

*The Xerox
DocuPrint N2125
Network Laser Printer*

User Guide

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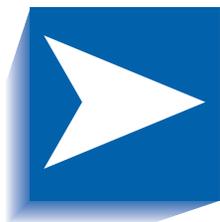
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This printer contains an emulation of the Hewlett Packard PCL 5e and PCL 6 command language (recognizes HP PCL 5e and PCL 6 commands) and processes these commands in a manner compatible with Hewlett Packard LaserJet printer products.

This product includes an implementation of LZW licensed under U.S. Patent 4,558,302.

Changes are periodically made to this document. Technical updates will be included in subsequent editions.

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Safety Notes

Your printer and the recommended consumable supplies have been designed and tested to meet strict safety requirements. Attention to the following notes will ensure the continued safe operation of your printer.

Note, Caution and Warning Symbols

Throughout this User Guide, several symbols are used to emphasize useful, important and critical information. They are as follows:



This symbol indicates particularly useful or helpful information about your printer.



This symbol indicates a caution against performing any action that may damage your printer or degrade performance.



This symbol indicates a warning against performing any action that may lead to physical injury.

When used in a step, the above symbols appear smaller but are of equal importance.

Electrical Safety

- Use the power cord supplied with your printer.
- Do not use a ground adapter plug to connect the printer to a power source receptacle that lacks a ground connection terminal.
- Plug the power cord directly into a properly grounded electrical outlet. Do not use an extension cord. If you do not know whether an outlet is grounded, ask an electrician to check the outlet.



You may get a severe electrical shock if you do not connect the grounding conductors correctly.

- Do not place the printer where people may step on the power cord.
- Do not place objects on the power cord.

- Do not override or disable electrical or mechanical interlocks.
- Do not obstruct the ventilation openings. These openings are provided to prevent overheating of the printer.



Do not push objects into slots and openings on the printer. Making a contact with a voltage point or shorting out a part could result in fire or electrical shock.

- If you notice unusual noises or odors, switch off the printer power immediately. Disconnect the power cord from the electrical outlet. Call an authorized service representative to correct the problem.
- If any of the following conditions occur, switch off the printer power immediately, disconnect the power cord, and call an authorized service representative.
 - The power cord is damaged or frayed.
 - Liquid is spilled into the printer.
 - The printer is exposed to water.
 - Any part of the printer is damaged.

The power cord is attached to the printer as a plug-in device at the back of the printer. In the event it is necessary to remove all electrical power from the printer, power off the printer and disconnect the power cord from the printer outlet and the printer.

Laser Safety



The use of controls or adjustments, or the performance of procedures other than those specified herein, may result in a hazardous radiation exposure.

This equipment complies with all applicable safety standards. With specific regard to laser, the equipment complies with performance standards for laser products set by government agencies as a Class 1 laser product. It does not emit hazardous light; the beam is totally enclosed during all modes of customer operation and maintenance.

When performing various operator functions, you may see laser warning labels. These labels are for the service mode and are placed on or near panels or shields that require a tool for removal. These panels are not to be removed.

Maintenance Safety

- Do not attempt any maintenance procedure that is not specifically described in the documentation supplied with your printer.
- Do not use aerosol cleaners. The use of supplies that are not approved may cause poor performance and could create a dangerous condition.
- Do not remove the covers or guards that are fastened with screws unless you are installing optional equipment. Power should be OFF when performing these installations. Except for user installable options, there are no parts that you can maintain or service behind these covers.
- See *Chapter 4: Maintaining the Printer* for maintenance instructions.

Operational Safety

Your printer and supplies were designed and tested to meet strict safety requirements. These include safety agency examination, approval, and compliance with established environmental standards.

Your attention to the following safety guidelines will help to ensure the continued safe operation of your printer.

- Use the material and supplies specifically designed for your printer. The use of unsuitable materials may result in poor performance and possibly a hazardous situation.
- Follow all warnings and instructions marked on, or supplied with, the printer, options and supplies.
- Place the printer in a dust free area where the temperature range is 41° F to 95° F (5° C to 35° C) and the relative humidity is 15% to 85%.
- Place the printer in an area where there is adequate space for ventilation, operation and servicing. The recommended minimal spacing is 24 in. (600 mm) in front of and behind the printer, and 12 in. (300 mm) on each side of the printer.

- Do not place the printer near a heat source.
- Do not place the printer in direct sunlight.
- Do not place the printer in line with the cold air flow from an air conditioning system.
- Place the printer on a level, solid surface with adequate strength for the weight of the machine. The base printer weight without any packaging materials is 59 pounds (27 kg).
- The printer is heavy. Exercise care in moving or relocating the printer. Follow the recommended procedure when moving the printer from one location to another.
- Do not put containers of coffee or other liquids on the printer.
- Do not block or cover the slots and openings on the printer. Without adequate ventilation, the printer may overheat.

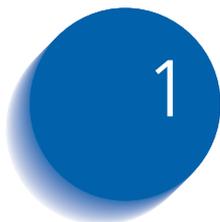


Be careful when working in areas identified with a warning symbol. These areas may be very hot and could cause personal injury.

- Frequent operation of the on/off switch is not recommended.
- Keep hands, hair, jewelry and neckties away from the exit feed rollers.
- Do not remove a media tray while printing from that tray, or any tray above the media tray in use.
- Do not open the covers while printing.
- Do not switch off the printer power while printing.
- Do not move the printer while printing.

Ozone Safety

This printer produces virtually no ozone (< 0.01 ppm) during normal operation. Providing the proper environmental parameters, as specified in the Operational Safety section of these Safety Notes, ensures that concentration levels meet safe limits.



Getting to Know Your Printer

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Introduction

In this chapter, you will become familiar with the features of your printer and learn where to locate specific printer parts.

Before you use your printer, make sure that you perform all of the steps outlined in the *Quick Installation Guide* that came with your printer, and connect the necessary cables.

Your printer may also have one or more optional features installed. First verify your exact equipment options before proceeding further. If you see features described in this section that are not available with the equipment you have, you can easily add them yourself. For more information, refer to the separate *Supplies/Options Guide* provided with your printer.

Printer Features

Your printer has many special features that allow you to achieve the results you need for your specific print job. Features vary slightly according to the options you are using and the memory installed in your printer. This section will help you become familiar with your printer's features and capabilities.

Paper Handling

Your printer has several paper sources and paper output options as described below and in Figure 1.5 on page 1-9. For a listing of supported media types and sizes, refer to the section “*Selecting Print Media*” (page 2-2).

Input Sources

- The standard **multi bypass feeder** functions as either a single sheet manual feed tray or a tray for up to 100 sheets.
- **Tray 1** is the standard 550 sheet input source.
- **Tray 2** is the optional 550 sheet input source installed immediately below Tray 1.
- **Tray 3** is the optional 550 sheet input source installed immediately below Tray 2.
- The envelope feeder is the optional input source that holds approximately 75 standard envelopes.

Trays 1, 2 and 3 all have automatic paper size sensing, low paper sensing and “no paper” sensing. The envelope feeder and multi bypass feeder have paper out sensing. Refer to *Chapter 2: Loading Print Media* for instructions on loading the trays.

Output Destinations

- The standard output bin holds up to 500 sheets and receives output face down. It has bin full detection.
- The optional face up bin holds up to 100 sheets and receives output face up (at the rear of the printer).
- The optional offset catch tray holds up to 500 sheets and receives output face down. It has offset capability, as described in the section “*Offsetting Output*” (page 3-61), and bin full detection.

Duplex Printing

A duplex option is available for your printer which enables duplex (two-sided) printing on specific media types and sizes. For information on supported media, refer to Table 2.1 on page 2-4. For information on printing duplex, refer to the section “*Duplex Printing*” (page 3-62).

Connectivity

Your printer may contain the following standard interfaces for connecting to a host computer or network (depending on whether or not the printer is network capable):

Standard Interface	Network Printer	Base Printer
IEEE 1284 Parallel	X	X
Universal Serial Bus (USB)	X	X
10/100baseTx Ethernet	X	n/a

The following optional interfaces may also be available (depending on whether or not the printer is network capable):

Optional Interface	Network Printer	Base Printer
RS-232 Serial	X	X
10base2 Ethernet	X	X
Token Ring	X	n/a

For information about supported network environments and protocols, refer to the *Technical Information Guide* on your Printer Management Software CD. For networking option, contact your service provider.

Page Description Languages

Your printer includes the following Page Description Languages (PDLs):

- An emulation of HP PCL 5e
- An emulation of HP PCL 6
- Adobe PostScript 3

Note: HP PjL is supported.

Fonts

The PCL emulation uses TrueType, Intellifont and bitmap fonts. There are 35 Intellifont fonts, 1 bitmap font and 10 TrueType fonts resident in the printer. Other fonts may be downloaded to system memory, optional Flash memory or the optional hard disk.

PostScript 3 contains 136 fonts, of which 39 are resident in the printer. The remaining fonts are available on the Product CD for downloading to system memory, optional Flash memory or the optional hard disk.

Resolution

Your printer provides the following resolutions:

- true 1200 dots per inch (dpi)
- 1200 dpi image quality
- 600 dpi
- 300 dpi (PCL 5e only)

Print Speed

The print speed your printer achieves depends on the complexity of your print jobs. Maximum rated print speed is 21 ppm.

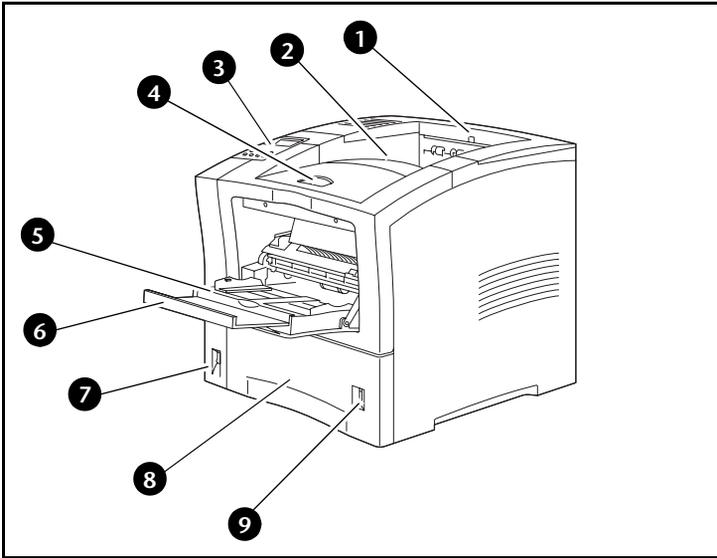
Printer Components

Base Configuration

Front View

- 1 Paper exit slot
- 2 Standard output bin
- 3 Control Panel
- 4 Front cover release
- 5 Multi bypass feeder (shown open)
- 6 Tray extension
- 7 Power switch
- 8 Tray 1
- 9 Paper amount indicator

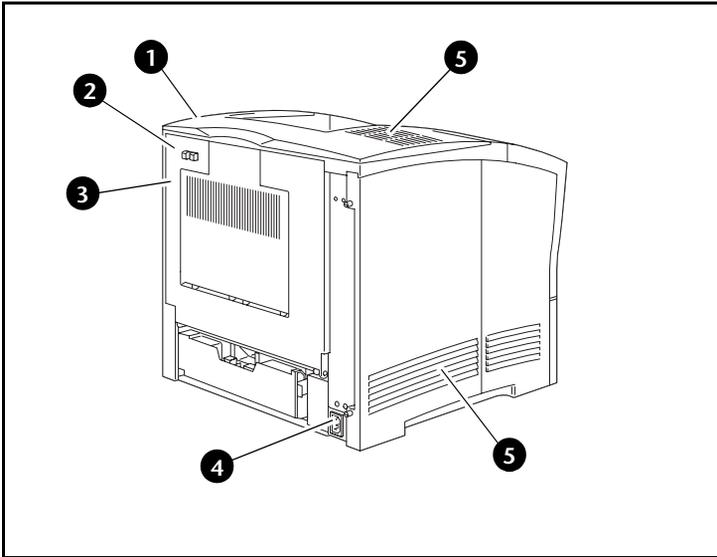
Figure 1.1 Printer Components, Front View



Rear View

- 1 Option cover
- 2 Rear cover release
- 3 Rear cover (shown closed)
- 4 Power cord receptacle
- 5 Ventilation slots

Figure 1.2 Printer Components, Rear View

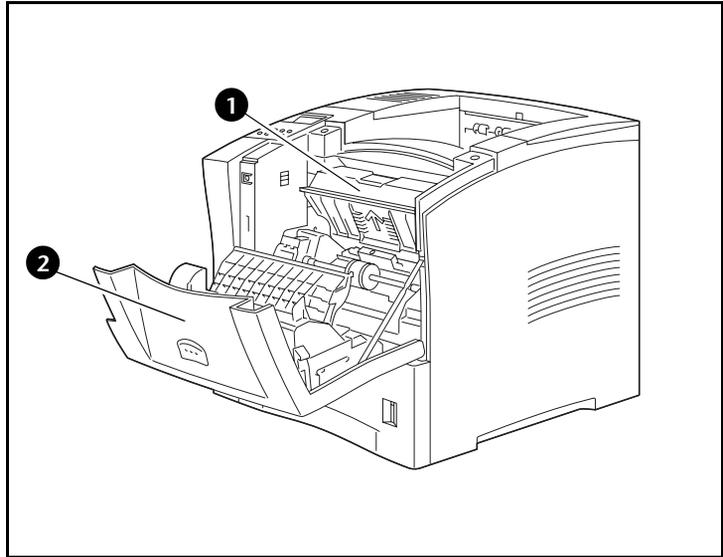


Internal Components

Front View

- 1 Laser print cartridge
- 2 Front cover (shown open)

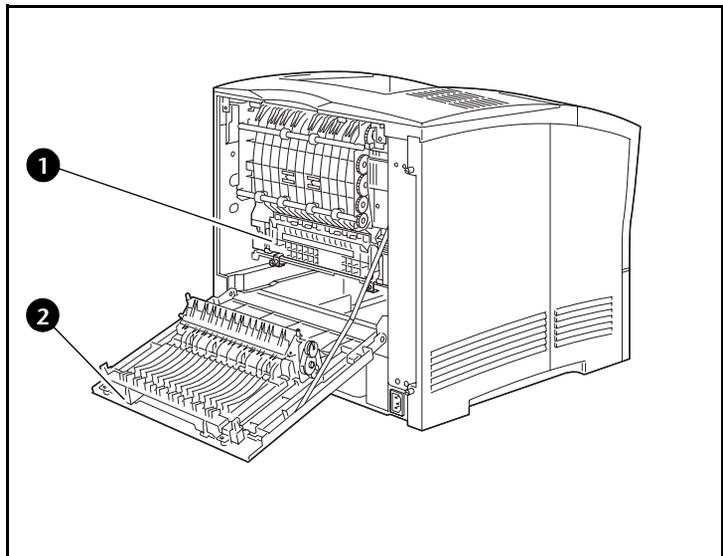
Figure 1.3 Internal Components, Front View



Rear View

- 1 Fuser
- 2 Rear cover (shown open)

Figure 1.4 Internal Components, Rear View



Printer Options

Figure 1.5 Printer Options, Front View

Front View

- 1 Offset Catch Tray
- 2 Envelope Feeder
- 3 550 sheet feeder (shown as Tray 2)
- 4 550 sheet feeder (shown as Tray 3)

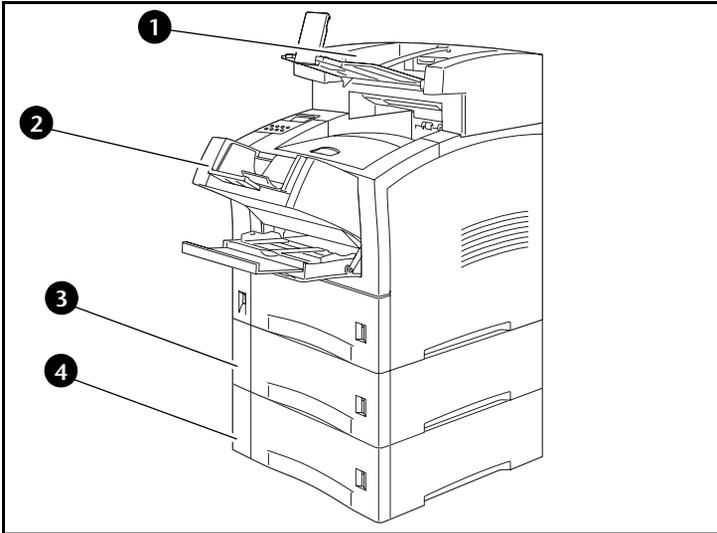
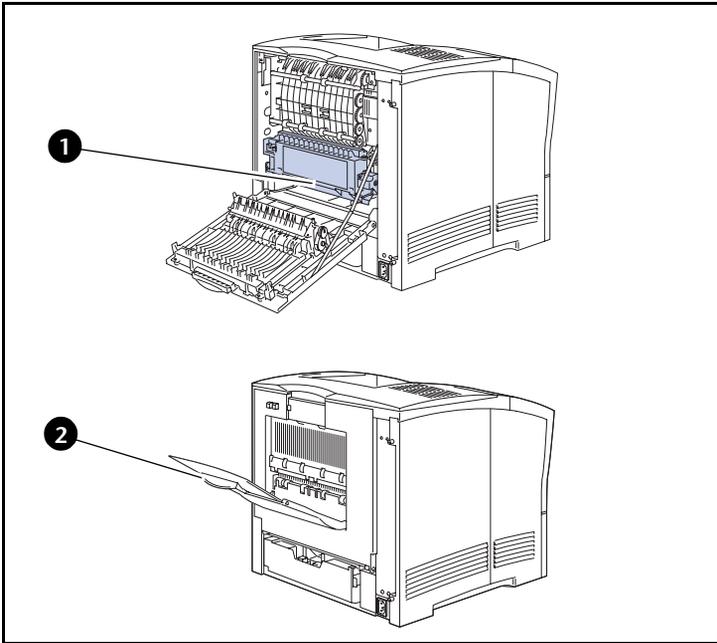


Figure 1.6 Printer Options, Rear View

Rear View

- 1 Duplex module (shown installed)
- 2 Face up bin (shown open)



Printer Documentation

Your printer is packaged with documentation in both printed form and on CD. There are two CDs:

- **Product CD**, which contains documentation and printer drivers.
- **Printer Management Software CD***, which contains various client software and the documentation for them.

This section serves as a roadmap for the printed and CD documentation.

Printed Documentation

Your printer was packaged with the following pieces of printed documentation:

- **Quick Install Guide**, which shows you how to get your printer up and running.
- **User Guide** (this book), which provides you with the basic information needed to use your printer. (More detailed information is contained in the *System Administrator Guide* on your Product CD.)
- **Quick Network Install Guide***, which briefly shows you how to connect your printer to a network in your specific environment. (More detailed Network/Environment information is contained in the *Technical Information Guide* on your Product CD.)

*Provided only with printers in a network configuration.

Using the CDs

The documentation on the Product CD is provided as PDF files, which are opened in Adobe Acrobat Reader (provided on the CD if you do not already have it installed). These files contain hypertext links that enable you to jump from the Table of Contents or Index directly to the page where you are looking for information, as well as from page to page where information is cross-referenced. Simply move the cursor over a hypertext link and it changes to a pointing finger. Then click on the link to jump to the link's destination.

The PDF files also enable you to print the specific pages you need, rather than printing an entire chapter or manual.

Both the Product CD and the Printer Management Software CD are provided with installation booklets in their respective jewel cases. You can also refer to the ReadMe files on the CDs for more information.

Product CD

Your printer was also packaged with a CD that contains the following pieces of documentation as PDF files:

- **User Guide** (electronic version of this book)
- **System Administrator Guide**
The System Administrator Guide contains a considerable amount of more detailed information.
- **Supplies/Options Guide**



Printer drivers are also contained on this CD. The majority of driver documentation is provided via the Help files included with the drivers.

Printer Management Software CD

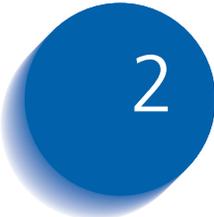
User Guides are provided for each of the major printer management utilities. Consult the booklet enclosed with the CD for more information.



Since both the Product CD and the Printer Management Software CD contain so much important information, please ensure that you save them and keep them in a safe place.



Driver and software updates may be available on the manufacturer's website.



2

Loading Print Media

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Selecting Print Media

This chapter will help you understand what kinds of paper and other print media you can use with your printer and also how to properly position the media in the printer's various input sources. Your printer supports a variety of standard sizes as well as custom sizes.

- Table 2.1 on page 2-4 lists the standard sizes of paper, envelopes, and other print media you can use with all of your printer's input trays and output bins.
- Table 2.2 on page 2-5 describes the custom sizes your printer will support.
- The printer supports paper weights as follows:
 - 16-80 lbs. (60-216 g/m²) simplex
 - 20-28 lbs. (75-105 g/m²) duplex



Using sizes other than those listed in Tables 2.1 and 2.2, or paper not recommended for laser printers, may result in paper jams and print quality problems.

The following media are unacceptable for use in the printer:

- Paper that has already been printed on (preprinted letterhead is allowed)
- Wrinkled, torn, or bent paper
- Moist or wet paper
- Curled paper
- Paper with an electrostatic charge
- Glued paper
- Paper with special coating
- Paper unable to withstand a temperature of 150° C (302° F)
- Thermal paper
- Carbon paper
- Paper with paper fasteners, ribbons, tape, etc. attached
- Heavily textured paper
- Label sheets that have previously been run through the printer and from which printed labels have been removed

Table 2.1 Acceptable media sizes and capacities

Media Size	Input ¹			Output		
	550 Sheet Tray (Tray 1, Tray 2, Tray 3)	Multi Bypass Feeder	Envelope Feeder	Standard Bin	Face Up Bin (1)	Offset Catch Tray
A4 210x297 mm	SEF	SEF	-	SEF	SEF	SEF
A5 148x210 mm	SEF (1)	SEF (1)	-	SEF	SEF	SEF
A6 105x148 mm	CUS	SEF (1)	SEF (1)	SEF	SEF	SEF
BS-ISO 176x250 mm	CUS	SEF (1)	-	SEF	SEF	SEF
BS-JIS 182x257 mm	SEF	SEF	-	SEF	SEF	SEF
Index Card 3x5"	-	SEF (1)	-	SEF	SEF	-
Statement 5.5x8.5"	CUS	SEF (1)	-	SEF	SEF	SEF
Executive 7.25x10.5"	SEF	SEF	-	SEF	SEF	SEF
Letter 8.5x11"	SEF	SEF	-	SEF	SEF	SEF
Folio 8.5x13"	SEF	SEF	-	SEF	SEF	SEF
Legal 8.5x14"	SEF	SEF	-	SEF	SEF	SEF
Envelopes						
COM-10 4.125x9.5"	CUS	SEF (1)	SEF (1)	SEF	SEF	SEF
Monarch 3.87x7.5"	CUS	SEF (1)	SEF (1)	SEF	SEF	SEF
DL 110 x 220 mm	CUS	SEF (1)	SEF (1)	SEF	SEF	SEF
C5 162 x 229 mm	CUS	SEF (1)	SEF (1)	SEF	SEF	SEF
Transparencies						
A4 210x297 mm	SEF (1)	SEF (1)	-	SEF	SEF	SEF
Letter 8.5x11"	SEF (1)	SEF (1)	-	SEF	SEF	SEF
Labels						
A4 210x297 mm	SEF (1)	SEF (1)	-	SEF	SEF	SEF
Letter 8.5x11"	SEF (1)	SEF (1)	-	SEF	SEF	SEF
Capacity²	550	100	75	500	100	500

¹ SEF = Short Edge Feed, (1) = Simplex (one-sided) printing only, CUS = Define as custom size (see Table 2.2 on page 2-5).

² Maximum capacity @ 75 g/m² paper stock. Capacity is reduced for heavier/thicker stock.

Table 2.2 Acceptable Custom Sizes

	Input			Output		
	550 Sheet Tray (Tray 1, Tray 2, Tray 3)	Multi Bypass Feeder	Envelope Feeder	Standard Bin	Face Up Bin	Offset Catch Tray
Simplex						
Width	98.4-215.9 mm 3.875-8.5 in.	76.2-215.9 mm 3.0-8.5 in.	98.4-178.0 mm 3.875-7.0 in.	76.2-215.9 mm 3.0-8.5 in.	76.2-215.9 mm 3.0-8.5 in.	98.4-215.9 mm 3.875-8.5 in.
Length	148-355.6 mm 5.83-14.0 in.	127-355.6 mm 5.0-14.0 in.	148-254 mm 5.83-10.0 in.	127-355.6 mm 5.0-14.0 in.	127-355.6 mm 5.0-14.0 in.	148-355.6 mm 5.83-14.0 in.
Duplex						
Width	182-215.9 mm 7.17-8.5 in.	182-215.9 mm 7.17-8.5 in.		Same as Simplex		
Length	257-355.6 mm 10.12-14.0 in.	257-355.6 mm 10.12-14.0 in.		Same as Simplex		

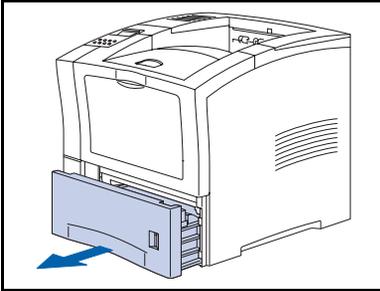
Storing Paper

Print quality is optimized when paper and other print media are properly stored. Proper storage ensures optimum print quality and trouble-free printer operation.

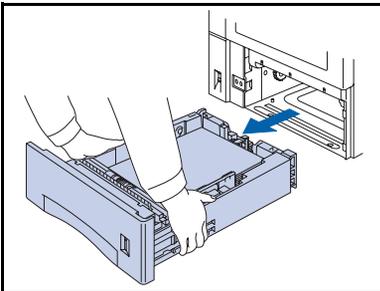
- Store the paper on a flat surface, in a relatively low humidity environment.
- Avoid storing paper in such a way as to cause wrinkling, bending, curling, etc.
- Do not unwrap paper until you are ready to use it, and rewrap any paper you are not using.
- Do not expose paper to direct sunlight or high humidity.

Loading Paper

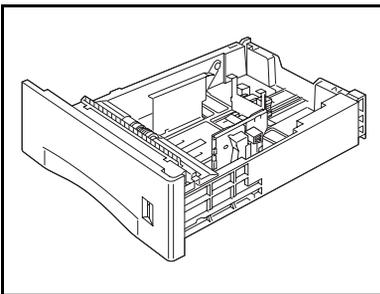
Tray 1, 2 or 3



- 1 Grip the recessed area in the front of the tray and pull it towards you until it stops. Lift the tray up and pull out.

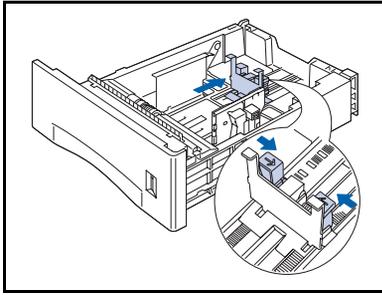


- 2 Hold the tray with both hands, lift it gently and remove it from the printer.

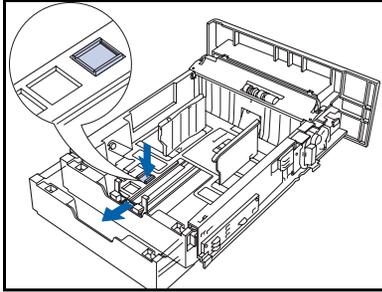


- 3 Place the tray on a flat surface.

Loading Paper



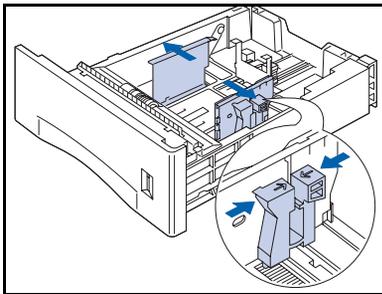
- 4 If changing to a different length of paper, gently squeeze the length guide, lift it up and slide it all the way back. If you are not changing to a different length of paper, skip to Step 6.



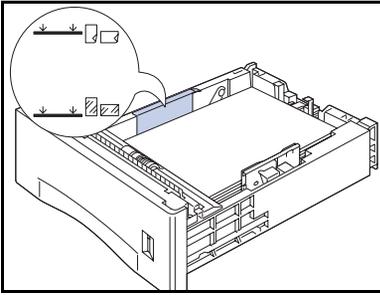
- 5 To load paper longer than 297 mm (11.69 in.):
 - 1 Press down the square button on the bottom of the tray.
 - 2 Pull the rear of the tray out to extend it.



There are three settings for the catch. Choose the one that is closest beyond the length of the paper.



- 6 Gently squeeze the right side guide (light green in color) and while gently lifting slide the guides all the way out.

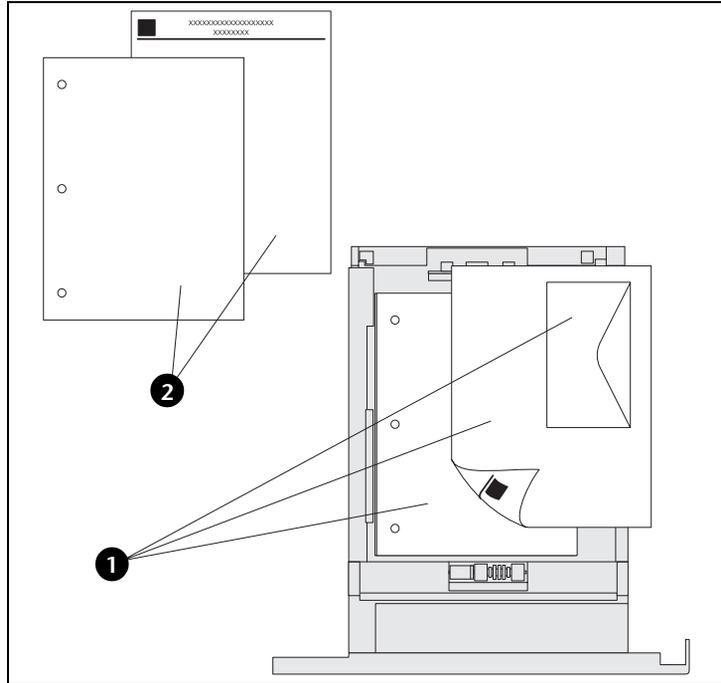


7 Align the four corners of the paper stack and insert it into the tray with the side to be printed on facing down (see illustration, below, for orientation of letterhead, drilled paper and envelopes).

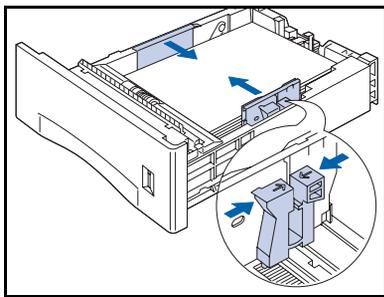


To reduce the possibility of misfeeds and jams, especially when using special stock, fan the stack of paper before inserting it into the tray.

- 1 Simplex orientation
- 2 Duplex orientation



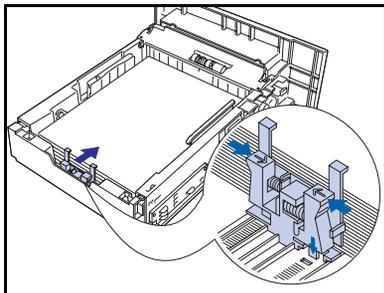
Loading Paper



- 8 While pressing the right side guide and lifting gently, adjust the guides to the paper width.



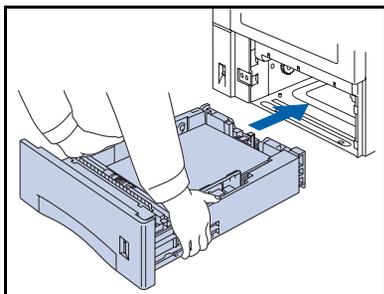
To avoid paper jams or incorrect paper size sensing, make sure the side guides are properly seated.



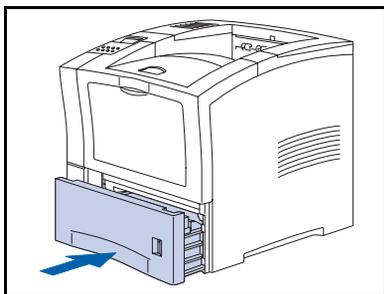
- 9 Gently squeeze the length guide and while lifting gently adjust it to the length of the paper.



To avoid paper jams or incorrect paper size sensing, make sure the length guide stopper is firmly seated in the floor of the tray. Also make sure the paper is under the retaining clip on the length guide.

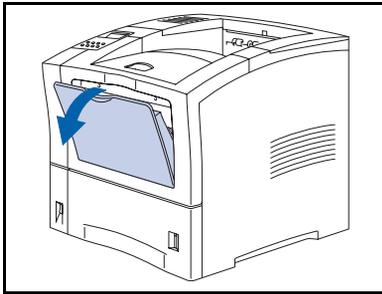


- 10 Hold the tray with both hands at the left and right and line it up with the printer.



- 11 Insert the tray completely into the printer. Make sure it is properly seated.

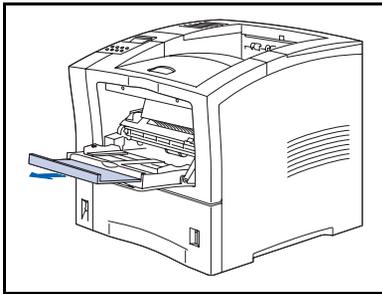
Multi Bypass Feeder



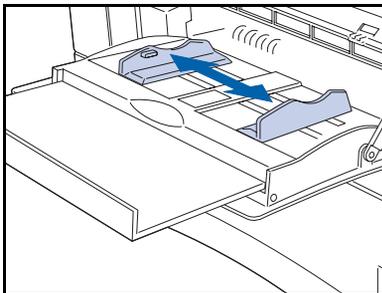
- 1 Open the multi bypass feeder by pulling the latch at the top center.



To prevent possible damage to the multi bypass feeder, do not exert strong pressure on it or place any heavy objects on it.



- 2 For large-size paper (A4, Letter, etc.) pull out the tray extension from the recessed area in the middle of the cover.

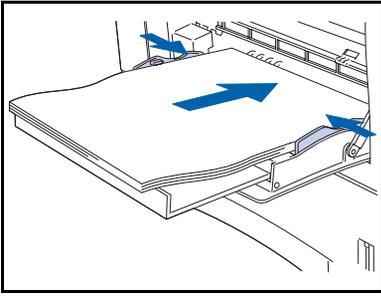


- 3 Adjust the paper guide to fit the media you intend to use.



To prevent possible jams, be sure to adjust the guides correctly and do not overload the tray.

Loading Paper

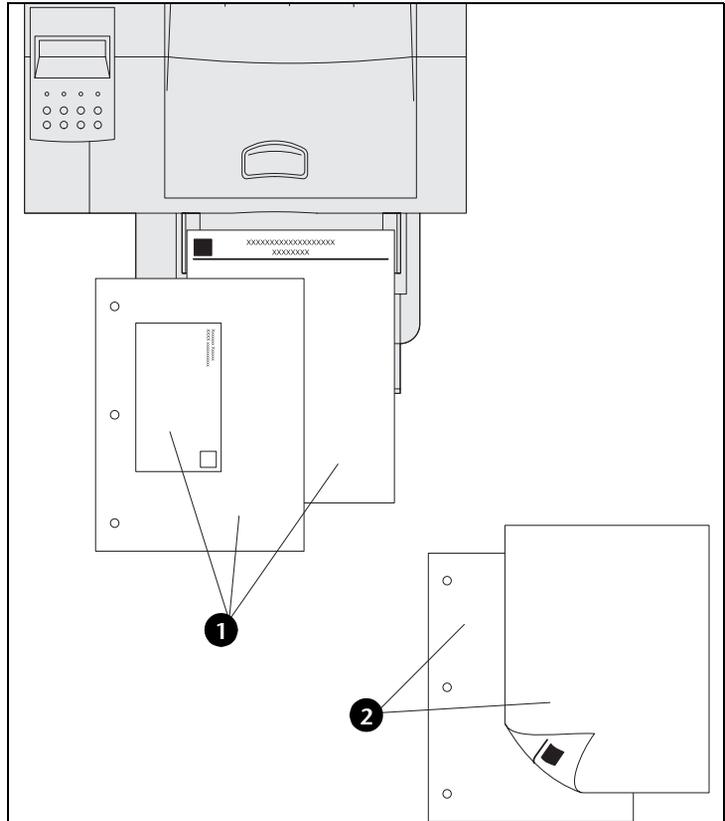


- 4 Align the four corners of the paper and place it into the tray with the side to be printed facing up (see illustration, below, for orientation of letterhead, drilled paper and envelopes).

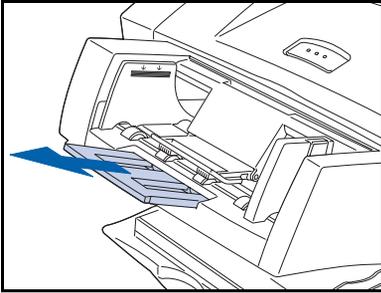


Be sure to insert the paper all the way in until it gently touches the stopper inside the printer.

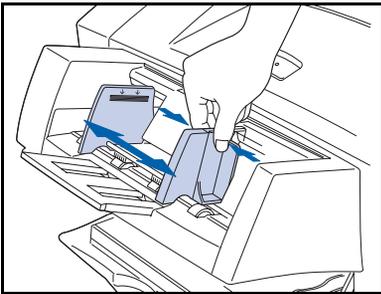
- 1 Simplex orientation
- 2 Duplex orientation



Envelope Feeder

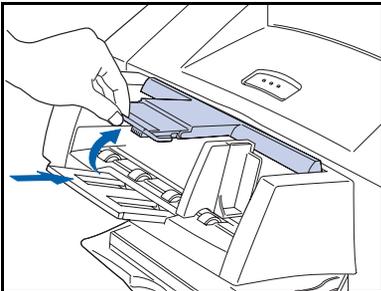


- 1 Pull out the tray extension.



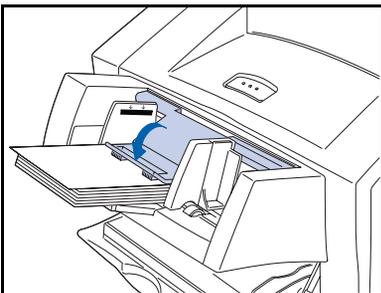
- 2 Adjust the paper guide to the size of the envelopes or postcards you are going to use.

 ***To avoid paper jams, make sure the guide is adjusted to the correct width of envelopes or postcards.***



- 3 Lift up the paper holder, align the four corners of the stack and gently insert them (envelopes flap down on left side) into the inlet until they reach the back.

 ***When correctly loaded, the trailing edge of the stack will not be even.***



- 4 Lower the paper holder onto the stack.

Configuring Custom Paper Sizes

Custom (nonstandard) paper sizes may be loaded in the multi bypass feeder, any of the 550 sheet trays or the envelope feeder. To use custom paper sizes, there are two basic issues to be addressed:

- You must disable the printer's automatic paper size detection and paper size jam detection.
- Although you may physically load a custom paper size in an input source, because PCL and PostScript format pages to standard sizes, you must properly set margins (or use other application formatting methods) to position the image correctly on the custom paper.

To print on custom size paper, disable the printer's automatic paper size detection and paper size jam detection by setting the Tray Menu's **Tray 1 Mode**, **Tray 2 Mode**, **Tray 3 Mode**, **MBF Size** or **Envelope Size** item (depending on which input source you are using) to *Custom*, then set the **Custom Size** item to the standard size to be used by PCL or PostScript to format the page.



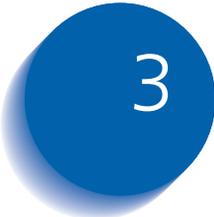
To prevent the printer from incorrectly loading standard paper from another input source when the Custom Size setting is the same value as the auto-detected size in that other input source, you must exclude the tray with the custom size from the Tray Sequence setting and specifically select that tray as the input source.

Refer to Table 2.3 on page 2-15 for usage examples.

Table 2.3 Custom Paper Size Examples.

Custom Paper Size	Desired Input Source	Required Steps
8 x 10 in.	Tray 1	<ol style="list-style-type: none"> 1. In the application, format the page for Letter size paper, setting the margins to correctly position the image on 8 x 10 in. paper if overlaid by Letter size paper. 2. Load the 8 x 10 paper in Tray 1. 3. Set the Tray Menu Tray 1 Mode item to <i>Custom</i>. 4. Set the Custom Size item to <i>Letter(8.5x11)</i>. 5. Set the Tray Sequence item to a value that does not include Tray 1 (or set to Off). 6. Request Tray 1 as the paper source and send the print job.
6 x 7 in.	multi bypass feeder	<ol style="list-style-type: none"> 1. In the application, format the page for Letter size paper, setting the margins to correctly position the image on 6 x 7 in. paper if overlaid by Letter size paper. 2. Load the 5 x 7 paper in Tray 1. 3. Set the Tray Menu MBF Size item to <i>Custom</i>. 4. Set the Custom Size item to <i>Letter(8.5x11)</i>. 5. Set the Tray Sequence item to a value that does not include MBF (or set to Off). 6. Request MBF as the paper source and send the print job.





3

Printing

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Introduction

This chapter provides information on:

- Using printer drivers to control the printer's output.
- The features of the printer's Control Panel, and using it to generate printer reports such as the Configuration Sheet.

For information on networking-specific printing issues and printer management software, refer to the documentation on the Product CD.

Using the Printer Drivers

Your printer offers many special features that are designed to produce the highest quality black and white prints while giving you the flexibility you need to print a variety of documents. These features are accessed through the printer drivers.

The way these features are accessed depends on both the printer driver that you are using and your operating system.

Your printer supports the PCL printer drivers listed in Table 3.1 and the PostScript printer drivers listed in Table 3.2 on page 3-5. To take full advantage of all the printer's features when printing PCL or PostScript jobs, install the appropriate printer driver(s).

Table 3.1 PCL 5e and PCL 6 Emulation Printer Drivers

Environment	Printer Driver
Windows	Windows 95/98 Windows NT 4.0/2000

Your printer was shipped with the latest print drivers available at time of manufacture. You may wish to check for later drivers that support different network environments on the manufacturer's website.

Table 3.2 PostScript Printer Drivers

Environment	Printer Driver
Windows	Windows 95/98 Windows NT 4.0/2000
IBM OS/2	OS/2 Ver. 2.1 OS/2 WARP
Macintosh	System 7.x, 8.x
UNIX (Solaris 2.5, 2.5.1, 2.6, 7; IBM AIX 4.2.x, 4.3.x; HP-Ux 10.x, 11.x; SGI 6.2, 6.4; DEC 4.0; SCO UnixWare 7.0)	CentreWare Services for UNIX Systems UNIX TTY Services

Installing the Printer Drivers

Inside the cover of the printer CD case is a booklet with instructions on how to load your printer drivers. In addition, your System Administrator can download drivers directly to your workstation.

Configuring the Printer Drivers

When you initially use any of your printer drivers, make sure to properly configure them for the printer and its installed options (such as the hard drive, High Capacity Feeder, etc.). These settings are displayed under the driver's "Printer Configuration" tab. If you are not certain which options your printer will support, you can check by printing a Configuration Sheet at the printer's Control Panel, as described in the section "Generating a Printer Report" (page 3-60).

Using the Driver's Features

At a minimum, your printer's drivers enable you to control the following aspects of printing:

- Select an input tray from which to draw paper or other print media.
- Select an output bin to which the print job will be delivered.
- Select simplex or duplex operation (if the duplex option is installed).
- Select paper size, orientation and media.
- Select the number of copies.
- Select collating.

The following sections provide a general overview of the features supported by your printer's drivers. Note that some features may not be supported by some of the drivers. Table 3.3 on page 3-7 lists driver features by driver for comparison purposes.

Table 3.3 Driver Features

Driver	Secure Printing	Proof Printing	Cover Sheets	Edge to Edge	N-Up	Watermark	Fit to Size	Duplex	Draft Mode	Separator Sheet	Booklet Printing	Fax Friendly Black	Print Anyway	Collation	Auto Tray Select
PCL															
Windows 95/98	C	C	C	C	C	C	N	C,U	C	C	C	C	C	C	C
Windows 2000	C	C	C	C	C	N	N	C,U	C	C	C	C	C	C	C
Windows NT 4.0	C	C	C	C	C	C	N	C,U	C	C	C	C	C	C	C
PostScript															
Windows 95/98	C	C	C	C	C	C	C	C,U	C	C	C	C	C	C	C
Windows 2000	C	C	C	C	C	C	C	C,U	C	C	C	C	C	C	C
Windows NT 4.0	C	C	C	C	C	C	C	C,U	C	C	C	C	C	C	C
UNIX PS															
Sun Solaris 2.5, 2.5.1, 2.6	N	N	C	N	N	N	C	C	C	C	N	C	N	C	C
IBM AIX 4.2.x, 4.3.x	N	N	C	N	N	N	C	C	C	C	N	C	N	C	C
HP-UX 10.x, 11.x	N	N	C	N	N	N	C	C	C	C	N	C	N	C	C
SGI 6.2, 6.4	N	N	C	N	N	N	C	C	C	C	N	C	N	C	C
DEC 4.0	N	N	C	N	N	N	C	C	C	C	N	C	N	C	C
UnixWare 7.0	N	N	C	N	N	N	C	C	C	C	N	C	N	C	C

C = Custom Driver
U = Uni Driver
N = Not Supported

Using the PCL Driver

Your printer's PCL 5e and PCL 6 drivers are controlled by a dialog window that contains various tabs. Selecting a tab changes the dialog window to display controls related to the selected tab. The following is a general overview of the driver's features, organized by its dialog window tabs.



For more complete descriptions of the drivers and their functionality, use the driver's online help. Actual driver capabilities can be determined by invoking the specific drivers.

Paper/Output

When you select this tab, you can select a job type, copies, paper, image orientation, duplex, document collation and output bin for your printer.

Job Type

There are three job types. Some job types require a password.

- Normal Print

Spools and prints the job with no user intervention needed.

- Secure Print

Defers printing of a job until you enter the matching password on the Control Panel. It is only available when the optional hard drive is installed.

To use this feature, enter a 4-digit numeric password, where each digit can be any numeric value between 0 and 7. Releasing the job at the printer is discussed in the section *“Printing a Password Job”* (page 3-58). You can also choose to delete the job without printing it, as described in the section *“Deleting a Password Job”* (page 3-59).

- **Proof Print**

Used with multiple copy jobs, prints first set, then holds the other copies until you enter the matching password on the Control Panel. It is only available when the optional hard drive is installed.

To use this feature, specify the number of copies to be printed, then enter a 4-digit numeric password, where each digit can be any numeric value between 0 and 7. Releasing the job at the printer is discussed in the section *“Printing a Password Job”* (page 3-58). You can also choose to delete the job without printing the remaining sets, as described in the section *“Deleting a Password Job”* (page 3-59).

Copies

You can choose to print from one to 999 copies. The default is one copy.

Select Paper

You can select paper size, media type and input source for All Pages, for the First Page (if different than the rest of the job), and for Separators (if desired).

Image Orientation

Orientation refers to the direction of print on the page. The options are:

- Portrait
A Portrait page is taller than it is wide. This is the default setting.
- Landscape
A Landscape page is wider than it is tall.

Duplex

Requires installation of the optional Duplex Module. For more information, see the section “*Duplex Printing*” (page 3-62). The options are:

- Duplex Off
Single sided printing. This is the default setting.
- Duplex with Short-Edge Binding
Double sided printing so that the pages turn to the shortest edge of the paper.
- Duplex with Long-Edge Binding
Double sided printing so that the pages turn to the longest edge of the paper.

Document Collation

Allows job collation (for multiple-copy jobs only). The options are:

- Uncollated (the default setting)

For example, five uncollated copies of a three-page job will result in five copies of page 1, then five copies of page 2, and finally five copies of page 3; that is: 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 3, 3, 3, 3, 3.

- Collated

Use this option when you want to print two or more separate sets of a job that contains two or more pages. For example, five collated copies of a three-page job will result in one set of all three pages in order, then a second set of all three pages in order, then a third set of all three pages in order, and so on; that is: 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3.

Certain print jobs are always collated. These are Proof jobs, discussed under “*Job Type*” (page 3-9) or jobs that request more than one copy of a multiple-page job with page separators, discussed under “*Select Paper*” (page 3-10).

Output

Allows you to set your printer's default paper output destination. The options are:

- The Standard Bin, which holds up to 500 sheets.
- The optional Face Up Bin, which holds up to 100 sheets.
- The optional 500 Offset Bin, which holds up to 500 sheets of standard paper up to 14 inches in length. The offset capability can be set to *On* or *Off* via the Control Panel. The default setting is *On*.

Document Options

When you select this tab, you can set the finishing mode and margins.

Finishing Mode

There are two finishing modes:

- Multiple Pages per Side (N-Up printing)

By default, the printer will print one page image on the sheet of paper. You can select two, four, six, nine or sixteen page images per side of paper. The printer will shrink the page images as needed and will arrange them on the paper most appropriately for the paper size and orientation.

You can also choose to print black borders around each page. The default is to not print borders.

- Booklet Printing

The driver will print the document as two images per sheet, landscape orientation. However, it rearranges the page images so the sheet of paper can be folded to be read as a left-to-right book.

The standard booklet format has the first page as the left-most page. The Right-to-Left control, if checked, will print the booklet with the first page as the right-most page.

On a folded sheet of paper with two page images, the horizontal distance from the fold to either page image is called the gutter. The Gutter control allows you to set this distance to zero, fifty, one hundred, or 150 dots.

When you fold several pages into a booklet, the thickness of the paper forces the page image of the inner pages to shift slightly outward. The Creep control allows you to choose a number of dots by which to shift the page images inward to compensate for the thickness of the paper. You can choose any value from zero to twenty.

Margins

Your printer can print with predefined margins, or can print all the way to the edge of the paper. The two options available are:

- Yes

If you choose this option, the printer defaults to HP compatible printable areas for each paper size, which is approximately one-sixth of an inch unprintable margins on all edges. The application may increase the margins to greater than this minimum.

- No

If you choose this option (the default setting), the printer will print all the way to the edge of the paper.

Graphics Options

When you select this tab, you can set the various graphics options for the driver.

Gray Scale

Gray Scale refers to a type of pattern that is applied to printed images. By using combinations of black dots, these patterns produce a gray appearance on the printed page. The best way to choose a Halftoning setting for your graphic image is to experiment. Print a graphic image at each setting and choose the one you like best.

The Windows 95/98 driver provides the following options:

- **Photographic Images (the default setting)**
Use this setting for printed images that you want to have a smooth, realistic and photographic appearance. It provides soft contrasts between various shades of gray (and also works well for images originally designed with color).
- **Line Art Images**
Choose this setting for graphic images with intricate lines and fine detail, like clip art graphics. It provides solid lines and sharp contrasts between shaded areas.
- **Scanned Images**
Choose this setting if your graphic images were originally scanned in through a scanner. It is specially tuned to provide exceptional quality and clarity to printed images originally scanned with a scanner.

The Windows NT 4.0 driver provides halftone control options supported by the Windows NT 4.0 operating system. For details, refer to the driver's Halftone Color Adjustment tab.

- Print Colored Text to Black

This option determines how the driver will print any colored text in the document. If enabled, the driver renders all text into black, no matter what color it appears on the screen. Otherwise the driver renders colored text in different shades of gray (the default setting).

TrueType Options

Allows you to select options associated with the use and printing of TrueType fonts. The options are:

- Download as TrueType (the default)

The whole character set for each TrueType font contained on the page is sent down to the printer in an outline form. Use this option if the document uses only a small number of TrueType fonts and you wish to optimize text-printing performance.

- Download as Bit Image

Each TrueType character will be sent as an individual bitmap download font on a least-recently-used basis. As the printer driver builds up the page, new font bitmaps are sent down. When a character is used again, the bitmap is automatically selected from the one previously downloaded to printer memory. From the memory setting, the driver monitors the amount of available memory to determine when to delete font bitmaps that have not been used for some time.

- Download as Graphics and Device Fonts

This option is useful if you want to print graphic images over TrueType text. TrueType text is always sent to the printer last, so it will always appear on top of any graphics. Selecting this option sends your TrueType images to the printer as graphic images, so the text can be obscured by graphic objects. This option is only available if you have selected the Raster setting in the Graphics Mode box, as described under “*Graphics*” (page 3-19).

- Use Printer TrueType Fonts

Determines whether to use the TrueType fonts that reside on the printer or to download TrueType fonts from the computer. If enabled (the default setting), the driver will use the TrueType fonts resident on the printer, and if your document uses fonts that do not reside on the printer, the driver will download the fonts with the job. If disabled, the driver will always download TrueType fonts to the printer with each job, even if the fonts reside on the printer already.

Graphics

Your printer will print graphics as either raster images or as vector graphic images. All graphics can be printed as raster images. However some geometric shapes or patterns, and all TrueType fonts, print faster if they are printed as vector images.

- Vector

If selected, the driver will send as many graphics as possible as vector images, and the rest as raster images. With this setting, it is not possible to print TrueType fonts as graphic images, since TrueType fonts are vector images by default.

- Raster

When you select this setting, the driver will convert all vector images and send them to the printer as raster images. Use this setting if you want to print TrueType fonts as graphics, as described under “*TrueType Options*” (page 3-17).

Resolution

The printer supports the following resolutions:

- True 1200 dpi (dots per inch)
- 600 dpi (the default setting)
- 300 dpi (supported in PCL 5e only)

Print Quality

The following options are available at 600 dpi resolution only and not simultaneously:

- Draft Mode (Toner Saving)

This feature reduces the amount of toner placed onto the paper. Using this feature will cause pages to be printed lighter. It is available only at 600x600 resolution and XIE is disabled.

- XIE

This feature smooths text and line art images in order to improve image quality. It is available only when the Resolution is set to 600x600 dpi and Draft Mode is disabled.

Watermarks

Use this feature when you want your output to contain background text, independent of that provided by the printing application, across the first page or every page of a document. The driver enables you to specify the text, its font, size, position on the page and rotation angle, when creating and saving a unique watermark for use on any document. You may also select a default watermark from a list of predefined watermarks.

Overlays

A Page Overlay is a partial document that the driver can merge with your print job, producing a printed image that includes elements of both the overlay and your document. Overlays are most useful for creating such things as company letterhead. You can create the letterhead in your application as a page overlay, then download it and store it in the printer. Whenever you want to print a document with the overlay, you just send the print job to the printer with the Overlay command, and the printer will automatically print the letterhead on each page of your document. Page overlays eliminate the need to download the same information more than once, thus saving transmission time. However, they do use up printer memory or disk space.

An overlay differs from a watermark in these respects:

- An overlay can contain graphics and text in any number of fonts in any number of sizes and colors. A watermark can contain only text of one font, one size and one color.
- An overlay is usually on the margins of a page, while a watermark is usually in the middle of a page.
- An overlay usually will not obscure any part of the document, but a watermark usually will.
- An overlay uses space on the printer's hard disk, but a watermark does not.

Using the PostScript Driver

Paper/Output

When you select this tab, you can select a job type, copies, paper, image orientation, duplex, document collation and output bin for your printer.

Job Type

There are three job types. Some job types require a password.

- Normal Print

Spools and prints the job with no user intervention needed.

- Secure Print

Defers printing of a job until you enter the matching password on the Control Panel. It is only available when the optional hard drive is installed.

To use this feature, enter a 4-digit numeric password, where each digit can be any numeric value between 0 and 7. Releasing the job at the printer is discussed in the section *“Printing a Password Job”* (page 3-58). You can also choose to delete the job without printing it, as described in the section *“Deleting a Password Job”* (page 3-59).

- **Proof Print**

Used with multiple copy jobs, prints first set, then holds the other copies until you enter the matching password on the Control Panel. It is only available when the optional hard drive is installed.

To use this feature, specify the number of copies to be printed, then enter a 4-digit numeric password, where each digit can be any numeric value between 0 and 7. Releasing the job at the printer is discussed in the section *“Printing a Password Job”* (page 3-58). You can also choose to delete the job without printing the remaining sets, as described in the section *“Deleting a Password Job”* (page 3-59).

Copies

You can choose to print from one to 99 copies. The default is one copy.

Select Paper

You can select paper size, media type and input source for All Pages, for the First Page (if different than the rest of the job), and for Separators (if desired).

Image Orientation

Orientation refers to the direction of print on the page. The options are:

- Portrait
A Portrait page is taller than it is wide. This is the default setting.
- Landscape
A Landscape page is wider than it is tall.
- Rotated Landscape
A Rotated Landscape page is wider than it is tall and the image on the page is rotated 180° (upside down).

Duplex

Requires installation of the optional Duplex Module. For more information, see the section “*Duplex Printing*” (page 3-62). The options are:

- Duplex Off
Single sided printing. This is the default setting.
- Duplex with Short-Edge Binding
Double sided printing so that the pages turn about to the shortest edge of the paper.
- Duplex with Long-Edge Binding
Double sided printing so that the pages turn about to the longest edge of the paper.

Document Collation

Allows job collation (for multiple-copy jobs only). The options are:

- Uncollated (the default setting)

For example, five uncollated copies of a three-page job will result in five copies of page 1, then five copies of page 2, and finally five copies of page 3; that is: 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 3, 3, 3, 3, 3.

- Collated

Use this option when you want to print two or more separate sets of a job that contains two or more pages. For example, five collated copies of a three-page job will result in one set of all three pages in order, then a second set of all three pages in order, then a third set of all three pages in order, and so on; that is: 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3.

Certain print jobs are always collated. These are Proof jobs, discussed under “*Job Type*” (see page 3-22) or jobs that request more than one copy of a multiple-page job with page separators, discussed under “*Select Paper*” (see page 3-23).

Output

Allows you to set your printer's default paper output destination. The options are:

- The Standard Bin, which holds up to 500 sheets.
- The optional Face Up Bin, which holds up to 100 sheets.
- The optional 500 Offset Bin, which holds up to 500 sheets of standard paper (with offset capability if enabled at the printer's Control Panel).

Document Options

When you select this tab, you can select a page policy and set margins.

Page Size Policies

Page Size Policies are used to specify the recovery policy when the page size cannot be matched with any available media. The options are:

- Use printer default
Use whatever Paper Size Policy that has been set on the printer as its default. This is the default paper size policy.
- Generate error if paper not available
Generates an error message on the printer.
- Ignore size and use default paper tray
Ignores the paper size and uses the default paper tray.
- Nearest available size, adjust page
Selects the nearest available paper size and adjust the page to fit.
- Next larger available size, adjust page
Selects the next larger available paper size and adjust the page to fit.

- Nearest available size, no page adjust
Selects the nearest paper size, but does not adjust the page to fit.
- Next larger available size, no page adjust
Selects the next larger available paper, but does not adjust the page to fit.

Margins

Your printer can print with predefined margins, or can print all the way to the edge of the paper. The two options available are:

- Yes
If you choose this option, the printer defaults to HP compatible printable areas for each paper size, which is approximately one-sixth of an inch unprintable margins on all edges. The application may increase the margins to greater than this minimum.
- No
If you choose this option (the default setting), the printer will print all the way to the edge of the paper.

Page Layout

There are two options: Multiple Page per Size (N-up Printing) and Booklet Printing.

- Multiple Pages per Side (N-Up printing)

By default, the printer will print one page image on the sheet of paper. You can select two, four, six, nine or sixteen page images per side of paper. The printer will shrink the page images as needed and will arrange them on the paper most appropriately for the paper size and orientation.

You can also choose to print black borders around each page. The default is to not print borders.

- Booklet Printing

The driver will print the document as two images per sheet, landscape orientation. However, it rearranges the page images so the sheet of paper can be folded to be read as a left-to-right book.

The standard booklet format has the first page as the left-most page. The Right-to-Left control, if checked, will print the booklet with the first page as the right-most page.

On a folded sheet of paper with two page images, the horizontal distance from the fold to either page image is called the gutter. The Gutter control allows you to set this distance to zero, fifty, one hundred, or 150 dots.

When you fold several pages into a booklet, the thickness of the paper forces the page image of the inner pages to shift slightly outward. The Creep control allows you to choose a number of dots by which to shift the page images inward to compensate for the thickness of the paper. You can choose any value from zero to twenty.

Watermarks

Use this feature when you want your output to contain background text, independent of that provided by the printing application, across the first page or every page of a document. The driver enables you to specify the text, its font, size, position on the page and rotation angle, when creating and saving a unique watermark for use on any document. You may also select a default watermark from a list of predefined watermarks.

Graphics Options

When you select this tab, you can set the various graphics options for the driver.

Brightness

This slider control increases or decreases the brightness level of the image. You can also enter a value, and the slider will adjust itself to match the value typed. The default setting is zero.

Scaling

This slider control makes the page image smaller or larger by adjusting the percentage from 25% to 400%. The default is 100%. The image is anchored in the upper left corner of the paper. If you enlarge the image, the driver clips the right side and the bottom of the image to the size of the paper on which the image is to be printed. If you shrink the image, there will be white space on the right side and bottom. You can also enter a value, and the slider will adjust itself to match the value typed.

Image Modes

There are two image modes. You can choose both at the same time.

- Negative Image

This option converts the black image areas in the original to white, the white image areas to black, and any dark gray image areas to light gray. Printing a negative image may be useful for documents that have a substantial amount of dark background and/or light text and images. Note that excessive use of the Negative Image option can cause premature toner depletion and possible printer damage.

- Mirror Image

This option flips the image orientation 180 degrees, thereby reversing the image and all associated text.

- Fax Friendly Black

This feature changes your color document to patterns of black and white. The different colors are rendered as distinguishable black and white patterns. For example, a pie chart which contains wedges of different solid colors will be printed with a different pattern replacing each color so that the distinction between the pieces is maintained. Colored text is also rendered as a pattern, but the character is outlined. Anything that is black in your document remains black and is not rendered as a pattern.

Resolution

The printer supports the following resolutions:

- True 1200 dpi (dots per inch)
- 600 dpi.

Image Quality

- Draft Mode (Toner Saving)

This feature reduces the amount of toner placed onto the paper. Using this feature will cause pages to be printed lighter. It is available only at 600x600 resolution and XIE is disabled.

- XIE

This feature smooths text and line art images in order to improve image quality. It is available only when the Resolution is set to 600x600 dpi and Draft Mode is disabled.

Fonts When you select this tab, you can control how PostScript interprets TrueType fonts.

TrueType Fonts

This feature offers the following options:

- Use Substitution Table

The Substitution Table helps you select a printer-resident PostScript font that is the closest match for the True Type font being generated by the application.

- Always Send to Printer

This option will send the font down to the printer as part of the job. If the Font Substitution Table or Use Printer Fonts options are not selected, the font format must be specified in the Always Send to Printer field.

Send As

This feature contains three options:

- Outlines (Type 1)
A scalable, vector-based font that defines each character as a set of instructions that specify the shape and size of the character
- Bitmap (Type 3)
A non-scalable, rasterized format that contains data for each pixel that makes up each character. Large, complex bit maps require considerably more memory and processing time than other formats
- TrueType (Type 42)
Scalable, vector-based fonts developed by Apple Computer Corporation and is also used by Microsoft in their Windows operating system.

Substitution Table

- TrueType Font/Print Font

Lists the PostScript fonts that are resident on the printer. When you select different fonts in the For TrueType Font list, the printer font that is the closest match will be highlighted in the Print Font field. You can change the default selections for the comparable printer fonts simply by selecting any font in the list on the screen below it.

Printer Font Substituted For:

This feature enables you to select which PostScript printer font you wish to substitute for the selected TrueType font.

PostScript

When you select this tab, you can set various PostScript output options.

Format

There are two different formats:

- **Faster PostScript (Standard)** (the default setting)

This setting allows you to send PostScript jobs using the standard PostScript commands.

- **More Portable PostScript (ADSC)**

When this option is selected, the driver creates a file that is compatible with Adobe Document Structuring Convention (ADSC). (In order to print a document to a DSC file, you must specify a file name and specify FILE as the printer port within the Printers / Connect dialog box of the Windows Control Panel.)

PostScript Level Selection

- **Include Level 3 Features**

This setting allows you to send PostScript jobs using the Level 2 PostScript plus all of the additional Level 3 commands.

- **Use Only Level 2 Features**

This setting allows you to send only PostScript Level 2 jobs. No Level 3 commands will be accepted.

Compress Bitmaps

This control is available only if you have selected to Use Only Level 2 Features. It compresses the graphics in your documents before sending them to the printer. Although this saves memory, the job may take longer to print. The default for this option is On.

Print Postscript Error Information

If you choose this option, the driver will print an error sheet when an error occurs during the formatting or processing of a job. The error sheet indicates the page where the error occurred and the type of error. The default for this option is Off.

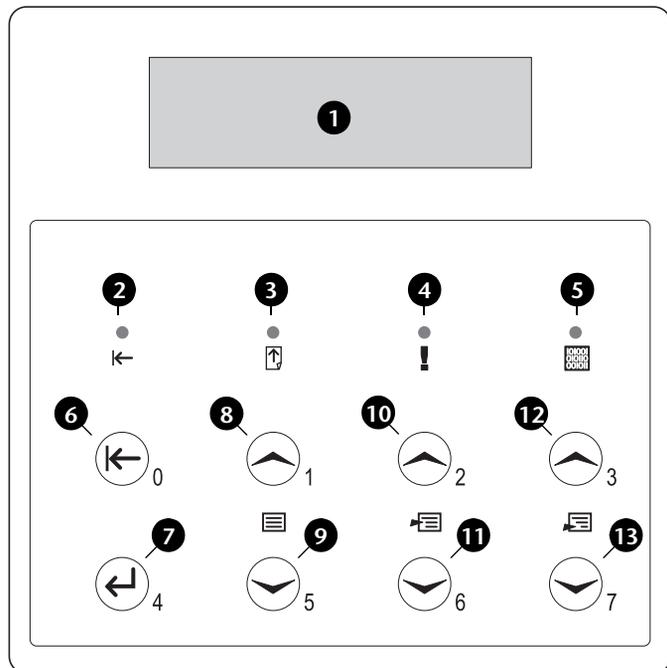
Using the Control Panel

The printer's Control Panel (Figure 3.1) serves several purposes:

- It displays information about the status of the printer (or the job in process).
- It provides the means for changing printer settings to control how the printer operates.
- It allows you to print reports and password-protected pages stored on the optional hard drive.

Figure 3.1 Control Panel

- 1 The display
- 2 Online indicator light
- 3 Form Feed indicator light
- 4 Error indicator light
- 5 Data indicator light
- 6 Online key
Password #0
- 7 Enter key
Password #4
- 8 Menu Up key
Password #1
- 9 Menu Down key
Password #5
- 10 Item Up key
Password #2
- 11 Item Down key
Password #6
- 12 Value Up key
Password #3
- 13 Value Down key
Password #7



The Display

The Control Panel's display performs two functions.

- It informs you of printer status conditions, such as when toner is low, when a paper tray is empty, when a job is in process, and so on. For example, after you turn on the printer and it is ready to print, the display will show:

Ready

This message appears whenever the printer is online and ready to accept print jobs. The display will also show:

Processing...

when processing data, and:

Waiting

when waiting for more data.

- It presents a hierarchy of menu options and settings to configure and control the printer.

For example, when you press **Menu Up** or **Menu Down**, the display will show:

Menus
Item Menu

(such as [System Menu](#) or [Job Menu](#))

See the section “*Menu Options*” (page 3-43) for information on the Menu system hierarchy.

The Indicator Lights

The Control Panel contains four indicator lights. Table 3.4 describes the function of each light.

Table 3.4 Indicator lights and their functions

Light	Description
Online (Green)	Lights when the printer is online. Flashes when the printer is transitioning from online to offline or to indicate that a print job is being processed.
Form Feed (Green)	Lights when the printer experiences a form feed timeout—that is, when a PCL job has formatted a partial page, the printer is waiting for more data in order to continue processing the job, and a timeout period (15 seconds by default and customizable) has expired with no new data arriving in the input buffer. This timeout applies to all ports. When lit, you can print a partial page by entering the Job menu, scrolling to the Form Feed item and pressing Enter. When not in the menu system, a partial page can be printed by pressing Enter. PostScript does not print partial pages and consequently the Form Feed light is not turned on.
Fault (Amber)	Lights whenever operator intervention is required in order to allow printing to continue.
Data (Green)	Flashes to indicate that a print job is being processed by either PostScript, PCL or PJJ, or is being spooled to the optional hard disk (e.g., a proof or secure job).

The Keys The Control Panel keypad consists of eight keys, identified with international symbols and/or labeled in English. The keys are also numbered 0 - 7 for use when entering passwords.

Table 3.5 describes the function of each key.

Table 3.5 Control Panel keys and their functions

Key	Description
Online	<ul style="list-style-type: none"> • If the Printer is online and not in the menu system, takes the printer offline. All pages currently in the paper path are printed and then printing pauses until the printer is brought online again. • If the printer is online and in the menu system, exits the menu system. • If the printer is offline and not in the menu system, brings the printer online. • If the printer is offline and in the menu system, exits the menu system and brings the printer online. • If the printer is offline and in power saver mode, brings the printer online.
Enter	<ul style="list-style-type: none"> • If the current display is a value for an item, causes the value to be entered as the current default value for this item. • If the current display is an action to be invoked (e. g. "PCL Font List", "Restart Printer"), causes the action to occur. • If not in the menu system, and the Form Feed LED indicates that a partial page exists, causes an implied PCL reset and the partial page is ejected. • If a paper mismatch condition exists, and a request to use an alternate paper is displayed, causes printing on the paper currently loaded in the selected tray (Print Anyway).
Menu Up	<ul style="list-style-type: none"> • If not in the menu system, enters the menu system and displays the first menu. • If in the menu system, causes the Control Panel to scroll through the menus in order bottom to top.

Table 3.5 Page 1 of 2

Table 3.5 Control Panel keys and their functions *(continued)*

Key	Description
Menu Down	<ul style="list-style-type: none"> • If not in the menu system, enters the menu system and displays the last menu. • If in the menu system, causes the Control Panel to scroll through the menus in order top to bottom.
Item Up	<ul style="list-style-type: none"> • If in the menu system, causes the Control Panel to scroll through the items in the current menu in order from bottom to top. • If not in the menu system, this key is ignored.
Item Down	<ul style="list-style-type: none"> • If in the menu system, causes the Control Panel to scroll through the items in the current menu in order from top to bottom. • If not in the menu system, this key is ignored.
Value Up	<ul style="list-style-type: none"> • If in the menu system, displays the default value for the current item, causes the Control Panel to scroll through the values from current value to top. When setting a numeric value, increases the value by the step amount. It is subject to auto-repeat if held down for more than 1 second. • If a paper mismatch condition exists, pressing this key scrolls through the alternate paper that may be used instead of the requested paper. • If not in the menu system, and a paper mismatch condition does not exist, this key is ignored.
Value Down	<ul style="list-style-type: none"> • If in the menu system, displays the default value for the current item, causes the Control Panel to scroll through the values from current value to bottom. When setting a numeric value, decreases the value by the step amount. It is subject to auto-repeat if held down by more than 1 second. • If a paper mismatch condition exists, pressing this key scrolls through the alternate paper that may be used instead of the requested paper. • If not in the menu system, and a paper mismatch condition does not exist, this key is ignored.

Table 3.5 Page 2 of 2

Menu Options

Table 3.6 on the following pages lists the variables that can be controlled at the printer's Control Panel, organized by menu in the order in which they appear when scrolling through the display¹. Since these variables are generally used in configuring the printer's default settings—a System Administrator's task—specific details of the menu items and their values are contained in the *System Administrator Guide* on the printer CD.

In addition, the *System Administrator Guide* lists all the operations associated with the Control Panel keys and lists the specific key processes which need to be executed to set any of these variables.



Printer settings selected in your application or printer driver override the default settings in the Control Panel when you submit your print jobs for printing.

1. The Ethernet, Token Ring and Novell menus appear only if the printer is network capable.

Table 3.6 Control Panel Menu Options

Menu	Description	
Job Menu	Allows you to cancel the job currently processed by PCL or PostScript, or to force a form feed on a partially formatted job in PCL.	
	Menu Items	Description
	Cancel Job	Cancels the job currently printing.
	Form Feed	Causes a partial PCL page to be ejected when the Form Feed LED is on.
	Restart Printer	Re-boots the printer as if the power was cycled, but bypasses power on diagnostics.
Password Menu	Allows you to enter a four digit password to enable printing of secure or proof jobs previously sent to the printer and stored on the printer's hard disk drive (and appears only if the optional hard disk drive is installed).	
Tray Menu	Allows you to access tray settings for PCL and PostScript jobs.	
	Menu Items	Description
	MBF Size	Defines the paper size that is loaded in the MBF.
	MBF Type	Defines the paper type that is loaded in the MBF.
	Envelope Size	Defines the paper size that is loaded in the optional envelope feeder.
	Envelope Type	Defines the paper type that is loaded in the optional envelope feeder.
Tray N Type	Defines the type of paper installed in Tray N (where N is the tray number—Tray 1, 2, or 3).	

Table 3.6 Page 1 of 14

Table 3.6 Control Panel Menu Options (continued)

Menu	Description	
Tray Menu (continued)	Tray Sequence	Groups two or more trays together so the group appears as one logical tray, and defines the order in which the trays will be searched to satisfy the input request.
	Custom Size	Defines the paper size that is used in formatting pages printed from the tray(s) if Tray N Mode is set to <i>Custom</i> (which overrides the tray's auto size detection mechanism).
	Tray N Mode	Determines whether or not the auto size detection mechanism in tray <i>N</i> (where <i>N</i> is the tray number—Tray 1, 2, or 3) should be overridden with the setting for Custom Size .
	Config Fuser	Enables the customization of fuser temperature settings associated with each paper type (otherwise set automatically by the printer). When set to <i>On</i> , each paper type is available as a menu item to customize its fuser temperature.
	Plain	Sets the fuser temperature to be associated with the paper type <i>Plain</i> (appears only if Config Fuser is set to <i>On</i>).
	Preprinted	Sets the fuser temperature to be associated with the paper type <i>Preprinted</i> (appears only if Config Fuser is set to <i>On</i>).
	Letterhead	Sets the fuser temperature to be associated with the paper type <i>Letterhead</i> (appears only if Config Fuser is set to <i>On</i>).

Table 3.6 Page 2 of 14

Table 3.6 Control Panel Menu Options (continued)

Menu	Description	
Tray Menu (continued)	Prepunched	Sets the fuser temperature to be associated with the paper type <i>Prepunched</i> (appears only if Config Fuser is set to <i>On</i>).
	Labels	Sets the fuser temperature to be associated with the paper type <i>Labels</i> (appears only if Config Fuser is set to <i>On</i>).
	Bond	Sets the fuser temperature to be associated with the paper type <i>Bond</i> (appears only if Config Fuser is set to <i>On</i>).
	Recycled	Sets the fuser temperature to be associated with the paper type <i>Recycled</i> (appears only if Config Fuser is set to <i>On</i>).
	Color	Sets the fuser temperature to be associated with the paper type <i>Color</i> (appears only if Config Fuser is set to <i>On</i>).
	Cardstock	Sets the fuser temperature to be associated with the paper type <i>Cardstock</i> (appears only if Config Fuser is set to <i>On</i>).
	User type <i>N</i>	Sets the fuser temperature to be associated with the custom paper type of <i>User type n</i> (appears only if Config Fuser is set to <i>On</i> and the paper type has been defined through CentreWare).

Table 3.6 Page 3 of 14

Table 3.6 Control Panel Menu Options *(continued)*

Menu	Description	
PCL Menu	Allows you to establish the default configuration for the printer when printing PCL emulation jobs.	
	Menu Items	Description
	Font Number	Sets the default font in PCL.
	Pitch	Sets the pitch of the default font in PCL. Appears only when the default font already selected is a scalable fixed pitch font.
	Point Size	Sets the point size of the default font in PCL. Appears only when the default font already selected is a scalable proportional spaced font.
	Symbol Set	Sets the default font symbol set used in PCL.
	Orientation	Sets the default orientation (portrait, landscape) used in PCL.
	Form Length	Sets the default number of lines per page used in PCL.
		Line Terminat.

Table 3.6 Page 4 of 14

Table 3.6 Control Panel Menu Options (continued)

Menu	Description	
System Menu	Allows you to set general printer features.	
	Menu Items	Description
	Language	Sets the language used for Control Panel display messages and generated reports.
	Paper Size	Sets the default paper size used in PostScript and PCL.
	Paper Type	Sets the default paper type used in PostScript and PCL.
	Page Policy	Allows the printer to automatically select an alternate paper size and/or type if the requested size and/or type is not loaded.
	Policy Timeout	Directs the printer as to how long to wait before taking the action defined by the setting of the Page Policy item.
	Print Quantity	Sets multiple copies of each page (not collated sets).
	Duplex	Sets the default duplex printing for PostScript and PCL jobs (and appears only when the optional duplex unit is installed).
	Draft Mode	Sets the default reduced toner mode for draft printing (functions only if Resolution is set to 600x600 and XIE is set to <i>Off</i>).
	Edge-to-Edge	Sets the default edge-to-edge printing in PCL.
	XIE	Sets the default Xerox Image Enhancement (resolution) mode.
Resolution	Sets the default resolution for PCL and PostScript jobs.	

Table 3.6 Page 5 of 14

Table 3.6 Control Panel Menu Options (continued)

Menu	Description	
System Menu (continued)	Output Timeout	Determines how many seconds the system will wait after a bin is filled before directing output to an alternate bin (available only if optional Offset Catch Tray is installed).
	Output Offset	Enables or disables alternately offsetting output from jobs (available only if optional Offset Catch Tray is installed).
	Output Dest	Sets the default paper output destination for PCL and PostScript jobs (available only if optional Offset Catch Tray is installed).
	Print PS Errors	Controls the use of the PostScript built in error handler or debugger.
	Power Saver	Defines a period of inactivity after which time the printer will enter a low power state.
	Defaults	Sets the type of factory defaults to use when a "Factory Default" is performed.
Parallel Menu	Allows you to set options for the parallel port connection.	
	Menu Items	Description
	Port Enable	Enables or disables the parallel port.
	Port Timeout	Sets the time for determining when to end an incomplete print job and poll the next port in the polling sequence.
	Parallel PDL	Sets the default emulation (page description language) for the parallel port.
	Binary PS	Enables or disables the binary mode of PostScript for print jobs received on this port.
	Bidirectional	Enables or disables bidirectional communications through the parallel port.

Table 3.6 Page 6 of 14

Table 3.6 Control Panel Menu Options (*continued*)

Menu	Description	
Serial Menu	Allows you to set options for the serial port connection (and appears only if the optional serial port is installed).	
	Menu Items	Description
	Port Enable	Enables or disables the serial port.
	Port Timeout	Sets the time for determining when to end an incomplete print job and poll the next port in the polling sequence.
	Serial PDL	Sets the default emulation (page description language) for the serial port.
	Flow Control	Sets the handshaking flow control parameters for the serial port.
	Baud Rate	Sets the baud rate for the serial port.
	Binary PS	Enables or disables the binary mode of PostScript for print jobs received on this port.
USB Menu	Allows you to set options for the USB port connection.	
	Menu Items	Description
	Port Enable	Enables or disables the USB port.
	Port Timeout	Sets the time for determining when to end an incomplete print job and poll the next port in the polling sequence.
	USB PDL	Sets the default emulation (page description language) for the USB port.
	Binary PS	Enables or disables the binary mode of PostScript for print jobs received on this port.

Table 3.6 Page 7 of 14

Table 3.6 Control Panel Menu Options (continued)

Menu	Description	
Ethernet Menu	Allows you to set options for the Ethernet port connection (and appears only if the printer is network capable and the Token Ring interface is not installed).	
	Menu Items	Description
	LPR Enable	Enables or disables the Ethernet LPR protocol.
	LPR Banner	Enables or disables the LPR banner sheet.
	LPR PDL	Sets the default emulation (page description language) for the Ethernet LPR protocol.
	LPR Binary PS	Enables or disables the LPR binary mode of PostScript.
	DLC/LLC Enable	Enables or disables the Ethernet DLC/LLC protocol.
	DLC/LLC PDL	Sets the default emulation (page description language) for the Ethernet DLC protocol.
	DLC/LLC Bin PS	Enables or disables the DLC/LLC binary mode of PostScript.
	NetBEUI Enable	Enables or disables the Ethernet NetBEUI interface.
	NetBEUI PDL	Sets the default emulation (page description language) for the Ethernet NetBEUI interface.
	NetBEUI Bin PS	Enables or disables the NetBEUI binary mode of PostScript.
	AppSocket Enabl	Enables or disables the Ethernet AppSocket interface.
AppSocket PDL	Sets the default emulation (page description language) for the Ethernet AppSocket interface.	
AppSocket Bin PS	Enables or disables the AppSocket binary mode of PostScript.	

Table 3.6 Page 8 of 14

Table 3.6 Control Panel Menu Options *(continued)*

Menu	Description	
Ethernet Menu (continued)	ETalk Enable	Enables or disables the Ethernet EtherTalk protocol.
	HTTP Enable	Enables or disables the Ethernet HTTP Server protocol.
	IP Address Res.	Sets the method used to resolve (Res) the IP address, including subnet mask and default gateway.
	IP Address	Sets the four byte IP address.
	Sub Net Mask	Sets the four byte Subnet Mask address.
	Default Gateway	Sets the four byte Default Gateway address.
	Port Timeout	Sets the time for determining when to end an incomplete print job and poll the next port in the polling sequence.
	Speed	Sets the speed of the 10/100 Ethernet interface.

Table 3.6 Page 9 of 14

Table 3.6 Control Panel Menu Options (continued)

Menu	Description	
Token Ring Menu	Allows you to set options for the Token Ring port connection (and appears only if the printer is network capable and the optional Token Ring interface is installed).	
	Menu Items	Description
	LPR Enable	Enables or disables the Token Ring LPR protocol.
	LPR Banner	Enables or disables the LPR banner sheet.
	LPR PDL	Sets the default emulation (page description language) for the Token Ring LPR protocol.
	LPR Binary PS	Enables or disables the LPR binary mode of PostScript.
	DLC/LLC Enable	Enables or disables the Token Ring DLC/LLC protocol.
	DLC/LLC PDL	Sets the default emulation (page description language) for the Token Ring DLC protocol.
	DLC/LLC Bin PS	Enables or disables the DLC/LLC binary mode of PostScript.
	NetBEUI Enable	Enables or disables the Token Ring NetBEUI interface.
	NetBEUI PDL	Sets the default emulation (page description language) for the Token Ring NetBEUI interface.
	NetBEUI Bin PS	Enables or disables the NetBEUI binary mode of PostScript.
	AppSocket Enabl	Enables or disables the Token Ring AppSocket interface.
AppSocket PDL	Sets the default emulation (page description language) for the Token Ring AppSocket interface.	
AppSocket Bin PS	Enables or disables the AppSocket binary mode of PostScript.	

Table 3.6 Page 10 of 14

Table 3.6 Control Panel Menu Options *(continued)*

Menu	Description	
Token Ring Menu (continued)	TTalk Enable	Enables or disables the Token Ring TokenTalk protocol.
	HTTP Enable	Enables or disables the Token Ring HTTP Server protocol.
	IP Address Res.	Sets the method used to resolve (Res) the IP address, including subnet mask and default gateway.
	IP Address	Sets the four byte IP address.
	Sub Net Mask	Sets the four byte Sub Net Mask address.
	Default Gateway	Sets the four byte Default Gateway address.
	Port Timeout	Sets the time for determining when to end an incomplete print job and poll the next port in the polling sequence.
	Source Routing	Sets the source routing option.
	Speed	Sets the default ring speed of the Token Ring interface.
	LAA	Sets the six byte Locally Administered Address.

Table 3.6 Page 11 of 14

Table 3.6 Control Panel Menu Options (continued)

Menu	Description	
Novell Menu	Allows you to modify Novell parameters (and appears only if the printer is network capable).	
	Menu Items	Description
	Novell Enable	Enables or disables the Novell protocol. If set to <i>Off</i> , the following menu items do not appear.
	Novell PDL	Sets the default emulation (page description language) for the Novell protocol.
	Novell Binary PS	Enables or disables the Novell binary mode of PostScript.
	Novell Mode	Sets the PServer mode for the Novell protocol.
	Frame Type	Sets the frame type used for the Novell protocol.
	Polling Interval	Sets the rate (in seconds) at which the PServer issues polling requests for assigned queues.
	PServer Name	Sets the name of the PServer in this printer.
	Primary Server	Sets the name of the Primary file server.
	NDS Tree	Sets the NDS Tree character string.
NDS Context	Set the NDS context string.	

Table 3.6 Page 12 of 14

Table 3.6 Control Panel Menu Options *(continued)*

Menu	Description	
Print Menu	Allows you to generate printer reports.	
	Menu Items	Description
	Config Sheet	Prints a Configuration Sheet showing the printer's current information and menu settings.
	PCL Demo	Prints a sample page demonstrating the printer's capabilities.
	PCL Font List	Prints a list of PCL fonts currently loaded.
	PS Font List	Prints a complete list of all PostScript language typefaces installed.
	Menu Map	Prints a page showing the structure of the Control Panel Menu Tree.
	Test Print	Prints a "test pattern" for analysis of print quality over the entire page (intended for use by the service technician).
	Disk Directory	Prints a copy of the disk directory (and appears only if the optional hard drive is installed).
	Fault History	Prints a copy of the Fault History Log.
	Display Faults	Displays the last 100 faults on the Control Panel.
	Hex Mode	Enables or disables hex dump mode, which prints the data stream as hex codes instead of interpreting it as print data.
Restart Printer	Reboots the printer as if the power was cycled but bypasses the power on diagnostics.	

Table 3.6 Page 13 of 14

Table 3.6 Control Panel Menu Options (continued)

Menu	Description	
Reset Menu	Allows you to access printer reset functions (and appears only when the printer is powered on while holding down the Online and Enter keys).	
	Menu Items	Description
	Factory Defaults	Resets menus (except network) to factory defaults.
	Network Defaults	Resets parameters in the Ethernet, Token Ring, and Novell Menus to factory defaults.
	Demo Mode	Places the printer in demo mode.
	Delete All Jobs	Deletes all secure jobs from the hard disk (and appears only if the optional hard drive is installed).
	Disk Initialize	Initializes the hard disk (and appears only if the optional hard drive is installed).
	Disk Format	Formats the hard disk (and appears only if the optional hard drive is installed)
Flash Format	Formats flash memory (and appears only if flash memory is installed).	
Table 3.6 Page 14 of 14		

Printing a Password Job

To print a password print job sent to the printer and stored in the optional hard drive (such as a secure job or proof job), follow these steps:

- 1 At the Control Panel, press **Menu Up** or **Menu Down** until you see:

```
Menus
Password Menu
```

- 2 Press **Enter** and you will see:

```
Enter password
_XXX
```

- 3 Enter the job's numeric password and you will see:

```
All Jobs      =
Print
```

- 4 Press **Enter** to print all jobs.

OR:

Press **Item Up** or **Item Down** to scroll through the jobs, then press **Enter** when the job you wish to print is shown. Repeat this step as necessary to release more than one job.

- 5 When done, press **Online**.

Deleting a Password Job

To delete a password print job sent to the printer and stored in the optional hard drive, follow these steps:

- 1 At the Control Panel, press **Menu Up** or **Menu Down** until you see:

```
Menus
Password Menu
```

- 2 Press **Enter** and you will see:

```
Enter password
_XXX
```

- 3 Enter your job's numeric password and you will see:

```
All Jobs      =
Print
```

- 4 Press **Value Up** or **Value Down** and you will see:

```
All Jobs      =
Delete
```

- 5 Press **Enter** to delete all jobs.

OR:

Press **Item Up** or **Item Down** to scroll through the jobs, then press **Enter** when the job you wish to delete is shown. Repeat this step as necessary to delete more than one job.

- 6 When done, press **On Line**.

Generating a Printer Report

Your printer provides the following reports that can be printed:

- Configuration Sheet
- PCL Demo Page
- PCL Font List
- PostScript Font List
- Menu Map
- Test Print
- Fault History
- Disk Directory (if the optional hard drive is installed)

To print any of these reports, follow these steps:

- 1 At the Control Panel, press **Menu Up** or **Menu Down** until you see:



Menus
Print Menu

- 2 Press **Item Up** or **Item Down** until you see the page you want to print (such as Config Sheet).
- 3 Press **Enter** to print the page.

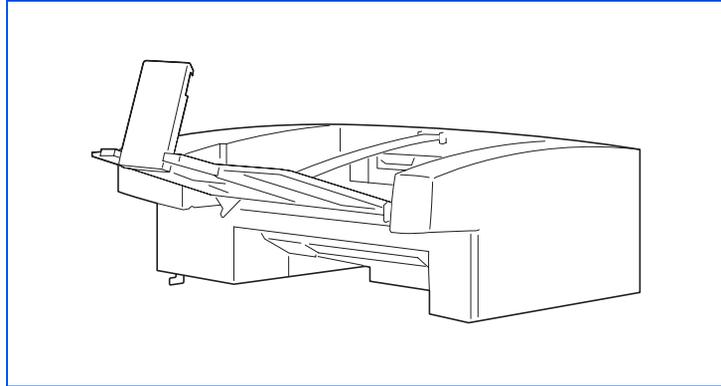


If the item has several choices, press Value Up or Value Down until the desired choice is shown, then press Enter.

Offsetting Output

The Offset Catch Tray (referred to as the Offset Bin in the printer driver), shown in Figure 3.2, is an optional output device available for your printer.

Figure 3.2 Offset Catch Tray (front view)



The Offset Catch Tray can be used in either of two ways, depending on how it is configured in the Control Panel's menu system:

- As an additional 500-sheet capacity output bin to supplement the 500-sheet standard output bin.
- To offset alternating print jobs and alternating copies of the same print job.

To use the Offset Catch Tray, submit your print jobs as usual, selecting Offset Bin as the destination (Auto Select uses the Control Panel setting). The System Menu's Output Offset item controls the default setting for whether or not the offset bin will offset successive print jobs or copies. Refer to the *System Administrator Guide* on the printer CD for detailed instructions on configuring the Offset Catch Tray for use.

Duplex Printing

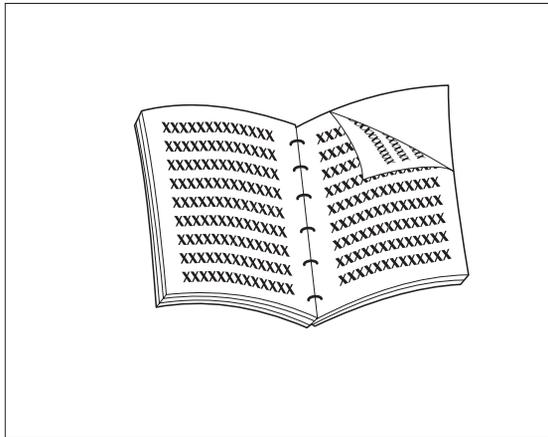
With the optional duplex unit installed, you can print two-sided (duplex) jobs.

Use only the size paper listed in Table 2.1 on page 2-4 for two-sided jobs. Do not use envelopes, postcards, transparencies, or label paper for duplex jobs.

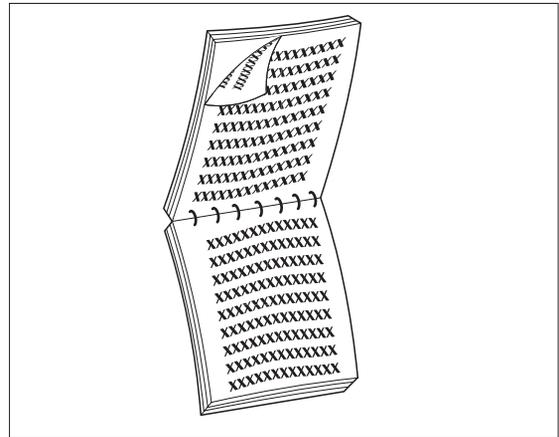
To print duplex, select it in your printer driver when you set printer properties (for all jobs) or when you print a document (for the specific job).

To ensure that duplex jobs print in the proper orientation, set the driver's **Orientation** and **Duplex** options to the appropriate settings, as shown in Figure 3.3 on page 3-63.

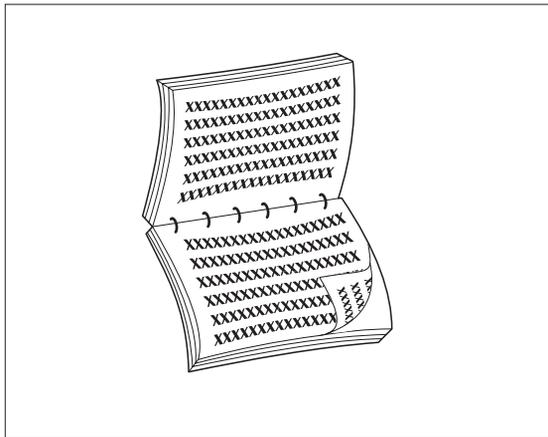
Figure 3.3 Duplex Orientation and Binding Settings



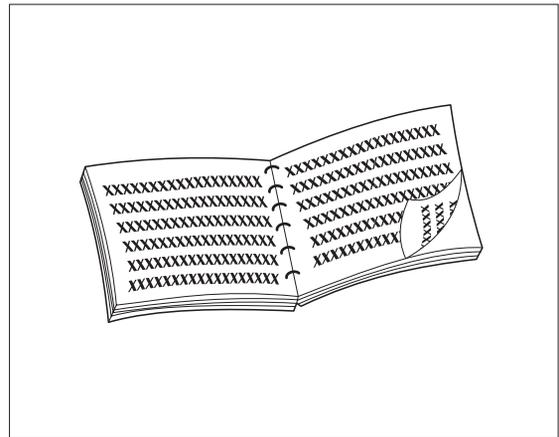
Orientation: *Portrait*
Duplex: *Long Edge Bind*



Orientation: *Portrait*
Duplex: *Short Edge Bind*

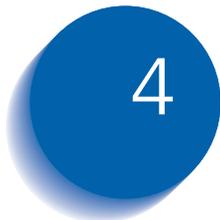


Orientation: *Landscape*
Duplex: *Long Edge Bind*



Orientation: *Landscape*
Duplex: *Short Edge Bind*





Maintaining the Printer

<i>Regular Printer Maintenance</i>	<i>4-2</i>
<i>Cleaning the Printer</i>	<i>4-2</i>
<i>Replacing the Laser Print Cartridge</i>	<i>4-3</i>
<i>Replacing Maintenance Kit Items</i>	<i>4-6</i>

Regular Printer Maintenance

Your printer is designed to need very little ongoing maintenance other than the replacement of maintenance items as they reach their end of use. It is recommended that maintenance items be replaced when the end of use warnings appear on the Control Panel to avoid untimely image quality problems. However, it is always good practice to periodically clean any loose toner or foreign matter in your printer. See the *System Administrator Guide* on your printers CD for procedures and cautions.



For optimum performance, keep the printer out of direct sunlight. Faded images, light areas or dark bands may result.

Cleaning the Printer

For optimum performance, do not place the printer near vents or dust-producing equipment. Particles in the air may enter the printer and cause failures in internal mechanisms.

For best results, clean the outside of the printer with a damp cloth. Power the printer off before cleaning. Do not use detergents.

For instructions on cleaning the inside of the printer, refer to the *System Administrator Guide* on your printer CD.

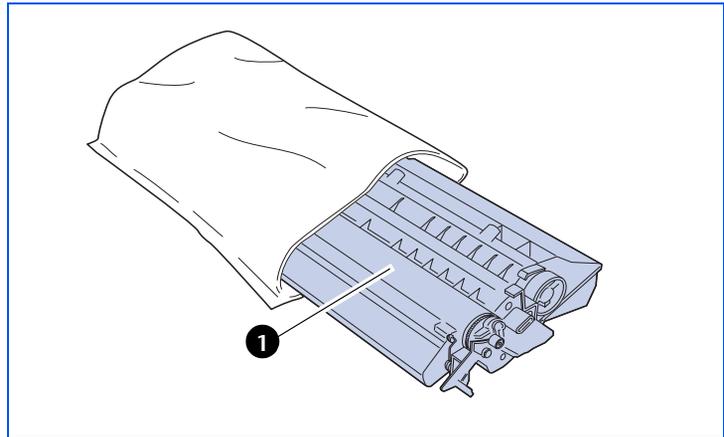
Replacing the Laser Print Cartridge

When the laser print cartridge runs low on toner, the printer's Control Panel display will read **Toner Low**. You should replace the laser print cartridge soon after this message appears to avoid loss of print quality. This is a simple procedure, described on the following pages.



- *Do not expose the laser print cartridge to direct sunlight or artificial light for more than 15 minutes. Overexposure will permanently damage the photosensitive imaging drum.*
- *Do not open the drum shutter (see Figure 4.1 below) or touch the blue imaging drum surface.*

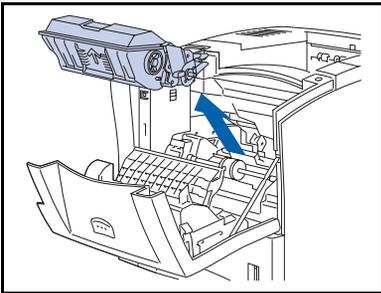
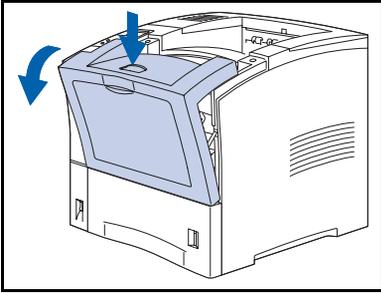
Figure 4.1 Drum Shutter Location



1 Drum shutter

To replace the laser print cartridge, follow these steps:

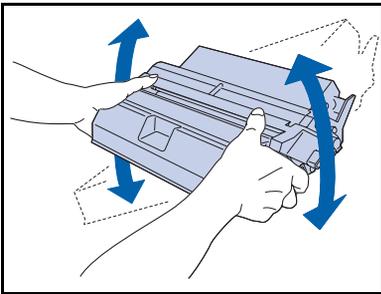
- 1 If the envelope feeder is installed, power off the printer and remove the envelope feeder.
- 2 Remove any paper from the output bin and multi bypass feeder, and close the multi bypass feeder.
- 3 Open the front cover all the way until it stops.



- 4 Slowly lift up and pull out the used laser print cartridge.



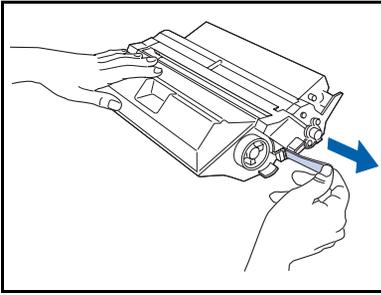
To prevent toner stains, place the cartridge on a surface covered with scrap paper.



- 5 Remove a new laser print cartridge from its packaging and shake the cartridge seven to eight times, as shown, to loosen the toner.

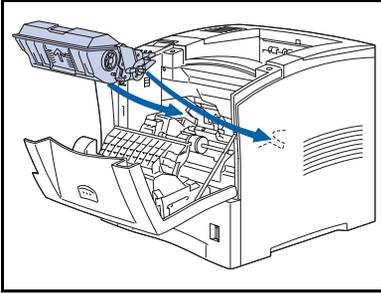


Be sure to shake the laser print cartridge to distribute the toner inside the cartridge. Print quality may be degraded if the toner is not evenly distributed. If the toner has not been properly freed by shaking the cartridge, you may hear a noise when powering on the printer, and the cartridge may be damaged.



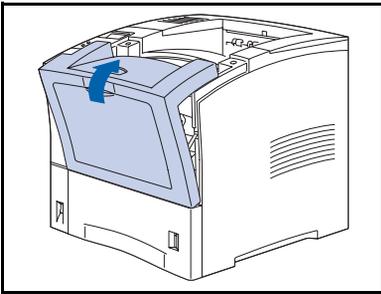
- 6** Place the cartridge on a flat surface, hold it firmly with one hand and with the other hand grasp the end tab of the sealing tape and pull the tape straight out horizontally.

! **If pulled at an angle, the tape may break. After pulling out the tape, do not shake the cartridge or subject it to shocks.**



- 7** Holding the cartridge as shown, lower it into the printer, inserting the cartridge's two projecting parts into the printer's guide channels.

➡ **Be sure to push the cartridge all the way into the printer.**



- 8** Slowly close the front cover. Press the center part of the top cover until it latches into place.

- 9** If the envelope feeder was removed, reinstall it and power on the printer.

- 10** Check the Control Panel display. Wait until **Ready** is displayed. If an error message appears, refer to Table 5.1 on page 5-4 for instructions.

- 11** Recycle the used cartridge using the packaging from the new cartridge, following the directions provided.

Replacing Maintenance Kit Items

The Maintenance Kit contains internal printer components which require replacement from time to time. As these are more complex tasks that are not routinely performed, the procedures are provided in the *System Administrator Guide* on your Product CD.



Troubleshooting

- Before You Begin Troubleshooting* 5-2
- Error Messages* 5-4
- Paper Jams* 5-5
 - What Causes a Paper Jam?* 5-5
 - Paper Jam Messages* 5-5
- Solving Printing Problems* 5-25
- Solving Print Quality Problems* 5-29
- Additional Sources of Troubleshooting Assistance* 5-37

Before You Begin Troubleshooting

If it becomes necessary for you to take corrective actions, note the following safety tips and then begin your troubleshooting by checking for possible hardware, software, and printer maintenance issues.



Do not use tools or sharp objects to clear paper jams since this may damage the printer. Do not touch the surface of the print drum or the transfer roller. Touching these surfaces may damage them.



Avoid contact with the printer's fuser area, which may be hot.

Also, be sure to observe the safety guidelines and recommendations provided in the Safety Notes.

If your printer is not operating properly, make sure that the following hardware and software issues have been considered.

Hardware

- Is the printer plugged in?
- Is the printer switched on?

Software

- Is the correct printer driver installed and selected for your printer configuration?

Printer Maintenance

An improperly seated tray or an open cover will prevent printing. You can avoid these problems by regularly taking the following precautions.

- Insert media trays properly and securely.
- Keep covers securely closed.

Consumables

An empty laser print cartridge or expended maintenance item may prevent printing.

- Keep consumables and maintenance items in supply.
- Add or replace when prompted by printer.



Specific instructions for replacing each consumable and maintenance item are included with the individual replacement packages.

Error Messages

Your printer displays messages on the Control Panel when operator intervention is required. There are two types of message that require action:

- Printer fault messages are those that relate to printer shutdown, such as a paper jam. Action must be taken to resolve the fault.
- Attention messages do not result in printer shutdown, but warn of action that should be taken to avert a shutdown.

The two-line display of the Control Panel provides information about the condition of the printer and the suggested or required course of action. Messages about paper jams are described in the next section. For a complete listing of all Control Panel messages, along with detailed descriptions and instructions, refer to the *System Administrator Guide* on your printer CD.

Paper Jams

Your printer has been designed to provide reliable, trouble-free operation. However, you may experience an occasional paper jam.

When the printer detects a misfeed or a paper jam, it stops printing and displays a Control Panel message.

After you clear the paper jam, the printer will resume operation to complete the print job. The pages in the print engine will be reprinted when the jam is cleared and printing resumes.

What Causes a Paper Jam?

Paper jams occur most often when:

- The paper stock does not meet specification. See “*Selecting Print Media*” (page 2-2).
- Paper has not been properly loaded in the tray.
- The paper stock is in poor condition.
- The printer needs cleaning.
- Printer parts are worn and need to be replaced.

Paper Jam Messages

Table 5.1 on page 5-6 lists the types of paper jams that may occur. If you see a Control Panel message that indicates a paper jam, find the message in the left-hand column and perform the accompanying steps to clear the paper jam.



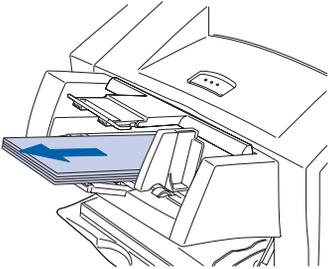
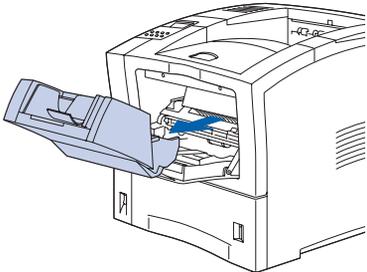
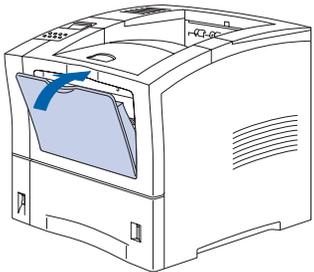
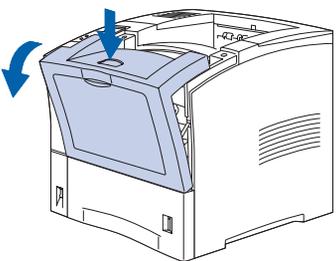
Observe warning labels inside the printer when removing jammed paper.

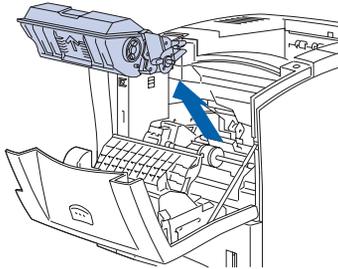
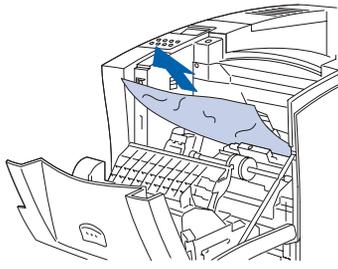
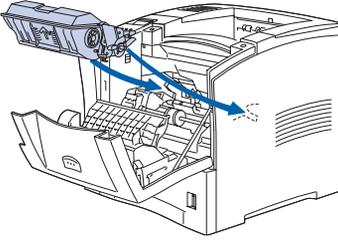
Table 5.1 Paper jam messages

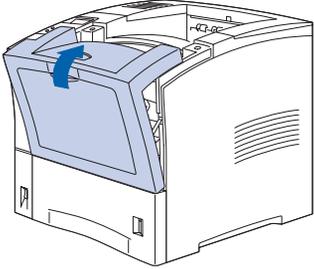
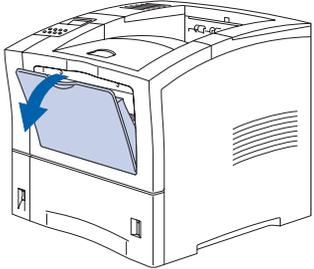
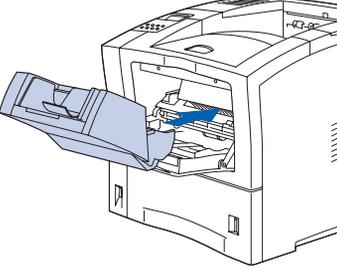
Message	Description/Corrective Action
Env. Feeder Jam- Remove All Envel	A paper jam has occurred while feeding from the envelope feeder. ACTION: Refer to "Jam Scenario 1" (page 5-7).
Exit Jam- Open Rear Cover	A paper jam has occurred at the exit path to the output bin. ACTION: Refer to "Jam Scenario 2" (page 5-10).
MBF Jam- Remove All Paper	A paper jam has occurred while feeding from the multi bypass feeder. ACTION: Refer to "Jam Scenario 3" (page 5-11).
Offset Jam- Open Rear Cover	A paper jam has occurred at the Offset Catch Tray. ACTION: Refer to "Jam Scenario 4" (page 5-14).
Paper Jam- Open Front Cover	A paper jam has occurred inside the front cover. ACTION: Refer to "Jam Scenario 5" (page 5-16).
Paper Jam- Open Rear Cover	A paper jam has occurred at the duplex module. ACTION: Refer to "Jam Scenario 6" (page 5-18).
Paper Size Jam- Open Rear Cover	The size of the paper fed was not the size expected by the printer, causing a jam inside the rear cover. ACTION: Refer to "Jam Scenario 7" (page 5-21).
Tray 1 Jam- Open Tray 1	A paper jam has occurred while feeding from Tray 1. ACTION: Refer to "Jam Scenario 8" (page 5-22).
Tray 2 Jam- Open Tray 2	A paper jam has occurred while feeding from Tray 2. ACTION: Refer to "Jam Scenario 8" (page 5-22).
Tray 3 Jam- Open Tray 3	A paper jam has occurred while feeding from Tray 3. ACTION: Refer to "Jam Scenario 8" (page 5-22).

Jam Scenario 1

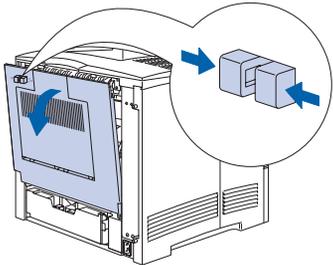
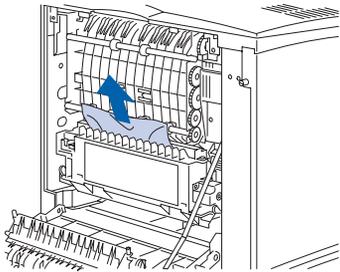
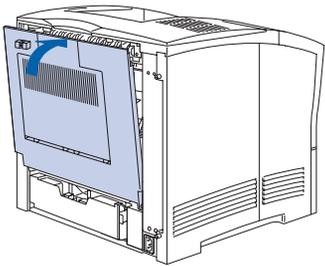
A paper jam has occurred while feeding from the envelope feeder.

Control Panel Message	Corrective Action	
<p>Env. Feeder Jam- Remove All Envel</p>		<p>1 Remove all envelopes from the envelope feeder.</p>
<p>Remove EnvFeeder Open Front Cover</p>		<p>2 Lift slightly on the envelope feeder and pull it out from the printer.</p>
		<p>3 Close the multi bypass feeder.</p>
		<p>4 Open the front cover all the way until it stops.</p>

Control Panel Message	Corrective Action
<p>Remove Jam Envel</p>	 <p>5 Slowly pull out the laser print cartridge.</p> <p> <i>To prevent toner stains, place the cartridge on a surface covered with old scrap paper.</i></p>
	 <p>6 Check the area where the laser print cartridge was located and remove any jammed paper (envelopes).</p>
	 <p>7 Holding the laser print cartridge as shown, lower it into the printer's guide channels.</p> <p> <i>Be sure to push the cartridge all the way into the printer.</i></p>

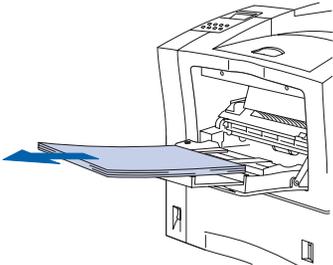
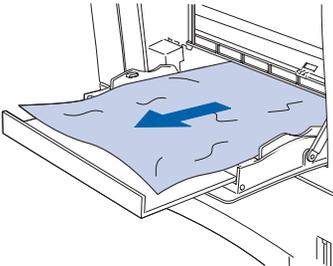
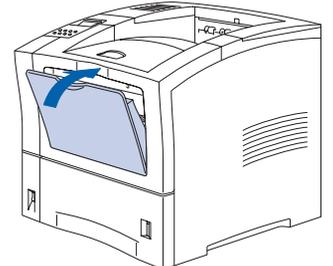
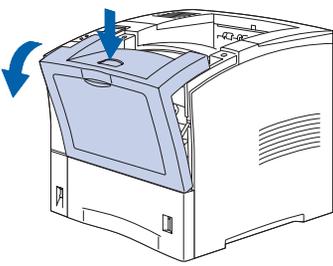
Control Panel Message	Corrective Action	
		<p>8 Slowly close the front cover. Press the center part of the top cover until it latches into place.</p> <p>9 Check the Control Panel display. If the jam has been cleared and all covers are closed, the display will show <i>Ready</i>. If a paper jam message remains, there is still paper jammed in the printer. Refer to Table 5.1 on page 5-6 for instructions.</p>
		<p>10 Open the multi bypass feeder by pulling the latch at the top center.</p>
		<p>11 Push the envelope feeder all the way into the printer until it stops. Make sure it is seated securely.</p> <p>12 Check the Control Panel display. If a paper jam message appears, there is still paper jammed in the printer. Refer to Table 5.1 on page 5-6 for instructions.</p> <p>13 Reload the envelope feeder.</p>

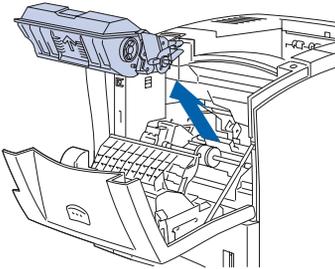
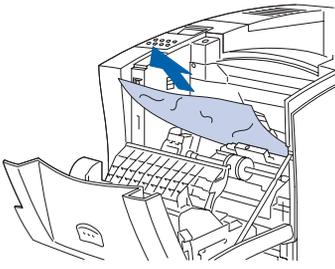
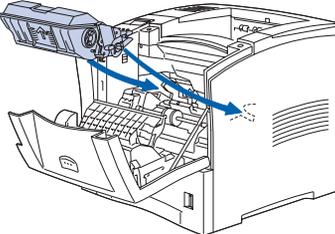
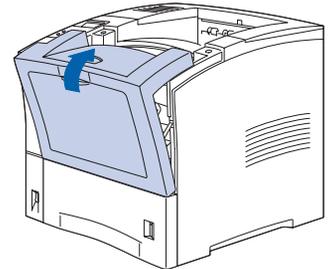
Jam Scenario 2 A paper jam has occurred at the exit path to the output bin.

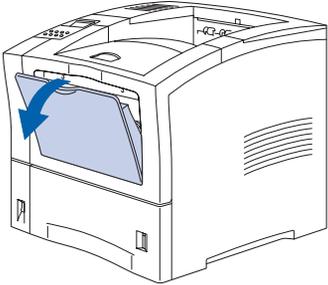
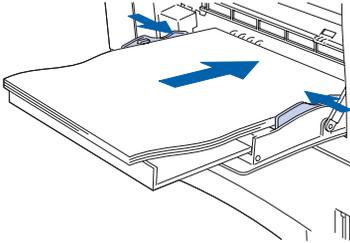
Control Panel Message	Corrective Action
<p>Exit Jam- Open Rear Cover</p>	 <p>1 Go behind the printer, squeeze the latch on the top left of the rear cover and pull the cover open.</p>
<p>Clear Paper Path</p>	 <p>2 Remove any jammed paper.</p> <p> Be careful not to touch the fuser. It becomes very hot from printing.</p>
	 <p>3 Close the printer's rear cover.</p> <p>4 Check the Control Panel display. If the jam has been cleared and all covers are closed, the display will show Ready. If a paper jam message remains, there is still paper jammed in the printer. Refer to Table 5.1 on page 5-6 for instructions.</p>

Jam Scenario 3

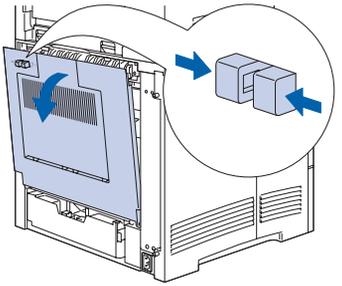
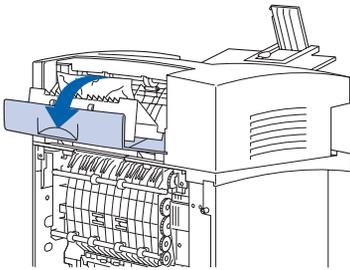
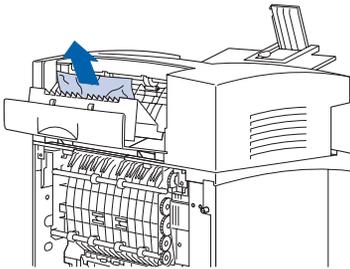
A paper jam has occurred while feeding from the multi bypass feeder.

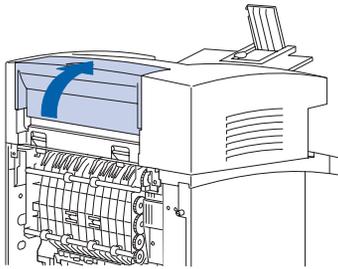
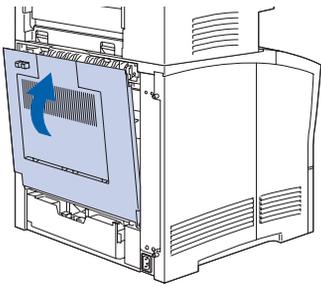
Control Panel Message	Corrective Action	
MBF Jam- Remove All Paper		1 Remove all paper from the multi bypass feeder.
		2 Check the back of the multi bypass feeder (inside the printer) and remove any jammed paper.
Open Front Cover Remove Jam Sheet		3 Close the multi bypass feeder.
		4 Open the front cover all the way until it stops.

Control Panel Message	Corrective Action
	 <p>5 Slowly pull out the laser print cartridge.</p> <p> <i>To prevent toner stains, place the cartridge on a surface covered with old scrap paper or the like.</i></p>
	 <p>6 Check the area where the laser print cartridge was located and remove any jammed paper.</p>
	 <p>7 Holding the laser print cartridge as shown, lower it into the printer's guide channels.</p> <p> <i>Be sure to push the cartridge all the way into the printer.</i></p>
	 <p>8 Slowly close the front cover. Press the center part of the top cover until it latches into place.</p>

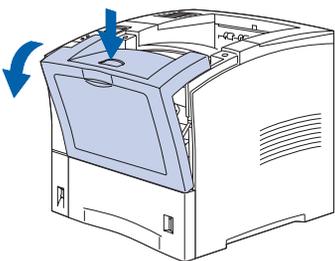
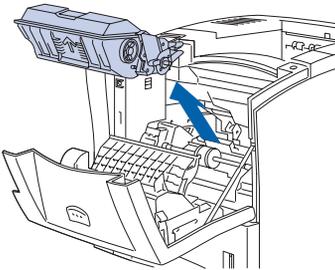
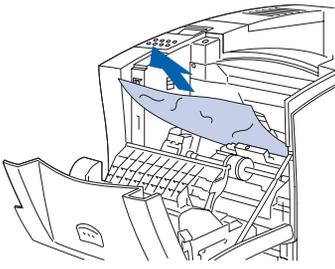
Control Panel Message	Corrective Action
	 <p data-bbox="872 218 1280 309">9 Open the multi bypass feeder by pulling the latch at the top center.</p>
	 <p data-bbox="851 539 1262 569">10 Reload the multi bypass feeder.</p> <p data-bbox="851 604 1280 855">11 Check the Control Panel display. If the jam has been cleared and all covers are closed, the display will show <i>Ready</i>. If a paper jam message remains, there is still paper jammed in the printer. Refer to Table 5.1 on page 5-6 for instructions.</p>

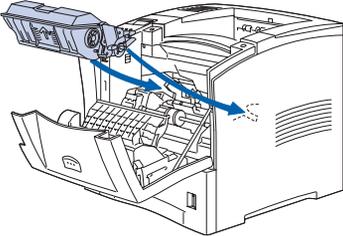
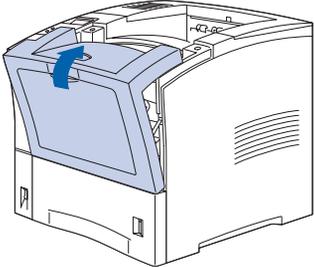
Jam Scenario 4 A paper jam has occurred at the Offset Catch Tray.

Control Panel Message	Corrective Action	
<p>Offset Jam- Open Rear Cover</p>		<p>1 Go behind the printer, squeeze the latch on the top left of the rear cover and pull the cover open.</p>
<p>Open Offset Door Clear Paper Path</p>		<p>2 Open the rear cover of the Offset Catch Tray by pulling on the recessed area.</p>
		<p>3 Remove any jammed paper.</p>

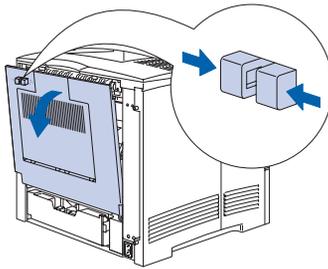
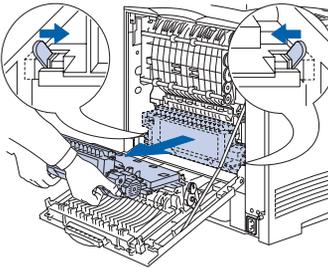
Control Panel Message	Corrective Action
	 <p data-bbox="871 217 1282 312">4 Make sure the spring-loaded rear cover of the Offset Catch Tray is securely closed.</p>
	 <p data-bbox="871 538 1282 572">5 Close the printer's rear cover.</p> <p data-bbox="871 598 1282 859">6 Check the Control Panel display. If the jam has been cleared and all covers are closed, the display will show <i>Ready</i>. If a paper jam message remains, there is still paper jammed in the printer. Refer to Table 5.1 on page 5-6 for instructions.</p>

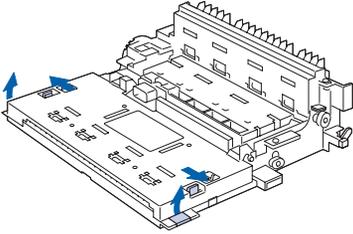
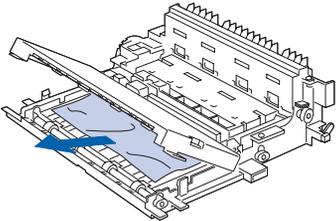
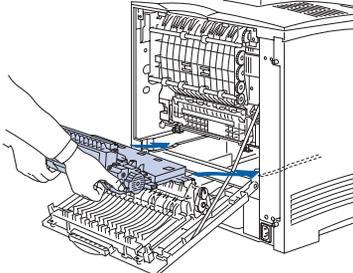
Jam Scenario 5 A paper jam has occurred inside the front cover.

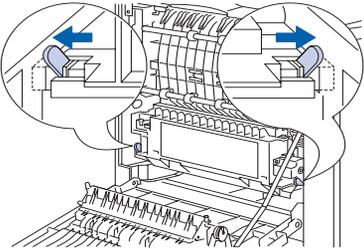
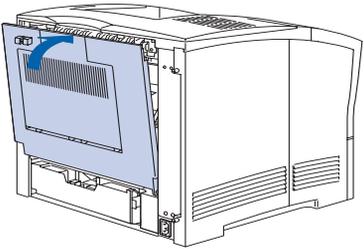
Control Panel Message	Corrective Action	
<p>Paper Jam- Open Front Cover</p>		<p>1 Remove the envelope feeder, if installed, then open the front cover all the way until it stops.</p>
<p>Remove PrintCart Clear Paper Path</p>		<p>2 Slowly pull out the laser print cartridge.</p> <p> <i>To prevent toner stains, place the cartridge on a surface covered with old scrap paper or the like.</i></p>
		<p>3 Check the area where the laser print cartridge was located and remove any jammed paper.</p>

Control Panel Message	Corrective Action
	 <p>4 Holding the laser print cartridge as shown, lower it into the printer's guide channels.</p> <p> Be sure to push the cartridge all the way into the printer.</p>
	 <p>5 Slowly close the front cover. Press the center part of the top cover until it latches into place.</p> <p>6 Check the Control Panel display. If the jam has been cleared and all covers are closed, the display will show Ready. If a paper jam message remains, there is still paper jammed in the printer. Refer to Table 5.1 on page 5-6 for instructions.</p>

Jam Scenario 6 A paper jam has occurred at the duplex module.

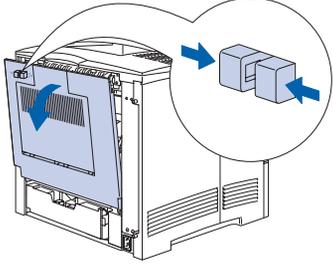
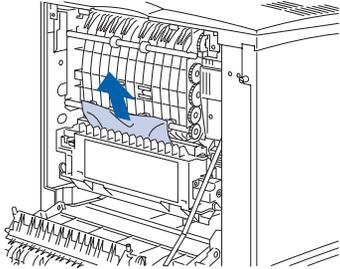
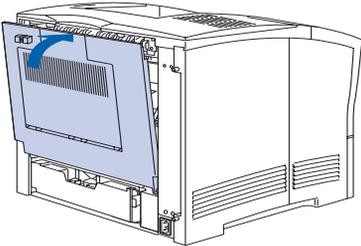
Control Panel Message	Corrective Action	
<p>Paper Jam- Open Rear Cover</p>		<p>1 Go behind the printer, squeeze the latch on the top left of the rear cover and pull the cover open.</p>
<p>Remove DuplxUnit Clear Paper Path</p>		<p>2 Remove any jammed paper.</p> <p>!! Be careful not to touch the fuser. It becomes very hot from printing.</p> <p>3 Slide the green tabs to the left and right of the duplex module inwards and pull the duplex module out of the printer.</p>

Control Panel Message	Corrective Action
	 <p>4 Open the duplex module by moving the tabs on the outside of the duplex module outwards, and lifting up the cover.</p>
	 <p>5 Remove any jammed paper, then close the cover.</p>
	 <p>6 Insert the duplex unit into the left and right channels inside the printer.</p>

Control Panel Message	Corrective Action
	 <p data-bbox="872 218 1268 279">7 Slide the unit in until the green levers snap into place.</p>
	 <p data-bbox="872 539 1239 569">8 Close the printer's rear cover.</p> <p data-bbox="872 604 1279 855">9 Check the Control Panel display. If the jam has been cleared and all covers are closed, the display will show Ready. If a paper jam message remains, there is still paper jammed in the printer. Refer to Table 5.1 on page 5-6 for instructions.</p>

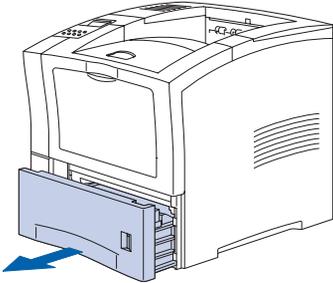
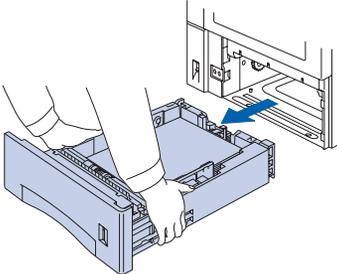
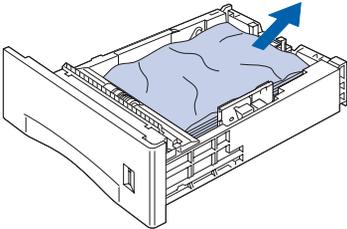
Jam Scenario 7

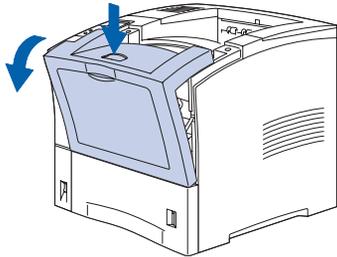
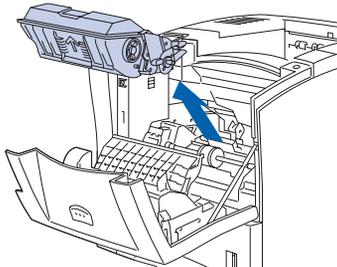
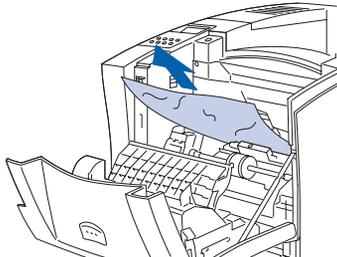
The size of the paper fed was not the size expected by the printer, causing a jam inside the rear cover

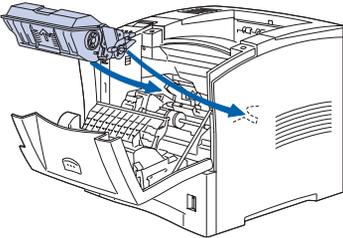
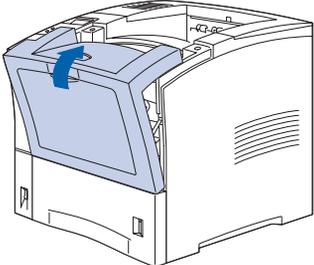
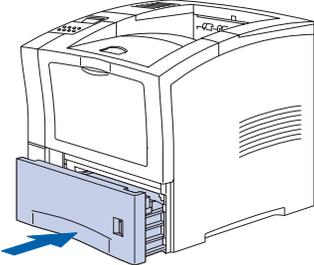
Control Panel Message	Corrective Action	
<p>Paper Size Jam- Open Rear Cover</p>		<p>1 Go behind the printer, squeeze the latch on the top left of the rear cover and pull the cover open.</p>
<p>Clear Paper Path</p>		<p>2 Remove any jammed paper.</p> <p>!! Be careful not to touch the fuser. It becomes very hot from printing.</p>
		<p>3 Close the printer's rear cover.</p> <p>4 Check the Control Panel display. If the jam has been cleared and all covers are closed, the display will show <i>Ready</i>. If a paper jam message remains, there is still paper jammed in the printer. Refer to Table 5.1 on page 5-6 for instructions.</p> <p>5 Change to the correct paper size.</p>

Jam Scenario 8

A paper jam has occurred while feeding from a paper tray. Note: While the illustrations below show Tray 1, you can use this procedure for clearing Tray 2 and Tray 3 jams as well.

Control Panel Message	Corrective Action
	 <p>1 Grip the recessed area in the front of the paper tray and pull it towards you.</p>
Tray 1 Jam- Open Tray 1 or Tray 2 Jam- Open Tray 2 or Tray 3 Jam- Open Tray 3	 <p>2 Hold the tray with both hands, lift it gently and remove it from the printer.</p>
	 <p>3 Place the tray on a flat surface. If there is wrinkled paper in the tray, remove it.</p>

Control Panel Message	Corrective Action
<p data-bbox="154 340 414 395">Open Front Cover Remove Jam Sheet</p>	 <p data-bbox="871 218 1282 281">4 Open the front cover all the way until it stops.</p>
	 <p data-bbox="871 541 1250 604">5 Slowly pull out the laser print cartridge.</p> <p data-bbox="919 621 1268 739"> <i>To prevent toner stains, place the cartridge on a surface covered with old scrap paper or the like.</i></p>
	 <p data-bbox="871 864 1262 954">6 Check the area where the laser print cartridge was located and remove any jammed paper.</p>

Control Panel Message	Corrective Action
	 <p>7 Holding the laser print cartridge as shown, lower it into the printer's guide channels.</p> <p> Be sure to push the cartridge all the way into the printer.</p>
	 <p>8 Slowly close the front cover. Press the center part of the top cover until it latches into place.</p>
	 <p>9 Reinstall the paper tray.</p> <p>10 Check the Control Panel display. If the jam has been cleared and all covers are closed, the display will show Ready. If a paper jam message remains, there is still paper jammed in the printer. Refer to Table 5.1 on page 5-6 for instructions.</p>

Solving Printing Problems

If you have any problems with the operation of your printer, refer to Table 5.2 for suggested remedies.

Table 5.2 Printer Operation Problems

Problem	Action
<p>The printer will not print at all, or a file sent from the client/server will not print.</p>	<ul style="list-style-type: none"> • Check with your network administrator to see that the printer is powered on, connected to the network and that the network is operational. • Check Control Panel messages for “Paper Jam,” “Door Open,” etc. • If the port (parallel or network) the printer is connected to is disabled, enable it. Check the Configuration Sheet for the port you are using to see if the Port Enable item in the appropriate Interface Menu is set to <i>On</i>. If it is set to <i>Off</i>, set it to <i>On</i> and try again. • If the printer has printed recently, do the following: <ul style="list-style-type: none"> - Attempt to print a Configuration Sheet. If it does not print, contact your service provider. - If the Configuration Sheet prints, check to see that the printer is configured properly. - If the printer is configured properly, check the Configuration Sheet to confirm that the correct emulation is On, and that the correct PDL is enabled for the port or protocol you are using. - If the correct emulation is enabled and the printer continues not to print, contact your service provider.

Table 5.2 Page 1 of 4

Table 5.2 Printer Operation Problems (continued)

Problem	Action
A printed page does not look like it should.	<ul style="list-style-type: none"> • Make certain that the software application you are using to create your print job is configured properly. Refer to your software documentation. • Make sure the correct driver is being used. • Send a file containing PCL or PostScript commands to the printer. <ul style="list-style-type: none"> - If your page prints as it should, your printer and interface are functioning properly. - If your information prints correctly, but doesn't look right, you may have: <ul style="list-style-type: none"> - An error in your command sequence/operator. - A missing downloaded font. - A mismatched printer option against your host formatting. - Command errors may be identified by looking at your input file. You can determine which fonts are in the system by printing a PCL or PS Font List. You can verify your data setup by printing a Configuration Sheet and checking your printer setup.
The requested font for the job does not print.	<p>Print a PCL Font List, or PostScript Font List if the job is PostScript.</p> <ul style="list-style-type: none"> • If fonts print on the Font List, your print job may need correcting. • If fonts do not print on the Font List, reload the fonts and print another PCL or PostScript Font List.

Table 5.2 Page 2 of 4

Table 5.2 Printer Operation Problems (continued)

Problem	Action
PostScript commands are printed instead of the PostScript job.	<ul style="list-style-type: none"> • Make certain that the software application you are using to create your job is configured properly. Refer to your software documentation. • The job sent to the printer might have included an incorrect header, and therefore, not have indicated that a PostScript job was being sent. <ul style="list-style-type: none"> - Check your software to make sure the PostScript header file is being sent to the printer. • Set the Print Errors item in the PostScript Menu to On and resend the job. <ul style="list-style-type: none"> - If an error page prints, there is a problem in the PostScript coding. Correct the coding problem and resend the job. Asking for features not available can cause a configuration error. - If the job still does not print and an error page was not printed, the job may require additional memory.

Table 5.2 Page 3 of 4

Table 5.2 Printer Operation Problems (continued)

Problem	Action
A PostScript or PCL job fails to print.	<ul style="list-style-type: none"> • Check that you are using the correct PostScript or PCL printer driver. • For a PostScript job, set the Print Errors item in the PostScript Menu to On and resend the job. <ul style="list-style-type: none"> - If an error page prints, there is a problem in the PostScript coding. Correct the coding problem and resend the job. Asking for features not available can cause a configuration error. - If the job still does not print and an error page was not printed, the job may require additional memory. See <i>Appendix C: Printer Options</i> for information on ordering more printer memory. • For a PCL job, do the following: <ul style="list-style-type: none"> - Check the output for PCL errors. - If there is a problem in the PCL coding, correct the coding problem and resend the job. - If there is no error message, resend the job. - If the job still does not print error message says “out of memory”, the job may require additional memory. See <i>Appendix C: Printer Options</i> for information about printer memory options.

Table 5.2 Page 4 of 4

Solving Print Quality Problems

If you have any problems with your printer's printed output, refer to Table 5.3 for suggested remedies.



The cases listed in Table 5.3 are probable cases only, and may not represent all of the possible cases which may occur under actual operating conditions. If you experience a problem which does not seem to fall under any of the cases listed in this table, or if you are concerned about any other aspect of printer operation, contact your service provider.

Table 5.3 Print Quality Problems

Problem	Possible Cause(s)	Corrective Action(s)
Light/faint prints Overall image is lighter than normal. 	Toner Saver mode.	Turn off Toner Saver.
	Toner level low/empty.	Remove the laser print cartridge carefully and vigorously shake it several times, then reinstall it. (This may help redistribute the remaining toner before having to replace the cartridge.)
	Damp paper stock.	Replace paper stock.

Table 5.3 Page 1 of 8

Table 5.3 Print Quality Problems (continued)

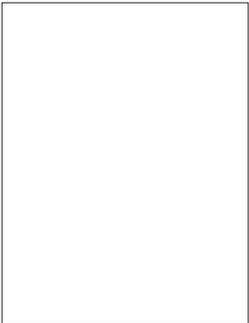
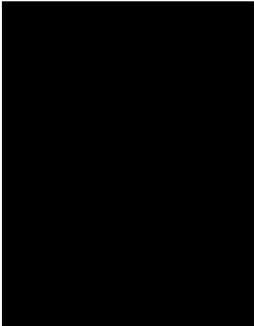
Problem	Possible Cause(s)	Corrective Action(s)
<p>Blank Prints</p> <p>Entire printed page is blank with no visible print.</p> 	<p>If just installed, the laser print cartridge sealing tape may still be in place.</p> <p>Multiple sheets are being fed from the paper tray at the same time.</p> <p>No printable data received from computer.</p> <p>Defective laser print cartridge or low on toner.</p>	<p>Remove the sealing tape.</p> <p>Remove the paper from the paper tray and fan it. Ensure that paper is correctly loaded.</p> <p>Print a Test Print. If the Test Print is normal, check the following:</p> <ul style="list-style-type: none"> • Interface cable between computer and printer • Printer set up and application software <p>If the Test Print is blank, contact your service provider.</p> <p>Replace the laser print cartridge.</p>
<p>Black prints</p> <p>The page is entirely black.</p> 	<p>Defective laser print cartridge.</p> <p>Printer power supply has failed.</p>	<p>Replace the laser print cartridge.</p> <p>Contact your service provider for assistance.</p>

Table 5.3 Page 2 of 8

Table 5.3 Print Quality Problems (continued)

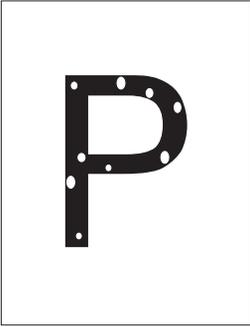
Problem	Possible Cause(s)	Corrective Action(s)
<p>Spot deletions</p> <p>Areas of the print are extremely light or missing.</p> 	<p>Damp paper stock.</p> <p>Defective laser print cartridge, or the laser print cartridge is at its end of life.</p>	<p>Replace the paper stock.</p> <p>Replace the laser print cartridge.</p>
<p>Vertical line deletions</p> <p>Localized print deletions forming narrow lines running in the direction of paper movement.</p> 	<p>Laser print cartridge not installed correctly</p> <p>Defective laser print cartridge, or the laser print cartridge is at its end of life</p> <p>Laser, laser path or transfer roller may be obstructed.</p>	<p>Remove then reinstall the laser print cartridge.</p> <p>Replace the laser print cartridge.</p> <p>Power off the printer. Check for and remove any paper from the paper path.</p>

Table 5.3 Page 3 of 8

Table 5.3 Print Quality Problems (continued)

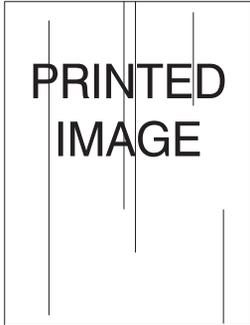
Problem	Possible Cause(s)	Corrective Action(s)
<p>Horizontal line deletions</p> <p>Localized print deletions appearing as bands running across the page perpendicular to the direction of paper movement.</p>  <p>The diagram shows a rectangular box containing the text "PRINTED IMAGE". Several horizontal white bands of varying thickness cross the text from left to right, obscuring parts of the letters.</p>	<p>Defective paper stock, creases, folds, etc.</p> <p>Defective laser print cartridge.</p>	<p>Replace the paper stock.</p> <p>Replace the laser print cartridge.</p>
<p>Vertical dark streaks</p> <p>Black lines running across the print in the direction of paper movement.</p>  <p>The diagram shows a rectangular box containing the text "PRINTED IMAGE". Several vertical black lines of varying thickness run from top to bottom across the text, obscuring parts of the letters.</p>	<p>Defective laser print cartridge, or the laser print cartridge is at its end of life.</p> <p>Defective Fuser.</p>	<p>Replace the laser print cartridge.</p> <p>Replace the Fuser. See the <i>System Administrator Guide</i> on the printer CD for ordering and installation instructions.</p>

Table 5.3 Page 4 of 8

Table 5.3 Print Quality Problems (continued)

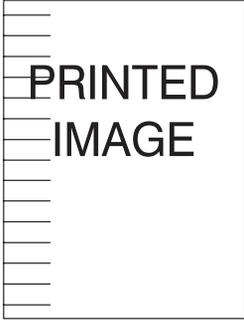
Problem	Possible Cause(s)	Corrective Action(s)
<p>Repetitive horizontal dark streaks</p> <p>Black lines running across the page perpendicular to the direction of paper movement.</p> 	<p>Contaminated paper path.</p> <p>Defective laser print cartridge, or the laser print cartridge is at its end of life.</p>	<p>Print several blank sheets of paper to remove any toner accumulations.</p> <p>Replace the laser print cartridge.</p>
<p>Dark spots/marks</p> 	<p>Defective fuser.</p> <p>Defective laser print cartridge.</p>	<p>Replace the fuser.</p> <p>Replace the laser print cartridge.</p>

Table 5.3 Page 5 of 8

Table 5.3 Print Quality Problems (continued)

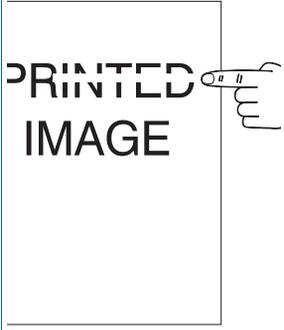
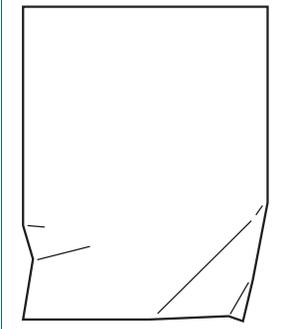
Problem	Possible Cause(s)	Corrective Action(s)
<p>Unfused or partially fused image</p> <p>The printed image is not fully fused to the paper and easily rubs off.</p> 	Damp paper stock.	Replace paper stock.
	Heavy or unusual paper stock.	Use only approved paper/media. (See Table 2.1 on page 2-4).
	Defective Fuser.	Replace the Fuser. See the <i>System Administrator Guide</i> on the printer CD for ordering and installation instructions.
	Improper paper/media type set on control panel.	Set proper paper/media type.
	Incorrectly configured fuser temperature	Increase the fuser temperature setting.
<p>Wrinkled prints</p> <p>Prints are wrinkled, creased, or torn.</p> 	Poor paper condition.	Inspect/replace the paper stock.
	Paper is damp.	Replace paper stock.
	Fuser is at its end of life	Replace the Fuser. See the <i>System Administrator Guide</i> on the printer CD for ordering and installation instructions.

Table 5.3 Page 6 of 8

Table 5.3 Print Quality Problems (continued)

Problem	Possible Cause(s)	Corrective Action(s)
Blurred prints Image is blurred at the edges. 	Poor paper condition.	Inspect/replace the paper stock.
	Paper is damp.	Replace the paper stock.
	Defective laser print cartridge.	Replace the laser print cartridge.
Random deletions Random light areas and deletions. 	Poor paper condition.	Inspect/replace the paper stock.
	Paper is damp.	Replace the paper stock.

Table 5.3 Page 7 of 8

Table 5.3 Print Quality Problems (continued)

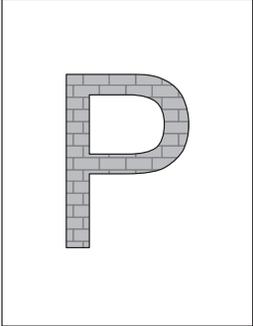
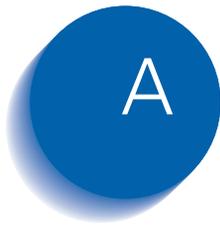
Problem	Possible Cause(s)	Corrective Action(s)
<p>Grainy Graphics</p> <p>A graphic image is coarse or grainy (like a brick or checkerboard pattern) rather than a smooth halftone.</p> 	<p>Compression problem. The printer tried to print a complex graphic image with inadequate memory.</p>	<p>Refer to the <i>System Administrator Guide</i> on the printer CD for a discussion of memory requirements.</p>
<p>Incomplete Page</p> <p>The printed image is missing all of the image print after a straight line.</p> 	<p>The printer tried to print a complex graphic image with inadequate memory.</p>	<p>Refer to the <i>System Administrator Guide</i> on the printer CD for a discussion of memory requirements.</p>

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Additional Sources of Troubleshooting Assistance

If you encounter an error message, problem, or print defect that you are unable to correct by using your User Guide, you may need to contact your System Administrator or refer to the *System Administrator Guide* on the printer CD. For more complicated problems, contact your service provider for assistance.





Printer Specifications

<i>Physical Specifications</i>	A-2
<i>Environmental Specifications</i>	A-3
<i>Electrical Specifications</i>	A-4
<i>Performance Specifications</i>	A-5
<i>Controller Specifications</i>	A-6

Physical Specifications

Dimensions

- 16.5" (w) x 17.1" (d) x 16.1" (h)
- 442 mm (w) x 439 mm (d) x 413 (h)

Weight (without laser print cartridge and controller)

- 57.3 lbs. (26 kg)

Environmental Specifications

Temperature

- 41° to 95° F (5° to 35° C)

Humidity

- 15% to 85% RH

Sound Level (base configuration)

- 49.5 dbA Running (Max.)
- 35 dbA Standby (Max.)

Electrical Specifications

Power Requirements

- 110/120 VAC, 50/60 Hz
- 220/240 VAC, 50/60 Hz

Power Consumption

- 110/120 VAC: 800W (max.) during warmup and printing; 102W Standby; 30W (max.) when in power saver mode
- 220/240 VAC: 800W (max.) during warmup and printing; 30W (max.) when in power saver mode

Performance Specifications

Resolution

- True 1200 x 1200 dpi (at rated speed)
- 600 x 600 dpi
- XIE Resolution Enhancement

Print Speed

- Up to 21 ppm (pages/min) simplex
- Up to 15 ipm (impressions/min) duplex

Controller Specifications

Motorola PowerPC RISC processor with
ASIC co-processor

Memory

- 32 MB DRAM / 8 MB FLASH ROM Standard
- Upgradable to a maximum of 192 MB

Page Description Languages (PDL)

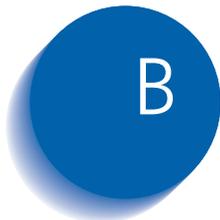
- PCL 5e and PCL 6 emulations
- Adobe PostScript 3

Resident Fonts

- 35 PostScript Type 1
- 35 Intellifonts (PostScript and PCL 5C)
- 10 TrueType (PostScript and PCL 5C)
- 1 PCL compatible bitmap

Interfaces

- Base Printer
 - IEEE 1284-B bi-directional parallel
 - Universal Serial Bus (USB)
 - Optional: Serial RS232-C
- Network Capable Printer
 - Ethernet 10/100BaseTx
 - IEEE 1284-B bi-directional parallel
 - Universal Serial Bus (USB)
 - Optional: Serial RS232-C
 - Optional: Ethernet 10Base2
 - Optional: Token Ring



Notices and Certifications

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<i>Radio Frequency</i>	<i>B-2</i>
<i>Certifications...Canadian</i>	<i>B-4</i>
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<i>CE Certification</i>	<i>B-5</i>
<i>EN55022</i>	<i>B-6</i>
<i>Safety Extra Low Voltage Safety Approval</i>	<i>B-7</i>

FCC Notices...USA

Radio Frequency

This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manuals, may cause interference with radio communications. The equipment, in its base configurations, has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC rules, which are designed to provide reasonable protection against such interference, when the equipment is operated in a residential environment. However, there is no guarantee that interference will not occur in a particular installation. If the equipment does cause harmful interference with radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Changes or modifications to this equipment not specifically approved by the manufacturer may void the authority granted by the FCC to operate this equipment.

Shielded cables must be used with this equipment to maintain compliance with FCC regulations.

The manufacturer is not responsible for any radio or television interference caused by using other than recommended cables or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate this equipment.

To assure compliance with FCC regulations on electromagnetic interference, use a properly shielded and grounded cable. Use of a substitute cable not properly shielded and grounded may result in a violation of FCC regulations.

Certifications...Canadian

60 HZ, 115V

The equipment is listed by the Underwriters Laboratories, UL 1950, certified by Canadian Standards Association, CSA22.2, No. 950

European Markets

CE Certification



The CE marking applied to this product symbolises Xerox Ltd Declaration of Conformity with the following applicable Directives of the European Union.

Council Directive 73/23/EC amended by Council Directive 93/68/EC, on the harmonisation of the laws of the Member States related to equipment designated for use within certain voltage limits.

Council Directive 89/336/EC, approximation of the laws of the Member States related to electromagnetic compatibility.

When applicable: Council Directive 99/5/EC, on the harmonisation of the laws of the Member States related to radio and telecommunications terminal equipment.

A full declaration, defining the relevant Directives and referenced standards can be obtained from your Xerox Ltd representative.

EN55022

Configuration	Specification
Base Printer	EN55022 Class B
Base Printer with Token Ring	EN55022 Class A
Base Printer with 100MB Ethernet	EN55022 Class B

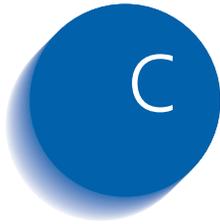
Safety Extra Low Voltage Safety Approval

The printer's printing system is in compliance with various governmental agencies and national safety regulations. All system ports meet the requirements for Safety Extra Low Voltage (SELV) circuits for connection to customer-owned devices and networks.

Additions of customer-owned or third-party accessories attached to the system must meet or exceed the requirements listed above.

Since this system consists of several modules requiring external connection, it must be installed per the manufacturer's installation procedure.





Printer Options

Optional Equipment C-2



Optional Equipment

The optional equipment described in this User guide allow you to add special features to your printer or upgrade your printer system to meet your particular needs. Table C.1 on page C-3 provides a brief description of each enhancement available. The part number needed to place an order can be found on the *Supplies/Options Guide* that came with the printer.

To order any of the equipment listed below, see the separate *Supplies/Options Guide* or contact your dealer.

Table C.1 Optional Equipment

Optional Kits	Use
Hard disk drive	Allows for secure job and proof job printing, storage of fonts and macros, and increases the productivity of multiple-page jobs via electronic pre-collation (<i>Send Once, RIP Once, and Print Many</i>).
550 sheet feeder	Additional media feeder and paper cassette. Up to two can be installed.
Envelope Feeder	Powered envelope feeder for high volume envelope/postcard printing. Can load up to 75 envelopes or 100 postcards.
Offset Catch Tray	Enables stacking of up to 500 sheets of paper with the ability to offset successive jobs (or multiple copies within the same job) from each other. Supplements the standard output bin.
Duplex Module	Allows printing on both sides of the sheet of paper.
Ethernet 10Base2 Card (network-capable printer only)	Provides 10 MBPS 10Base2 Ethernet network capability for IPX/SPX, TCP/IP, DLC/LLC, SNMP and EtherTalk protocols.
Token Ring Card (network-capable printer only)	Provides network capability utilizing IPX/SPX, TCP/IP, DLC/LLC, SNMP and TokenTalk protocols.
Serial Card	Provides an RS232C interface, using a DB9 connector. The serial port is bidirectional—i.e., it can receive data from the computer as well as transmit data from the printer to the computer.
Face up bin	Used as a supplemental bin for output with printed side up.

Table C.1 Page 1 of 2

Table C.1 Optional Equipment *(continued)*

Optional Kits	Use
Memory	<p>Increases the font capability and enhances the speed of data transfer and complex page processing.</p> <p>Memory kits are available in three configurations, packaged in single units each:</p> <ul style="list-style-type: none">- 64 MB- 32 MB- 16 MB <p>The printer utilizes industry standard DIMMs with the following specifications:</p> <ul style="list-style-type: none">- 168 pin, 60 ns (or faster) DIMMs- 64 bit wide (non parity)- EDO
Flash Memory	Provides 8 MB of memory for storage of downloaded fonts, forms and macros.

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