt1.text/log:
```

In this entry:

- The `lp=` part of this entry sets the name of the print device to null.
- The `rm=hawaii` part of this entry sets the name of the remote machine to `hawaii`, the host name defined for the print server in the file `/etc/hosts`.
- The `rp=lpt1.nt.nl` part of this entry sets the port on the print server serviced by `oahu` as `lpt1`, and specifies the **no trailer page** and **new line** text filters. For more information about text filters, see the following table. Make sure that the port specified with `rp=` matches the port on the print server the printer is connected to.

Filter	Full Name	Function
raw	raw	Does not perform any formatting; used for graphics or pre-formatted text.
nl	new line	Adds a carriage return to each line feed.
tabs	tabs	Moves character after tab character to next 8th column
nb	no banner	Suppresses banner page printed at start of job.
nt	no trailer	Suppresses trailer page printed at end of job.
nff	no form feed	Suppresses form feed character often output at end of job. Prevents blank page at end of job, but may prevent last page of job from printing.
ncr	no carriage return	Suppresses carriage return at end of job. Causes next job to start printing on same line where previous job left off.

**Important:** For Castelle JetPress and JetPress MIO print servers, use **lpt1** for the printer in which the JetPress is installed.

- The `sd=/usr/spool/hawaii-lpt1.text` part of this entry sets the spool directory for oahu on the local UNIX machine to `/usr/spool/hawaii-lpt1.text`. You must create this directory manually (see step 4 below).
  - The `lf=/usr/spool/hawaii-lpt1.text/log` part of this entry sets the log file for oahu to `/usr/spool/hawaii-lpt1/log`. You must create this file manually (see step 5 below).
4. Create the spool directory for oahu as follows:
 

```
mkdir /usr/spool/hawaii-lpt1.text
```
  5. Create the log file for oahu as follows:
 

```
touch /usr/spool/hawaii-lpt1.text/log
```
  6. Check that the daemon `lpd` is running, and start it if necessary:
 

```
ps -ax | grep lpd
```

If you get no response from this command, you must start the `lpd` daemon:

```
/usr/lib/lpd
```
  7. Test your ability to print to oahu by printing the `/etc/hosts` file:
 

```
lpr -Pt_oahu /etc/hosts
```

When set up as described in this procedure, data to t\_oahu will be printed to prints server 'hawaii' on port 'lpt1' with tab and carriage return formatting. In order to set different characteristics for processing text, such as translations and tab expansions, special variations of the the remote printer name are used in the /etc/printcap file. The convention follows that of the 'stty' command on UNIX. See the table of filters on page 10-2.

You can create multiple entries for a printer, with each entry calling for different filters, for example:

```
t_oahu|toh|LaserJet III in lab(text)|:\
:lp=:rm=hawaii:rp=lpt1.nl.tabs:\
:sd=/usr/spool/hawaii-lpt1.text:\
:lf=/usr/spool/hawaii-lpt1.text/log:

r_oahu|roh|LaserJet III in lab(grafix)|:\
:lp=:rm=hawaii:rp=lpt1.raw:\
:sd=/usr/spool/hawaii-lpt1.grafix:\
:lf=/usr/spool/hawaii-lpt1.grafix/log:
```

**Important:** If you do create multiple printcap entries for a printer on the Castle print server, each entry must specify a unique spool directory, as shown above. It is not strictly necessary that the different entries have different log files. You must create the spool directory and log file manually.

See the manuals for your UNIX system for more information about the /etc/printcap file.

## Solaris 2.x (SunOS 5.x) and UnixWare 1.x

---

This section describes the setup of print queues for the Castle print server on Solaris 2.1 and UnixWare 1.03 UNIX hosts. The installation procedure is identical for these two different versions of UNIX.

As of the publication date of this manual, the print server had been tested with Solaris 2.1 and Univel UnixWare version 1.03. We expect that the print server will work with these and later versions.

**Note:** If installing on a UnixWare host, make sure that you have also installed UnixWare's TCP/IP package.

Follow this procedure to set up a print queue on the Solaris 2.x UNIX host that prints through the Castelle print server.

1. Login to the Solaris or UnixWare host as root.
2. Invoke `lpsystem` as follows to identify the print server as BSD type:

```
lpsystem -t bsd -R 5 -T 10 server_name
```

where `server_name` is the hostname you assigned to the print server in the `/etc/hosts` file. For example:

```
lpsystem -t bsd -R 5 -T 10 hawaii
```

3. Invoke `lpstat` as follows to validate local uniqueness of the print queue:

```
lpstat -pqueue_name
```

for example,

```
lpstat -poahu
```

4. Invoke `lpadmin` from the bourne shell as follows to define the queue for `lpd` spooling:

```
lpadmin -pqueue_name -sserver_name!port_name
```

for example,

```
lpadmin -poahu -shawaii!lpt1.nt.nl
```

- The `-poahu` part of this entry sets the queue name to **oahu**
- The `-shawaii` part of this entry sets the name of the remote machine to **hawaii**, the host name defined for the print server in the file `/etc/hosts`.
- The `lpt1.nt.nl` part of this entry sets the port on the print server serviced by `oahu` as **lpt1**, and specifies the **no trailer page** and **new line text** filters. For more information about text filters, see the table of filters on page 10-2. Make sure that the port specified with `rp=` matches the port on the print server the printer is connected to.

**Important:** For Castelle JetPress and JetPress MIO print servers, use **lpt1** for the printer in which the JetPress is installed.

5. Enable remote printing from the queue `queue_name` as follows:

```
enable oahu
```

6. Allow entry of print jobs onto *queuename* as follows:

```
accept oahu
```

7. If necessary, stop and restart *lpsched* as follows:

```
/usr/sbin/lpshut
/usr/lib/lp/lpsched
```

When set up as described in this procedure, data to oahu will be printed to prints server *'hawaii'* on port *'lpt1'* with new line formatting, and no trailer page. In order to set different characteristics for processing text, such as translations and tab expansions, special variations of the the remote printer name are used in the printer database. See the table of filters on page 10-2.

## SCO version 3.2 2

---

This section describes the setup of print queues for the Castelle print server on SCO UNIX hosts.

If you aren't sure of the exact versions of your SCO UNIX software, use the command `uname -a` to verify the SCO UNIX version number, and use the command `swconfig` to check the TCP/IP version number.

As of the publication date of this manual, the print server had been tested with SCO UNIX version 3.2 2 and TCP/IP version 1.2.0i. We expect that the print server will work properly with SCO UNIX version 3.2 2 or later, and with TCP/IP version 1.2 or later.

SCO TCP/IP version 1.2 supports *lpd* mode printing, and uses an */etc/printcap* file to configure printing. The following procedure uses the SCO utility **mkdev rlp** to create an entry in the */etc/printcap* file, but you must then go back and make slight modifications to these entries to use them with the Castelle print server.

The utility **mkdev rlp** creates */etc/printcap* entries with the same printer name used for local queue and remote printers. If you wish to use a local queue name different from the remote printer's name (as required when using multiple print servers), give **mkdev rlp** the desired local queue name and later edit the */etc/printcap rp* field. See the chapter on SunOS 4.x for a more complete explanation of the */etc/printcap* entry format.

Follow this procedure to set up a print queue on the SCO UNIX host that prints through the Castelle print server.

1. Login to the local host as root.

2. Issue the command `mkdev rlp` and follow the on-line instructions to configure remote line printing. In the example below, we create two entries in the `/etc/printcap` file; `t_oahu` for printing text, and `g_oahu` for printing graphics:
  - a. Do you want to install or delete remote printing (i/d/q)? **i**  
  
Here, the program may generate a few messages, and then ask if you want to continue. Answer **y**.
  - b. Do you want to change the remote printer description file `/etc/printcap` (y/n)? **y**
  - c. Enter information for remote printers or local printers accepting remote printing requests.  
  
Please enter the printer name (q to quit): **t\_oahu**
  - d. Is `t_oahu` a remote printer or a local printer (r/l)? **r**
  - e. Please enter the name of the remote host that `t_oahu` is attached to: **hawaii**
  - f. Printer `t_oahu` is connected to host `hawaii`  
Is this correct (y/n)? **y**
  - g. Would you like this to be the system default printer? (y/n) **n**
  - h. Enter information for remote printers or local printers accepting remote printing requests.  
  
Please enter the printer name (q to quit): **g\_oahu**
  - i. Is `g_oahu` a remote printer or a local printer (r/l)? **r**
  - j. Please enter the name of the remote host that `g_oahu` is attached to: **hawaii**
  - k. Printer `g_oahu` is connected to host `hawaii`  
Is this correct (y/n)? **y**
  - l. Would you like this to be the system default printer? (y/n) **n**

- m. Enter information for remote printers or local printers accepting remote printing requests.

Please enter the printer name (q to quit): **q**

- n. Setting up rc scripts.

Do you want to start remote printing daemon now? **y**

The program sets up the rc scripts and returns to the system prompt.

See the manuals for SCO UNIX for more information about **mkdev rlp**.

3. The utility **mkdev rlp** creates a new entry in the `/etc/printcap` file (and creates that file if it did not already exist). **However, you must change the entries created by **mkdev rlp** slightly to provide a remote port name appropriate for a Castle print server.** Use any convenient text editor to modify the new entries so that the `rp=` reference is set to the port on the print server the printer is connected to, instead of the printer's name, for example:

```
t_oahu:\
    :lp=:rm=hawaii:rp=lpt1.nl.tabs:\
    sd=/usr/spool/lpd/t_oahu:

g_oahu:\
    :lp=:rm=hawaii:rp=lpt1:\
    sd=/usr/spool/lpd/g_oahu:
```

In these entries:

- The `lp=` part of this entry sets the name of the print device to null.
- The `rm=hawaii` part of this entry sets the name of the remote machine to `hawaii`, the host name defined for the print server in the file `/etc/hosts`.
- The `rp=lpt1.nl.tabs` part of the first entry sets the port on the print server serviced by `t_oahu` as `lpt1`, and specifies the **new line** and **tabs** filters used for printing text files. See the table of filters on page 10-2 for more information about the print server's built-in filters. Make sure that the port specified here matches the port on the print server the printer is connected to.

The `rp=lpt1` part of the second entry sets the port on the print server serviced by `g_oahu` as `lpt1`, and leaves it unfiltered (raw) for graphics printing.

**Important:** For Castle JetPress print servers, use **`rp=lpt1`** for the printer in which the JetPress is installed.

- The `sd=/usr/spool/lpd/...` part of these entries sets the spool directories for `t_oahu` and `g_oahu` on the local UNIX machine to `/usr/spool/lpd/t_oahu` and `/usr/spool/lpd/g_oahu`, respectively.



4. Test your ability to print to oahu by printing the `/etc/hosts` file:

```
lp -d t_oahu /etc/hosts
```

When set up as described in this procedure, data to `t_oahu` will be printed to print server `'hawaii'` on port `'lpt1'` with tab and carriage return formatting; data to `g_oahu` will be printed with no additional formatting. In order to set different characteristics for processing text, such as translations and tab expansions, special variations of the remote printer name are used in the `/etc/printcap` file. See the table of filters on page 10-2.

## HP-UX version 9.0

---

This section describes the setup of print queues for the Castelle print server on HP-UX 9.0 UNIX hosts.

As of the publication date of this manual, the print server had been tested with HP-UX version 9.01. We expect that the print server will work properly with HP-UX versions 9.0 or later.

HP-UX 9.0 uses a printer database administered by the system administration management program called SAM.

Follow this procedure to use SAM to set up print queues on the HP-UX hosts that print to the Castelle print server:

1. Login to the host as root
2. Invoke SAM:

```
# sam <Enter>
```
3. Select the following sequence of options from SAM's menus:

```
Peripheral Devices ->
```

```
Printers and Plotters ->
```

```
Printers/Plotters
```

```
Actions (Select from menu bar)
```

```
Add Remote Printer/Plotter
```

Enter the following information on the screen that appears:

- a. Printer name: `oahu`

This is the name of the printer you are connecting to the LANpress or JetPress print server.

- b. Remote system name: **hawaii**

This is the name of the LANpress/JetPress print server. This name must match the name assigned in the entry you previously made in the `/etc/hosts` file.

- c. Remote printer name: **lpt1\_tabs\_n1**

This is the name of the LANpress/JetPress' port to which you are connecting a printer. This is also where you name any text filters you want to apply to print jobs sent to that print queue, for example:

**lpt1\_nb\_nt\_nff** (no banner, no trailer, and no form feed at end of job)

**Use only underscores to delineate the port and filters.** HP-UX does not support either periods (.) or hyphens (-), as other UNIX versions do. See the table of filters on page 10-2 for more information on valid filters for the LANpress/JetPress.

**Important:** For JetPress, use **lpt1** for the printer in which the JetPress is installed.

- d. Remote cancel model: **rcmodel**
- e. Remote status model: **rsmodel**
- f. Printer class (optional)
- g. Make this the system default printer? (y or n) **y** or **n**
- h. Restrict cancel? (y or n) (optional)
- i. Remote printer on a BSD system? (y or n) **y**

4. Test your ability to print to oahu by printing a copy of the `/etc/hosts` file:

```
lp -d oahu /etc/hosts
```

When set up as described in this procedure, data to oahu will be printed to prints server '**hawaii**' on port '**lpt1**' with tab and carriage return formatting. In order to set different characteristics for processing text, such as translations and tab expansions, special variations of the the remote printer name are used in the printer database. The convention follows that of the '**stty**' command on UNIX. See the table of filters on page 10-2.



# Chapter 11

---

## Using LANpress/JetPress with UNIX

This chapter contains general information about how the LANpress/JetPress works under UNIX in everyday operation.

In general, the LANpress/JetPress supports those options of UNIX printing, print control, and print status commands that are supported by remote BSD printing. The exceptions to this are those commands/options that require buffering or spooling by the remote host (such as printing of multiple copies), or those options that require substantial filtering by the remote host. For more information about what commands/options are supported by remote BSD printing, see your UNIX system documentation.

## lpd Filters

---

lpd filters such as **troff** are not directly supported by LANpress/JetPress. To provide troff support, run the file through the troff filter to generate a PCL or PostScript file, and then run the filter output to lpr.

For example (BSD):

```
%troff /usr/bill/bills | pstroff | lpr -Poahu
```

## Banner Pages

---

LANpress/JetPress cannot print a complete header page at the beginning of the print job, because it does not receive the information it needs until the end of the job. This is inherent in the 'lpd' mode of operation. Instead, the print server generates and prints a simplified header page at the beginning of the job, and then prints a trailer page with complete information at the end of the job.

If you want to suppress either the header page or trailer page, use the **.nb** (no banner) or **.nt** (no trailer) filters when defining print queues that print through the LANpress/JetPress. For more information about these filters, see the installation chapter that applies to your UNIX version.

---

## Printing Priority

---

When printing from both UNIX and from Novell NetWare, the LANpress/JetPress handles UNIX and NetWare print jobs in round-robin fashion. All UNIX jobs have the same priority as jobs in a NetWare print queue with priority level 1. The LANpress/JetPress alternates between UNIX and priority 1 NetWare jobs until all such jobs are done. Then the LANpress/JetPress prints lower-priority NetWare jobs.

---

## Adding a RARP Table Entry

---

RARP is a method for a unit connected to a TCP/IP network to obtain its IP address by broadcasting its ethernet ID. The RARP daemon *rarpd*, running on a host on the network, receives the broadcast. It then looks up the ethernet ID in the RARP database (*/etc/ethers*) to get the originator's host name, looks the host name up in the hosts database (*/etc/hosts*) to get the IP address, and sends the IP address back to the originator of the broadcast.

When the unit boots, it sends a RARP broadcast requesting its IP number. When the print server gets its IP number from either *psbrarp* or the RARP daemon, it writes it to its non-volatile memory (EEPROM). If it does not receive a RARP reply, it uses the IP address already in the EEPROM. You can use the utility *uxconfig* to change the IP address in the print server's EEPROM. The utility *uxconfig* is described in Chapter 12: *Print Server UNIX Utilities*.

**Important:** Before moving the print server to a new IP location or to a network where RARP is not available, use *uxconfig* to set the new IP address or to erase the current address (by setting it to 0.0.0.0).

If your UNIX system supports RARP, you can add an entry to the RARP table on a UNIX host so that the LANpress/JetPress gets its IP address from the RARP daemon *rarpd* (if running) every time it boots. This may make it easier for you to administer IP addresses on your network.

**Important:** Make a copy of the */etc/hosts* file before you make any modifications to the original file. That way, if the modifications cause problems you can easily restore the original file from the copy.

The easiest way to add an entry in the *rarp* database (*/etc/ethers*) is by using the *Castelle* utility *etherhex* with *>>* redirection, as follows:

```
etherhex serial_number hostname >> /etc/ethers
```

Where:

- *serial\_number* is the serial number of the LANpress or JetPress print server.
- *hostname* is the print server's hostname as listed in the */etc/hosts* file.

For example:

```
etherhex 03205721 hawaii >> /etc/ethers
```

This appends the following entry to the file `/etc/ethers`:

```
00:00:44:30:ea:59 hawaii # Castelle 03205721 RARP entry
```

## Restarting or Rebooting the Print Server

---

When the LANpress/JetPress is rebooted or reset while a print job is in progress, that job is not automatically restarted when the unit boots back up. You must manually restart the job after the unit reboots. Also, the first job that prints after such a reboot may be corrupted by extraneous font or attribute data left in the printer's memory at the time of the reboot. To avoid this situation, simply wait until all queues (UNIX and NetWare) are idle before rebooting or resetting the print server.

Also, when the LANpress/JetPress is rebooted or reset while a print job is in progress, the UNIX host may kill the `lpd` daemons on its print queues. This is usually the case with Sun versions of UNIX, but rarely happens with other versions. To recover from this:

- Under SunOS 4.0, 4.1, and Solaris 1.x, the root can start all `lpd` daemons by issuing the command

```
lpc start all
```

to start the `lpd` daemon for all print queues; non-root users can restart the `lpd` daemons for individual print queues by issuing the command

```
lpc restart queuename
```

where *queuename* is the name of the print queue they want to restart.

- Under SCO UNIX, rebooting or resetting the print server rarely kills the `lpd` daemon, but if it does, the root can recover by issuing the command

```
/usr/lib/lpd start
```

- Under Solaris 2.1, HP-UX 9.0, and UnixWare, you can restart the queues by issuing the commands

```
lpshut
```

and

```
lpsched
```



# Chapter 12

---

## Print Server UNIX Utilities

This chapter describes the use of the UNIX utilities used to configure the LANpress/JetPress EXTRA print servers. It also describes how to extract the software utilities from the distribution floppy.

### Extracting the Utilities

---

All of the print server support software for UNIX is supplied in 'tar' format on a 3.5-inch floppy disk. Use the tar command as described in this procedure to extract the software into a directory such as /usr/lib/psd.

1. Log in as root.
2. Create a directory on your host, for example, **psd** in /usr/lib
3. Change directory to the new directory.
4. Extract the program files from the print server's distribution floppy using the tar command that matches your system:

SunOS, Solaris, SCO, and UnixWare	<code>tar xvf /dev/rfd0</code>
HP-UX	<code>tar xvf /dev/floppy/c201d0s0</code>

5. Invoke the script `extract.sh`:

```
sh extract.sh
```

This script prompts you to select your UNIX version from a list, and then removes all of the files that are not relevant to your installation.

**Note:** You should also copy or move the print server's utilities to an administrative directory for future reference. Access to the utilities should be restricted to users with root privilege.



---

## uxconfig

---

`uxconfig` is a command-line utility used for configuring aspects of the LANpress/JetPress that are relevant to UNIX installations. Many of these functions can also be configured with `LPCONFIG`, the LANpress/JetPress' NetWare configuration utility.

LANpress/JetPress must be powered on, connected to the network, and assigned an IP address prior to configuring with `uxconfig`. This command must be executed on a UNIX host that has a `/etc/hosts` entry for the LANpress/JetPress. If you cannot ping the print server, you cannot use `uxconfig`.

With `uxconfig`, you can perform the following tasks:

- Show current settings (`show`)
- Reset (reboot) LANpress/JetPress (`reset`)
- Change IP address for UNIX (`ipa=`)
- Set default gateway address for UNIX (`route=`)
- Set subnetwork mask for UNIX (`mask=`)
- Turn configuration report printing on or off for LPT $n$  or COM $n$  port (`pan=`, `sen=`)
- Set format of banner pages, configuration reports, and diagnostic reports to ASCII or PostScript for COM $n$  or LPT $n$  port (`pan=`, `sen=`)
- Set parallel port interval for LANpress 1+1EXTRA, 2+2EXTRA, and the LPT2 port of JetPress MIO PLUS EXTRA (`spa=`)
- Set serial port baud rate for COM $n$  port (`baudn=`)

## Using uxconfig

---

To use `uxconfig`, log in as root. This command must be executed on a UNIX host that has a `/etc/hosts` entry for the LANpress/JetPress. Correct `uxconfig` syntax is shown below, followed by an explanation of command conventions.

**uxconfig** *host\_name* [*options*]

**uxconfig** Information that must be entered is shown in bold letters. When typing, you can use upper or lower case: `uxconfig` is not case-sensitive.

***host\_name*** Words that appear in italics are variables. Substitute the pertinent information for the variable when typing the command. You must always enter the print server's host name (as set in the `/etc/hosts` file) when using `uxconfig`.

| A | (pipe) character means "either/or". You have a choice between two items separated by a |.

[ ] Brackets indicate that the enclosed item is optional. If not entered, the default value is used.

A listing of the options explained in this chapter is shown below. When using `uxconfig`, you can enter more than one option at a time.

**uxconfig** *host\_name* [**show**] [**reset**] [**ipa=ip\_address**] [**route=gateway\_address**] [**mask=subnet\_mask**] [**pan=norp|rp**] [**sen=norp|rp**] [**pan=pcl|ps**] [**sen=pcl|ps**] [**spa=speed**] [**nos=u|a**] [**baudn=baud\_rate**]

Each of these options is explained in a section of this chapter. For a complete list of `uxconfig` options, invoke `uxconfig` with no options or parameters. This causes `uxconfig` to print a complete list of options to your workstation's screen.

## Show Current Settings

---

**uxconfig** *host\_name* **show**

This command displays settings for the options described in this chapter, as appropriate to your LANpress/JetPress model.

---

## Reset (Reboot) LANpress/JetPress

---

`uxconfig host_name reset`

This command resets the specified LANpress/JetPress. LANpress/JetPress must be reset (rebooted) after changing a port's configuration (includes turning configuration report on/off, changing report format).

You can use the `reset` option on its own, as in example 1, below. Or, for convenience, you can include the `reset` option at the end of a string, as in the second example.

Example 1: `uxconfig hawaii reset`

Example 2: `uxconfig hawaii PA1=norp SE1=rp reset`

---

## Change IP Address

---

`uxconfig host_name ipa=ip_address`

This command changes writes the LANpress/JetPress' UNIX IP address in the LANpress/JetPress' EEPROM. When using this command, enter the IP address in dotted decimal format.

**Important:** The `ipa` option can only be used after the print server has previously been assigned an IP address. For the initial assignment of the IP address, use `psbrarp`, or `LPCONFIG`, or add an entry for the LANpress/JetPress to a name server's RARP table.

Example: `uxconfig hawaii ipa=192.90.200.201`

---

## Set Default Gateway

---

`uxconfig host_name route=ip_address`

This command writes the IP address of the default router (the router or gateway the print server uses to send data to other IP segments) into the the LANpress/JetPress' EEPROM. When using this command, enter the default gateway's IP address in dotted decimal format.

Example: `uxconfig hawaii route=60.74.254.111`

---

## Set Subnetwork Mask

---

```
uxconfig host_name mask=subnet_mask
```

This command writes the LANpress/JetPress' subnetwork mask into the the LANpress/JetPress' EEPROM. When using this command, enter the subnetwork mask in dotted decimal format.

Example: `uxconfig hawaii mask=255.240.0.0`

---

## Set Network Operating System

---

```
uxconfig host_name nos=u|a
```

This command sets the network operating system for the LANpress/JetPress.

**nos=u** selects UNIX as the LANpress/JetPress' operating system. Under this setting, the print server only serves UNIX print queues. It does not attempt to locate its NetWare master file server at boot time, and does not serve NetWare print queues.

**nos=a** selects both NetWare and UNIX. Under this setting, the LANpress/JetPress attempts to find a NetWare master file server at boot time, and if found, serves both NetWare and UNIX print queues.

**Important:** If **nos** is set to **a**, and the print server has not been installed under NetWare, the print server may spend up to eight minutes searching for its NetWare master file server before timing out. The actual time spent depends on the size of the network.

Example: `uxconfig hawaii nos=u`

---

## Turn Configuration Report Off/On

---

```
uxconfig host_name pan|sen=norp|rp
```

Use this command to enable or disable configuration report printing for the specified port. By default, configuration reports print to LPT1.

**pan** represents a LANpress/JetPress parallel port number. Enter **pa1** for LPT1 or **pa2** for LPT2.

**Note:** For JetPress, use LPT1 for the printer in which the JetPress is installed.

**sen** represents a LANpress/JetPress serial port number. Enter **se1** for COM1, or **se2** for COM2.

**rp** enables configuration report printing. Enter **pan** or **sen=rp** to enable configuration report printing for the specified port.

**norp** disables configuration report printing. Enter **pan** or **sen=norp** to disable configuration report printing for the specified port.

Example: `uxconfig hawaii pa1=norp se1=rp`

---

## Select Configuration Report/Banner Page Format

---

`uxconfig host_name pan|sen=pcl|ps`

This command sets a LANpress/JetPress port's report and banner page format.

The default format is ASCII (PCL). Set the format to PostScript (PS) for any port where a PostScript printer is connected.

**pan** represents a LANpress/JetPress parallel port number. Enter **pa1** for LPT1 or **pa2** for LPT2.

**Note:** For JetPress, use LPT1 for the printer in which the JetPress is installed.

**sen** represents a LANpress/JetPress serial port number. Enter **se1** for COM1, or **se2** for COM2.

Enter **pan** or **sen=ps** to select PostScript format for the specified port.

Enter **pan** or **sen=pcl** to select ASCII format for the specified port.

This command sets the format for configuration reports, diagnostic reports, and banner pages. Since diagnostic reports print only to LPT1, configuring any other port has no effect on diagnostic report format.

Note that you can turn configuration report printing on/off for a specific port using the **RP|NORP** option, described earlier in this chapter.

Example: `uxconfig hawaii pa1=ps se1=pcl`

---

## Set Parallel Port Strobe Interval

---

`uxconfig host_name spa=s1|s2|s3|s4|s5`

This command sets the parallel port strobe interval.

**Note:** This command only applies to LANpress 2P EXTRA, 2+2EXTRA, 1+1EXTRA, and to the external (LPT2) parallel port of JetPress MIO PLUS EXTRA.

The default interval is S3 (2 microseconds).

If you have a newer printer, such as a LaserJet IIIsi, IIIP, or 4, changing the interval to a faster setting than the default (S3, or 2 microseconds) may improve print speed. (Leaving it at the default causes no harm.)

If your printer produces output with garbled characters, or missing characters or lines, slowing print speed by specifying S1 or S2 may help. (These problems may occur if you have an older, slower dot matrix printer, or if you are using a parallel cable over 10 feet long.) Note that on LANpress 2P and 2+2EXTRA, the strobe interval applies to both parallel ports. This means that for these units you must be careful to set the strobe interval no faster than your slowest printer can handle.

For SPA=, enter one of the values shown in the following table.

LANpress/JetPress Parallel Port Intervals		
Value	Description	Strobe speed (microseconds)
s1	slowest	8
s2	slow	4
s3	medium (default)	2
s4	fast	1
s5	fastest	.625 (Except LANpress 2P) .5 (LANpress 2P)

Example: `uxconfig hawaii spa=s5`

## Set Serial Port Baud Rate

`uxconfig host_name baudn=baud_rate`

This command sets the baud rate for the print server's serial port(s). **baud1** sets the baud rate for the COM1 port; **baud2** sets the baud rate for the COM2 port. Valid baud rates are 300, 600, 1200, 2400, 4800, 9600, 19200, and 38400.

**Important:** If the LANpress/JetPress' NOS parameter is set to A (which selects both NetWare and UNIX), this command has no effect on the print server. When NOS is set to A, you must use the LANpress/JetPress' NetWare utilities CPADMIN or LPCONFIG to set the serial port baud rate. Also, when NOS is set to U (which selects UNIX only), the serial port settings default to 8 data bits, no parity, and one stop bit; these settings cannot be changed.

**Note:** For long serial cables (over about 50 feet) the faster baud rates may cause garbled output at the printer, even if those rates are supported by the printer.

Example: `uxconfig hawaii baud1=19200`

## psbrarp

---

This broadcast command sends an IP/UDP/RARP reply. The purpose of this utility is to let you configure the print server's IP address where RARP is not active.

It is typically used only once, during initial installation. To use this command you must know the name of the Ethernet interface where the print server is installed. Use the command `'netstat -i'` to list the names of the interfaces that are enabled on the network.

The print server accepts a reply from `psbrarp` only when the IP address in its EEPROM is 0.0.0.0 (the print server's factory-configured IP address). However, the print server will accept a reply from the `rarp` daemon (and write the supplied IP address to EEPROM) regardless of the current IP address in EEPROM.

**Note:** The print server must be powered on and connected to the same IP segment as the host on which the `psbrarp` command is issued.

Syntax:

**`psbrarp serial_number IP_address interface_name`**

Where:

- *serial\_number* is the serial number of the LANpress/JetPress.
- *IP\_address* is the IP address that is sent out via a RARP reply.
- *interface\_name* is the network interface name reported by `'netstat -i'`.

For example:

```
psbrarp 06000001 111.33.55.77 le0
```

This example assigns the IP address 111.33.55.77 to the print server with serial number 06000001 on the network interface `le0`.

To use `psbrarp`, first connect the print server to the network and power it on. Watch the print server's LEDs during the boot cycle. When its red and green LEDs flash in quick succession (about four cycles per second), it has reached the state where it is waiting for a RARP reply. Execute `psbrarp` as described above any time after the print server reaches this state. If the `psbrarp` command is successful, the light behavior changes to green flashing, red off to indicate that the IP address is stored.

**Note:** If the print server's NetWare software installation has not yet been done, it may take the print server up to three minutes to get to the state where it is waiting for a RARP reply.

The new IP address is listed on the configuration report printed by the print server after the unit is rebooted. The configuration report also lists the method by which the print server determined its IP address:

- [H/W] - When this appears on the configuration report, it means the print server received no reply to its RARP broadcast at boot time and used the IP address in its non-volatile memory (EEPROM). For example:

```
INTERNET ADDRESS [H/W] : 254.254.254.254
```

- [RARP by...] - When this appears on the configuration report, it means that the print server received a reply to its RARP broadcast, and used the IP address that it received. This line also lists the IP address of the host that sent the RARP reply. For example:

```
INTERNET ADDRESS [RARP by 253.253.253.253] : 254.254.254.254
```

**Important:** If the print server receives a RARP reply that gives a different IP address than the one in its EEPROM, it writes the new IP address to the EEPROM.

## etherhex

---

This utility simplifies the generation of the print server's entry in the `/etc/ethers` file. This is useful if you wish to create such an entry so that the LANpress/JetPress can get its IP address from the RARP daemon `rarpd` at boot time. The utility converts the given serial number to hex, appends it to Castle's IEEE-assigned Ethernet ID (00:00:44 hex) and outputs a line containing the unit's ethernet address, serial number, and the comment "# Castle RARP entry."

Use this utility in conjunction with `>>` redirection to append the output to the appropriate file.

Syntax:

```
etherhex serial_number [hostname]
```

Where:

- *serial\_number* is the serial number of the LANpress or JetPress print server.
- *hostname* is the LANpress or JetPress print server's hostname.

If the *hostname* parameter is omitted, the unit's serial number (preceded by the letter `c`) is used as a hostname.

For example:

```
etherhex 03205721 hawaii >> /etc/ethers
```



This appends the following entry to the file /etc/ethers:

```
00:00:44:30:ea:59 hawaii # Castelle 03205721 RARP entry
```

# Chapter 13

---

## UNIX Troubleshooting

This section offers troubleshooting advice in case the NetWare/UNIX print server does not work properly.

In day-to-day use, there are three possible points of failure in getting a user's print job to the network printer - namely, host print spooler, host-to-remote communications and remote network print server.

### Long Boot Time

---

If the LANpress/JetPress takes a long time to boot (more than about 30 seconds), it probably means that the unit's NOS (Network Operating System) parameter is not set correctly. The NOS parameter sets whether the unit serves NetWare queues, UNIX queues, or both. If NOS is set to A (the default for EXTRA versions of LANpress/JetPress print servers), the unit searches for a NetWare master file server before booting as a UNIX print server. This search times out after about eight minutes.

See *Set Network Operating System* in Chapter 12 for information about setting NOS.

### Spooler Execution Error

---

Refer to the UNIX system administrator's manuals and sections on 'Maintaining Printers and Print Servers' or similar documentation for general information on determining the status of the print spooler.

### Network Error

---

Use the 'ping' utility to check whether the print server is 'alive' on the network. Ping uses an ICMP 'echo' packet in 'ping-pong' fashion to see if a node is responding or not. Thus it guarantees only that the print server is connected to the network, and is able to communicate using TCP/IP protocol.

You can also use the netstat command as follows to check the communication status of the print server:

```
netstat -a | grep server_name
```

See your UNIX documentation for information about the statuses appropriate to the various UNIX versions.

## Spooler Communication Error

---

You can verify the status of local and remote *lpd* by issuing one of the following commands:

```
lpc stat printer (SunOS 4.x/Solaris 1.x)
```

or

```
lpstat printer (Solaris 2.x, UnixWare, SCO UNIX, HP-UX)
```

Where *printer* is the name of the printer. This indicates if local *lpd* daemon is down. It can be restarted by issuing the command `lpc restart printer`. If the remote *lpd* is down you may have to reset the print server by invoking `uxconfig` with the reset option as follows:

```
uxconfig host_name reset
```

## Print Server Error

---

In the case of a print server error, the first place to check is the print server's configuration report to see if the IP address is actually assigned to the print server.

- Check the report printed by the print server when it boots for the line listing its Internet Address. Compare this address with that listed for the print server in the `/etc/hosts` file. If the numbers don't match, change the number in the `/etc/hosts` file.
- Check the `/etc/ethers` file for an entry for the print server. If one is present, make sure that its ethernet and IP addresses are correctly listed. The print server's ethernet address should be the hexadecimal equivalent of the unit's serial number, appended to `00:00:44`.
- Check the `/etc/services` file for an entry like this:

```
printer 515/tcp spooler
```

- On UNIX versions with direct *lpd* support (most BSD variants), check that the *lpd* daemon is running by issuing the command:

```
%ps aux | grep lpd
```

If the *lpd* daemon is running, you will get output similar to this:

```
root 141 0.0 0.0 52 0 ? IW Apr 26 0:18 /usr/lib/lpd
```

If the *lpd* daemon is not running, start it with this command:

```
#!/usr/lib/lpd
```

- On UNIX versions that emulate *lpd*, check that *lpsched* is set up to run the *lpd* emulator.

Then, assuming the cables and other physical connections are OK, use the `ping` command to see if the basic operating environment is OK on the print server. If `ping` shows that the print server is alive and still not printing, restart the print server.



# Chapter 14

---

## Technical Support

This chapter tells how to reach us if you have a problem or situation that is not covered by this manual.

## Troubleshooting Information

---

Have available the following information about your LANpress or JetPress before contacting Castelle Technical Support:

- The type of unit (e.g. LANpress 2+2EXTRA, JetPress MIO PLUS, etc.)
- The unit's eight-digit serial number - For LANpress, printed on a label on the bottom of the unit; for JetPress printed on a label on the JetPress' circuit board
- The version number of the LANpress/JetPress software you are using (from the diskette label or from the information line of one of the utility programs)
- The version number of the unit's firmware (from a configuration or diagnostic report printed by the unit)
- The version number of the network software you are using (e.g. NetWare 3.12)
- The network topology (i.e. Ethernet or Token Ring)
- A description of the problem or its symptoms

## How to Reach Us

---

When you have gathered the troubleshooting information listed above, contact Castelle Technical Support via one of the following:

- By phone - Call us at (408) 496-0474 and ask for technical support. Please call from a telephone at a workstation where you can log into your network.
- By fax - Our Technical Support fax numbers are:
  - (408) 987-7867
  - (408) 492-1338

If sending a fax, please include the troubleshooting information listed above, along with sample documents or configuration/diagnostic reports, and your fax/phone numbers. We will fax a reply or follow up via telephone.

- Via Internet - Address E-mail messages to **support@castelle.com**. Please include the troubleshooting information listed above. We will reply via Internet unless you specify otherwise
- Via our BBS - The Castelle bulletin board number is **(408) 496-1807**. It can be reached using a modem with the following settings: 1200, 2400, 9600, or 14400 baud, no parity, eight data bits, and one stop bit.

## Returning Defective Products

---

If you believe your LANpress or JetPress to be defective, call Castelle Technical Support. A Technical Support engineer will spend a few minutes troubleshooting the problem to make sure the LANpress/JetPress is at fault, and not your network or installation. When a Technical Support engineer confirms that the unit is indeed defective, they will have a Technical Support coordinator call you back with an RMA number.

When packaging the unit for return shipment, use the original packaging carton if it is available. In any case, package the unit securely; you are responsible for any damage that occurs in transit. Write the RMA number clearly on the outside of the shipping package. We cannot accept returned products that do not have RMA numbers.

Address all RMA returns to:

**CASTELLE**  
**3255-3 Scott Blvd.**  
**Santa Clara, CA 95054**

# Appendix A

## LANpress/JetPress Specifications

LANpress/JetPress Product Matrix					
Model	Network Connections	Printer Connections			
		LPT1	LPT2	COM1	COM2
LANpress 2+2 Ethernet	Thin/10BASE-T	DB-25 female	DB-25 female	DB-9 male	DB-9 male
LANpress 2+2 Token Ring	STP	DB-25 female	DB-25 female	DB-9 male	DB-9 male
LANpress 2P Ethernet	Thin/10BASE-T	DB-25 female	DB-25 female		
LANpress 2P Token Ring	STP/UTP	DB-25 female	DB-25 female		
LANpress 1+1 Ethernet	Thin/10BASE-T	DB-25 female		DB-9 male	
LANpress 1+1 Token Ring	STP	DB-25 female		DB-9 male	
LANpress 1P Ethernet	10BASE-T	DB-25 female			
JetPress MIO PLUS Ethernet	Thin/10BASE-T	MIO	DB-25 female	DB-9 male	
JetPress MIO PLUS Token Ring	STP	MIO	DB-25 female	DB-9 male	
JetPress MIO Ethernet	Thin/10BASE-T	MIO			
JetPress XIO Ethernet	Thin/10BASE-T	XIO			
JetPress XIO Token Ring	STP	XIO			



LANpress/JetPress Specifications				
LANpress Model	Dimensions	Power Supply	Environmental	Network Software
LANpress 2+2	Height: 1.6" Width: 6.5" Length: 12.3" Weight: 3 lbs	Plug-in multiple output regulated DC power supply connects via 5-pin DIN plug. Available for 110-120 V or 220-240 V. Power supply delivers 1.5A at +5V DC, .5A at +12v DC, and .1A at -12V DC	Operating temp.: 10° - 40°C Storage temp.: -10° - 70°C Operating humidity: 10% - 90% Operating altitude: 0 - 2500 meters Electrostatic discharge: 12Kv	Novell NetWare 2.2x, 3.x, 4.0x (in Bindery Emulation Mode)  Certain UNIX versions (EXTRA models only)
LANpress 2+2EXTRA				
LANpress 2P	Height: 1.2" Width: 5.6" Length: 4.0" Weight: .75 lbs			
LANpress 1+1 and 1P				
JetPress MIO	MIO form factor	N/A		
JetPress XIO	XIO form factor			

LANpress/JetPress Network Hardware			
Ethernet Thin Network Hardware	Ethernet 10BASE-T Network Hardware	Token Ring STP Network Hardware	Token Ring UTP Network Hardware
IEEE 802.2/802.3 10BASE2 RG-58A/U coaxial cable via BNC connector	IEEE 802.2/802.3 10BASE-T straight-through twisted pair modular cable via RJ45 connector	IEEE 802.5 Token Ring shielded twisted pair via Female DB-9 connector	IEEE 802.5 Token Ring unshielded twisted pair via RJ45 connector

LANpress/JetPress Serial/Parallel Ports & Regulatory Approval			
Printer Ports	Serial Baud Rates	Serial Port Handshake	Regulatory Approvals
Zero, one or two RS-232C serial interfaces with male DB-9 connector Zero, one or two Centronics parallel output interfaces with female DB-25 connector	300, 600, 1200, 2400, 4800, 9600, 19200, and 38400	Xon/xoff flow control handshake or DTR hardware flow control	Safety: UL/CSA approved. EMI: FCC Class A

# Appendix B

## Pin-Out Diagrams

Following are serial connector pin-outs for LANpress 2+2 and JetPress MIO PLUS.

LANpress 2+2 and JetPress MIO PLUS serial port (DB-9, male)		
Pin #	Signal	I/O
1	DCD	In
2	RD	In
3	TD	Out
4	DTR	Out
5	GND	N/A
6	DSR	In
7	RTS	Out
8	CTS	In
9	RI	In

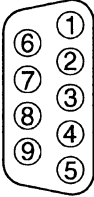


Figure B-1. Serial Connector Pin-outs, LANpress 2+2 and JetPress MIO PLUS

Following are serial connector pin-outs for LANpress 1+1.

LANpress 1+1 and IP serial port (DB-9, male)		
Pin #	Signal	I/O
1	DCD	No connection
2	RD	In
3	TD	Out
4	DTR	Out
5	GND	N/A
6	DSR	In
7	RTS	Out
8	CTS	In
9	RI	No connection

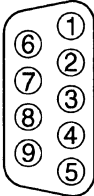


Figure B-2. Serial Connector Pin-outs, LANpress 1+1

When connecting a serial print device or plotter to LANpress, or to JetPress MIO PLUS, use a serial cable that makes the pin connections shown below. The jumper between DSR and CTS is optional. Do not connect the pins shown connected below to any other pins.

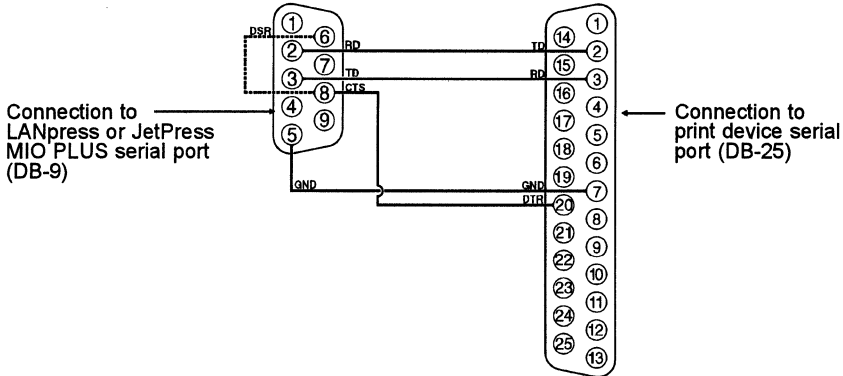


Figure B-3. Serial Cable Connections for LANpress/JetPress

Following are specifications for parallel ports of all LANpress (except LANpress 2P), and JetPress MIO PLUS. LANpress 1P and 1+1 differ slightly from what is shown; for these units pin 10 is not connected.

LANpress (except 2P) and JetPress MIO PLUS parallel port (DB-25, female)		
Pin #	Signal	Direction
1	DATA STROBE	Out
2	Printer Data 0	Out
3	Printer Data 1	Out
4	Printer Data 2	Out
5	Printer Data 3	Out
6	Printer Data 4	Out
7	Printer Data 5	Out
8	Printer Data 6	Out
9	Printer Data 7	Out
10	ACKNOWLEDGE	In (not connected for 1P, 1+1)
11	BUSY	In
12	PAPER ERROR	In
13	SELECT	In
14	AUTOFEED XT	Out
15	ERROR	In
16	INIT ~	Out
17	SELECT IN	Out
18 - 25	GROUND	

The diagram shows a DB-25 female connector with pins numbered 1 through 25. Pins 1 through 17 are arranged in two columns: pins 1-7 on the left and pins 14-20 on the right. Pins 8-13 are in a single column on the left, and pins 21-25 are in a single column on the right.

Figure B-4. Parallel Connector Pin-outs, LANpress (except 2P) and JetPress MIO PLUS

Following are specifications for parallel ports of LANpress 2P.

LANpress 2P parallel port (DB-25, female)		
Pin #	Signal	Direction
1	DATA STROBE	Out
2	Printer Data 0	I/O
3	Printer Data 1	I/O
4	Printer Data 2	I/O
5	Printer Data 3	I/O
6	Printer Data 4	I/O
7	Printer Data 5	I/O
8	Printer Data 6	I/O
9	Printer Data 7	I/O
10	ACKNOWLEDGE	In
11	BUSY	In
12	PAPER ERROR	In
13	SELECT	In
14	AUTOFEED XT	Out
15	ERROR	In
16	INIT ~	Out
17	SELECT IN	Out
18 - 25	GROUND	

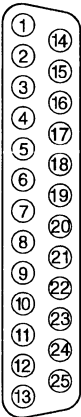


Figure B-5. Parallel Connector Pin-outs, LANpress 2P

The LANpress 1P, 1+1, 2P, and 2+2EXTRA power supply is a 2-pin power jack with center pin diameter 2.5mm.

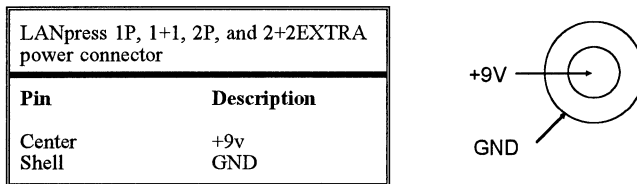


Figure B-6. LANpress 2+2EXTRA, 2P, 1+1, 1P Power Connector

The LANpress 2+2 power supply connector is a 5-pin DIN connector.

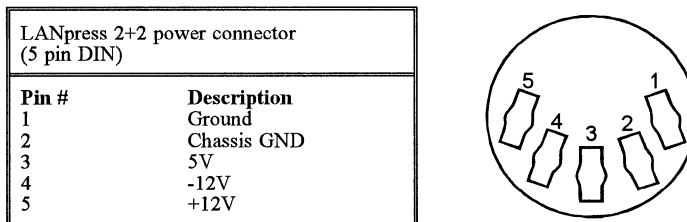


Figure B-7. LANpress 2+2 Power Connector



# Appendix C

## Configuring Token Ring Data Rate (2+2)

*This appendix describes changing LANpress 2+2's Token Ring data rate to 4 Mbps.*

LANpress Token Ring is capable of communicating at two data rates, 4 Mbps or 16 Mbps. The factory default is 16 Mbps.

If you need to use LANpress 2+2 Token Ring in 4 Mbps mode, you must open the unit and reset two jumpers on the Token Ring interface module. (LANpress 1+1's Token Ring data rate is controlled by an external switch. See Chapter 2 for information.)

If LANpress is not configured to communicate at the appropriate data rate, it does not boot after software installation, indicated by red light on, green light off.

Follow these instructions to configure LANpress 2+2 Token Ring for 4 Mbps operation.

1. If LANpress is powered on, power it off by disconnecting the power source. Disconnect the parallel, serial, and network cables.
2. Place LANpress upside-down on a table.
3. Unscrew the four screws (one at each corner) holding the cover in place. Set the screws aside.
4. Turn the unit right side up and lift the cover off.
5. With the rear of the unit facing you, on the right-hand side of the board, locate the Token Ring interface module. (See the figure below.)

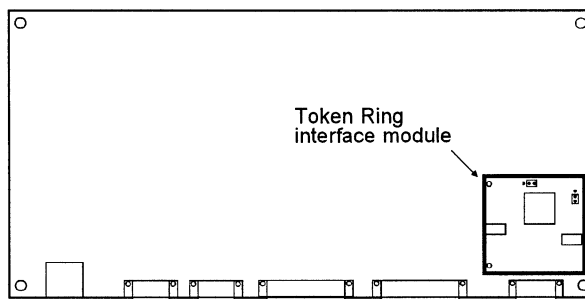


Figure C-1. Locating the Token Ring Module

LANpress 2+2 Token Ring has either one or two jumpers on the Token Ring module to control the data rate:

- If the module in your LANpress has both jumpers, set both of them as shown in the figure below.
- If the module in your LANpress has only one jumper, set it as shown for the right-hand jumper in the figure below.

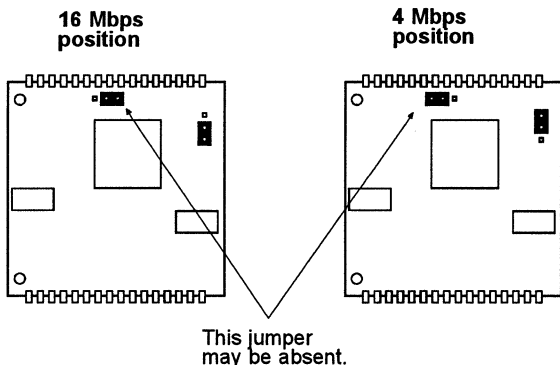


Figure C-2. Jumper Settings for Token Ring Data Rate (LANpress 2+2 Only)

**6. Replace the LANpress cover and screws.**

Proceed to Chapter 2 for LANpress hardware installation instructions.

# Appendix D

---

## SNMP Features (LANpress 2P Only)

SNMP (Simple Network Management Protocol) is an application protocol that lets you manage devices on your network. The basic parts of SNMP are:

- The *SNMP manager*, a program run on a management console or workstation, lets you send and receive data to and from managed devices concerning the operation and condition of the device. Some common management programs are:
  - SunNet Manager (Sun Microsystems)
  - NetWare Management System (Novell)
  - OpenView (Hewlett-Packard)
- The *SNMP agent*, a program that resides inside each manageable device, provides data to the SNMP manager, and responds to requests from the SNMP manager for the data.

LANpress 2P units contain an SNMP agent that supports all relevant functions defined in SNMP MIB-II. The following table shows which of the MIB-II groups are supported and which are not supported.

Supported	Not supported
system interfaces at* ip* icmp* tcp* udp* snmp	egp cmot transmission
* not supported for token ring units	

See your management software's documentation, or the MIB-II specification, for more information about these groups.





# Index

---

## A

- Answers to common questions, 8-5
- Automatic language switching
  - defined, 1-5

## B

- Banner page, 11-1
- Banner page format, 6-3, 7-5
  - setting with uxconfig, 12-6
- Baud rate
  - setting with CPADMIN, 6-3
- BBS
  - Castelle's [408 496 1807; N 8 1], i-i, 14-2
- Broadcast type, 7-9

## C

- Castelle Customer Support, 8-3
- Change printer port configuration, 6-2
- Change queues serviced by printer, 6-2
- Configuration report off/on, 7-4
  - setting with CPADMIN, 6-2
  - setting with uxconfig, 12-5
- Configuration report, 1-6, 5-3
- Configuration report format, 6-3, 7-5
  - setting with uxconfig, 12-6
- Configure port, 6-2
- CPADMIN, 1-9, 6-1
  - banner page format, 6-3
  - change master file server, 6-3
  - change printer port configuration, 6-2
  - change queues serviced by printer, 6-2
  - configuration report format, 6-3
  - print server information, 6-5
  - queue polling time interval, 6-4
  - rename print server, 6-4
  - reset, 6-5
  - set parallel port interval, 6-2
  - set password, 6-4
- CPADMIN help, 5-1
- CPADMIN.HLP, 5-1

## D

- Data bits, 6-3
- Default gateway, 7-11
  - setting with uxconfig, 12-4
- Diagnostic report, 1-6, 2-4, 3-5, 4-4, 8-9
  - before software installation, 3-5
- Diagnostic report format, 6-3
- Directory
  - for the print server software, 9-1, 12-1
- Diskettes
  - obtaining software on 5.25-inch, 5-1
- Display port settings, 6-2
- Dot-matrix printer
  - configuration report printing on, 8-8

## E

- Econfig, 7-7
- Encrypted passwords, 1-8
- Error Condition
  - Indicated by lights, 8-3
- Error message
  - on LaserJet IIISi, 4 control panel, 8-3
- Error messages
  - port number invalid, 8-4
  - PROM version not right, 8-8
  - unable to locate serial number, 8-4
- etherhex, 12-9
- Ethernet
  - Network hardware, A-1 - A-2
- EXTRA, 1-1
  - designation defined, 1-7
  - ethernet only, 1-1
  - extract.sh, 9-2, 12-1

## F

- Factory Defaults, 7-11
- Filters
  - for UNIX text, 10-2
- Firmware, 8-8
- Firmware version
  - determining with CPADMIN, 8-12

## G

Graphics, printing, 8-7

## H

Hardware installation

JetPress MIO, 3-2

JetPress XIO, 4-1

LANpress, 2-1

Help

CPADMIN, 5-1

Host print device

defined, 1-5

HP LaserJet Series II printers

location of optional I/O slot, 4-2

## I

Indicator lights, 8-1

location on LANpress, 2-4

Installation, 4-1

JetPress MIO hardware, 3-1

JetPress XIO hardware, 4-1

LANpress hardware, 2-1

software, 5-1

Installing on additional file servers

with CPADMIN, 5-3, 8-10

with PCONSOLE, 8-10

IP Address, 7-10

assignment, 11-2

changing with uxconfig, 12-4

erasing before moving print server, 11-2

on configuration report, 9-4, 12-9

setting/changing with LPCONFIG, 7-10

IP Routing

default gateway for, 7-11, 12-4

## J

JetPress

port for printer installed in, 10-2, 10-4

JetPress MIO

illustrated, 1-2

installing in printer, 3-2

JetPress XIO

illustrated, 1-3

installing in printer, 4-2

previously called JetPress, 1-2

Jobs not printing, 8-6

Jumper settings

JetPress XIO Ethernet (illustration), 4-2

JetPress XIO Token Ring (illustration), 4-3

LANpress 2+2 Token Ring data rate, C-1

## L

LANpress 1+1, 1-6

illustrated, 1-2

LANpress 1P, 1-6

LANpress 2+2, 1-6

illustrated, 1-2

LANpress 2P, 1-6

LANpress/JetPress version 3.3

using with previous software versions, 8-12

LED behavior, 8-1

associated with RARP reply, 9-3, 12-8

Lights, 8-1

Local address, 7-9

Log in, 8-5

LPCONFIG, 1-9

banner page format, 7-5

configuration report off/on, 7-4

configuration report format, 7-5

Ethernet network type, 7-7

mode, 7-3

N=E|T, 7-2

queue polling interval, 7-7

rename print server, 7-4

reset, 7-3

restore factory defaults, 7-11

serial\_number, 7-2

set master file server, 7-9

set network operating system, 7-10

set parallel port interval, 7-6

set password, 7-4

set serial port baud rate, 7-11

set UNIX default gateway, 7-11

set UNIX IP address, 7-10

set UNIX subnetwork mask, 7-11

show current settings, 7-3

Token Ring broadcast type, 7-9

Token Ring local address, 7-9

Token Ring source routing, 7-8

LPCONFIG options

on-screen listing of, 7-2

LPCONSOL, 8-8

LPT1 port (LANpress 2P)  
speed advantage over LPT2, 2-3  
LPT2 port (LANpress 2+2EXTRA)  
speed advantage over LPT1, 2-3

## M

Master file server  
changing, 6-3  
defined, 1-5  
Memory  
required by CPADMIN, 5-2  
Modular I/O (MIO) slot  
defined, 1-7  
Modular I/O slot, 3-2  
locating on printer, 3-2

## N

Network communication  
checking with LPCONFIG, 7-10  
Network connection  
for EXTRA units, 1-1  
Null modem cable, 8-7

## O

Optional I/O  
selecting for HP LaserJet, 4-3  
Optional I/O slot, 4-1  
locating on printer, 4-2

## P

Parallel port  
JetPress MIO, 1-6, 3-5  
print device, 3-2  
Parity, 6-3  
Password, 6-4, 7-4  
PCONSOLE  
Print Server Configuration, 8-9  
Print Server Status/Control, 8-9  
remote printer setup, 5-5  
Pin-outs, B-1 - B-3  
ping  
using to check print server, 13-1  
Plotter, 8-5  
PLUS  
designation defined, 1-6  
PostScript banner page, 6-3

PostScript cartridges  
using, 4-4

Power-on  
printer sequence, 3-5  
test, 1-6

Print queues

add, 6-2  
creating with CPADMIN, 6-2  
delete, 6-2  
number served, 1-1  
number served by LANpress 2+2EXTRA, 1-7

Print server, 1-8

Print Server Information, 6-5

Print Server Status/Control, 8-9

Print server UNIX utilities

etherhex, 12-9  
psbrarp, 12-8  
uxconfig, 12-2

Printer configuration, 4-3

optional interface use, 4-3

Printer type, 8-7

print server, 8-7

remote printer, 5-5

Priority

of UNIX and Novell print jobs, 11-2  
setting for a NetWare print queue, 6-2

PROMs, 8-8

psbrarp

described, 12-8  
using, 9-3, 12-8

PSERVER.EXE, 1-8

PSERVER.NLM, 1-8

PSINSTAL, 8-8

## Q

Queue Polling Interval

setting with CPADMIN, 6-4

Queue polling time interval, 6-4

## R

RARP, 11-2

RARP reply

LED behavior associated with, 9-3, 12-8

Reboot, 6-5, 7-3, 12-4

Rebooting or resetting

defined, 1-7

Remote printer, 1-8

- Remote printer (NetWare)
  - incompatibility with UNIX, 5-4
- Remote printer installation, 5-4
  - troubleshooting, 8-4
- Rename
  - port, 6-2
- Rename print server, 6-4, 7-4, 8-7
- Report
  - configuration, 1-6
  - setting format for with CPADMIN, 6-3
  - setting format for with LPCONFIG, 7-5
  - setting format for with uxconfig, 12-6
  - turning on/off with CPADMIN, 6-2
  - turning on/off with LPCONFIG, 7-4
  - turning on/off with uxconfig, 12-5
- Report types
  - configuration, 1-6
  - diagnostic, 1-6
- Reset LANpress, 6-5, 7-3
  - avoiding, 8-9
  - with uxconfig (UNIX), 12-4
- Returning defective units, 14-2

## S

- Serial cables, B-1
- Serial number
  - writing down, 2-1, 3-3, 4-3
- Serial port
  - JetPress MIO, 1-6, 3-5
  - print device, 3-2
- Serial port settings
  - when NOS=U, 12-7
- Serial printer
  - power on, 2-4
- Set master file server
  - with LPCONFIG, 7-9
- Set network operating system
  - with LPCONFIG, 7-10
  - with uxconfig, 12-5
- Set parallel port interval
  - with LPCONFIG, 7-6
  - with uxconfig, 12-6
- Set parallel port strobe interval
  - with CPADMIN, 6-2
- Set queue polling interval, 7-7
  - with CPADMIN, 6-4
- Set serial port baud rate

- with CPADMIN, 6-3
- with LPCONFIG, 7-11
- with uxconfig, 12-7

- Set subnetwork mask
  - with LPCONFIG, 7-11
  - with uxconfig, 12-5

- SETDIAG, 8-10

- Show print server settings
  - using uxconfig, 12-3
- Show settings
  - with LPCONFIG, 7-3
- SNMP, D-1
- Source routing, 7-8
- Speed
  - fast printers on LANpress 2P, 2+2EXTRA, 2-3
- Spool directories
  - for multiple printcap entries, 10-3
- Stop bits, 6-3
- Subnetwork mask, 7-11
  - setting with uxconfig, 12-5

## T

- Technical Support, 14-1
- Temporary configuration, 8-9
- Testing network communication, 8-4
- Token Ring
  - broadcast type, 7-9
  - local address, 7-9
  - Network hardware, A-1 - A-2
  - source routing, 7-8
- Token Ring data rate
  - Jumper settings for LANpress 2+2, C-1
- Troubleshooting, 8-4, 13-1

## U

- UNIX
  - LANpress/JetPress units supported by, 1-3
  - print job priorities, 11-2
  - printing in conjunction with NetWare, 1-9
- UNIX configuration
  - default gateway, 7-11, 12-4
  - IP address, 7-10, 12-4
  - subnetwork mask, 7-11, 12-5
- UNIX support, 1-3
- Upgrading LANpress hardware, 8-8
- uxconfig
  - banner page format, 12-6

- configuration report off/on, 12-5
- configuration report format, 12-6
- host\_name, 12-3
- reset, 12-4
- set network operating system, 12-5
- set parallel port interval, 12-6
- set serial port baud rate, 12-7
- set UNIX default gateway, 12-4
- set UNIX IP address, 12-4
- set UNIX subnetwork mask, 12-5
- show current settings, 12-3
- using, 12-3
- using to erase the IP address, 11-2
- uxconfig options
  - on-screen listing of, 12-3

## **X**

- X-on/X-off handshake, 6-3
- XIO (Extended I/O) slot, 1-7



# CASTELLE

ENHANCING YOUR NETWORK PRODUCTIVITY

Castelle, 3255-3 Scott Blvd., Santa Clara, CA 95054

Tel: (408) 496-0474 Fax: (408) 496-0502

Castelle Europe B.V., Polarisavenue 85C, 2132 JH Hoofddorp, The Netherlands

Tel: (31-2503) 85020 Fax: (31-2503) 85022