

**MPS420b**

# User's Guide

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## Document Information

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MPS420b User's Guide

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# Notes, Cautions and Warnings

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## Note

A note provides additional information to supplement the main text.

---

## CAUTION!

**A caution provides additional information which, if ignored, may result in equipment malfunction or damage.**

## WARNING!

**A warning provides additional information which, if ignored, may result in a risk of personal injury.**

For the protection of your product, and in order to ensure that you benefit from its full functionality, this model has been designed to operate only with genuine original toner cartridges. Any other toner cartridge may not operate at all, even if it is described as "compatible", and if it does work, your product's performance and print quality may be degraded.

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# Introduction

## PRINTER FEATURES

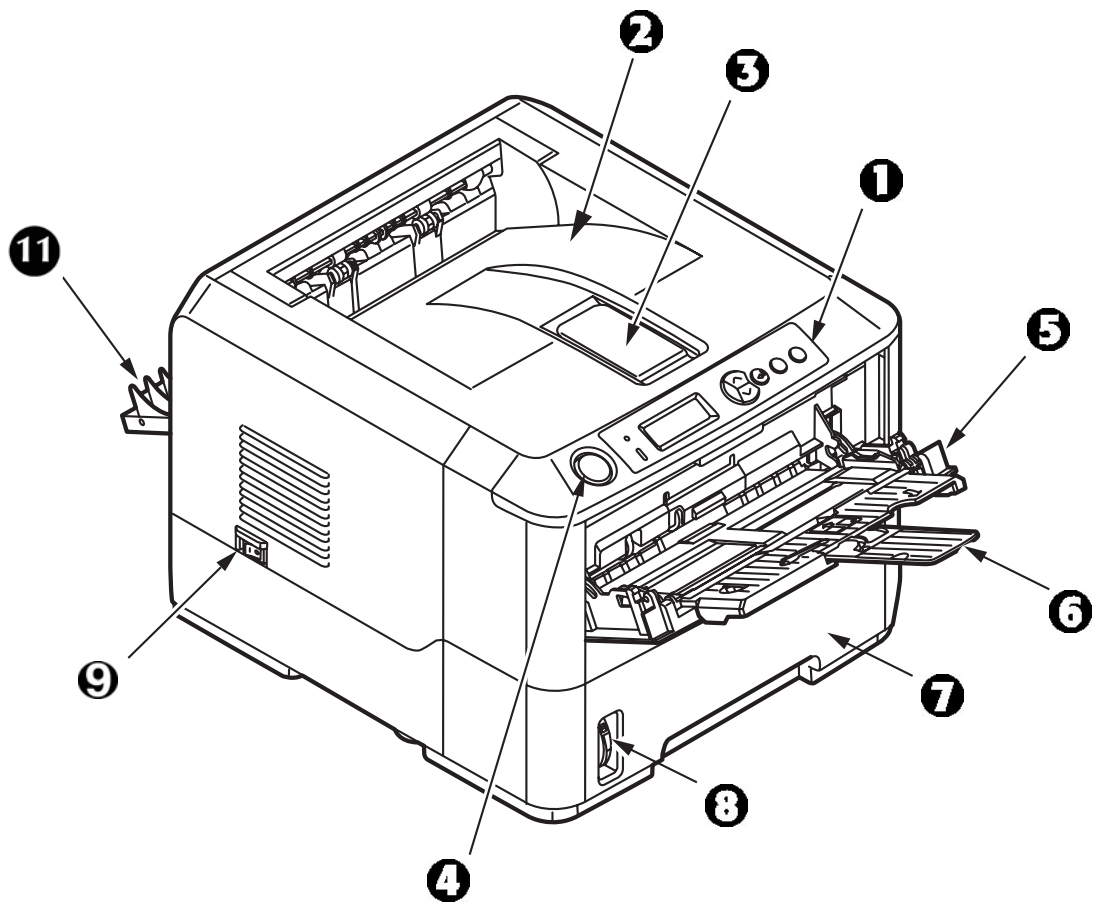
- Memory: 64 MB
- High speed printing: 30 ppm letter, 28 ppm A4
- Resolution: 2400 x 600 dpi
- Paper handling: 530 sheets 20 lb. US Bond (75 g/m<sup>2</sup>)
- Emulation: standard Printer Control Language PCL6, Epson FX, and IBM ProPrinter
- Barcodes: embedded for SIDM emulations.
- Flash DIMM: 5 MB, to allow the storage of additional fonts or bar codes.
- USB 2.0 High speed and Parallel interfaces.
- 10/100 BASE-TX Network: lets you share this valuable resource among users on your office network.
- Multi Purpose tray to extend the range of media your printer can accommodate (capacity 50 sheets 20 lb US Bond [75 g/m<sup>2</sup>] or 10 envelopes), and can also be used for manual duplexing.
- Power save mode for energy efficiency.

Additionally, the following optional features are also available:

- Additional RAM DIMM: to extend the main memory of your printer and speed up the processing of large files.
- Second paper tray: to increase your printer's paper handling capacity by 530 sheets of 20 lb. (75 g/m<sup>2</sup>) paper.

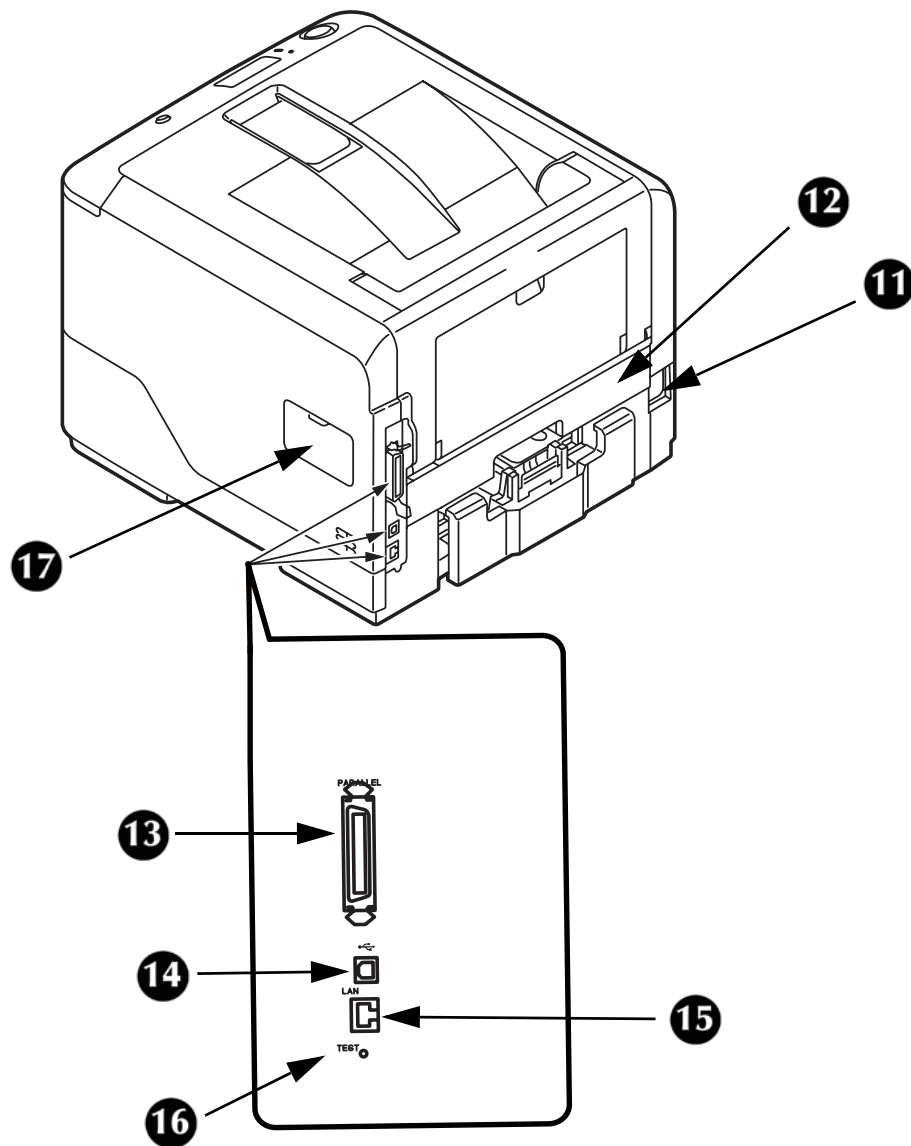
# Printer Components

## FRONT VIEW



- 1** Operator panel
- 2** Output Stacker (150 sheets, face down)
- 3** Output Stacker extension
- 4** Top cover release button
- 5** Multi Purpose tray (show in open position): takes 50 sheets of 20-lb US Bond (75 g/m<sup>2</sup>) paper
- 6** Multi Purpose Tray extension
- 7** Paper Tray: takes 530 sheets
- 8** Paper Tray level indicator
- 9** ON/OFF switch
- 10** Rear Output cover

## BACK VIEW

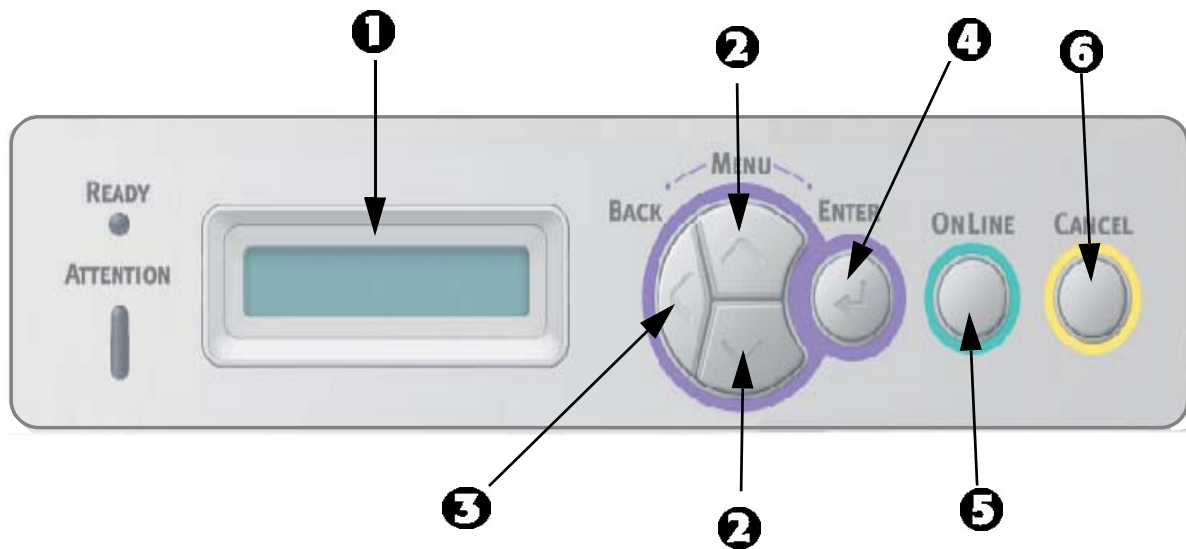


- 11** Power cable connection
- 12** Duplex unit
- 13** Parallel interface connection
- 14** USB interface connection
- 15** LAN interface connection (only for Xxxxxdn)
- 16** Test button (only for Xxxxxdn)
- 17** Memory panel (to upgrade your printer's memory RAM DIMM)



# The Printer Operator Panel

The operator panel consists of an LCD display, a menu-driven control panel and two LED indicators.



## PANEL ELEMENTS

### 1 Liquid crystal display (LCD) panel

- Two rows of up to 16 alphanumeric digits.
- Displays print status, menu items in menu mode and error messages.

### 2 Menu Scroll Buttons.

- Press and release to enter the Menu mode.
- Press and release again to select the next menu.
- Press and hold for more than 2 seconds to scroll through the different menus.

### 3 Back button

Press and release to return to the previous higher level menu item or to exit the menu.

### 4 Enter button

With the printer offline or online, press and release to place the printer in the Menu mode, indicated on the display.

---

#### Note

When `DATA` appears on the display, press and hold the Enter button for five seconds to force the printer to print out the remaining data in the printer.

---

### 5 Online button

- In print mode, press to switch between `ONLINE` and `OFFLINE` status.
  - In Menu mode, press to exit the menu and display `ONLINE`.
- 

#### Note

When pressed in Menu mode, the Online button returns the printer to `ONLINE` status. Also when there is an error indicating wrong paper size, pressing the Online button forces the printer to print.

---

### 6 Cancel button

- When printing press to cancel a print job.
- In the Menu mode, press to exit the `MENU` mode and go `ONLINE`.



**7 Ready indicator (green).**

- ON indicates ready to receive data.
- **FLASHING** indicates processing data.
- **OFF** indicates Offline.

**8 Attention indicator (red).**

- **ON** indicates a warning (e.g. low toner).
- **FLASHING** indicates an error, (e.g. toner empty).
- **OFF** indicates normal condition.

## CHANGING THE OPERATOR PANEL LANGUAGE

The default language used by your printer for display messages and for report printing is English. If required, this can be changed to:

- Canadian French
- Latin American Spanish
- Brazilian Portuguese

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### Notes

The Operator Panel Language Setup Wizard will run automatically when you install the printer driver. Follow the instructions provided by this utility to set your chosen language.

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# Menu functions

The Printer Menu allows you to view and change the printer's internal settings.

The settings are grouped into categories or "menus" such as Information Menu or Print Menu.

Some of these settings are similar to those found in your printer driver or application software. The settings that you can change using this software act as the printer's defaults. These can be overridden by the settings in your printer driver or application.

For example, if you have set the number of copies in the Printer Menu settings to one, this will be overridden if you select three copies of your document in the printer driver.

Factory default settings are shown in the following tables.

## INFORMATION MENU

ITEM	ACTION	REMARKS
PRINT MENU MAP	EXECUTE	
NETWORK	EXECUTE	
PRINT FILE LIST	EXECUTE	
PRINT PCL FONT	EXECUTE	
PRINT PSE FONT	EXECUTE	
PRINT PPR FONT	EXECUTE	
PRINT FX FONT	EXECUTE	
DEMO 1	EXECUTE	
PRINT ERROR LOG	EXECUTE	
USAGE REPORT	EXECUTE	Displayed only when 'USAGE REPORT' is enabled in the Print Statistics Menu

## SHUTDOWN MENU

This menu shuts down the printer.

ITEM	ACTION	REMARKS
SHUTDOWN START	EXECUTE	

## PRINT MENU

ITEM	DEFAULT	REMARKS
COPIES	1	
DUPLEX	OFF	
PAPER FEED	TRAY1	
AUTO TRAY SWITCH	ON	
TRAY SEQUENCE	DOWN	
MP TRAY USAGE	DO NOT USE	
MEDIA CHECK	ENABLE	
RESOLUTION	1200DPI	
TONER SAVE MODE	DISABLE	
ORIENTATION	PORTRAIT	
LINES PER PAGE	64 LINES	
EDIT SIZE	CASSETTE SIZE	

## MEDIA MENU

ITEM	DEFAULT	REMARKS
TRAY 1 PAPERSIZE	A4	
TRAY 1 MEDIATYPE	PLAIN	
TRAY 1 MEDIAWEIGHT	MEDIUM	
TRAY2 PAPERSIZE	A4	When tray 2 is installed
TRAY2 MEDIATYPE	PLAIN	When tray 2 is installed
TRAY2 MEDIAWEIGHT	MEDIUM	When tray 2 is installed
MPT PAPERSIZE	A4	
MPT MEDIATYPE	PLAIN	
MPT MEDIAWEIGHT	MEDIUM	
UNIT OF MEASURE	MILLIMETER	
X DIMENSION	210 MILLIMETER	
Y DIMENSION	297 MILLIMETER	

## SYSTEM CONFIGURATION MENU

ITEM	DEFAULT	REMARKS
POW SAVE TIME	1 MIN	
PERSONALITY	AUTO EMULATION	
PARA PS-PROTOCOL	ASCII	
USB PS-PROTOCOL	RAW	
CLRABLE WARNING	ONLINE	
AUTO CONTINUE	OFF	
MANUAL TIMEOUT	60 SEC	
TIMEOUT INJOB	40 SEC	
TIMEOUT LOCAL	40 SEC	
TIMEOUT NET	90 SEC	
LOW TONER	CONTINUE	
JAM RECOVERY	ON	
ERROR REPORT	OFF	
START UP	OFF	

## PCL EMULATION

ITEM	DEFAULT	REMARKS
FONT SOURCE	RESIDENT	
FONT NO.	I0	
FONT PITCH	10.00 CPI	
SYMBOL SET	PC-8	
A4 PRINT WIDTH	78 COLUMN	
WHITE PAGE SKIP	OFF	
CR FUNCTION	CR	
LF FUNCTION	LF	
PRINT MARGIN	NORMAL	
PEN WIDTH ADJUST	ON	
TRAY ID#		
PCL T0ID	4	
PCL T1ID	1	
PCL T2ID	5	When Tray2 is installed

## PPR EMULATION

ITEM	DEFAULT	REMARKS
CHARACTER PITCH	10 CPI	
FONT CONDENSE	12 CPI to 20 CPI	
CHARACTER SET	SET-2	
SYMBOL SET	IBM-437	
LETTER O STYLE	DISABLE	
ZERO CHARACTER	NORMAL	
LINE PITCH	6 LPI	
WHITE PAGE SKIP	OFF	
CR FUNCTION	CR	
LF FUNCTION	LF	
LINE LENGTH	80 COLUMN	
FORM LENGTH	11.7 INCH	
TOF POSITION	0.0 INCH	
LEFT MARGIN	0.0 INCH	
FIT TO LETTER	DISABLE	
TEXT HEIGHT	SAME	

## FX EMULATION

ITEM	DEFAULT	REMARKS
CHARACTER PITCH	10 CPI	
CHARACTER SET	SET-2	
SYMBOL SET	IBM-437	
LETTER O STYLE	DISABLE	
ZERO CHARACTER	NORMAL	
LINE PITCH	6 LPI	
WHITE PAGE SKIP	OFF	
CR FUNCTION	CR	
LINE LENGTH	80 COLUMN	
FORM LENGTH	11.7 INCH	
TOF POSITION	0.0 INCH	
LEFT MARGIN	0.0 INCH	
FIT TO LETTER	DISABLE	
TEXT HEIGHT	SAME	

## PARALLEL MENU

ITEM	DEFAULT	REMARKS
PARALLEL	ENABLE	
BI-DIRECTION	ENABLE	
ECP	ENABLE	
ACK WIDTH	NARROW	
ACK/BUSY TIMING	ACK IN BUSY	
I-PRIME	DISABLE	
OFFLINE RECEIVE	DISABLE	

## USB MENU

ITEM	DEFAULT	REMARKS
USB	ENABLE	
SOFT RESET	DISABLE	
SPEED	480Mbps	
OFFLINE RECEIVE	DISABLE	
SERIAL NUMBER	ENABLE	

## NETWORK MENU

ITEM	DEFAULT	REMARKS
TCP/IP	ENABLE	
IP VERSION	IPv4	
NETBEUI	ENABLE	
NETWARE	ENABLE	
ETHERTALK	ENABLE	
FRAMETYPE	AUTO	
IP ADDRESS SET	AUTO	
IP ADDRESS	xxx.xxx.xxx.xxx	
SUBNET MASK	xxx.xxx.xxx.xxx	
GATEWAY ADDRESS	xxx.xxx.xxx.xxx	
WEB	ENABLE	
TELNET	DISABLE	
FTP	DISABLE	
SNMP	ENABLE	
NETWORK SCALE	NORMAL	
HUB LINK SETTING	AUTO NEGOTIATE	
FACTORY DEFAULTS	EXECUTE	

## PRINT STATISTICS MENU

This menu provides information on the number of letter/A4 pages printed and allows you to reset the counter.

ITEM	DEFAULT	REMARKS
USAGE REPORT	ENABLE	
RESET COUNTER	EXECUTE	
GROUP COUNTER	DISABLE	
CHANGE PASSWORD		Enter the new password.



## MAINTENANCE MENU

This menu provides access to various printer maintenance functions.

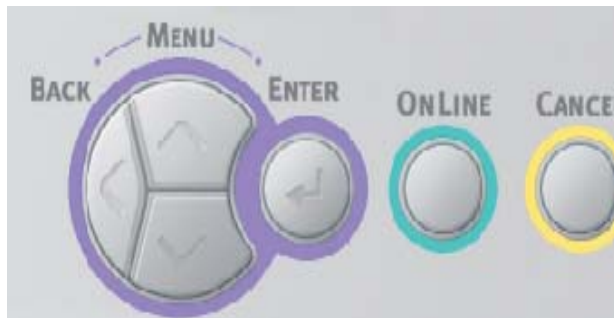
ITEM	DEFAULT	REMARKS
MENU RESET	EXECUTE	
SAVE MENU	EXECUTE	
POWER SAVE	ENABLE	
PAPER BLACK SET	0	
DARKNESS	0	
CLEANING	EXECUTE	
RESTORE MENU	EXECUTE	Displayed in Menu when Menu settings have been stored.

## USAGE MENU

This menu is for information only, and provides an indication of total usage of the printer and the expected life left in its consumable items. This is particularly useful if you do not have a full set of replacement consumables to hand and you need to know how soon you will need them.

ITEM	DEFAULT	REMARKS
DRUM LIFE	REMAINING%	An indication of the remaining drum life.
TONER	REMAINING%	An indication of how much toner is left in the cartridge.

# Printing menu settings (The Menu Map)



Current menu settings can be confirmed by printing a Menu Map, using the control panel.

- 1** Press the up or down arrow button until `INFORMATION MENU` appears on the display, then press the Enter button.
- 2** Press the up or down arrow button until the display prompts you to print the menu map.
- 3** Press the Enter button to print the menu map.
- 4** Press the Cancel, Online or Back button repeatedly to exit the `MENU` mode.

# Paper Recommendations

For guidance on the media you can use with your printer, which input tray and which exit path to use, see the section entitled "Paper and tray information" in the "Specifications" chapter.

## PAPER AND ENVELOPE TYPES

Recommended guidelines when selecting paper and envelopes for use in your printer:

- Paper and envelopes should be stored flat and away from moisture, direct sunlight and heat sources.
- Use a smooth finished paper such as copier or laser type paper with a Sheffield (smoothness) rating of 250 or less. If in doubt, please ask your paper supplier.
- Use paper and envelopes that are designed for use in laser type printers.
- The use of heavily laid or textured paper will seriously impact on the life of the image drum.
- Do not use very smooth, shiny/glossy paper.
- Do not use heavily embossed headed paper.
- Do not use specially treated papers such as carbon paper, non-carbon paper, thermal paper and impact paper.
- Avoid using paper with perforations, cut-outs and ragged edges.
- Do not use envelopes with windows or metal clasps.
- Do not use envelopes with self sealing flaps.
- Avoid using damaged or curled envelopes.

## TRANSPARENCIES AND ADHESIVE LABELS

Recommended guidelines when selecting transparencies and adhesive labels for use in your printer:

- Always manually feed single sheets using the Multi Purpose Tray.
- Always use rear output.
- Media must be designed for use in laser printers or photocopiers and must be able to withstand 392°F (200°C) for 0.1 sec.
- Do not use media designed for use in color laser printers and photocopiers.
- Labels should cover entire carrier sheet.
- Carrier sheet or adhesive must not be exposed to any part of the printer.

## **POSTCARDS**

Recommended guidelines when selecting postcards for use in your printer:

- Always manually feed single postcards using the Multi Purpose Tray.
- Use unfolded double postcards.
- Use postcards designed for use in laser type printers
- Do not use postcards used for ink jet printers.
- Do not use stamped or picture postcards.

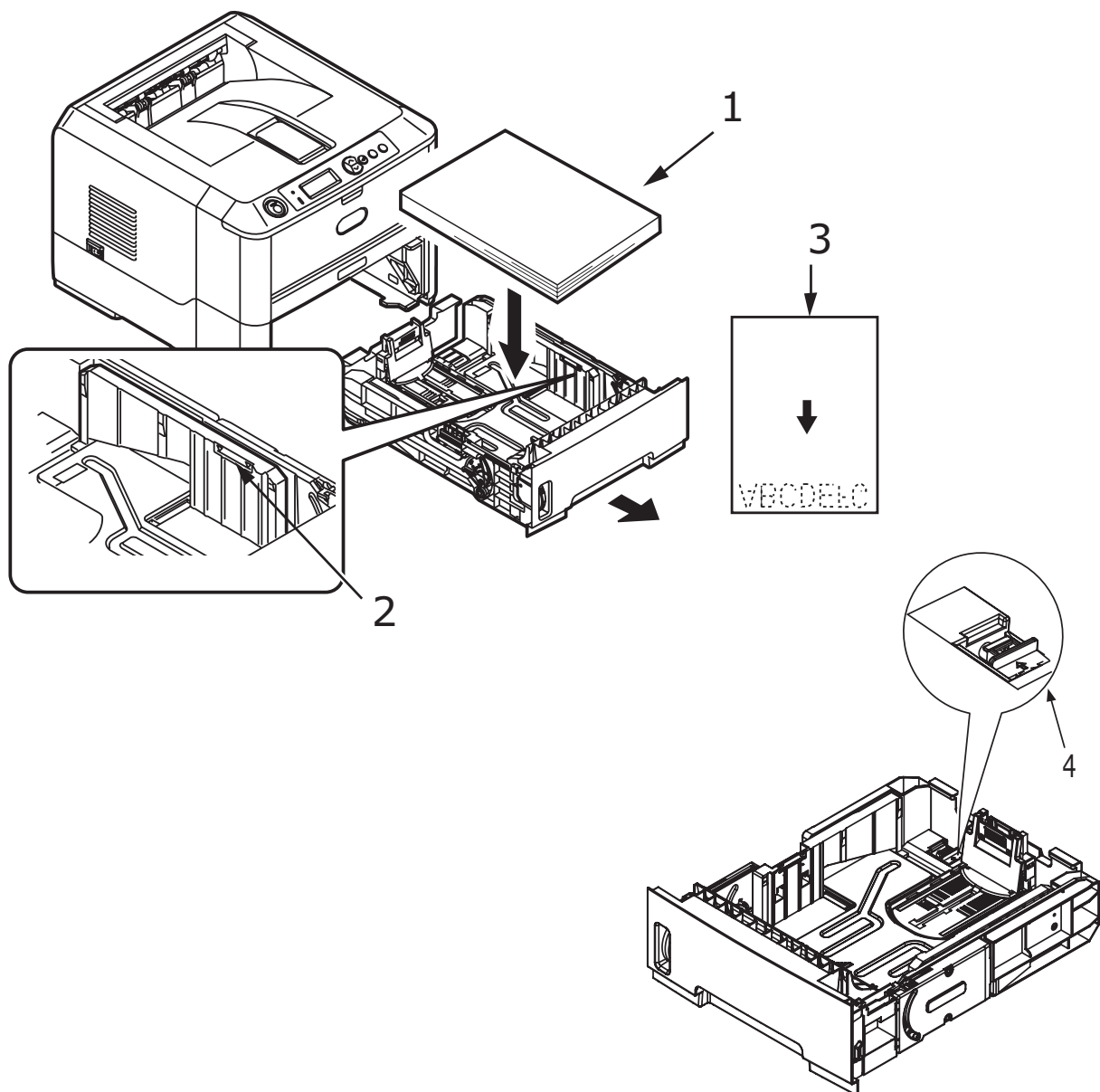
# Loading Tray 1 and Optional Tray 2

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## Note

If you are topping off the paper in a paper tray, it is recommended that you remove the remaining paper from the tray first, then add the new paper stock and place the paper you removed on top. This ensures that the oldest paper is used first to help prevent paper jams.

1. Remove the paper tray from the bottom of the printer and place plain paper (1) in the tray, keeping the level of the paper in the tray below the paper full guide arrowheads shown on the paper guides (2). For loading A4 or Legal size paper, push the lever (4) in the arrow direction and extend the paper tray using the rear paper support (5).



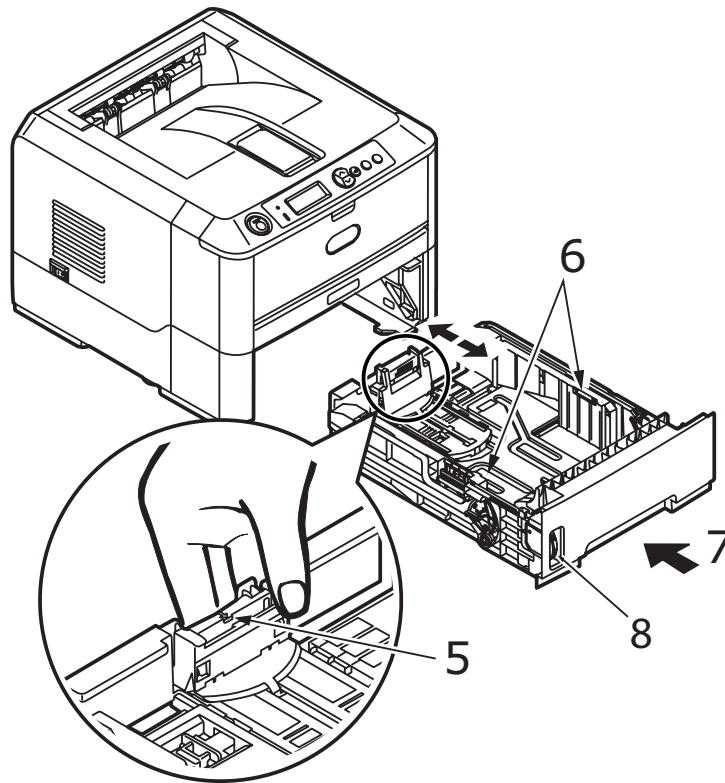
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## Note

Load letterhead paper face down and top edge towards the front of the paper tray (3).

---

2. Adjust the rear paper support (5) to the size of paper you are using by gripping the lugs, tilting and sliding the support forward or backward as necessary.



3. Adjust the side paper guides (6). It is important to adjust the paper guides (5) correctly to ensure that the paper is not skewed in the print process. Paper jams may occur if this operation is not carried out correctly.
4. Replace the tray in the printer (7). The external paper level indicator (8) provides a visual indication of how much paper is left in the tray.

---

**Note**

If you have the optional second paper tray (Tray 2) and you are printing from the first (upper) tray (Tray 1), you can pull out the second (lower) tray to reload it. However, *if printing from the second (lower) tray, do not pull out the first (upper) tray as this will result in a paper jam.*

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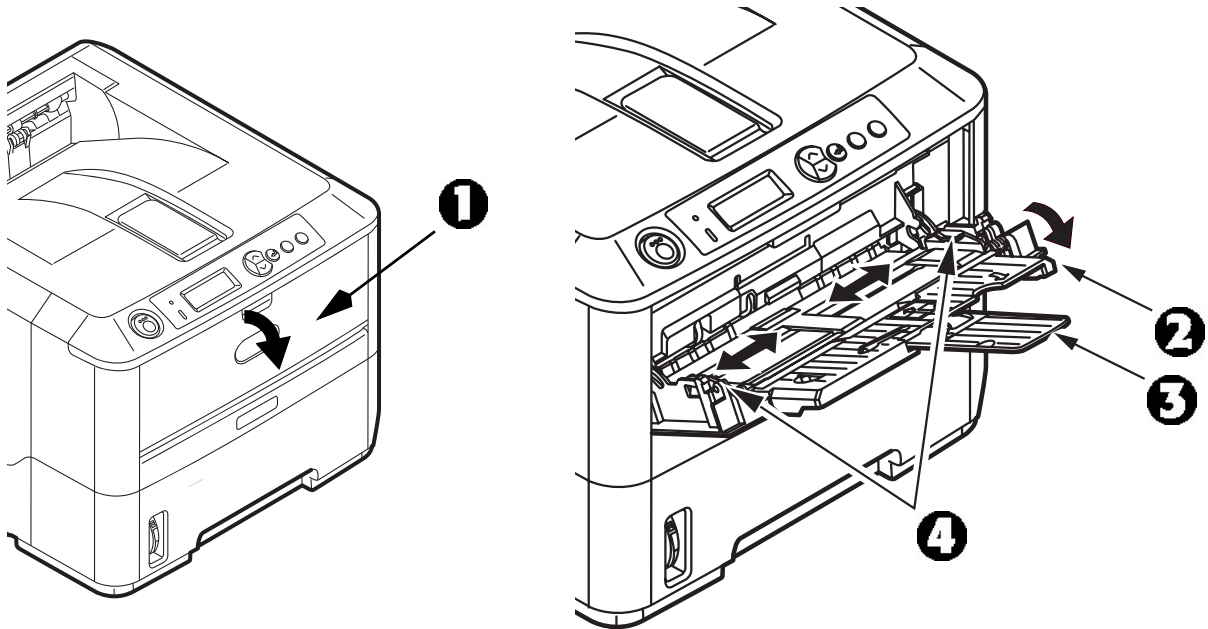
Configure the media size and media weight for the respective trays in the operator panel.

# Loading the Multi Purpose Tray

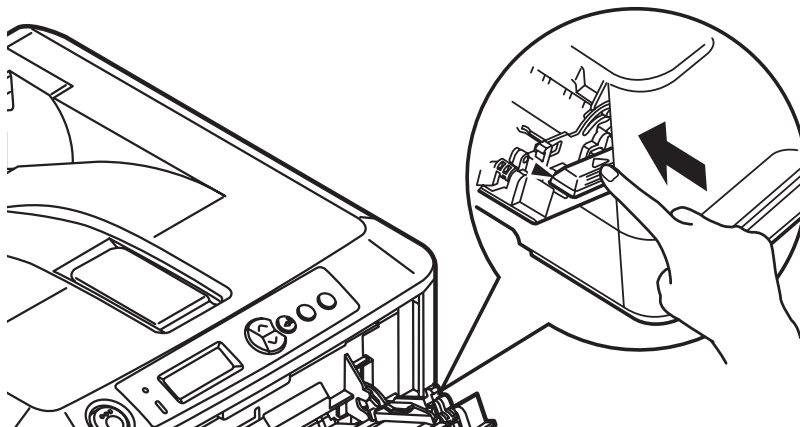
## Note

Always use the rear exit path (straight through feed) with the Multi Purpose Tray.

1. Open the Multi Purpose Tray:



- (a) Pull down the tray (1).
  - (b) Flip out the inner support section (2).
  - (c) swing out the paper support (3).
  - (d) Adjust the paper guides (4) to the width of the print media.
2. Load the paper into the Multi Purpose Tray and push the set button.



3. Ensure that the paper is loaded below the arrow level to avoid paper jam.
- 

**Note**

Do not exceed the paper capacity of approximately 50 sheets or 10 envelopes depending on the media weight.

---

**Media Loading Tips**

- For single-sided printing on headed paper load the paper with the pre-printed side up and top edge into the printer.
  - For two-sided (duplex) printing on letterhead paper, load the paper with the pre-printed side down and top edge away from the printer.
  - Envelopes should be loaded flap down, face up with the top edge to the left and short edge into the printer.
- 

**Note**

Do not select Duplex printing on envelopes.

---

- Load Transparencies face up and top edge into the printer.
4. If required, set the media size and orientation in the media menu using the control panel, then issue the print command.

**CAUTION!**

**Damage to the printer may occur if the incorrect paper setting is used when printing on a different media.**

---

**Notes**

- You can also set the media type in your printer driver. However, the printer driver settings will override the settings on the control panel.
  - Remember to reset the printer for normal paper after printing on a different media.
-



# Paper feed, size and media setting

The process used to fuse (fix) the printed image to the paper involves a mixture of pressure and heat. Too much heat will cause lightweight paper to crease or curl and corrugations in transparencies. Too little heat will cause the image not to fuse fully into heavyweight paper.

---

## Note

Although media properties can be set in the printer driver for particular jobs, when filling a tray with media it is recommended that you manually set the printer to match the media as described here.

---

Using the control panel on your printer, you can choose

- which paper to use
  - the paper size
  - the paper weight (thickness)
  - the type of paper
- 

## Note

- If the settings in the printer differ from those selected on your computer, the printer will not print and the LCD will display an error message.
  - The following printer settings are given as a guide only. Some software applications require the paper feed, size and media settings to be selected from within the application (page setup).
  - Although media properties can be set in the printer driver for particular jobs, it is recommended that when filling a tray with media you manually set the printer menu to match the media as described here.
- 

## PAPER FEED SELECTION



The paper feed, paper size, paper weight and media type can be set manually on the printer using the control panel as follows.

1. Press the up or down arrow button repeatedly until `PRINT MENU` displays, then press the Enter button.
2. Press the up or down arrow button repeatedly until the required paper feed displays.
3. Press the Enter button.  
*An asterisk (\*) appears next to the selected paper feed.*

4. Press the Cancel, Online or Back button repeatedly to exit the MENU mode.

---

**Note**

When the AUTO TRAY SWITCH is set to ON and more than one paper tray is fitted, paper feed automatically switches to the next available paper tray, providing non-stop printing.

---

## PAPER SIZE

Set the paper size as follows.

---

**Note**

- When using paper trays, standard paper sizes are recognized automatically with CASSETTE SIZE (default setting) selected. Paper size need only be set for custom paper sizes.
  - When using the Multi Purpose Tray, the paper size has to be selected.
- 



1. Press the up or down arrow button until PRINT MENU displays, then press the Enter button.
2. Press either the up or down button repeatedly until EDIT SIZE displays, then press the Enter button.
3. Press either the up or down button until the required paper size displays, then press the Enter button.  
*An asterisk (\*) appears next to the selected paper size.*
4. Press the Cancel, Online or the Back button repeatedly to exit the MENU mode.
5. Select the correct paper settings in the printer driver before printing the file.

## MEDIA TYPE AND WEIGHT

Set media type and weight as follows:

### CAUTION!

**If media type or media weight are not correctly set, print quality deteriorates and the fuser roller may be damaged.**



1. Press the up or down arrow button until **MEDIA MENU** displays, then press the Enter button.
2. Press the up or down arrow button until **MEDIA TYPE** or **MEDIA WEIGHT** for the required tray is displayed, then press the Enter button.
3. Press the up or down arrow button until the required paper type or weight is displayed, then press the Enter button.  
*An asterisk (\*) appears next to the selected paper type or weight.*
4. Press the Cancel, Online or the Back button repeatedly to exit the **MENU** mode.
5. Select the correct paper settings in the printer driver before printing the file.

# Selecting a Paper Exit Path

## FACE DOWN PRINTING (TOP EXIT PATH)

For face down printing, make sure the Rear cover is closed (the paper exits from the top of the printer).

- The Output Stacker on the top of the printer stacks printed pages face down.
- Capacity 150 sheets of 20-lb US Bond (75 /m<sup>2</sup>).
- Pages are printed in reading order (page 1 first) will be sorted in reading order (last page on top, facing down).

## FACE UP PRINTING (STRAIGHT THROUGH, REAR EXIT PATH)

For a straight-through paper path required for heavy paper, envelopes, transparencies, etc., make sure the rear exit is open. With the rear exit open, paper will exit via this path, regardless of driver settings.

Always use this tray in conjunction with the Multi Purpose Tray or for heavyweight stocks to reduce the possibility of paper jams.

- The rear exit stacker stacks printed pages face up.
- Capacity 150 sheets of 20-lb US Bond (75 /m<sup>2</sup>).
- Pages are printed in reverse reading order (last page first) will be sorted in reverse reading order (first page on top, facing down).

[See "Paper and tray information" on page 71.](#)

# Automatic feed sequence

With no optional feed trays installed, the Autotray function in the Print Menu is set by default to ON and the Tray sequence function is set to DOWN. In this way, if a tray runs out of paper, automatic feed will take place in the order Tray 1, Tray 2 (if fitted), Multi Purpose Tray, provided that these trays are set up for identical media. Also, co

# Interfaces

Your printer is equipped with a selection of data interfaces:

1. **Parallel** – For direct connection to a PC. This port requires a bi-directional (IEEE 1284 compliant) parallel cable.
2. **USB** – For connection to a PC running Windows 2000 or later or Mac OS X or later. This port requires a cable conforming to USB version 2.0 or above.

The operation of a printer is not assured if a USB compatible device is connected concurrently with other USB-compatible machines.

When connecting multiple printers of the same type, they appear as \*\*\*\*\* (1), \*\*\*\*\* (2), \*\*\*\*\* (3), etc. These numbers depend on the order of connecting or turning on each printer.

3. **LAN** – For network cable connection.

---

## Note

- *It is not recommended that you connect serial/USB and parallel cables to the printer simultaneously.*
  - *Interface cables are not supplied with your printer.*
- 

If you are connecting your printer directly to a stand alone computer proceed to the chapter entitled "Printer Drivers".

If your printer is to be installed as a network printer, please refer to the relevant section in the User's Guide for the network interface card for further details on how to configure the network connection before installing the printer drivers.

---

## Note

Administrator's authority is required when installing a network connection.

---

# Printer Drivers

This chapter describes how to install a printer driver on two types of operating system – Windows and Macintosh.

The printer drivers are all contained on the printer driver CD-ROM (CD1). Please refer to the readme file on this CD for the latest information on printer driver installation.

## WINDOWS OPERATING SYSTEMS

1. With Windows running, insert the printer driver CD-ROM (CD1) in your CD-ROM drive.
2. If the CD does not run automatically, use Start > Run... and enter E:\setup (where E is your CD-ROM drive) in the Open field.
3. Click OK.
4. Select your printer model.
5. Click on Driver Installation > Install Printer Driver and follow the on-screen prompts to complete your printer driver installation.

---

### Note

Take time to note the facilities available on the CD. For example, the Help facility briefly describes each of the Software Utilities.

---

6. Once the driver has been installed, the operator panel language switching utility will run automatically. Choose your preferred operating language. See ["Changing the Operator Panel language" on page 10](#).

## INSTALLED OPTIONS

Certain options may have been installed in your printer. For those that are installed, check that they appear enabled on the Menu Map.

Ensure that your options are set up in the printer driver(s) by making the appropriate settings on the Device Options tab (PCL emulation) described in the chapter entitled "Operation".

## MACINTOSH OPERATING SYSTEMS

Please refer to the readme file on the CD for details on installing the appropriate Macintosh drivers.

## INSTALLED OPTIONS

Ensure that any installed options are enabled in the printer driver.

## CHOOSING A MAC DRIVER

You can use only the PCL Mac driver.

# Operation

This chapter provides a broad outline of how to operate your printer in the PCL emulation from either a Windows or a Macintosh environment.

## PRINTER SETTINGS IN WINDOWS

### Note

The illustrations in this guide relate to Windows XP PCL emulation – other operating system windows may appear slightly different but the principles are the same.

The operator panel controlled menus provide access to many options.

The Windows printer driver also contains settings for many of these items. Where items in the printer driver are the same as those in the operator panel, and you print documents from Windows, the settings in the Windows printer driver will override those settings in the operator panel.

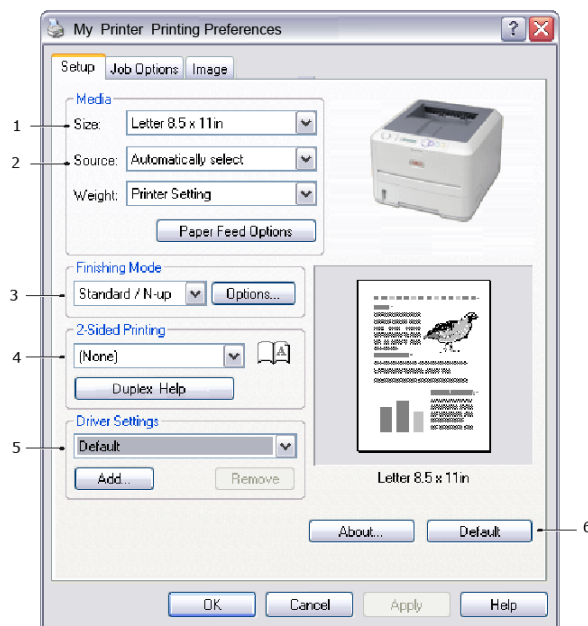
## PRINTING PREFERENCES IN WINDOWS APPLICATIONS

When you choose to print your document from a Windows application program a Print dialog box appears. This dialog usually specifies the name of the printer on which you will print your document. Next to the printer name is a **Properties** button.

When you click **Properties** a new window opens which contains a short list of the printer settings available in the driver, which you can choose for this document. The settings available from within your application are only those which you may want to change for specific applications or documents. Settings you change here will usually only last for as long as the particular application program is running.

The tabs available are the **Setup Tab**, the **Job Options Tab** and the **Image Tab**.

### SETUP TAB

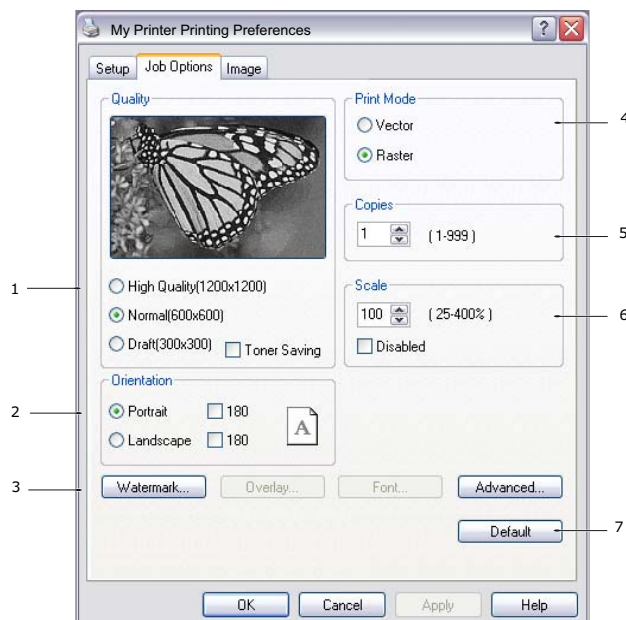


1. Paper size should be the same as the page size of your document (unless you wish to scale the printout to fit another size), and should also be the same as the size of paper you will feed into the printer.



2. You can choose the source of the paper to feed, which may be Tray 1 (the standard paper tray), Tray 2 (if you have the optional second paper tray installed) or the Multi Purpose Tray. You can also click on the appropriate part of the screen graphic to select your preferred tray.
3. A variety of document finishing options can be selected, such as normal one page per sheet, or N-up (where N can be 2 or 4) for printing scaled down pages at more than one page per sheet.
4. Under 2-sided Printing, you can choose from auto or manual. Under manual 2-sided Printing you can choose to print on one side of a sheet only or to use 2-sided printing (duplex printing). Your printer allows you to carry out manual duplex printing, meaning you must pass the paper through the printer twice. For more information, see ["2-Sided \(Duplex\) Printing" on page 39](#). The Duplex Help button also offers guidelines on how to carry out manual duplex printing.
5. If you have changed some printing preferences before and saved them as a set, you can recall them to avoid having to set them individually each time you need them.
6. A single on-screen button restores the default settings.

### JOB OPTIONS TAB

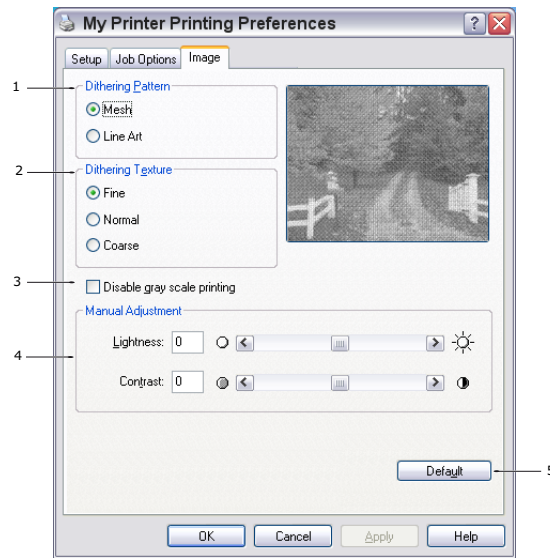


1. The output resolution of the printed page can be set as follows.
  - The High Quality setting prints at 1200 x 1200 dpi and is the best option for printing vector objects such as graphics and text.
  - The Normal setting prints at 600 x 600 dpi and is suitable for most printing jobs.
  - The Draft setting prints at 300 x 300 dpi and is suitable for printing draft documents that contain mainly text. You can select Toner Saving to save toner for some print jobs.
2. Page orientation can be set to either portrait (tall) or landscape (wide).
3. You can print watermark text behind the main page image. This is useful for marking documents as draft, confidential, etc.
4. In Raster (bitmap) mode, processing of the page image is done in the computer leaving little processing for the printer to do, although the file size may be large.

In Vector mode, file sizes may be smaller and so transmission over a network, for example, may be faster. These effects are more pronounced for graphics printing than for text printing.

5. You can select up to 999 copies to print consecutively, although you will need to top up the paper tray during such a long print run.
6. Your printed pages can be scaled to fit larger or smaller stationery, within a range of 25% to 400% of the original size.
7. A single on-screen button restores the default settings.

### IMAGE TAB



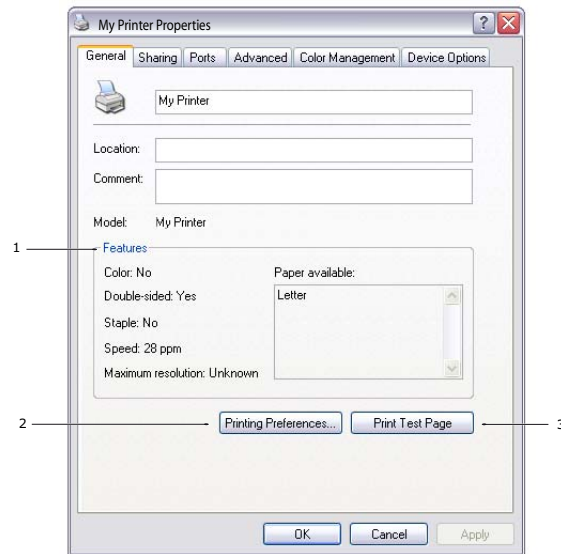
1. Dithering produces an intermediate greyscale. Selecting a setting determines the degree of detail with which a graphics image will be printed. Select Mesh to use a screen of dots for dithering. Select Line Art to use an array of lines for dithering.
2. Select dithering texture by setting the size of dots used in the halftone screen.
3. Enables/disables printing greyscale effects in black without dithering.
4. You can manually adjust lightness (the higher the setting the lighter the print) and contrast (the higher the setting the greater the contrast).
5. A single on-screen button restores the default settings.

### SETTING USING THE WINDOWS CONTROL PANEL

When you open the driver properties window directly from Windows, rather than from within an application program, a somewhat more extensive range of settings is provided. Changes made here will generally affect all documents you print from Windows applications, and will be remembered from one Windows session to the next.

The main tabs are the **General Tab**, **Advanced Tab** and **Device Options Tab**.

## GENERAL TAB



1. This area lists some of the main features of your printer, including optional items.
2. This button opens the same windows as described earlier for items which can be set from within application programs. Changes you make here, however, will become the new default settings for all Windows applications.
3. This button prints a test page to ensure that your printer is working.

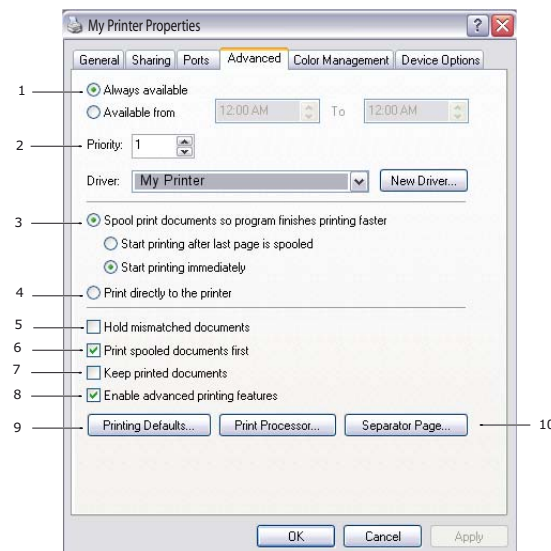
---

### Note

The above features are provided by the Windows XP operating system and will vary with other operating systems.

---

## ADVANCED TAB



1. You can specify which times of day your printer will be available.
2. Indicates current priority, from 1 (lowest) to 99 (highest). Highest priority documents will print first.

3. Specifies that documents should be spooled (stored in a special print file) before being printed. The document is then printed in the background, allowing your application program to become available more quickly. Options follow:

This specifies that printing should not start until the last page has been spooled. If your application program needs a lot of time for further computation in the middle of printing, causing the print job to pause for more than a short period, the printer could prematurely assume that the document has finished. Selecting this option would prevent that situation, but printing will be completed a little later, as the start is delayed.

This is the opposite choice to the one above. Printing starts as soon as possible after the document begins spooling.

4. This specifies that the document should not be spooled, but printed directly. Your application will not normally be ready for further use until the print job is complete. This requires less disk space on your computer, since there is no spool file.
5. Directs the spooler to check the document setup and match it to the printer setup before sending the document to print. If a mismatch is detected, the document is held in the print queue and does not print until the printer setup is changed and the document restarted from the print queue. Mismatched documents in the queue will not prevent correctly matched documents from printing.
6. Specifies that the spooler should favour documents which have completed spooling when deciding which document to print next, even if completed documents are lower priority than documents which are still spooling. If no documents have completed spooling, the spooler will favour larger spooling documents over shorter ones. Use this option if you want to maximize printer efficiency. When this option is disabled the spooler chooses documents based only on their priority settings.
7. Specifies that the spooler should not delete documents after they are completed. This allows documents to be re submitted to the printer from the spooler instead of printing again from the application program. If you use this option frequently it will require large amounts of disk space on your computer.
8. Specifies whether advanced features, such as pages per sheet, are available, depending on your printer. For normal printing keep this option enabled. If compatibility problems occur you can disable the feature. However, these advanced options may then not be available, even though the hardware might support them.
9. This button provides access to the same setup windows as when printing from applications. Changes made via the Windows Control Panel become the Windows default settings.
10. You can design and specify a separator page that prints between documents. This is particularly useful on a shared printer to help each user find their own documents in the output stack.

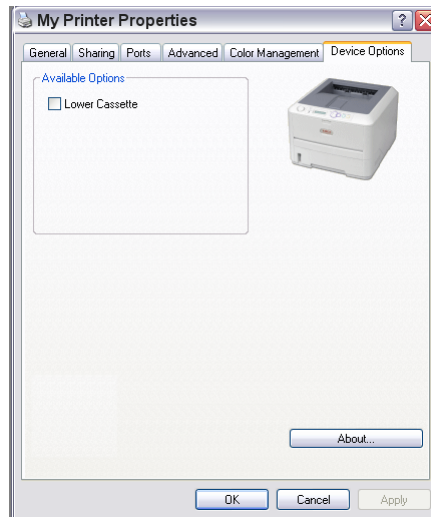
---

**Note**

The above features are provided by the Windows XP operating system and will vary with other operating systems.

---

## DEVICE OPTIONS TAB



In this window you can select which optional upgrades are installed on your printer. See the chapter entitled "Installing options".

## PRINTER SETTINGS IN MACINTOSH

Refer to the readme file on the driver CD and the online help provided in the driver software.

## POWER SAVE MODE

Power Saving sets how long the printer waits before going into standby mode. In standby mode your printer's energy consumption is reduced. You can specify the length of time before a printer enters power saving mode by setting a larger value.

---

### Note

The printer's Power Save mode default setting is Enabled, 1 minute.

---

### CHANGING THE LENGTH OF TIME BEFORE ENTERING POWER SAVE MODE

1. Press the up or down arrow button until **System Configuration Menu** appears. Press the Enter button.
2. Press the up or down arrow button until **Power Save Time** appears. Press the Enter button.
3. Press the up or down arrow button until the desired setting appears. Press the Enter button.  
*An asterisk (\*) will appear to confirm the selection.*
4. Press **Online**.

### DISABLING POWER SAVE MODE

1. Press the up or down arrow button until **Maintenance Menu** appears. Press the Enter button.
2. Press the up or down arrow button until **Power Save** appears. Press the Enter button.
3. Press the up or down arrow button until **Disable** appears. Press the Enter button.  
*An asterisk (\*) will appear to confirm the selection.*
4. Press **Online**.

# 2-Sided (Duplex) Printing

The duplex unit adds the function of two-sided printing, using less paper and making large documents easier to handle. It also enables booklet printing, which uses even less paper.

This printer has the option of Auto Duplex and Manual Duplex printing.

---

## Note

The steps in the process relate to Windows XP PCL. Other operating system windows may appear slightly different, but the principles are the same.

---

## AUTO DUPLEX PRINTING

This option provides automatic two-sided printing only for Letter, A4, Legal 13 and 14 and Custom paper sizes, using paper stocks from 16 - 28 lb. US Bond (60 - 105 g/m<sup>2</sup>).

---

## Note

For Letter, Legal 13 and 14, Statement, Executive, A4, A5, A6, B5, and Custom paper sizes, see Manual Duplex Printing on page 42.

---

To carry out Auto Duplex Printing:

1. Select **File -> Print** and click the **Properties** button.
2. Select the input tray: **Tray1** (or optional Tray2) or **Multi Purpose Tray** from the **Source** drop down.
3. In the **2-Sided Printing** drop down menu, select either **Long Edge (Auto)** or **Short Edge (Auto)** according to your printing preferences.
4. Click OK.



---

## Note

For further information, click the Duplex Help button.

---

## MANUAL DUPLEX PRINTING USING THE PAPER TRAY (WINDOWS ONLY)

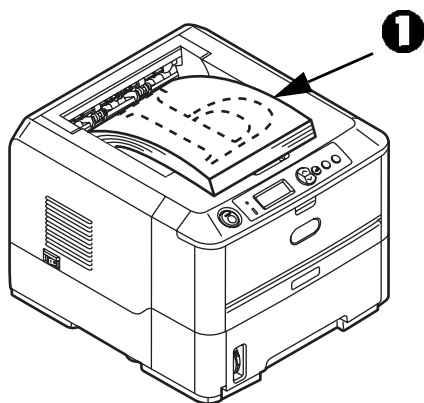
### Note

Manual Duplex printing is available only for the Windows PCL Driver.

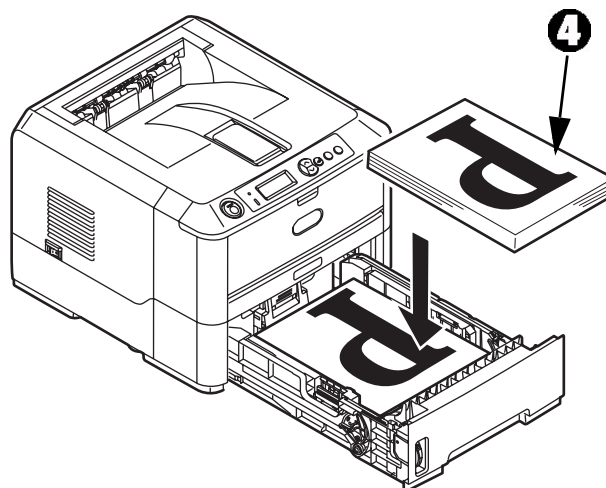
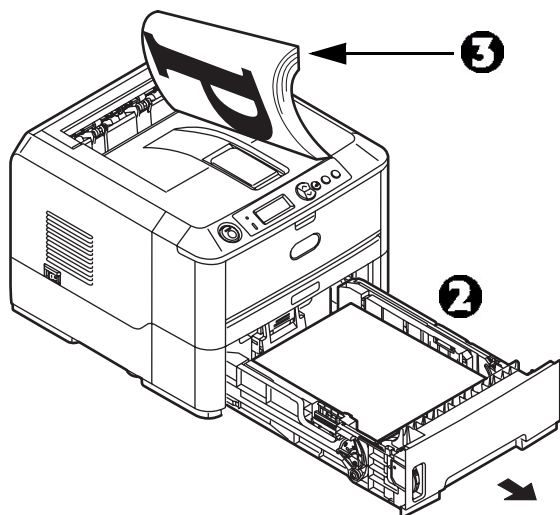
You cannot use A6 paper size for printing from Tray 1 or optional Tray 2.

To carry out 2-sided, or Manual Duplex Printing you must pass paper through the printer twice.

1. Ensure that there is enough paper in the Paper Tray to carry out the print job.
2. Select **File > Print** and click the **Properties** button.
3. Select **Tray1** from the **Source** drop down.
4. In the **2-Sided Printing** drop down menu, select either **Long Edge (Manual)** or **Short Edge (Manual)** according to your printing preferences. Click **OK**. For further information, click the **Duplex Help** button.
5. Then, click **OK**.
6. Every second page (1) of your document is printed first.



7. When this is complete, a message appears on the display panel prompting you to take the paper, flip it and replace it in the Paper Tray.
8. Open the Paper Tray (2). Take the printed paper from the Output Stacker (3) and place it in the Paper Tray, ensuring that the printed side is facing up and the bottom of the page facing into the printer (4).





9. Close the Paper Tray and press the **Online** button. The message window should disappear from your screen and the printer finishes printing the remaining pages of your document.
- 

**Note**

You must press the Online button to start the printing for the other side. The default time is set to one minute, failing which, the data is deleted and not printed.

---

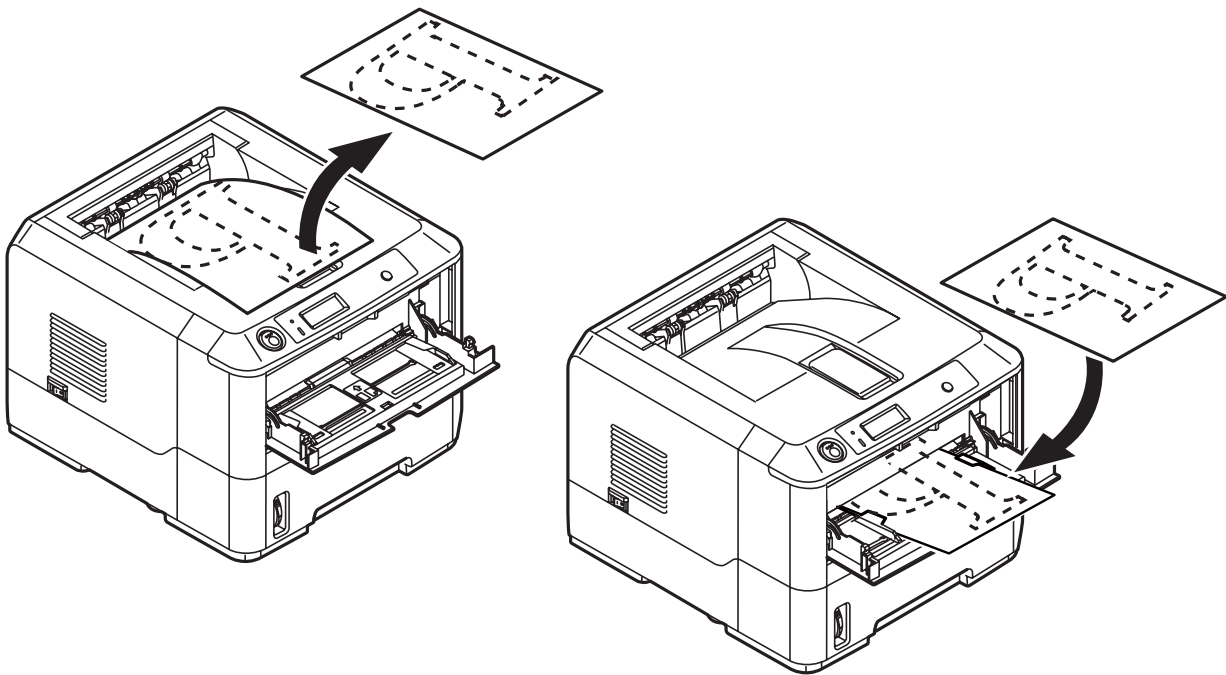
## MANUAL DUPLEX PRINTING USING THE MULTI-PURPOSE TRAY

### Note

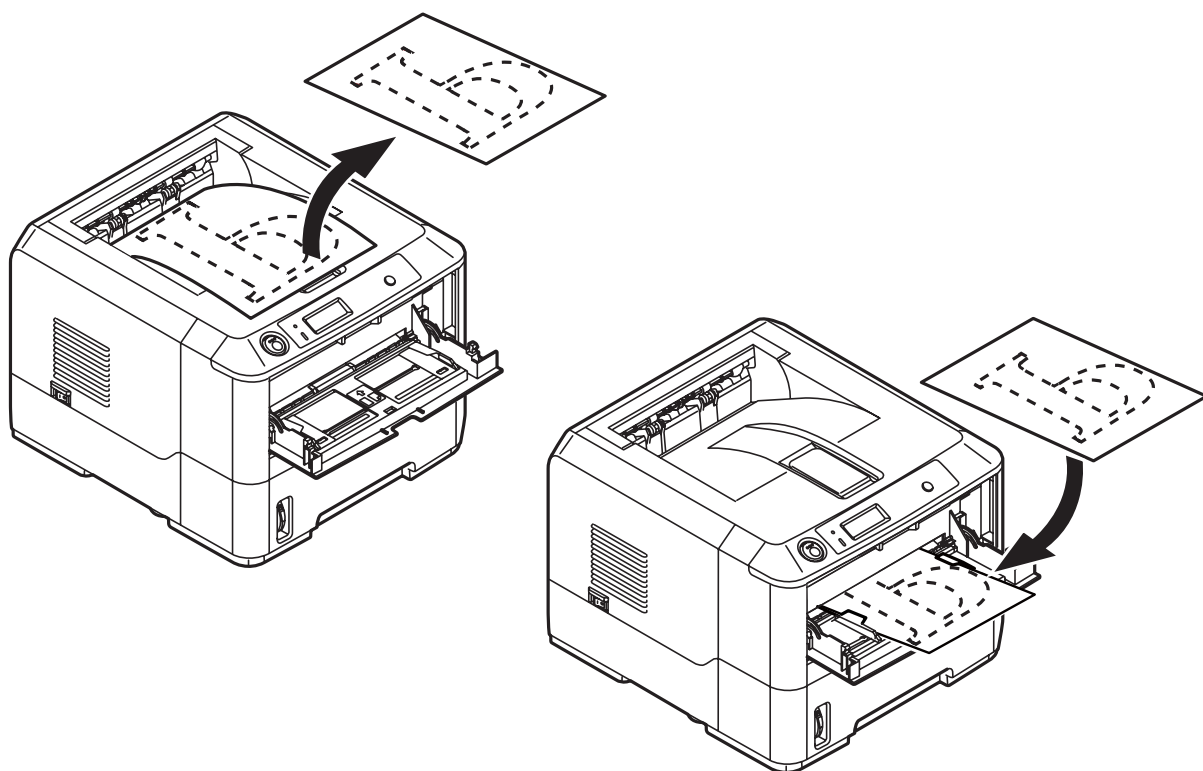
You can print. Letter, Legal 13 and 14, Statement, Executive, A4, A5, A6, B5, and Custom paper sizes, using paper stocks from 16 to 32 lb. US Bond (60 - 124 g/m<sup>2</sup>).

1. Position the paper guides on the Multi-Purpose Tray according to the paper size.
2. Place up to 50 sheets of paper in the Multi-Purpose Tray.
3. Select **File -> Print** to display the Print dialogg box.
4. Click the **Properties** button.
5. Select **Multi-Purpose Tray** from the Source drop down.
6. On the 2-sided printing drop down menu, select either **Long Edge (Manual)** or **Short Edge (Manual)** according to your printing preferences. Click **OK**.  
When every second page has printed, take the paper from the output stacker.
7. Set the stack of paper in the Multi-Purpose Feeder
8. with the printed side facing down and the top of the page facing into the printer.  
Ensure that the paper is gripped in place.

### LONG EDGE.



## SHORT EDGE.



9. Press the **Online** button. The remaining page(s) of your document print on the blank side of the stack of pages from the Multi-Purpose Feeder.

# Overlays and Macros (Windows Only)

## WHAT ARE OVERLAYS AND MACROS?

If you would like to print on special stationery, such as forms and letterhead, but do not want to use pre-printed stationery, you can create your own using these advanced features.

You can create several overlays or macros, and combine them in any way you like to produce a variety of forms and other special stationery. Each image can be printed on just the first page of a document, on all pages, on alternate pages, or just the pages that you specify.

## CREATING PCL OVERLAYS

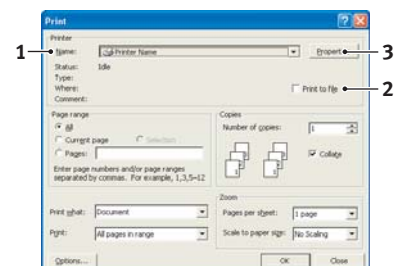
Three steps are required to create an overlay:

1. Create the form data using your own application software and print it to a printer (.PRN) file.
2. Use the Storage Device Manager utility software supplied on the CD included with your printer to create a "project file," import the .PRN file, and download the generated filter (.BIN) files to the printer.
3. Use downloaded files to define your overlay ready for use with any future document.

When printing files to disk, do not select any special features, such as two-sided printing or multiple copies. These are not appropriate to macros, they apply only to your final documents.

## CREATING THE OVERLAY IMAGE

1. Use your preferred application, perhaps a graphics program, to create the required image and save it.
2. Open your application's **Print...** dialog.
3. Make sure that the selected printer name (1) is that of your PCL printer driver.
4. Select the **Print To File** (2) option.
5. When prompted for a print file name, enter a meaningful name with the extension .PRN .
6. Close your application.



## CREATE AND DOWNLOAD MACROS

1. From the Windows **Start** menu, open **Storage Device Manager** (SDM) and allow SDM to discover the printer.
2. Choose **Projects > New Project**.
3. Choose **Projects > Filter Macro File**. The Filter Printer Patterns dialog box appears. Make any adjustments in the settings that you need and then click **OK**.

**Example:** If you create a black oval in MS Paint and leave all the color command filters checked, the black oval will print as a black rectangle when the overlay is used. To maintain the oval shape, turn off (deselect) the "Configure Image Data," "Palette ID" and "Palette Control" filters.

4. Set the **Files of Type** drop-down list to **PRN Files (\*.prn)**.
5. Navigate to the folder where the overlay .PRN files are stored and select one or more of these to include in your overlay set.

You can have more than one macro file in a project. For example, one for top pages and another for continuation pages. Use standard Windows techniques (Shift or Ctrl keys) to select multiple files simultaneously if you need to.

6. Click **Open** to add these files to the current project. (You can also drag and drop files from Windows Explorer directly into the project window if you prefer.) When a message box appears confirming that a filter file has been created, click **OK** to clear the message.
7. The project window will display one .BIN file for each printer file added. Make a careful note of the name and ID number for each of the files. You will need them later.

If you wish to edit the names or ID numbers, double-click the file entry and edit the details.

Note that the names are case sensitive.

8. Choose **Projects > Save Project** and enter a meaningful name (e.g. "Letter Stationery") so that you can recognize it.
9. Choose **Projects > Send Project Files to Printer** to download the project to the printer.
10. When the message "Command Issued" appears confirming that the download is complete, click **OK** to clear the message.

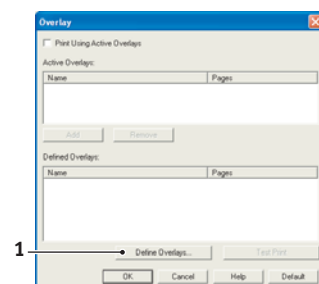
## TEST PRINTING THE MACRO

1. Choose **Printers > Test Macro**.
2. In the Test Macro window, enter its ID number and click **OK**. After a short pause the printer will print the macro.
3. When each macro has been tested, click **Exit**.
4. Click the standard Windows **Close (X)** button, or choose **Projects > Exit** to close Storage Device Manager.

## DEFINING OVERLAYS

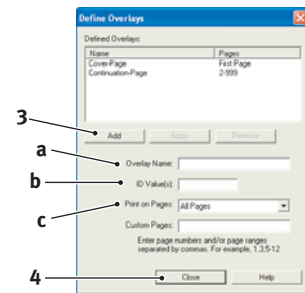
This is the final step before the new overlays are ready for use.

1. Open the Printers (called "Printers and Faxes" in Windows XP) window via the **Start** menu or the Windows Control Panel.
2. Right-click on the Relevant PostScript printer icon and choose **Printing Preferences** from the pop-up menu.
3. On the Job Options tab, click the **Overlay** button.
4. In the Overlay window, Click the **Define Overlays button** (1).



- In the Define Overlays window, enter the **name** (a) and **ID** (b) of the required overlay, and define which **page(s)** (c) of your documents will use this overlay. Then click the **Add** button (3) to add this overlay to the list of defined overlays. Repeat for any other related overlays. When done, click the **Close** button (4) to close the window.

The example illustrated shows two overlays defined, one for a cover page and one for continuation pages.



Remember that names and IDs of overlay files must be entered *exactly* as they appeared in the Storage Device Manager project window. Remember also that names are case sensitive.

If you forgot to note the overlay name or ID when you created them, you can find them using Storage Device Manager to view the project file, or the printer's Information Menu to print a file list and identify them from there.

The new overlays will now appear in the Defined Overlays list in the printer properties window.

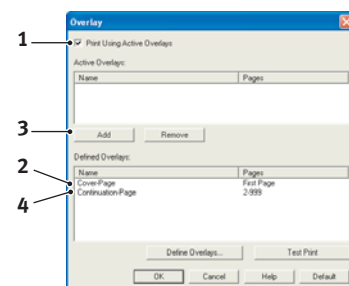
- When done, click **OK** to close the printing preferences window.

Your new overlays are now ready and available to be used for any future documents you wish.

## PRINTING WITH PCL OVERLAYS

Once you have defined your overlays you are ready to use them for any documents you wish. The example illustrated here uses two overlays for business letters. The first prints on just the top page, and the second prints on any or all subsequent pages.

- Prepare your document in the normal way using your own application software. Remember, if necessary, to format the document so that it will fit nicely within the plain areas on your letterhead overlay.
- Open your application's **Print...** dialog and choose any options you will require, ensuring that the target printer is your PCL printer driver in which the overlays have been defined.
- Click the **Properties** button to open the Printing Preferences window.
- On the Overlay tab, check the **Use active overlays** checkbox (1).
- In the Defined Overlays list, click on the first overlay (2) you wish to use, and click the **Add** button (3) to add it to the Active Overlays list. (If you want a reminder of how this overlay looks, click the **Test Print** button.)
- If you want to use another overlay with this document, in this example it is the "Continuation Page" overlay, click this overlay (4) in the list of defined overlays, and then click the **Add** button (3) again to add the second overlay to the list of active overlays.
- When the list of active overlays contains all the items you want to use, click **OK**.
- Finally, click the **Print** button in your application's Print dialog to begin printing your document.



# Consumables and Maintenance

This section deals with the replacement of the toner cartridge and image drum and general maintenance.

## TONER CARTRIDGE LIFE

How long your toner cartridge lasts depends on the print density; the percentage of the page that prints black. A typical letter has 3% to 5% print density; graphics usually have higher density. Higher print density means toner is used up faster. At 5% print density, a standard toner cartridge will print an average of 3500 pages. Remember, this is only an average: actual results may vary.

The first toner cartridge installed in a new printer has to fill the image drum reservoir and saturate the developing roller with toner. The toner cartridge that is supplied with this printer normally produces about 1,500 pages after installation.

## WHEN TO REPLACE THE TONER CARTRIDGE

When the toner is running low, TONER LOW is displayed in the operator panel LCD. After Toner Low displays, the printer will print about 100 more pages then display Toner Empty and stop printing. Printing will resume after a new toner cartridge has been installed.

## REPLACING THE TONER CARTRIDGE

### WARNING

- **Never expose a toner cartridge to an open flame. It can cause an explosion and you can be burned.**
- **Be sure to switch off and unplug the machine before accessing the interior of the machine for cleaning, maintenance or fault clearance. Access to a live machine's interior can cause electric shock.**

It is recommended that you clean the LED array at the same time as you change the toner cartridge.

The toner used in this printer is a very fine dry powder contained in the toner cartridge.

Have a sheet of paper handy so that you have somewhere to place the used cartridge while you install the new one.

Dispose of the old cartridge responsibly, inside the pack that the new one came in. Follow any regulations, recommendations, etc., which may be in force concerning waste recycling.

If you do spill any toner powder, lightly brush it off. If this is not enough, use a *cool*, damp cloth to remove any residue. *Do not use hot water, and never use solvents of any kind. They will make stains permanent.*

### WARNING!

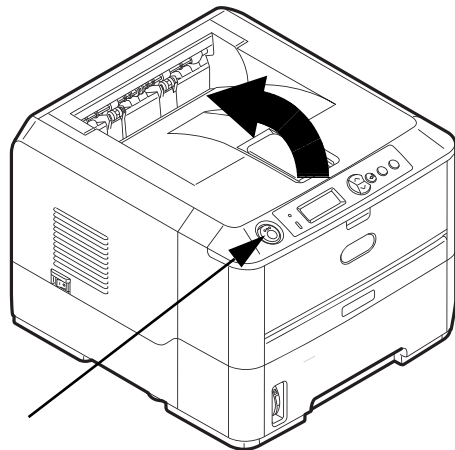
**If you inhale any toner or get it in your eyes, drink a little water or bathe your eyes liberally in cold water. Seek medical attention immediately.**

1. Switch off the printer and allow the fuser to cool for about 10 minutes before opening the top cover.

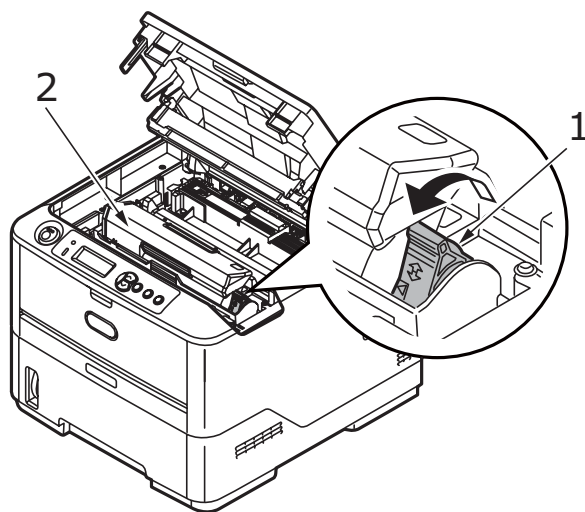
**WARNING!**

**If the printer has been powered on, the fuser may be hot. This area is clearly labelled. Do not touch.**

2. Press the top cover release button and open the printer's top cover fully.



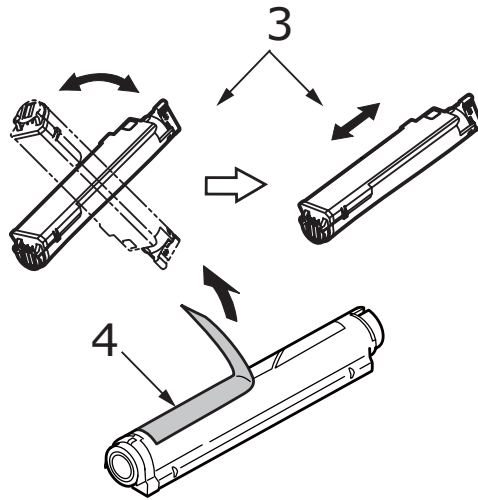
3. Pull the colored lever (1) on the right side of the toner cartridge towards the front of the printer to close the cartridge then remove the used toner cartridge (2).



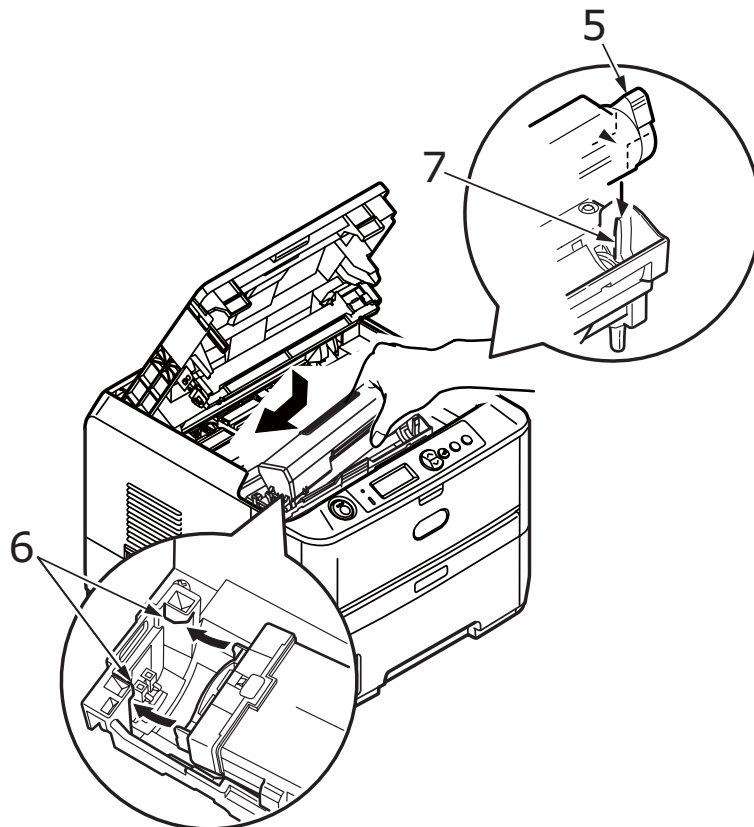
4. Clean the top of the ID unit with a clean, lint-free cloth.
5. Put the cartridge down gently onto a piece of paper to prevent toner from marking your furniture.
6. Remove the new cartridge from its box but leave its wrapping material in place for the moment.



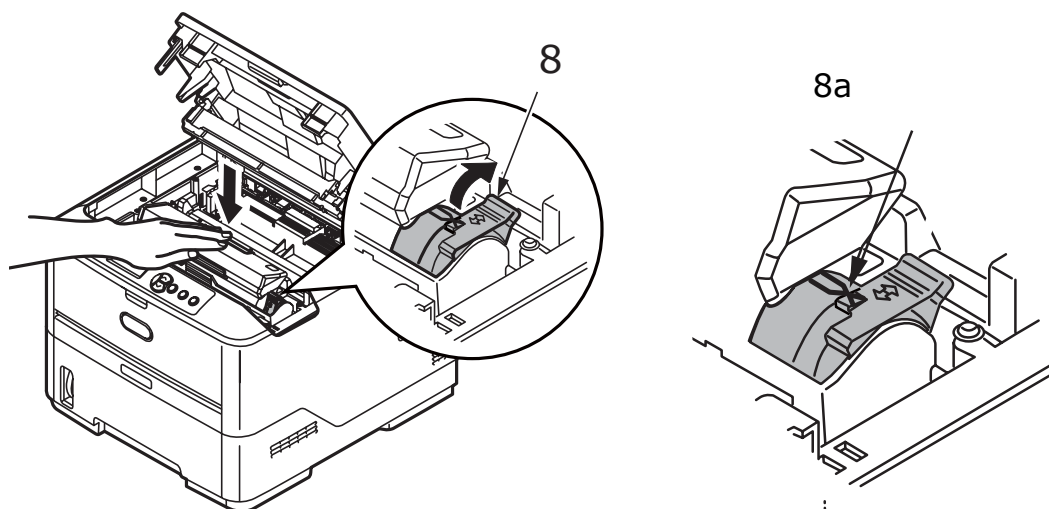
7. Gently shake the cartridge (3) from end to end several times to loosen and distribute the toner evenly inside the cartridge.



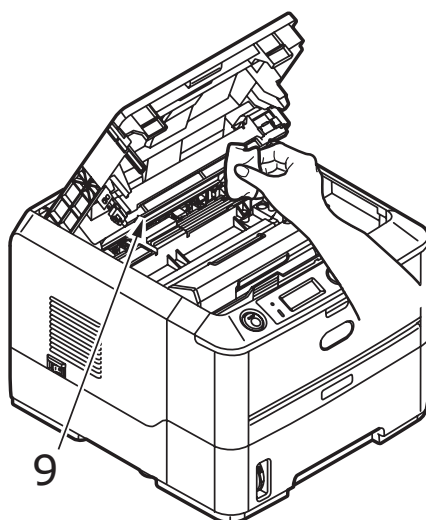
8. Remove the wrapping material and peel off the adhesive tape from the underside of the cartridge (4).
9. Holding the cartridge by its top center with the colored lever to the right (5), lower it into the printer over the image drum unit from which the old cartridge was removed.
10. Insert the left end of the cartridge into the image drum unit first. Align it under the tabs (6), and push it against the shiny pins in the drum unit. Then lower the right end of the cartridge down into the image drum unit (7).



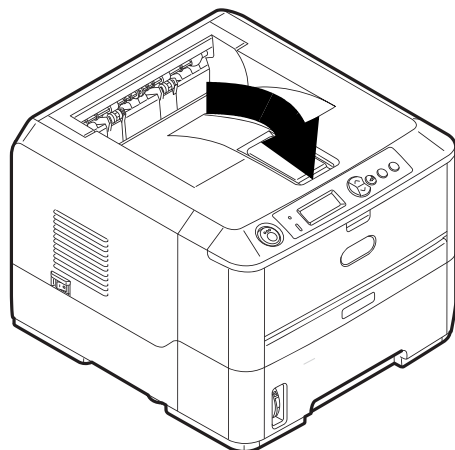
- 11.** Pressing gently down on the cartridge to ensure that it is firmly seated, push the colored lever towards the rear of the printer (8). Push the lever all the way forward until the pointers on the drum and the toner are aligned (8a). This will lock the cartridge into place and release toner into the image drum unit.



- 12.** Gently wipe the LED array surface (9) with a soft tissue.



- 13.** Close the top cover and press it down to latch it closed.



## IMAGE DRUM LIFE

The life of an image drum depends on a number of factors, including temperature and humidity, the type of paper used, and the number of pages per job.

The image drum should last approximately 25,000 pages continuous printing. This number is approximate because different numbers of pages are printed each time and the environmental conditions and the paper type used may vary.

## WHEN TO REPLACE THE IMAGE DRUM

When the drum reaches 90% of its life, a **CHANGE DRUM** message is displayed in the operator panel LCD. Change the image drum when the print becomes faint or begins to deteriorate.

## REPLACING THE IMAGE DRUM.

### WARNING

- **Never expose the image drum to an open flame. It can cause an explosion and you can be burned.**
- **Be sure to switch off and unplug the machine before accessing the interior of a machine for cleaning, maintenance or fault clearance. Access to a live machine's interior can cause electric shock.**

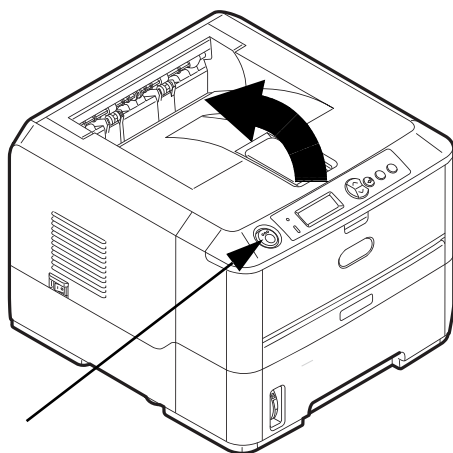
### Note

It is recommended that you change the toner cartridge and clean the LED array at the same time as you change the image drum.

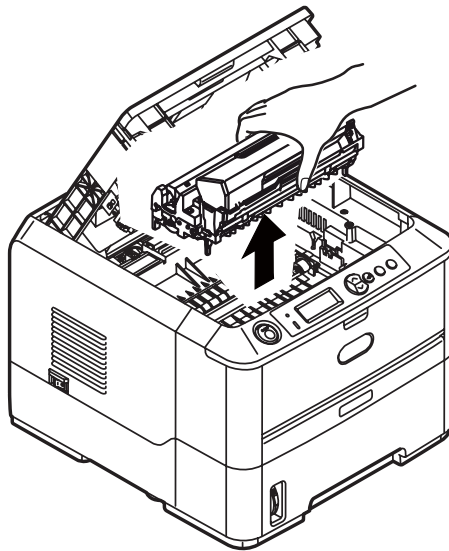
1. Press the cover release and open the printer's top cover fully.

### WARNING!

**If the printer has been powered on, the fuser may be hot. This area is clearly labelled. Do not touch.**



2. Holding it by its top centre, lift the used image drum and toner cartridge, out of the printer.



3. Put the assembly down gently onto a piece of paper to prevent toner from marking your furniture and to avoid damaging the green drum surface.

### CAUTION!

**The green image drum surface at the base of the ID unit is very delicate and light sensitive. Do not touch it and do not expose it to normal room light for more than 5 minutes. If the drum unit needs to be out of the printer for longer than this, please wrap the cartridge inside a black plastic bag to keep it away from light. Never expose the drum to direct sunlight or very bright room lighting.**

4. With the colored toner release lever to the right, pull the lever towards you. This will release the bond between the toner cartridge and the image drum unit.
5. Lift the right-hand end of the toner cartridge and then draw the cartridge to the right to release the left-hand end, and withdraw the toner cartridge out of the image drum cartridge. Place the cartridge on a piece of paper to avoid marking your furniture.
6. Take the new image drum cartridge out of its packaging and place it on the piece of paper where the old cartridge was placed. Keep it the same way round as the old unit. Pack the old cartridge inside the packaging material for disposal.

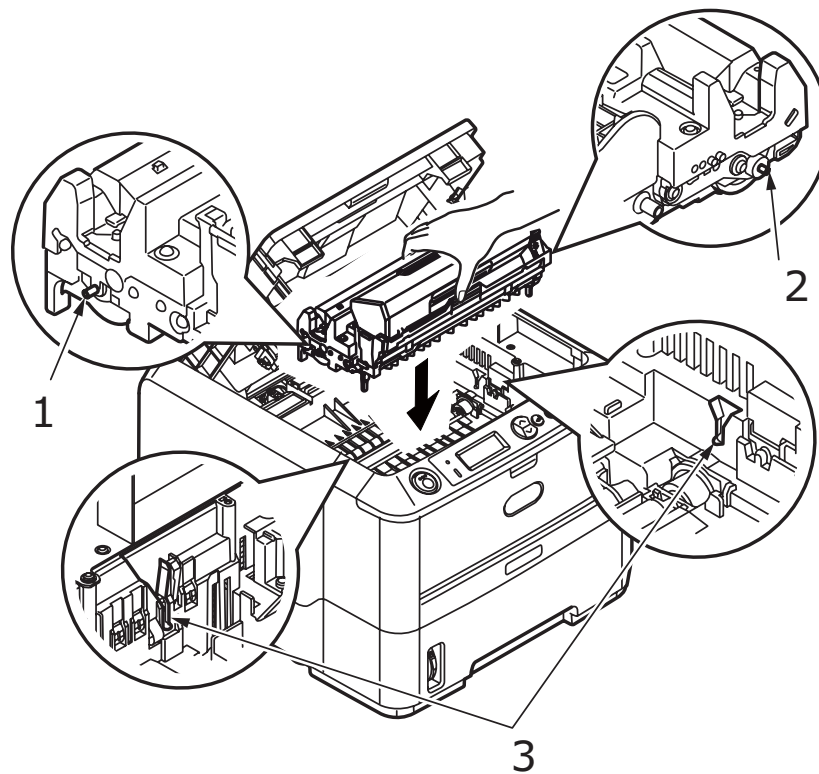
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#### Note

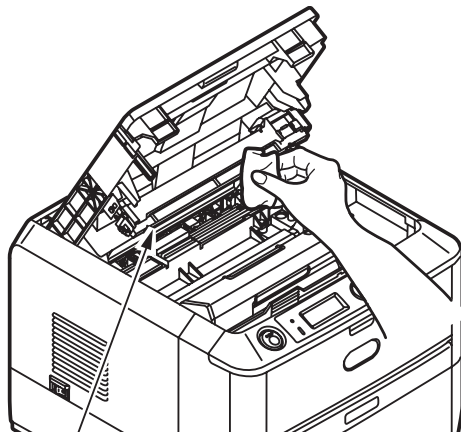
Follow instructions that come with the new image drum for additional information such as the removal of packaging material etc.

- 
7. Place the toner cartridge onto the new image drum cartridge. Push the left end in first, and then lower the right end in.
  8. Push the colored release lever away from you to lock the toner cartridge onto the new image drum unit and release toner into it.

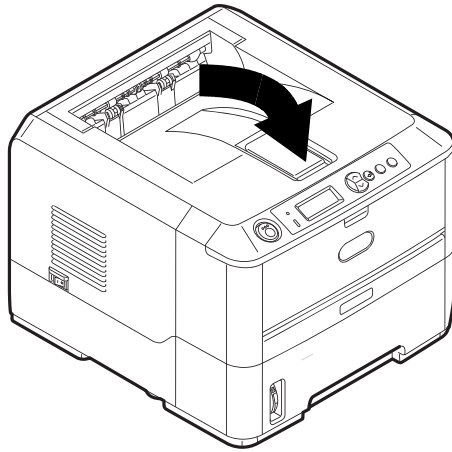
9. Holding the complete assembly by its top center, lower it into place in the printer locating the pegs (1 & 2) at each end into their slots in the sides of the printer cavity (3).



10. Gently wipe the LED array surface with a soft tissue.



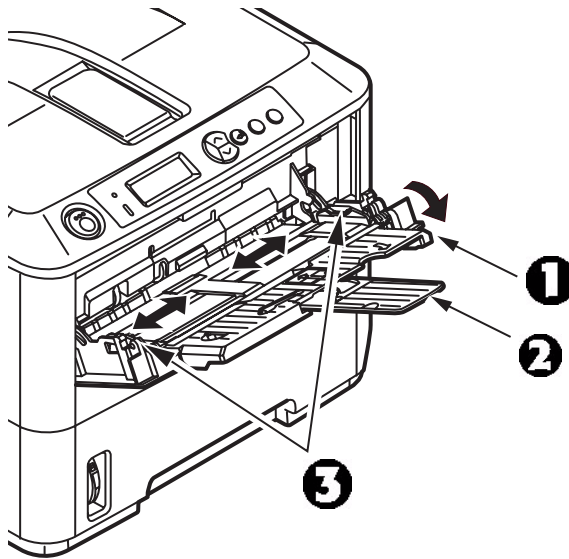
11. Close the top cover and press it down to latch it closed.



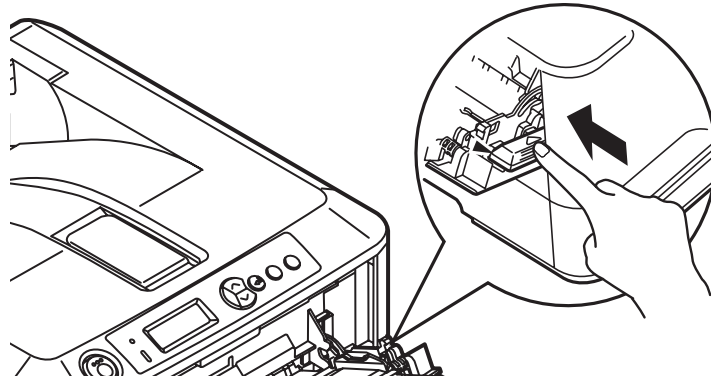
## GENERATING A CLEANING PAGE

If the printed page shows signs of fading, streaking or erratic marks, the problem may be cleared by generating a drum cleaning page as follows.

1. Pull down the Multi Purpose Tray (1), fold out the paper support (2), and adjust the paper guides to the width of the paper (3).



2. Insert a sheet of Letter/A4 plain paper between the paper guides and push the colored set button to engage the tray.



3. Press the Up or down arrow button repeatedly until MAINTENANCE MENU displays, then press the Enter button.



4. Press the Up or down arrow button until CLEANING PRINT is displayed.
5. Press the Enter button.
6. The printer grips the paper and prints a cleaning page. The printer should now be ON LINE.
7. If subsequent printing appears faded or uneven, try replacing the toner cartridge.

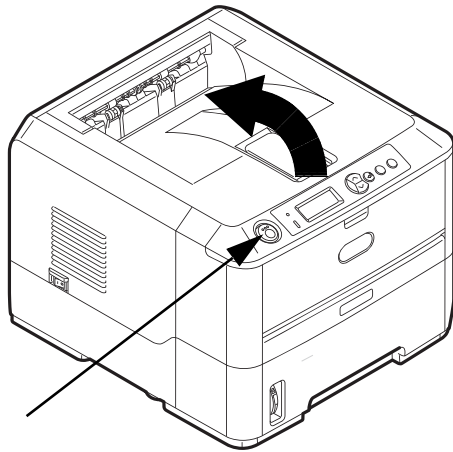
## CLEANING THE LED ARRAY

Clean the LED array whenever a new toner cartridge is installed or if there are faded vertical areas or light printing down a page.

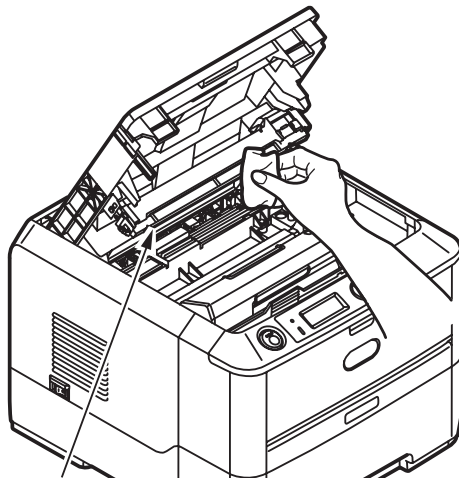
1. Press the cover release and open the printer's top cover fully.

### WARNING!

**If the printer has been powered on, the fuser may be hot. This area is clearly labelled. Do not touch.**

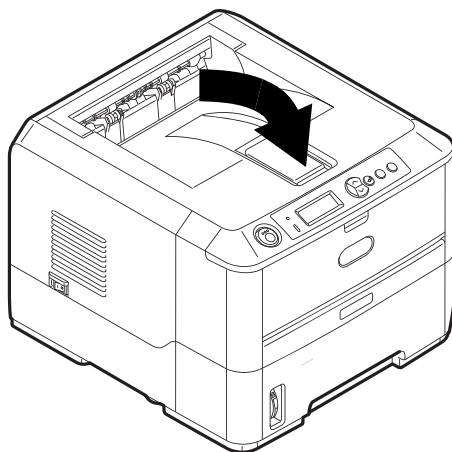


2. Wipe the LED array gently with a soft tissue.





3. Close the top cover and press it down to latch it closed.



# Troubleshooting

## STATUS AND ERROR MESSAGES

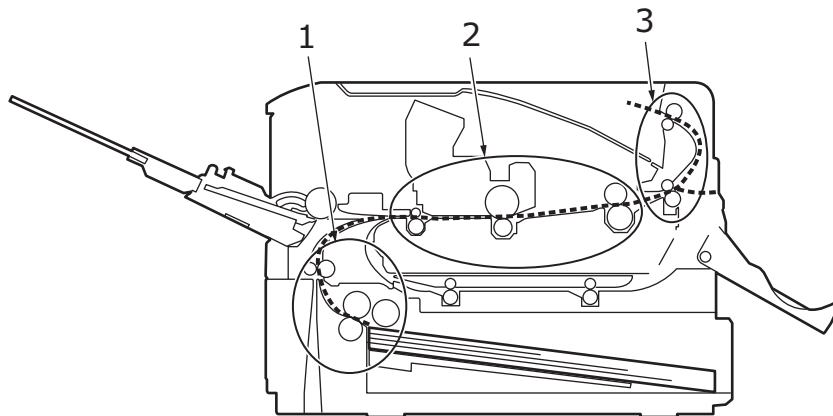
The LCD on the printer operator panel provides the self-explanatory status and error messages in your chosen language. Error messages are accompanied by the Ready indicator going out.

## PAPER JAMS

Provided that you follow the recommendations in this guide on use of print media, and you keep the media in good condition prior to use, your printer should give years of reliable service. However, paper jams occasionally do occur, and this section explains how to clear them quickly and simply.

Jams can occur due to paper misfeeding from a paper tray or at any point on the paper path through the printer. When a jam occurs, the printer immediately stops, and the operator panel informs you of the event. If printing multiple pages (or copies), do not assume that having cleared an obvious sheet that others will not also be stopped somewhere along the path. These must also be removed in order to clear the jam fully and restore normal operation.

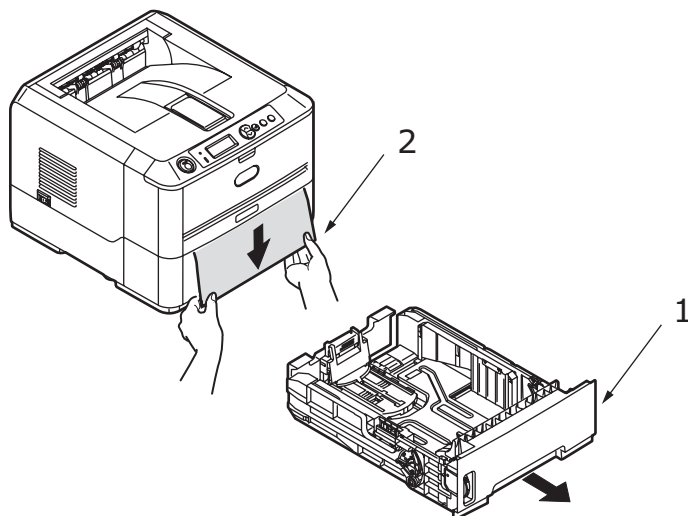
The printer may experience a paper jam in one of three areas.



- 1. INPUT JAM** - paper has failed to leave the selected feed tray and enter the internal paper path of the printer. A typical message indicates a paper jam and identifies the tray to check.
- 2. FEED JAM** - paper has entered the printer but failed to reach the exit. A typical message indicates a paper jam and advises you to open the top cover for access.
- 3. EXIT JAM** - paper has reached the exit but has failed to exit completely from the printer. A typical message indicates an exit jam and advises you to open the top cover for access.

## INPUT JAM

1. Remove the paper tray from the printer (1).

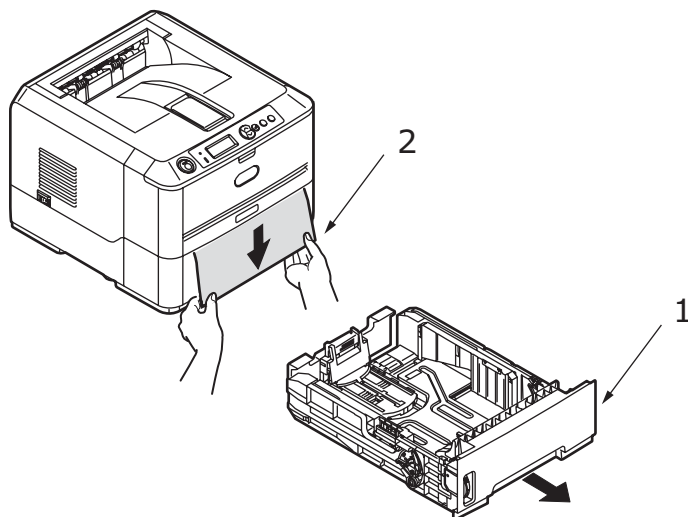


2. Remove any crumpled or folded paper.
3. Remove any paper from the underside of the printer (2).
4. Replace the paper tray.

After successful removal of any damaged or misfed paper, the printer should continue printing.

## FEED JAM OR EXIT JAM

1. Remove the tray and clear any misfed sheets as given above.



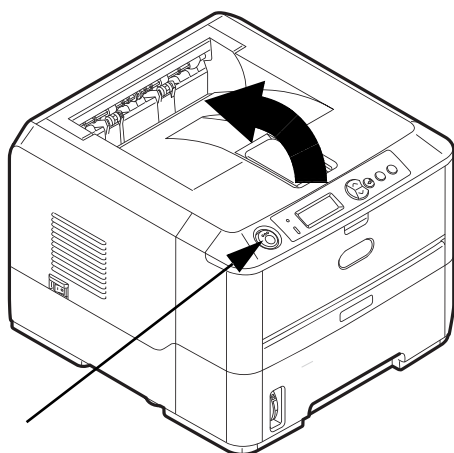
2. Press the cover release and open the printer's top cover.

**WARNING!**

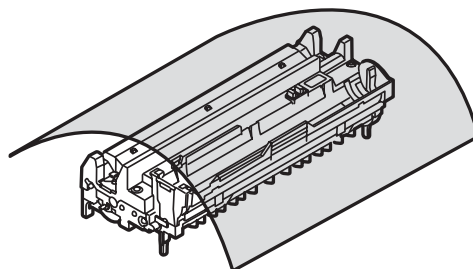
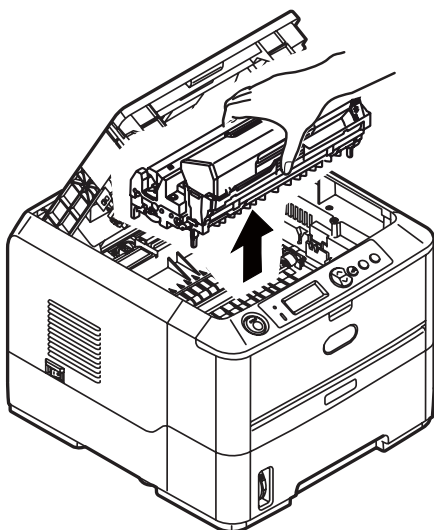
**If the printer has been powered on, the fuser area will be hot. This area is clearly marked. Do not touch it.**

**CAUTION!**

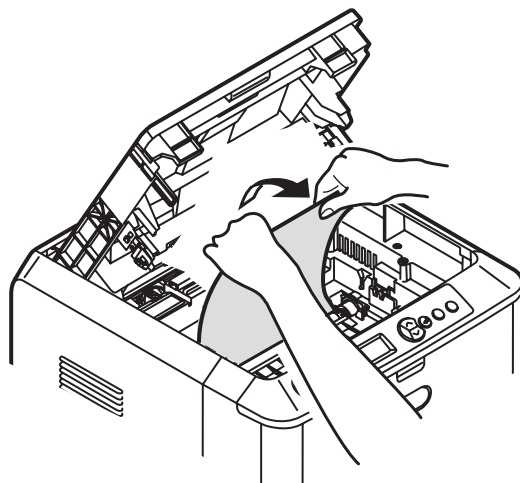
**Never expose the image drum unit to light for more than 5 minutes. Never expose the image drum unit to direct sunlight. Always hold the image drum unit by the ends or from the top. Never touch the surface of the green drum inside the image drum unit.**



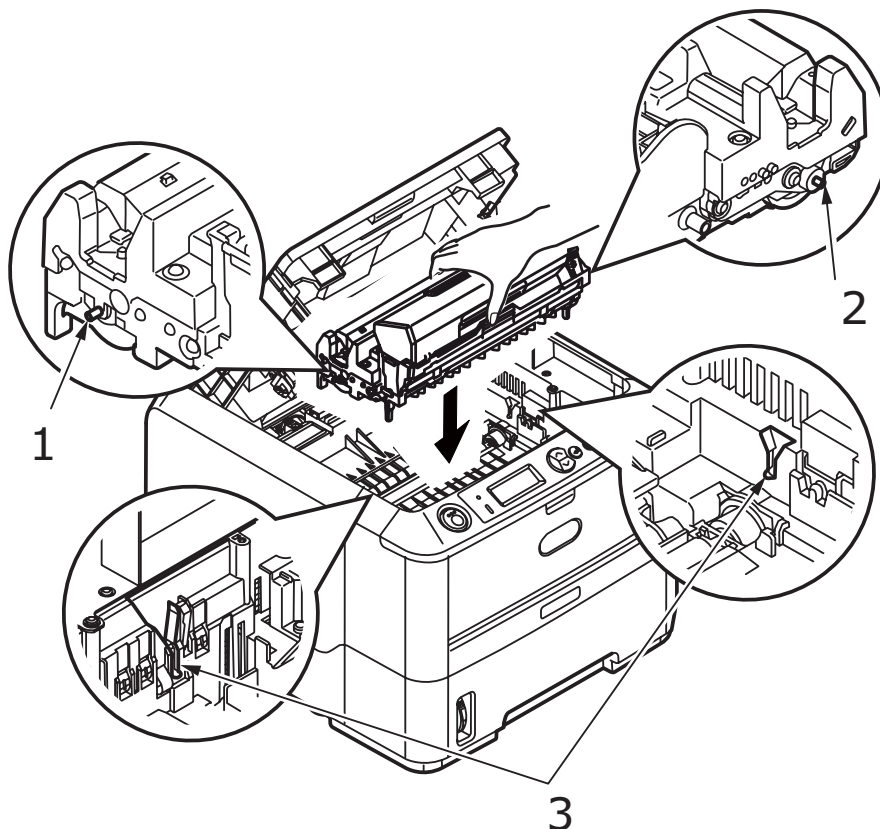
3. Carefully lift out the image drum, complete with the toner cartridge. Place the drum on a piece of paper and cover it with a piece of paper to protect it from light. Be careful not to touch or scratch the green drum surface.



4. Remove any jammed sheets from the paper path.

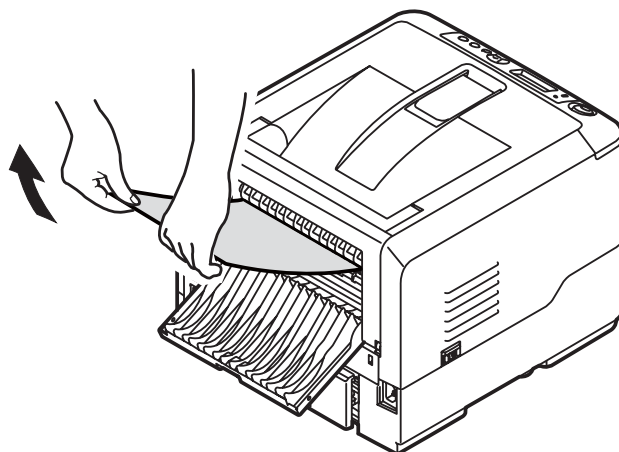


5. Re-install the image drum complete with toner cartridge, ensuring that the pegs (1 & 2) correctly locate into the slots on each side of the printer (3).

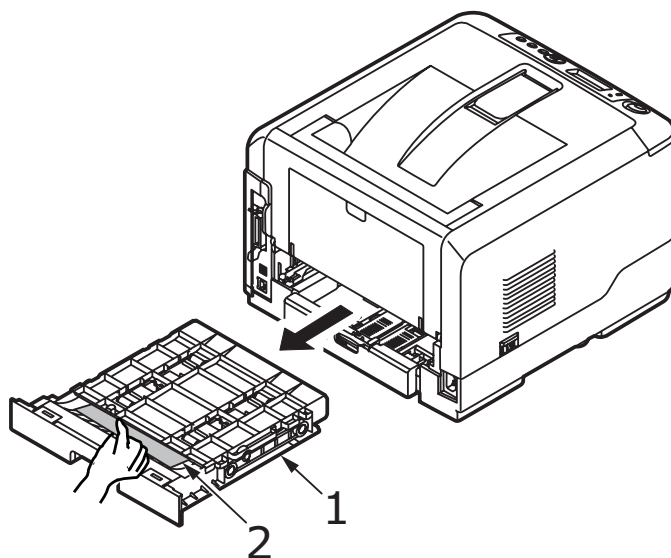


6. Lower the top cover but do not press down to latch it closed yet. This will protect the drum from excessive exposure to room lighting, while you check the remaining area for jammed sheets.

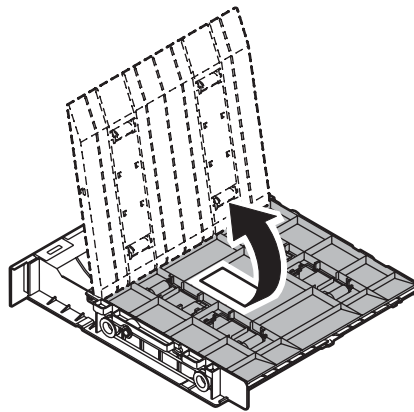
- 7.** Open the rear cover and check for paper in the rear path. Pull out any paper found in this area.



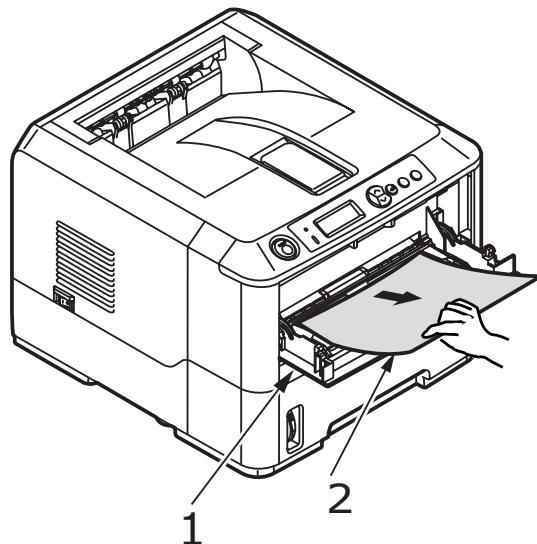
- If the paper is low down in this area and difficult to remove, it is probably still gripped by the fuser. In this case, raise the top cover, reach around and press down on the fuser pressure release lever.
  - If you are not using the rear cover, close it once the paper is removed from this area.
- 8.** Remove the Duplex unit (1) and check for any paper in this area. Remove any paper and replace the duplex unit.



- If the paper is difficult to remove, push the duplexer cover in the direction of the arrow on the top, then raise the cover and remove the paper.



9. Open the Multi Purpose Tray (1) and remove any paper that you find (2).



10. Close the tray.
11. Close the top cover and press down to latch it closed.
12. The printer will warm up and commence printing when ready. The page lost through the jam will normally be reprinted.

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**Note**

If the edge of the jammed paper protrudes (or can be seen) from the exit, reinstall the image drum, close the top cover and switch the printer on. Remove the jammed paper from the exit when the exit roller begins rotating after a few seconds after switching on. However, if the jammed paper cannot be removed, contact a service representative.

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## PRINT QUALITY PROBLEMS

Before consulting a service representative regarding a print quality problem, check the table below to see if there is a solution, or something you might have overlooked.

SYMPTOM	PROBLEM	SOLUTION
Blank sheets printed.	Image drum cartridge not properly installed.	Reinstall image drum cartridge.
	Empty or missing toner cartridge.	Install new toner cartridge.
Entire page prints faintly.	Empty toner cartridge. Pages get fainter when toner is used up.	Install new toner cartridge.
	LED array is dirty.	Clean LED array.
Page has grey background.	Static electricity, generally from dry environments, causes toner to stick to background.	Change paper to a smoother laser bond or use a humidifier.
Page prints all black.	Hardware problem.	Contact service.
Page has repetitive marks.	Damaged image drum cartridge causes repetitive marks every 1.6 inches (4.06 cm) due to surface nicks and scratches.	Generate a cleaning page, repetitive marks may be temporary.
Oblong area of faint print appears on each page.	Drop out caused by using paper exposed to high humidity.	Change paper stocks, check paper storage environment or use a dehumidifier; check toner level.
Vertical white streaking or faint areas on page.	Toner is low and does not distribute properly, or the drum is worn out.	Replace toner cartridge. Check drum and replace the drum, if necessary. Contact service.
	LED array is dirty.	Clean LED array.
Vertical black lines.	Hardware problem.	Contact service.
Fuzzy print.	LED array is dirty.	Clean LED array.
Distorted print.	Paper path, lamp assembly, or fusing unit problem.	Generate cleaning page. Contact service.
Faded print.	Toner cartridge is not correctly installed.	Install toner cartridge correctly.
	Toner low.	Replace toner cartridge.
Smeared or blotched print.	Dirty rollers; toner dropped inside printer or image drum problem.	Replace image drum and toner. Contact service.
Printed page is light/blurred.	Is toner low?	Replace toner cartridge.
	Is paper meant for laser printers?	Use recommended paper.
	LED array is dirty.	Clean LED array.



SYMPTOM	PROBLEM	SOLUTION
Bold characters and dark lines are smeared.	Toner is low.	Install new toner cartridge.
Print is darker than usual.	Darkness setting is too high.	Change darkness setting.
Pages curl excessively.	Printing on wrong side of paper.	Turn paper over in tray. (Note arrow on paper package). Install paper print side down in tray.
	Moisture in paper. Improper storage.	Avoid storing paper in areas of excessive temperature and humidity. Store paper in protective wrapping.
	High humidity.	Recommended operating humidity: 20-80%.

## PAPER FEED PROBLEMS

SYMPTOM	PROBLEM	SOLUTION
Paper Jams occur frequently. Multiple sheets of paper are fed at the same time.	The printer is tilted.	Place the paper on a stable and flat surface.
	Paper is too thick or too thin. Paper is moist, folded, creased or warped.	Use paper suitable for the printer. Avoid storing paper in areas of excessive temperature and humidity. Store paper in protective wrapping
	Paper is not aligned.	Align the paper edges to the paper guides.
	Only one sheet of paper is loaded in the Paper tray or Multi Purpose tray.	Load several sheets of paper.
	Sheets of paper is added to the existing paper stock in the Paper tray or Multi Purpose tray.	Remove existing sheets of paper from the tray and add the new sheets to them, ensuring alignment and then load the tray.
	Postcards, envelopes, label sheets or transparencies are loaded in the Paper tray.	You cannot print using the Paper tray. Load postcards, envelopes, label sheets or transparencies in the Multi Purpose tray.
	Postcards or envelopes are placed in the wrong orientation.	Check and load in the correct orientation.

SYMPTOM	PROBLEM	SOLUTION
Paper is not fed into the printer.	Improper setting is selected for <b>Paper Source</b> in the printer driver.	Select the correct paper source from the <b>Source</b> drop down menu.
	The printer menu setting is incorrect.	Set the size of the paper in the Setup Menu of the printer.
Printing does not resume after removing jammed paper.	Printing does not resume only by removing paper jam.	Open and close the top cover.

## SOFTWARE PROBLEMS

Your software (operating environment, applications and printer drivers) controls the printing process. Make sure you have selected the right driver for use with your printer. See your software documentation for more information.

SYMPTOM	PROBLEM	SOLUTION
Printing is garbled.	Incorrect driver is installed.	Install an appropriate driver.
Printer's output is below rated speed.	Much of the printing delays will be caused by your application. Sometimes purely text documents will print slowly depending on the selected fonts and how they are transferred to the printer.	For maximum speed, use text in your document and use a printer resident font.
Size of top margin increases with each page printed.	Creeping text. Number of lines per page in software is not equal to number of lines per page of printer.	Many software packages assume 66 lines per page, but your printer's default is 64. Adjust software accordingly, or set LINES Per PAGE in the soft control panel to equal lines per page in your software.

## HARDWARE PROBLEMS

SYMPTOM	PROBLEM	SOLUTION
Graphic image prints partly on one page, partly on the next.	Insufficient printer memory for this image at this resolution.	Change the resolution, reduce the image size, or install more memory in your printer.
When you try to print nothing happens, but printer indicates it is ready to receive data.	Configuration error.	Check cable connection. If more than one printer is available, make sure your printer has been selected.
Garbage prints.	Incorrect cable configuration. Also, see Software Problems.	Check cable configuration, continuity, and length.
Printer freezes or displays error message when computer is rebooted.	Booting the computer while the printer is on can cause a communications error.	Turn printer off before rebooting computer.
Odors.	Gases are given off by forms or adhesives passing through the hot fusing unit.	Make sure the forms you use can withstand heating, and provide adequate ventilation.
Printer is on but must warm up before a job is printed.	Power Save mode is set on to conserve energy. The fuser must heat up before you can begin printing the next job.	To eliminate warm up delay, change Power Save setting.

# Options

The following options are available to extend the performance of your printer:

- 128 and 256MB RAM DIMM: to extend the main memory of your printer and speed up the processing of large files
- Second paper tray: to increase your printer's paper handling capacity by 530 sheets (75g/m<sup>2</sup>)

## OPTIONS ORDER NUMBERS

128 MB RAM DIMM	44029501
256 MB RAM DIMM	44029508
SECOND PAPER TRAY (TAN)	43990701

## INSTALLATION PROCEDURE

To install any of the above options, follow the detailed installation sheet that accompanies the option.

# Specifications

ITEM	SPECIFICATION
Dimensions, W x D x H	14.5 x 15.5 x 10,5 inches (369 x 395 x 268 mm)
Weight	22.7 lb (10.3 kg) approximately (without second tray)
Printing method	Electro-photographic printing using LEDs as light source
Print color	Monochrome
Print speed	Letter: 30 pages per minute maximum A4: 28 pages per minute maximum
Resolution	2400 x 600 dots per inch
Operating platform	<b>Windows</b> 2000/XP/XP server 2003 x 64 bit edition/Vista/Vista x 64 bit edition <b>Mac</b> OS X PowerPC (10.2.8 - 10.5) / OS X Intel (10.4.4 - 10.5)
Emulations	PCL5e, PCLXL, Epson FX, IBM ProPrinter
Interfaces	Parallel port in compliance with IEEE 1284-1994 standard USB 2.0 High speed Ethernet: 100BASE-TX/10Base-T
Processor	297 MHz PowerPC
Memory	64MB expandible to 320MB
Printer/Fuser life	200,000 pages or 5 years
Toner life	Starter: 1,500 pages Replacement: (ISO/IEC19752) up to 3,500 / 7,000 pages / 10,000 pages, depeneding on toner cartridge installed
Image drum life	Simplex printing 25,000 pages (continuous) 20,000 pages (3 pages per job) 12,000 pages (1 page per job)  Duplex printing 15,000 pages (continuous) 13,000 pages (3 pages per job) 10,000 pages (1 page per job)
Paper sizes	Letter, Legal 13, Legal 14, Executive, A4, A5, A6, B5, Custom, C5, C6, Com-9, Com-10, DL, Monarch, Statement
Paper feed	Automatic feeding via paper trays (including optional second tray and Multi Purpose Tray)
Paper feed capacity at 20-lb. US Bond (75 g/m <sup>2</sup> )	Tray 1: 530 sheets Optional Tray 2: 530 sheets Multi Purpose Tray: 50 sheets
Paper output	Face up, using rear (straight through) exit path Face down, using top exit path

ITEM	SPECIFICATION
Power consumption at 72°F (22°C)	Typical: 450W Idle: 70W Power save mode: 7W
Paper output capacity at 20-lb. US Bond (75 g/m <sup>2</sup> )	Face down (top exit): 150 sheets
Monthly duty cycle	70,000 pages
Consumables	Toner cartridge, Image drum
Power cable	Approximately 6 ft. (1.8 m) max. length
Noise level	Operation: 53 dB(A) Standby mode: 30dB(A) Power saving mode: Background level
Environmental conditions	Operation: 50 to 90°F (10 - 32°C), 20% - 80% RH, Storage: 50 to 109°F (10-43°C), 10% - 90% RH When the printer is stored, it should be in its original packaging, with no moisture formation.

# Paper and tray information

## Simplex Printing

			Feed Tray			Exit Path	
Paper type	Size	Weight	T1	T2	MPT	Top	Rear
Plain paper	Letter, A4	L, ML, M, MH	0	0	0	0	0
	A5, B5, Executive	L, ML, M, MH, H	0	0	0	0	0
	Legal (13) Legal (14)	H	0	0	0	0	0
	Statement	L, ML, M, MH, H	0	X	0	0	0
	A6	L, ML, M, MH, H	X	X	0	0	0
	Custom	L, ML, M, MH	△	△	0	0	0
	W: 90 - 216 L: 148 - 356	H	△	△	0	0	0
Postcards		-	X	X	0	0	X
Envelopes	Com-9 Com-10 DL, C5, C6 Monarch Custom W: 90 - 216 L: 148 - 356	-	X	X	0	0	X
Labels	Letter, A4	-	X	X	0	0	X
Transparencies	Letter, A4	-	X	X	0	0	X

SYMBOL/TERM	MEANING
MPT	Multi Purpose Tray
W, L	Width, Length in mm
L	Light paper weight: 64g/m <sup>2</sup>
ML	Medium Light paper weight: 64 - 74g/m <sup>2</sup>
M	Medium paper weight: 75 - 87g/m <sup>2</sup>
MH	Medium Heavy paper weight: 88 - 104g/m <sup>2</sup>
H	Heavy paper weight: 105 - 120g/m <sup>2</sup>
0	Can be used
X	Cannot be used
△	Can be used depending on the size.

## Duplex Printing

			Auto			Manual		
Paper type	Size	Weight	Tray 1	Tray 2	MPT	Tray 1	Tray 2	MPT
Plain paper	Letter, A4	L, ML, M, MH	0	0	0	0	0	0
	Legal (13) Legal (14)	H	X	X	X	0	0	0
	A5, B5, Executive	L, ML, M, MH, H	X	X	X	0	0	0
	Statement	L, ML, M, MH, H	X	X	X	0	X	0
	A6	L, ML, M, MH, H	X	X	X	X	X	0
	Custom	L, ML, M, MH	△	△	△	△	△	0
	W: 90 - 216 L: 148 - 356	H	X	X	X	△	△	0
Postcards		-	X	X	X	X	X	X
Envelopes	Com-9 Com-10 DL, C5, C6 Monarch Custom W: 90 - 216 L: 148 - 356	-	X	X	X	X	X	X
Labels	Letter, A4	-	X	X	X	X	X	X
Transparencies	Letter, A4	-	X	X	X	X	X	X

SYMBOL/TERM	MEANING
MPT	Multi Purpose Tray
W, L	Width, Length in mm
L	Light paper weight: 64g/m <sup>2</sup>
ML	Medium Light paper weight: 64 - 74g/m <sup>2</sup>
M	Medium paper weight: 75 - 87g/m <sup>2</sup>
MH	Medium Heavy paper weight: 88 - 104g/m <sup>2</sup>
H	Heavy paper weight: 105 - 120g/m <sup>2</sup>
0	Can be used
X	Cannot be used
△	Can be used depending on the size.



## NOTES

1. Tray 1 can accommodate paper with width of 100 to 216mm and length of 210 to 316mm.
2. Tray 2 (optional) can accommodate paper with width of 148 to 216mm and length of 210 to 316mm.
3. When printing using Auto Duplex, paper will not be ejected face up.
4. The printing speed is reduced when you set the paper size of A5, A6, Postcards, Envelopes as Heavy.
5. Label mode must be selected in the printer driver, if you want to print on heavy media which exceeds 120g/m<sup>2</sup>.

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