B840

OKI
PRINTING SOLUTIONS

User's Guide

B840n
B840dn

PREFACE

Every effort has been made to ensure that the information in this document is complete, accurate, and up-to-date. The manufacturer assumes no responsibility for the results of errors beyond its control. The manufacturer also cannot guarantee that changes in software and equipment made by other manufacturers and referred to in this guide will not affect the applicability of the information in it. Mention of software products manufactured by other companies does not necessarily constitute endorsement by the manufacturer.

While all reasonable efforts have been made to make this document as accurate and helpful as possible, we make no warranty of any kind, expressed or implied, as to the accuracy or completeness of the information contained herein.

The most up-to-date drivers and manuals are available from:

www.okiprintingsolutions.com

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 As an ENERGY STAR Program Participant, the manufacturer has determined that this product meets the ENERGY STAR guidelines for energy efficiency.[1]

 This product complies with the requirements of the Council Directives 2004/108/EC (EMC), 2006/95/EC (LVD),1999/5/EC (R&TTE) and 2009/125/EC (ErP), as amended where applicable, on the approximation of the laws of the member states relating to Electromagnetic Compatibility, Low Voltage, Radio & Telecommunications Terminal Equipment and Energy Using Products.

The following cables were used to evaluate this product to achieve EMC directive 2004/108/EC compliance and configurations other than this may affect that compliance.

CABLE TYPE	LENGTH (METRE)	CORE	SHIELD
Power	1.8	✘	✘
USB	5	✘	✔
Parallel	1.8	✘	✔
LAN	15	✘	✘

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1. If the centronics (parallel) port is enabled, the product is no longer Energy Star compliant.

EMERGENCY FIRST AID

Take care with toner powder:

> If swallowed, give small amounts of cold water and seek medical attention. DO NOT attempt to induce vomiting.

> If inhaled, move the person to an open area for fresh air. Seek medical attention.

> If it gets into the eyes, flush with large amounts of water for at least 15 minutes keeping eyelids open. Seek medical attention.

> Spillages should be treated with cold water and soap to help reduce risk of staining skin or clothing.

MANUFACTURER

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ENVIRONMENTAL INFORMATION

CONTENTS

NOTES, CAUTIONS AND WARNINGS

NOTE
A note provides additional information to supplement the main text.

<div style="background-color:orange;">

CAUTION!

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

</div>

<div style="background-color:red;">

WARNING!

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

</div>

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.

Specifications subject to change without notice. All trademarks acknowledged.

ABOUT THIS GUIDE

NOTE
Images used in this manual may include optional features that your product does not have installed.

DOCUMENTATION SUITE

This guide is part of a suite of online and printed documentation provided to help you become familiar with your product and to make the best use of its many powerful features. The documentation is summarised below for reference and is found on the manuals DVD unless indicated otherwise:

> **Installation Safety booklet:** provides information for safe use of your product.

  This is a paper document that is packaged with the product and should be read before setting up your machine.

> **Set-up guide:** describes how to unpack, connect and turn on your product.

  This is a paper document that is packaged with the product.

> **User's Guide:** helps you become familiar with your product and make the best use of its many features. Also included are guidelines for troubleshooting and maintenance to ensure that it performs at its best. Additionally, information is provided for adding optional accessories as your printing needs evolve.

> **Network Guide:** helps you become familiar with the functionality of the built in network interface card.

> **Security Guide:** helps you become familiar with your product's security features.

> **Installation Guides:** accompany consumable items and optional accessories to describe how to install them.

  These are paper documents that are packaged with the consumables and optional accessories.

> **On-line Help:** on-line information accessible from the printer driver and utility software.

ON-LINE USAGE

This guide is intended to be read on screen using Adobe Reader. Use the navigation and viewing tools provided in Adobe Reader.

There are many cross-references within this book, each highlighted as blue text. When you click on a cross-reference the display will instantly jump to the part of the manual containing the referenced material.

By using the ⊜ button in Adobe Reader, you can navigate directly back to where you were before.

You can access specific information in two ways:

> In the list of bookmarks down the left hand side of your screen, click on the topic of interest to jump to the required topic. (If the bookmarks are not available, use the "Contents" on page 4.)

> In the list of bookmarks, click on Index to jump to the Index. (If the bookmarks are not available, use the "Contents" on page 4.) Find the term of interest in the alphabetically arranged index and click on the associated page number to jump to the page containing the term.

PRINTING PAGES

The whole manual, individual pages, or sections may be printed. The procedure is:

1. From the toolbar, select **File > Print** (or press the **Ctrl** + **P** keys).

2. Choose which pages you wish to print:

    (a) **All pages**, (1), for the entire manual.

    (b) **Current page**, (2), for the page at which you are looking.
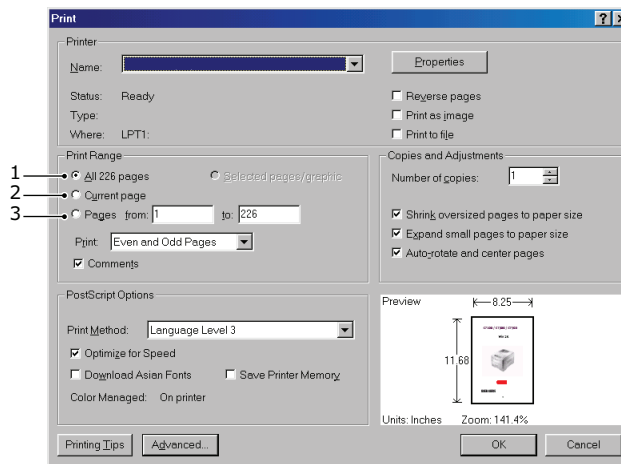
    (c) **Pages from** and **to**, (3), for the range of pages you specify by entering their page numbers.

    (d) Click **OK**.

INTRODUCTION

Congratulations on purchasing this monochrome page printer.

Your new printer is designed with a range of advanced features to give you crisp black and white pages at high speed on a wide range of print media.

For your information, a summary of the main features of your printer is given below.:

> Two different models to choose from: B840n and B840dn
(d denotes Duplex included and n denotes Network Interface Card included).

> Memory: 128MB.

> Paper handling: 530 sheets (80g/m²).

> Emulation: standard Printer Control Language PCL5e, PCLXL, Epson FX, IBM ProPrinter and PostScript3.

> Barcodes: embedded for SIDM emulations.

> 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 100 sheets (80g/m²) or 10 envelopes), and can also use as manual duplex.

> "Ask Oki" – a user-friendly function that gives a direct link from your printer driver screen (but not illustrated in this guide) to a dedicated web site specific to the exact model you are using. This is where you'll find all the advice, assistance and support you could need to help you get the best possible results from your Oki printer.

Additionally, the following optional features are also available:

> 256, 512MB RAM DIMM: to extend the main memory of your printer and speed up the processing of large files.

> SD card for storage of overlays, macros and downloadable fonts, and automatic collation of multiple copies of multipage documents.

> Additional paper tray: to increase your printer's paper handling capacity by 530 sheets (80g/m²).

PRINTER COMPONENTS

For illustration purposes the B840dn model is shown.
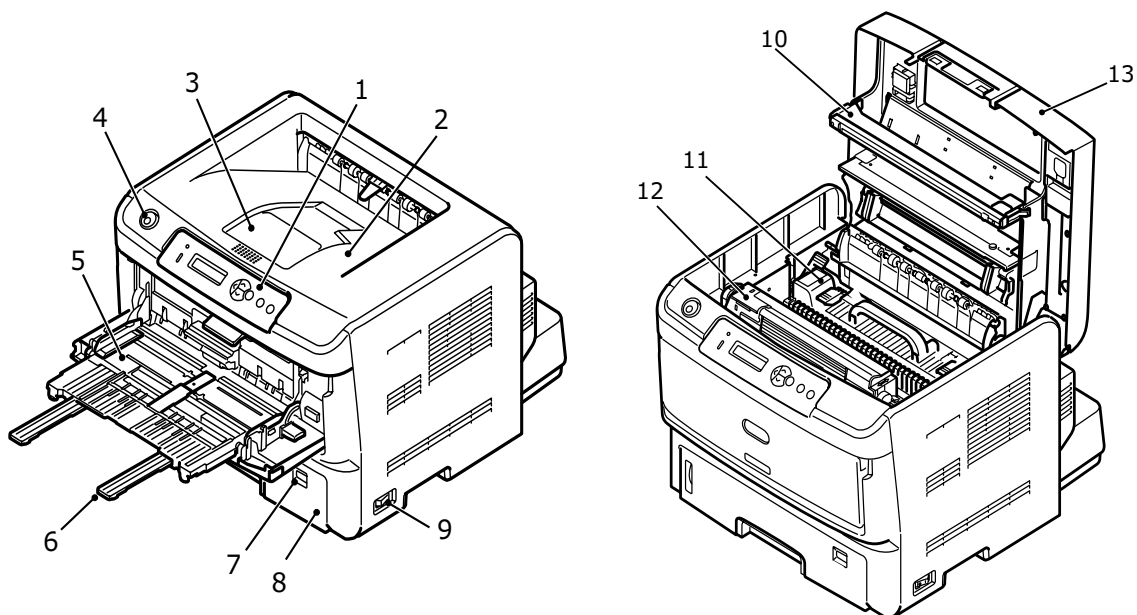
1. Operator panel

2. Output Stacker (250 sheets @ 80g/m^2, face down)

3. Output Stacker extension

4. Top cover release button

5. Multi Purpose Tray (100 sheets @ 80g/m^2)(shown in open position)

6. Multi Purpose Tray extension

7. Paper size dial

8. Paper Tray (530 sheets @ 80g/m^2)

9. ON/OFF switch

10. LED array

11. Fuser unit

12. EP toner cartridge

13. Top cover
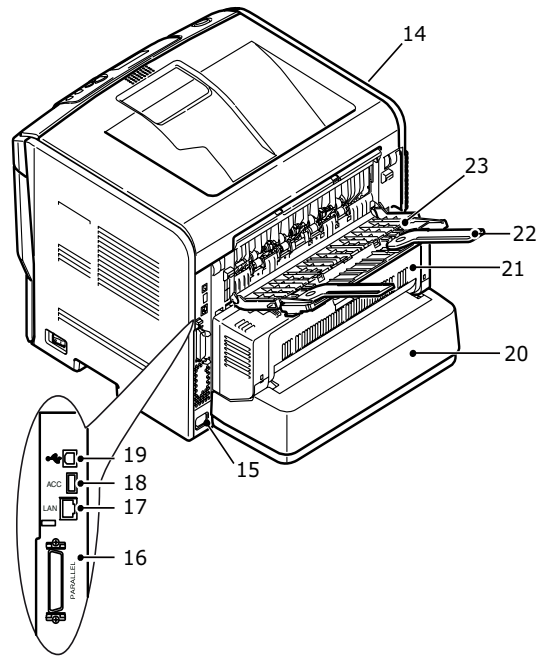
14. Cooling fan

15. Power cable connection

16. Parallel interface connection

17. LAN interface connection

18. ACC connection

19. USB interface connection

20. Paper Tray extension

21. Duplex unit (optional on the B840n)

22. Rear Face Up Tray extension

23. Rear Face Up Tray

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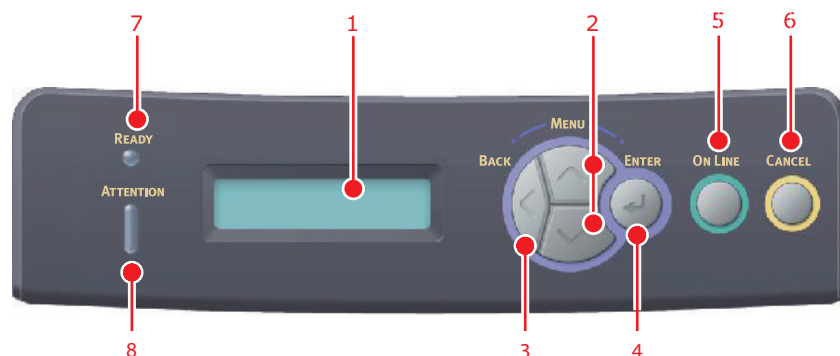
The operator panel consists of a menu driven control panel, an LCD display and two LED indicators.

PANEL ELEMENTS

1. **Liquid crystal display.** (LCD) panel. Two rows of up to 16 alphanumeric digits displaying print status, menu items in menu mode and error messages.

2. **Menu Scroll Buttons.** Press briefly to enter the MENU mode. Press briefly again to select the next menu. Press for more than 2 seconds to scroll through the different menus.

3. **Back button.** Press briefly to return to the previous higher level menu item or exit the menu when in MENU mode. In the ONLINE or OFFLINE mode/MENU mode: when pressed for 4 seconds, the printer starts to shutdown.

4. **ENTER button.** In the ONLINE or OFFLINE mode: press this briefly to enter the MENU mode. In the MENU mode: press this briefly to select the menu or setting indicated on the LCD. When pressed for 2 seconds or longer, it reverts to the previous menu item.

   > *NOTE*
   > *When pressed with DATA displayed (press and hold for five seconds), it forces the printer to print out the remaining data in the printer.*

5. **On Line button.** Press to switch between ONLINE and OFFLINE status. Press to exit the menu and displays ONLINE, when in the MENU mode.

   > *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.*
   >
   > *When pressed in Sleep Mode, the Online button returns the printer to ONLINE status.*
   >
   > *When manually feeding paper, pressing the Online button will start the printing.*

6. **Cancel button.** When printing press to cancel a print job. Press to exit the MENU mode and go ONLINE, when in the MENU mode.

   > *NOTE*
   > *When there is an error, and there are print jobs in queue, pressing the Cancel button deletes the first job in the queue.*

7. **Ready indicator (green). ON** indicates ready to receive data. **FLASHING** indicates processing data. **FLASHING SLOWLY** indicates the machine status is sleep mode. **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.

> *NOTE*
> *If both the Ready and Attention indicators are flashing, tThere is a minor error with the printer, for example, toner is low and the image drum needs to be changed.*

CHANGING LANGUAGE

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

German	Danish	Swedish	Polish
French	Dutch	Russian	Greek
Italian	Turkish	Finnish	Czech
Spanish	Portuguese	Hungarian	Norwegian

> *NOTE*
> 1. *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.*
>
> 2. *The list above is neither conclusive nor exhaustive.*

POWER SAVING MODE

If you do not use the machine for a while, it will enter the power saving mode to control the power consumption of the device. To cancel power saving mode, press the **On Line** button on the control panel.

SWITCHING OFF

> ### CAUTION!
> **If you have an SD card fitted, always follow the correct shutdown procedure to ensure that no data is lost.**

1. Press the **Enter** button on the control panel to enter the menu.

2. Press the **Menu down** button and scroll to the SHUTDOWN MENU.

> *NOTE*
> *Alternatively, pressing the **Back** button for longer than 4 seconds will display the SHUTDOWN MENU.*

3. Press the **Enter** button.

4. Press the **Enter** button to execute.

5. At the prompt, turn the power switch OFF.

MENU FUNCTIONS

HOW TO CHANGE THE SETTINGS - USER

It should be noted that many of these settings can be, and often are, overridden by settings in the Windows printer drivers. However, several of the driver settings can be left at "Printer Setting", which will then default to the settings entered in these printer menus.

Where applicable, factory default settings are shown in bold type in the following tables.In the normal operating condition, known as "standby," the printer's LCD window will show "ONLINE."

In this condition, to enter the menu system, press the up and down Menu buttons on the operator panel to move up and down through the list of menus until the menu you wish to view is displayed. Then proceed as follows:

1. Press **Enter** to enter the menu.

2. Use the up or down **Menu** buttons on the control panel to scroll through the menus. When the item you want to change is displayed, press **Enter** to view the sub-menus for that item.

3. Use the up or down **Menu** buttons to move up and down through the sub-menu items. When the item you want to change is displayed press **Enter** to display the setting.

4. Use the up or down **Menu** buttons to move up and down through the available settings for the sub-menu item. When the item you want to change is displayed press **Enter** to display the setting. An asterisk (*) will appear next to the setting, indicating that this setting is currently in effect.

5. Do one of the following:

    > Press **Back** again to move up to the list of menus;

    or…

    > Press **On Line** or **Cancel** to exit from the menu system and return to standby.

HOW TO CHANGE THE SETTINGS - ADMINISTRATOR

You can set whether to **ENABLE** or **DISABLE** each category in the user menu.

Disabled categories are not displayed in the User's menu. Only a system administrator can change these settings.

1. Turn **OFF** the printer.

2. Turn **ON** the printer while pressing the **Enter** button.
   When ADMIN MENU appears, take your finger off the button.

3. Press the **Enter** button.

4. At the ENTER PASSWORD prompt, enter the Admin password:

    (a) Using the up and down MENU buttons, scroll to the required letter/digit.

    (b) Press the **Enter** button to input and move to the next letter/digit.

    (c) Repeat steps (a) and (b) until all letters/digits are entered.

    Enter your 4 to 9 digit password.

    (The default password is aaaaaa).

5. Press the **Enter** button.

6. Press the up or down **Menu** button until the "category" you want to change is displayed.

7. Press the **Enter** button.

8. Press the up or down **Menu** button until the "item" you want to change is displayed.

9. Press the **Enter** button.

10. Using the up or down **Menu** button, identify the parameter as required.

11. Press the **Enter** button to enter an asterisk (*) on the right side of the setting selected.

12. Press the **On Line** button to switch to online. The machine will automatically re-boot.

MENUS

> *NOTE*
> *This guide is written to cover a number of models and as such may reference menu items or features that your machine does not have installed or does not support.*

Factory default settings are shown in the following tables.

PRINT JOBS MENU

NOTE
This menu only displays if the optional SD card is installed.

ITEM	ACTION	REMARKS
ENCRYPTED JOB	NOT FOUND PRINT DELETE	Used for printing an encrypted authentication print job (Encrypted Job) stored in the SD card. After inputting a password, "SEARCHING JOB" is displayed until a job appropriate to the password is found. (Searching time increases in proportion to the number of jobs stored in the SD card, and the printer may take up to 20 sec.) The search can be cancelled by holding down the CANCEL button. "NOT FOUND" will be displayed where a file is unavailable. One of the following messages will appear if a printable file is available. ENCRYPTED JOB PRINT DELETE If PRINT is selected, ALL jobs will be printed. If DELETE is selected, the following message will appear. ARE YOU SURE? YES NO If NO is selected you will return to the source MENU. If YES is selected, ALL jobs will be deleted. Print jobs with encrypted authentication stored in the SD card are deleted by a delete method specified by the driver after printing or a delete instruction from the menu.
STORED JOB	NOT FOUND PRINT DELETE	Used to print out a stored job in the SD card. "NOT FOUND" will be displayed where a file is unavailable. One of the following messages will appear if a printable file is available. STORED JOB PRINT DELETE If PRINT is selected, COLLATING AMOUNT is displayed and the number of pages to print can be specified. Press the **Enter** button. All specified pages will be printed. If DELETE is selected, the following message will appear. ARE YOU SURE? YES NO If NO is selected you will return to the source MENU. If YES is selected, ALL jobs will be deleted.

INFORMATION MENU

This menu provides a quick method of listing various items stored within the printer.

ITEM	ACTION	REMARKS
PRINT MENU MAP	EXECUTE	Prints complete menu listing with current settings shown.
NETWORK	EXECUTE	Prints Network configuration information.
PRINT FILE LIST	EXECUTE	Prints a list of overlays, macros, fonts and other files stored on the printer's SD card (if installed).
PRINT PCL FONT	EXECUTE	Prints complete list of all internal PCL fonts plus those stored in ROM (slot 0), flash memory and SD card (if installed).
PRINT PSE FONT	EXECUTE	Prints complete list of all internal PostScript emulation fonts.
PRINT PPR FONT	EXECUTE	Prints complete list of all internal IBM ProPrinter III XL emulation fonts, including any downloaded to flash memory or SD card (if installed).
PRINT FX FONT	EXECUTE	Prints complete list of all internal Epson FX emulation fonts, including any downloaded to flash memory or SD card (if installed).
DEMO32	EXECUTE	Prints demonstration page containing graphics and text.
PRINT ERROR LOG	EXECUTE	Prints a list of all errors and warnings experienced.
USAGE REPORT	EXECUTE	Prints a list of pages printed.

SHUTDOWN MENU

This item should always be selected before switching the printer off, to ensure that no data is lost.

ITEM	ACTION	REMARKS
SHUTDOWN START	EXECUTE	Performs controlled shutdown of the printer. Only power the printer off when the display indicates that shutdown is complete.

PRINT MENU

This menu provides adjustment of various print job related functions.

ITEM	DEFAULT	REMARKS
COPIES	1	Enter the number of copies of a document to be printed from 1 to 999.
DUPLEX	OFF	Switches the Duplex (2 sided) function ON/OFF. Duplex must be fitted.
BINDING	LONG EDGE	Sets the default binding to SEF or LEF.Display condition: duplex setting is enabled. See "DUPLEX" on page 18.
PAPER FEED	TRAY1	Selects the default tray for paper feed, Tray 1 (upper), Tray 2 (lower, if installed) or MP Tray (multi purpose tray).
AUTO TRAY SWITCH	ON	If two trays contain identical paper, the printer can switch to an alternative source when the current tray runs out in the middle of a print job.
TRAY SEQUENCE	DOWN	Determines tray sequence order when automatically switching.
MP TRAY USAGE	DO NOT USE	If a document to be printed demands a paper size not installed in the selected tray, the printer can automatically feed from the multi purpose tray instead. If this function is not enabled, the printer will stop and request the correct size of paper to be loaded.
MEDIA CHECK	ENABLE	Determines whether the printer check the size of paper loaded matches that required for the document sent to print.
RESOLUTION	600DPI	Sets the default resolution for printing (dots per inch). 1200DPI uses more memory and requires more time to process, but prints at a higher quality.
TONER SAVE MODE	DISABLE	Use less toner 10pt characters print legibly, but 8 pt characters do not.
ORIENTATION	PORTRAIT	Selects default page orientation between portrait (tall) and landscape (wide). - (PCL, IBMPPR & EPSON FX only)
LINES PER PAGE	64LINES	Sets the number of lines of text per page when raw text is received from systems other than Windows. The default for A4 portrait is 64, and for Letter is 60. - (PCL only)
EDIT SIZE	CASSETTE SIZE	Sets the size of the printable page area to match the size of paper in use. This is not the same as the physical paper size, which is always slightly larger. For dimensions of physical page sizes, see "Paper recommendations" section in this guide.
X SIZE	210MILLIMETER	Specifies paper width of Custom paper as a default value. Sets a paper size at right angles to the paper run direction.
Y SIZE	297MILLIMETER	Specifies paper length of Custom paper as a default value. Sets a paper size in the same direction as the paper run direction.

MEDIA MENU

This menu provides adjustment to suit a wide range of print media.

ITEM	DEFAULT	REMARKS
TRAY1 PAPERSIZE	CASSETTE SIZE	Selects the size of paper loaded in Tray 1 (upper tray if both trays installed). For CUSTOM setting see X-SIZE and Y-SIZE in "Print menu" on page 18.
TRAY1 MEDIATYPE	PLAIN	Selects the type of media loaded in this tray. This will help the printer to adjust its internal operating parameters, such as engine speed and fusing temperature, to better accommodate the media to be fed. For example, letterhead may benefit from a slightly lower fusing temperature to ensure that its ink does not offset. Note: USERTYPEn are displayed only if registered in the host PC/Server.
TRAY1 MEDIAWEIGHT	MEDIUM	Adjusts the printer for the weight of paper stock loaded in this tray.
TRAY1 LEGAL SIZE	LEGAL14	
TRAY1 OTHER SIZE	TABLOID	
TRAY2 PAPERSIZE	CASSETTE SIZE	Selects the size of paper loaded in Tray 2 (lower) if installed. For CUSTOM setting see X-SIZE and Y-SIZE in "Print menu" on page 18.
TRAY2 MEDIATYPE	PLAIN	Selects the type of media loaded in this tray (if installed). This will help the printer to adjust its internal operating parameters, such as engine speed and fusing temperature, to better accommodate the media to be fed. For example, letterhead may benefit from a slightly lower fusing temperature to ensure that its ink does not offset. Note: USERTYPEn are displayed only if registered in the host PC/Server.
TRAY2 MEDIAWEIGHT	MEDIUM	Adjusts the printer for the weight of paper stock loaded in this tray (if installed).
TRAY2 LEGAL SIZE	LEGAL14	
TRAY2 OTHER SIZE	TABLOID	
TRAY3 PAPERSIZE	CASSETTE SIZE	Selects the size of paper loaded in Tray 3 (lower) if installed. For CUSTOM setting see X-SIZE and Y-SIZE in "Print menu" on page 18.
TRAY3 MEDIATYPE	PLAIN	Selects the type of media loaded in this tray (if installed). This will help the printer to adjust its internal operating parameters, such as engine speed and fusing temperature, to better accommodate the media to be fed. For example, letterhead may benefit from a slightly lower fusing temperature to ensure that its ink does not offset. Note: USERTYPEn are displayed only if registered in the host PC/Server.
TRAY3 MEDIAWEIGHT	MEDIUM	Adjusts the printer for the weight of paper stock loaded in this tray (if installed).
TRAY3 LEGAL SIZE	LEGAL14	
TRAY3 OTHER SIZE	LETTER SEF	

ITEM	DEFAULT	REMARKS
MPT PAPERSIZE	A4 LEF	Selects the size of paper to be fed from the multi purpose tray. For CUSTOM setting see X-DIMENSION and Y-DIMENSION in "Print menu" on page43.
MPT MEDIATYPE	PLAIN	Selects the type of media to be fed from the multi purpose tray so that the printer can adjust its internal parameters to better accommodate the selected type of media.Note: USERTYPEn are displayed only if registered in the host PC/Server.
MPT MEDIAWEIGHT	MEDIUM	Selects the media weight to be fed from the multi purpose tray.
UNIT OF MEASURE	MILLIMETER	Selects the unit of measure.

SYS CONFIG MENU

This menu adjusts general printer settings to suit the way you prefer to work.

ITEM	DEFAULT	REMARKS
POW SAVE TIME	1 MIN	Adjusts the idling time before the printer automatically switches into power saving mode. In this mode power consumption is reduced to a low level required to just keep the printer operating and ready to receive data. When a job is sent the printer will require a warm-up time of up to 1 minute before printing can begin.
SLEEP TIME	10 MIN	Adjusts the power saving time before the printer automatically switches into sleep mode.
PERSONALITY	AUTO EMULATION	This item selects which industry standard emulation your printer should use. When set to AUTO, incoming data is examined and the correct emulation is automatically selected each time a print job is received.
PARA PS-PROTOCOL	ASCII	Selects PostScript data format for parallel port.
USB PS-PROTOCOL	RAW	Selects PostScript data format for USB port.
NET PS-PROTOCOL	RAW	Selects PostScript data format for network port.
CLRABLE WARNING	ONLINE	When ONLINE, non-critical warnings, such as requests for a different paper size, can be cleared by pressing the ON LINE button. When set to JOB, they are cleared when the print job resumes.
AUTO CONTINUE	OFF	Determines whether or not the printer will automatically recover from a memory overflow condition.
MANUAL TIMEOUT	60 SEC	Specifies how many seconds the printer will wait for paper to be fed before cancelling the job.
WAIT TIMEOUT	40 SEC	Specifies how many seconds the printer will wait when received data pauses before forcing a page eject. In PostScript Emulation mode the job will be cancelled if timeout occurs.
TIMEOUT LOCAL	40 SEC	
TIMEOUT NET	90 SEC	

ITEM	DEFAULT	REMARKS
JAM RECOVERY	ON	Specifies whether the printer should perform jam recovery after a paper jam has occurred. If ON, the printer will attempt to re-print any pages lost due to a paper jam once the jam has been cleared.
ERROR REPORT	OFF	If ON, the printer will print error details when a PostScript Emulation error occurs. Note: Applies to PS & PCL XL only.

PCL EMULATION

This menu controls the printer's PCL emulation.

ITEM	DEFAULT	REMARKS
FONT SOURCE	RESIDENT	Specifies the location of the PCL default font. Normally this will be INTERNAL unless additional fonts are installed in the expansion ROM slot or additional fonts have been downloaded to RAM as permanent fonts.
FONT NO.	I0	Sets the current default font number from the currently selected source.
FONT PITCH	10.00CPI	Sets the width of the PCL default font in characters/inch (CPI). Default font is the fixed-pitch, scalable font. The value is displayed to the second decimal place Displayed only when the font selected in Font No. is fixed-spacing, scalable font.
FONT HEIGHT	12.00POINT	Height of the PCL default font. Note: This menu item is displayed only when the font selected in Font No. is a proportional-spacing, scalable font.
SYMBOL SET	PC-8	PCL symbol set. If the font source and number are changed to one which does not support the selected symbol set, this must be changed to an available symbol set for that font.
A4 PRINT WIDTH	78 COLUMN	Sets the number of columns subject to Auto LF with A4 paper in PCL. This is the value when Auto CR/LF Mode is set to OFF with the 10CPI character.
WHITE PAGE SKIP	OFF	Selects whether blank pages are printed or not.
CR FUNCTION	CR	Selects whether a received carriage return character (0Dh) also causes a line feed.
LF FUNCTION	LF	Selects whether a received line feed character (0Ah) also causes a carriage return.
PRINT MARGIN	NORMAL	Sets the non-printable page area. NORMAL is PCL compatible.
PEN WIDTH ADJUST	ON	When minimum width is specified in PCL, sometimes a 1-dot line, looks broken. With PEN WIDTH Adjust set to ON, when the minimum width is specified, the line width will be emphasized so as to look wider than a 1-dot line. With PEN WIDTH Adjust set to OFF, the line will appear as before.

ITEM	DEFAULT	REMARKS
TRAY ID#		
PCL T0ID	4	Sets the # to specify the MP tray for the paper feed destination command (ESC&l#H) in PCL5e emulation.
PCL T1ID	1	Sets the # to specify Tray 1 for the paper feed destination command (ESC&l#H) in PCL5e emulation.
PCL T2ID	5	Sets the # to specify Tray 2 for the paper feed destination command (ESC&l#H) in PCL5e emulation. (Displayed only if Tray 2 is installed).
PCL T3ID	20	Sets the # to specify Tray 3 for the paper feed destination command (ESC&l#H) in PCL5e emulation. (Displayed only if Tray 3 is installed).

PPR EMULATION

This menu controls the printer's PPR emulation.

ITEM	DEFAULT	REMARKS
CHARACTER PITCH	10 CPI	Specifies character pitch in IBM PPR emulation.
FONT CONDENSE	12CPI to 20CPI	Specifies 12CPI pitch for Condense Mode.
CHARACTER SET	SET-2	Specifies a character set.
SYMBOL SET	IBM-437	Specifies a symbol set.
LETTER O STYLE	DISABLE	Specifies the style that replaces 9BH with letter o and 9DH with a zero
ZERO CHARACTER	NORMAL	Sets the zero to be slashed or unslashed.
LINE PITCH	6 LPI	Specifies the line spacing.
WHITE PAGE SKIP	OFF	Selects whether blank pages are printed or not.
CR FUNCTION	CR	Selects whether a received carriage return character (0Dh) also causes a line feed.
LF FUNCTION	LF	Selects whether a received line feed character (0Ah) also causes a carriage return.
LINE LENGTH	80 COLUMN	Specifies the number of characters per line.
FORM LENGTH	11.7 INCH	Specifies the length of paper.
TOF POSITION	0.0INCH	Specifies the distance of print from the top edge of the paper.
LEFT MARGIN	0.0INCH	Specifies the distance of print from the left hand edge of the paper.
FIT TO LETTER	DISABLE	Sets the printing mode that can fit print data, equivalent to 11 inches (66 lines), in the LETTER-size printable area.
TEXT HEIGHT	SAME	Sets the height of a character. SAME: Regardless of CPI, same height DIFF: As CPI, character heights vary.
CONT PAPER MODE	OFF	Sets printer for using continuous feed stationery.

FX Emulation

This menu controls the printer's FX emulation.

ITEM	DEFAULT	REMARKS
CHARACTER PITCH	10 CPI	Specifies character pitch in this emulation.
CHARACTER SET	SET-2	Specifies a character set.
SYMBOL SET	IBM-437	Specifies a symbol set.
LETTER O STYLE	DISABLE	Specifies the style that replaces 9BH with letter o and 9DH with a zero
ZERO CHARACTER	NORMAL	Sets the zero to be slashed or unslashed.
LINE PITCH	6 LPI	Specifies the line spacing.
WHITE PAGE SKIP	OFF	Selects whether blank pages are printed or not.
CR FUNCTION	CR	Selects whether a received carriage return character (0Dh) also causes a line feed.
LINE LENGTH	80 COLUMN	Specifies the number of characters per line.
FORM LENGTH	11.7 INCH	Specifies the length of paper.
TOF POSITION	0.0INCH	Specifies the distance of print from the top edge of the paper.
LEFT MARGIN	0.0INCH	Specifies the distance of print from the left hand edge of the paper.
FIT TO LETTER	DISABLE	Sets the printing mode that can fit print data, equivalent to 11 inches (66 lines), in the LETTER-size printable area.
TEXT HEIGHT	SAME	Sets the height of a character. SAME: Regardless of CPI, same height DIFF: As CPI, character heights vary.
CONT PAPER MODE	OFF	Sets printer for using continuous feed stationery.

Parallel menu

This menu controls the operation of the printer's parallel data interface.

ITEM	DEFAULT	REMARKS
PARALLEL	DISABLE	Enables or disables the parallel port.[1]
BI-DIRECTION	ENABLE	ENABLE/DISABLE the bi-directional capability of the parallel interface.
ECP	ENABLE	Extended Capabilities Port, enables/disables this function.
ACK WIDTH	NARROW	Sets ACK width for compatible reception.
ACK/BUSY TIMING	ACK IN BUSY	Sets the order to output the BUSY and ACK signal for compatible reception.
I-PRIME	DISABLE	Sets time to enable/disable I-prime signal
OFFLINE RECEIVE	DISABLE	To Enable/disable of this function. When set to Enable, the interface retains a receive possible state even when switching to Offline. Interface sends the BUSY signal only when the receive buffer is full or a service call occurs.

1. If the centronics (parallel) port is enabled, the product is no longer Energy Star compliant.

USB MENU

This menu controls the operation of the printer's USB data interface.

ITEM	DEFAULT	REMARKS
USB	ENABLE	Enables or disables the USB data interface.
SOFT RESET	DISABLE	Enables or disables the SOFT RESET command.
SPEED	480Mbps	Selects the interface speed.
OFFLINE RECEIVE	DISABLE	Enables or disables this function. When set to Enable, the interface retains a receive possible state even when switching to Offline. Interface sends the BUSY signal only when the receive buffer is full or a service call occurs.
SERIAL NUMBER	ENABLE	Specifies whether to ENABLE or DISABLE a USB serial number. The USB serial number is used to identify the USB device connected to your PC.

NOTE
When you have changed any settings in the USB MENU, turn the printer OFF, then ON again.

NETWORK MENU

This menu controls the operation of the printer's 10Base-T/100Base-TX network interface.

ITEM	DEFAULT	REMARKS
TCP/IP	ENABLE	Enables or disables this network protocol.
IP VERSION	IP v4	Sets up the IP version. Operates with IP v4 only (not valid with IPv6). Operates with both IP v4 and IPv6. Operates with IPv6 only (not valid with IPv4). From this stage, if IPv6 only is set from UI, for example Telnet, "IP v6" appears as the value of IP Version on the operation panel. "IP v6" will disappear from the value if "IP v4" or "IP v4+v6" is selected. Display Condition: TCP/IP should be enabled.
NETBEUI	DISABLE	Enables or disables this network protocol.
NETBIOS OVER TCP	ENABLE	Sets Enable/Disable of NetBIOS over TCP protocol. Display Conditions: > TCP/IP should be enabled. > IP Version is not IPv6.
NETWARE	DISABLE	Enables or disables this network protocol.
ETHERTALK	DISABLE	Enables or disables this network protocol.
FRAMETYPE	AUTO	Selects the Ethernet MAC layer frame type. Display Condition: Netware should be enabled.
IP ADDRESS SET	AUTO	Specifies whether IP address allocation is automatic (DHCP) or manually assigned.
IP ADDRESS	xxx.xxx.xxx.xxx	Current assigned IP address. To change, press ENTER and use Menu buttons to increment 1st octet, then press ENTER again to move on to next octet. When 4th octet has been set, press ENTER again to register new address.
SUBNET MASK	xxx.xxx.xxx.xxx	Current assigned subnet mask. To change, proceed as above.
GATEWAY ADDRESS	xxx.xxx.xxx.xxx	Current assigned gateway address. To change, proceed as above.
WEB	ENABLE	Enables or disables Web config. facility.
TELNET	DISABLE	Enables or disables Telnet config. facility.
FTP	DISABLE	Enables or disables communication via FTP.
IPSEC	DISABLE	Sets Enable/Disable of IPSec. Enable via the web. Enable: IPSec is available. Disable: IPSec is not available.
SNMP	ENABLE	Enables or disables SNMP protocol.
NETWORK SCALE	NORMAL	Selects network size.When NORMAL is selected, printer can work effectively, even when connected to a HUB that has a spanning tree feature. However, printer start up time gets longer when computers are connected with two or three small LANs.When SMALL is selected, computers can cover from two or three small LANs to a large LAN, but may not work effectively when connected to a HUB that has a spanning tree feature.

ITEM	DEFAULT	REMARKS
HUB LINK SETTING	AUTO NEGOTIATE	Sets full or half duplex for communication via a network hub.When AUTO is set, negotiation is done automatically.
FACTORY DEFAULTS	EXECUTE	Reloads the settings present when the unit was setup by the manufacturer.

MAINTENANCE MENU

This menu provides access to various printer maintenance functions.

ITEM	DEFAULT	REMARKS
MENU RESET	EXECUTE	Resets menus to default settings.
SAVE MENU	EXECUTE	Saves the current menu settings. The last menu executed is saved and the menu previously saved is overwritten and erased. When you press the ENTER button, the following confirmation message is displayed. ARE YOU SURE? YES/NO If you select NO, the display returns to the previous menu. If you select YES, the current menu settings are stored and the menu is exited.
POWER SAVE	ENABLE	Enables or disables automatic power save mode. Delay before entering this mode is set in the SYS CONFIG MENU.
SLEEP	ENABLE	Sets Enable/Disable of Sleep Mode.
USB HOST POWER	OFF	Sets power supply for USB-HOST of the whole power save mode. When Off, suppress power supply.When On, do normal power supply.
PAPER BLACK SET	0	Used for small adjustments when you experience faded print or light specks / streaking in monochrome printing on white paper. Select a higher value to reduce fading, or a lower value to reduce specks or streaking in high density print areas.
TRNSPR BLACK SET	0	As above but for mono printing on transparencies.
DARKNESS	0	Adjusts the darkness setting. Normal setting is 0.
SMR SETTING	0	Sets a correction value for uneven print quality, to correct print variations caused by variations in temperature and humidity or in print density/ frequency.
BG SETTING	0	Sets a correction value for dark-coloured paper printing, to correct print variations caused by variations in temperature and humidity or in print density/frequency.

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
TRAY1 PAGE COUNT	nnnn	An indication of the number of pages printed from Tray1.
TRAY2 PAGE COUNT	nnnn	An indication of the number of pages printed from Tray2. (When Tray2 is installed.)
TRAY3 PAGE COUNT	nnnn	An indication of the number of pages printed from Tray3. (When Tray3 is installed.)
MPT PAGE COUNT	nnnn	An indication of the number of pages printed from the MPT.
FUSER LIFE	REMAINING nnn%	An indication of the remaining fuser life.
EP TONER (n.nK)	REMAINING nnn%	An indication of the remaining EP toner life.

PRINTING MENU SETTINGS

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

1. Press the **Menu** UP arrow or DOWN arrow button until the INFORMATION MENU is available, then press the **Enter** button.

2. Press the UP arrow or DOWN arrow button until PRINT MENU MAP EXECUTE is displayed.

3. Press the **Enter** button to print the menu map.

4. Press the **Cancel** or **Online** or the 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 ejection method to use, see the section entitled "Paper and tray information" in the "Specifications" chapter.

PAPER AND ENVELOPE TYPES

The manufacturer of this printer recommends the following 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

The manufacturer of this printer recommends the following 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 200°C for 0.1 sec.

> Do not use media designed for use in colour laser printers and photocopiers.

> Labels should cover entire carrier sheet.

> Carrier sheet or adhesive must not be exposed to any part of the printer.

> *NOTE*
> *You can use Thermal resistant transparencies used for Over Head Projectors.*

POSTCARDS

The manufacturer of this printer recommends the following 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.

INSTALLING PAPER

> *NOTE*
> *If printing on A6 size paper, use the multi purpose tray.*

PAPER TRAY

> *NOTE*
> *If you are topping up 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 followed by the paper you removed. This ensures that the oldest paper is used first to help prevent paper jams.*

1. Remove the paper tray from the printer.
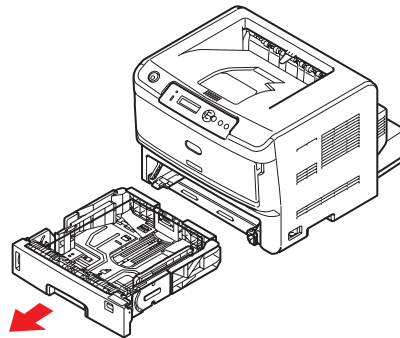
2. Fan the paper to be loaded at the edges (1) and in the middle (2) to ensure that all sheets are properly separated, then tap the edges of the stack on a flat surface to make it flush again (3).
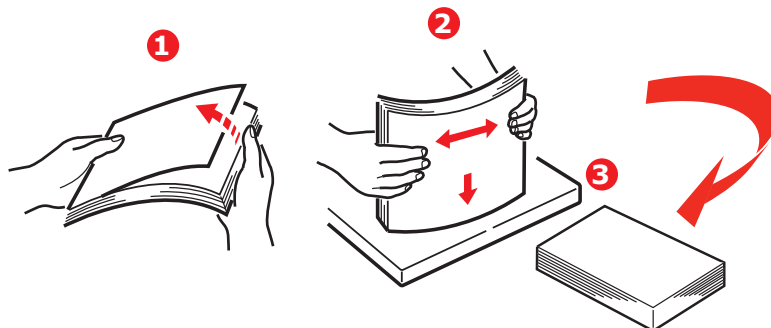
3. Load paper long edge feed (LEF) (letter headed paper - face down and top edge towards the right of the printer) (1) up to mark (a).
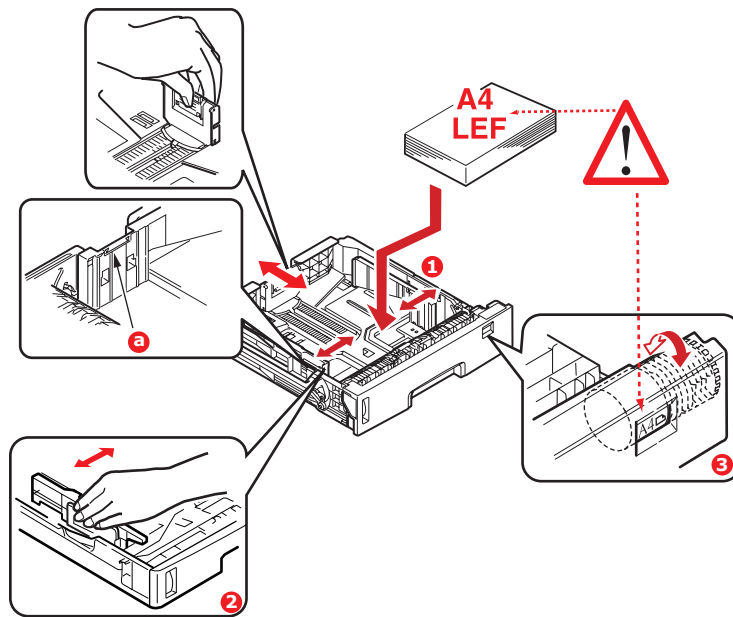
4. Adjust the rear stopper, paper guides (2) and cassette tray roller (3) to the size and orientation of paper being used.

CAUTION!

IMPORTANT: Set paper size dial (3) to the size and orientation of paper being used (A4 LEF in the above example).

If the paper is oriented long-edge, the Long Edge Feed (LEF) checkbox must be enabled in the printer driver.

If the paper is oriented short-edge, the Long Edge Feed checkbox must be disabled in the printer driver.

If the driver setting doesn't match the paper orientation, the printer will display an error message indicating that a mismatch has occurred.

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5. Close the paper tray gently.

If you have two trays and you are printing from the 1st (upper) tray, you can pull out the 2nd (lower) tray during printing to reload it. However, if printing from the 2nd (lower) tray, do not pull out the 1st (upper) tray. This will cause a paper jam.

If 3 trays are fitted this applies to trays 1 & 2 if printing from the 3rd (lower) tray.

To prevent paper jams:

> Do not leave space between the paper and the guides and rear stopper.

> Do not overfill the paper tray. Capacity depends on the type of paper stock.

> Do not load damaged paper.

> Do not load paper of different sizes or types at the same time.

> Do not pull the paper tray out during printing (except as described above for the 2nd tray).

Face up and face down printing

For face down printing, make sure the Rear stacker 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 250 sheets of weight 80g/m². Pages printed in reading order (page 1 first) will be sorted in reading order (last page on top, facing down).

The face up stacker should be opened and the tray extension pulled out when required for use. (With the face up stacker either opened or closed, the driver setting of face down will successfully direct prints to the face down stacker.)

The face up stacker can hold up to 100 sheets 80g/m² standard paper.

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

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), Tray 3 (if fitted), Multi Purpose Tray, provided that these trays are set up for identical media. Also, configure the media size and media weight for the respective trays in the operator panel.

MULTI PURPOSE TRAY

1. Pull down the Multi Purpose Tray (1), extend the tray (2) and fold out the paper supports (3), and adjust the paper guides to the width of the paper (4).
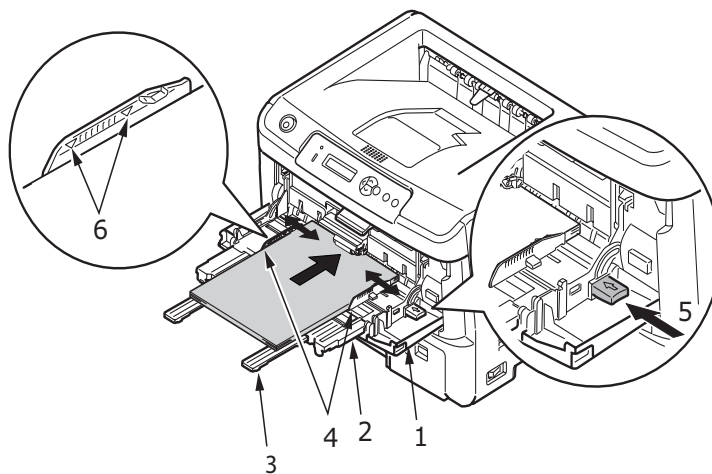
2. Load the paper into the Multi Purpose Tray and push the set button (5). Ensure that the paper is loaded below the arrow level (6) to avoid paper jam.

> *NOTE*
> *Do not exceed the paper capacity of approximately 100 sheets or 10 envelopes depending on the media weight.*

> 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 headed 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.

> For heavyweight paper or cardstock open the rear stacker to collect the printed output. This will give the paper a nearly straight path through the machine, avoiding paper jams and damage to the paper.

3. 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.**

> *NOTE*
> > *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.*
>
> *You **must** set the paper size dial as described on .*

Using the control panel on your printer, you can choose:

> which paper to use

> the size of the paper you wish to use

> the weight of the paper (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 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 **Menu** UP arrow or DOWN arrow button repeatedly until PRINT MENU is displayed, then press the **Enter** button.

2. Press the UP arrow or DOWN arrow button until PAPER FEED is displayed, then press the **Enter** button.

3. Press the UP arrow or DOWN arrow button until the required paper feed is displayed.

4. Press the **Enter** button. An asterisk (*) appears next to the selected paper feed.

5. Press the **Cancel** or **Online** or the 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 recognised 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 **Menu** UP arrow or DOWN arrow button until PRINT MENU is displayed, then press **Enter** button.

2. Press either UP arrow or DOWN arrow button repeatedly until EDIT SIZE is displayed, then press **Enter** button.

3. Press either UP arrow or DOWN arrow button until the required paper size is displayed, then press the **Enter** button. An asterisk (*) appears next to the selected paper size.

4. Press the **Cancel** or **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 **Menu** UP arrow or DOWN arrow button until MEDIA MENU is displayed, then press the **Enter** button.

2. Press the UP arrow or DOWN arrow button until MEDIA TYPE or MEDIA WEIGHT for the required tray is displayed, then press **Enter** button.

3. Press the UP arrow 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** or **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.

INTERFACES

Your printer is equipped with a selection of data interfaces:

1. **Parallel**[1] – 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 *****, ***** (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 your printer is to be installed as a network printer, please refer to the Network Guide 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.*

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1. If the centronics (parallel) port is enabled, the product is no longer Energy Star compliant.

PRINTER DRIVERS

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

The printer drivers are all contained on the printer driver DVD. Please refer to the readme file on this DVD for the latest information on printer driver installation.

WINDOWS OPERATING SYSTEMS

1.   With Windows running, insert the printer driver DVD into your DVD-ROM drive.

2.   If the DVD does not run automatically, use **Start > Run...** and enter *E:\setup* (where E is your DVD-ROM drive) in the Open field.

3.   Click on **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.

6.   Once the driver has been installed, the operator panel language switching utility will run automatically. Choose your preferred operating language. See "Changing language" on page 13.

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) and/or Device Settings tab (PS emulation). Refer to "Operation" on page 37 for details.

MAC OS X OPERATING SYSTEMS

Please refer to the readme file on DVD for details on installing the appropriate Mac OS X drivers.

INSTALLED OPTIONS

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

OPERATION

This chapter provides a broad outline of how to operate your printer from either a Windows or a Mac OS X environment. In the former, while PCL emulation is available on all printer models, PS emulation is optional.

PRINTER SETTINGS IN WINDOWS

> *NOTE*
> *The illustrations in this guide relate to Windows XP PCL and PS emulations –*
> *other operating system windows may appear slightly different but the*
> *principles are the same.*

Your printer's operator panel 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 menus, and you print documents from Windows, the settings in the Windows printer driver will override those items in the operator panel menus.

PRINTING PREFERENCES IN WINDOWS APPLICATIONS

When you choose to print your document from a Windows application program a Print dialogue box appears. This dialogue 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.

PCL EMULATION

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

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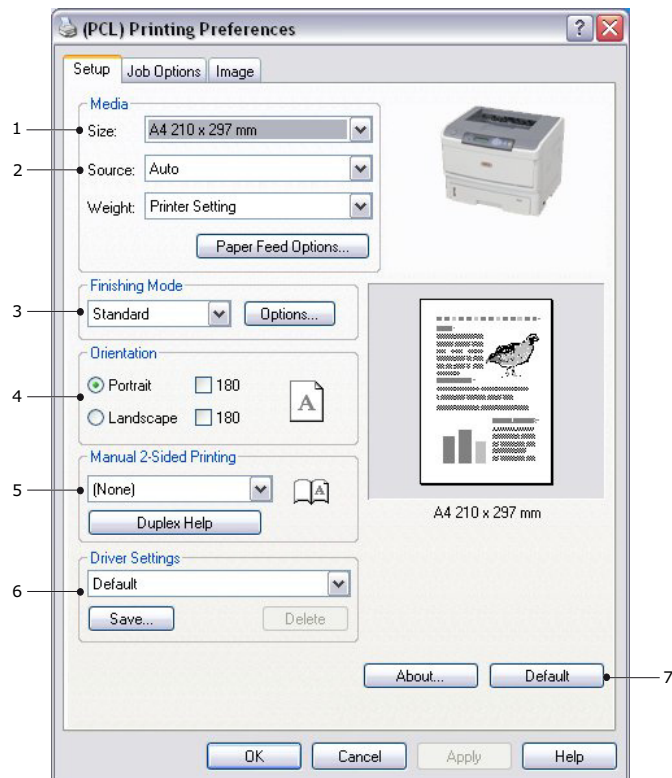
1. Paper size should be the same as the page size of your document (unless you wish to scale the printout to fit another size), and should also be the same as the size of paper you will feed into the printer.

2. You can choose the source of the paper to feed, which may be Tray 1 (the standard paper tray), Tray 2 or Tray 3 (if you have the optional paper trays 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. Page orientation can be set to either portrait (tall) or landscape (wide). Both views can be rotated by 180 degrees.

5. 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 printing" on page 48 The **Duplex Help** button also offers guidelines on how to carry out manual duplex printing.

6. 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.

7. A single on-screen button restores the default settings.

Job options tab
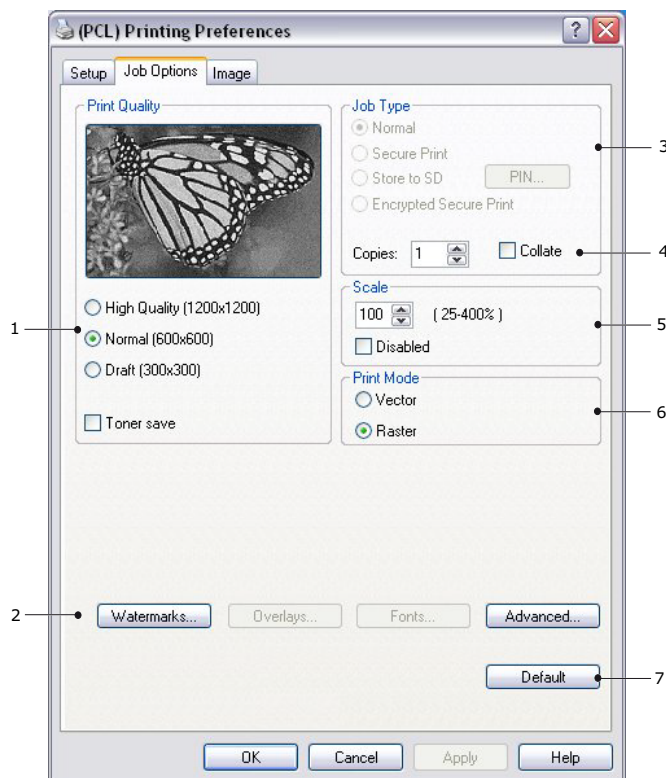
1. The output resolution of the printed page can be set as follows.

> The High Quality setting prints at 1200 x 1200dpi and is the best option for printing vector objects such as graphics and text.

> The Normal setting prints at 600 x 600dpi and is suitable for most printing jobs.

> The Draft setting prints at 300 x 300dpi and is suitable for printing draft documents that contain mainly text.

> You can select **Toner Saving** to save toner for some print jobs.

2. You can print watermark text behind the main page image. This is useful for marking documents as draft, confidential, etc.

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 **Overlays**. For more information on Overlays and Macros refer to "Overlays and Macros (Windows only)" on page 52. The **Overlays** button also offers guidelines on how to carry out manual duplex printing.

3. You can select your preferred job type. For more information on using the secure printing functions, refer to the Security Guide.

4. 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.

5. Your printed pages can be scaled to fit larger or smaller stationery, within a range of 25% to 400% of the original size.

6. 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.

7. A single on-screen button restores the default settings.

Image tab
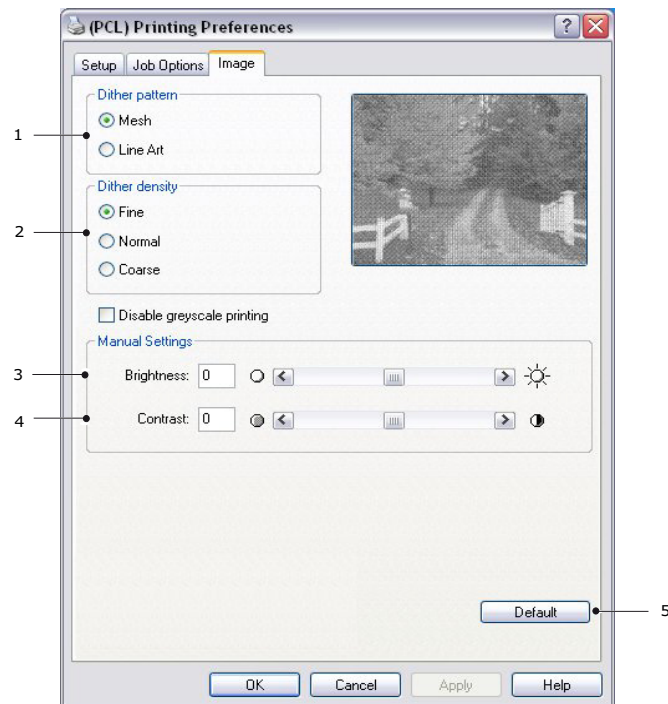
1. Dithering produces an intermediate greyscale by adjusting the combination of dots used in printing. Selecting a setting determines the degree of detail with which a graphics image will be printed. Mesh determines that a screen of dots is used for dithering while Line Art determines that an array of lines is used for dithering.

2. Select dithering texture by setting the size of dots used in the halftone screen.

3. Set this control to print greyscale effects in black without dithering. Select the check-box to disable greyscale printing or de-select the check-box to enable greyscale printing.

4. You can manually adjust brightness (the higher the setting the brighter the print) and contrast (the higher the setting the greater the contrast).

5. A single on-screen button restores the default settings.

PS EMULATION

The tabs available are the **Layout Tab**, the **Paper/Quality Tab** and the **Job Options Tab**.

Layout tab
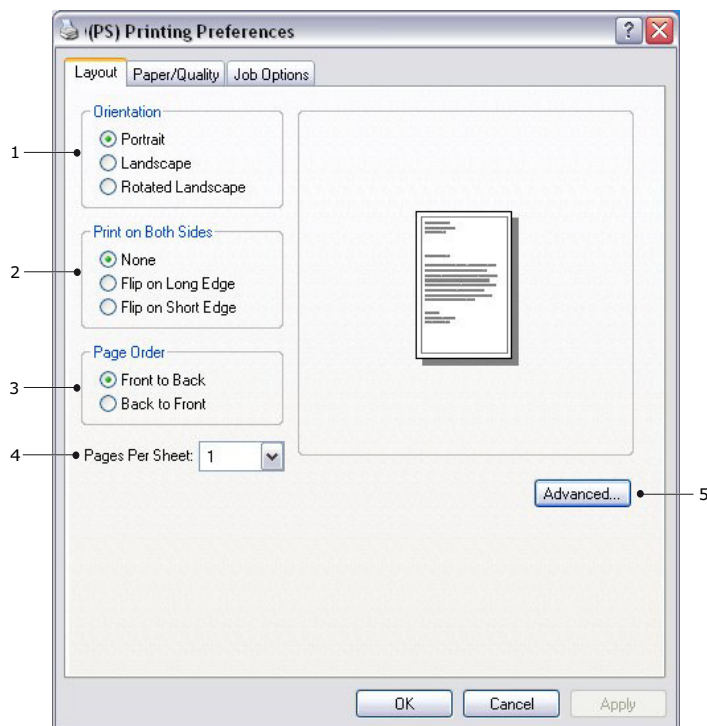
1. Page orientation can be set to portrait (tall), landscape (wide) or landscape rotated by 180 degrees.

2. Print on both sides (duplex printing) can be set to long edge or short edge of the document.

3. Printed page order can be set as front to back or back to front of the document.

4. Set the number of pages to be printed on a single sheet. You can also set it to print a booklet.

5. Click the **Advanced** button to be able to set further document options as follows:
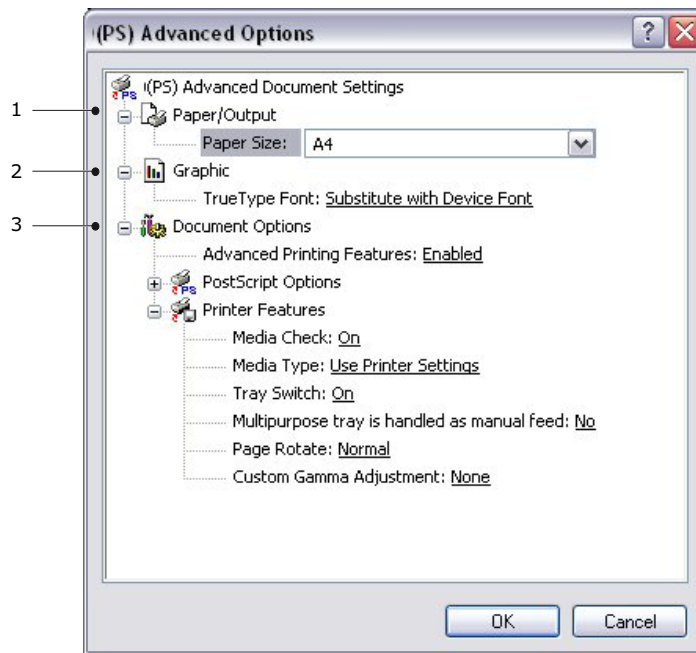
1. Select the required printed paper size.

2. You can substitute another font for TrueType Font.

3. You can set other document options as required, including PostScript options and printer features.

Paper/Quality tab
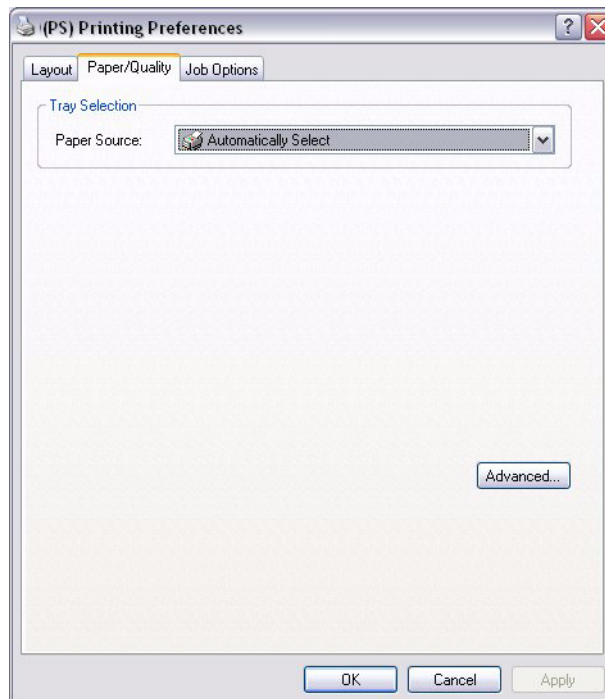
You can set the paper source or leave it as automatic selection and by using the **Advanced** button you have access to the same set of options as described above for the Layout Tab.

Job options tab
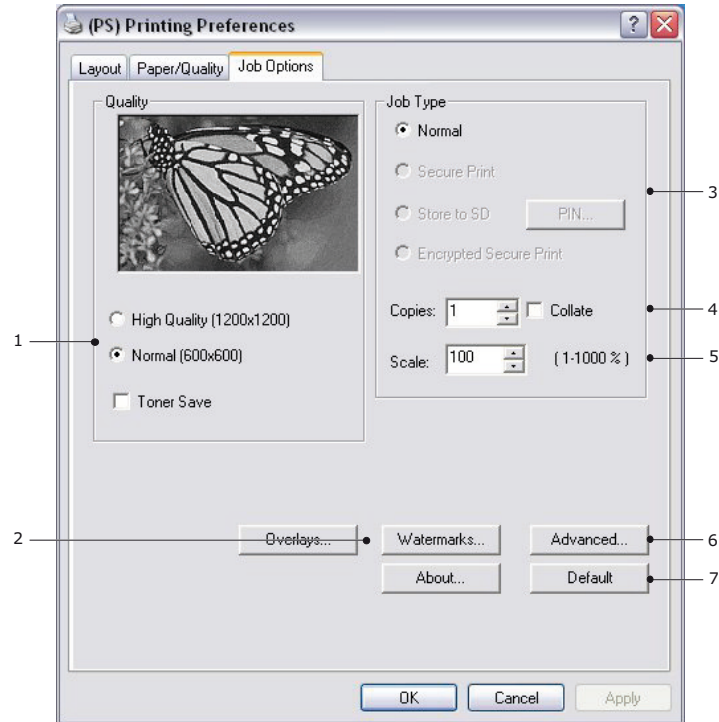
1. The output resolution of the printed page can be set as follows.

   > The High Quality setting prints at 1200 x 1200dpi and is the best option for printing vector objects such as graphics and text.

   > The Normal setting prints at 600 x 600dpi and is suitable for most printing jobs.

   > You can select Toner Saving to save toner for some print jobs.

2. You can print watermark text behind the main page image. This is useful for marking documents as draft, confidential, etc.

   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 **Overlays**. For more information on Overlays and Macros, refer to "Overlays and Macros (Windows only)" on page 52. The **Overlays** button also offers guidelines on how to carry out manual duplex printing.

3. You can select your preferred job type. For more information on using the secure printing functions, refer to the Security Guide.

4. 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.

5. Your printed pages can be scaled to fit larger or smaller stationery.

6. Using the **Advanced** button gives you access to the facility to set mirror image printing and negative image printing.

7. A single on-screen button restores the default settings.

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.

PCL emulation

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

General tab
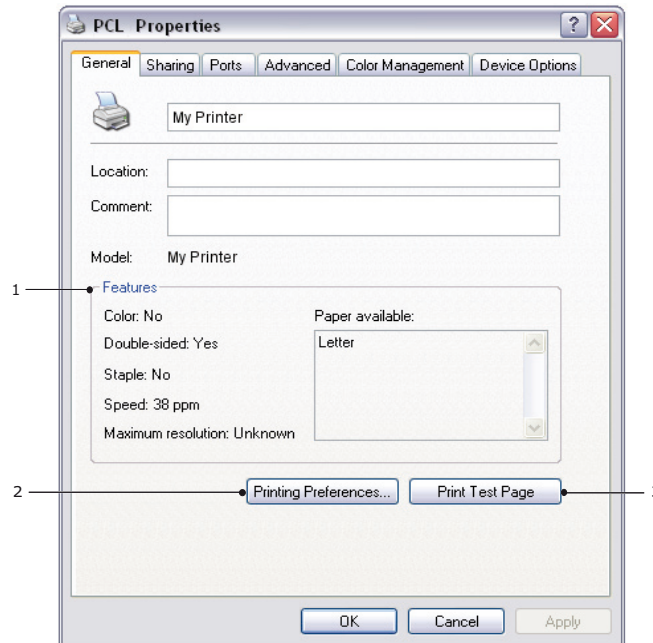
1. This area lists some of the main features of your printer, including optional items.

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
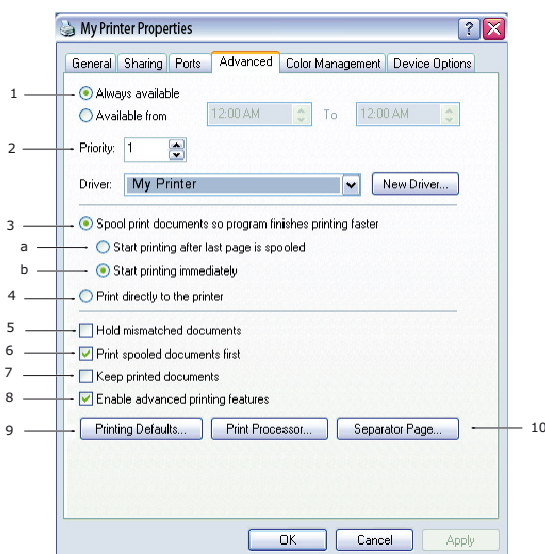
1. You can specify which times of day your printer will be available.

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:

   (a) 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.

   (b) 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 maximise 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
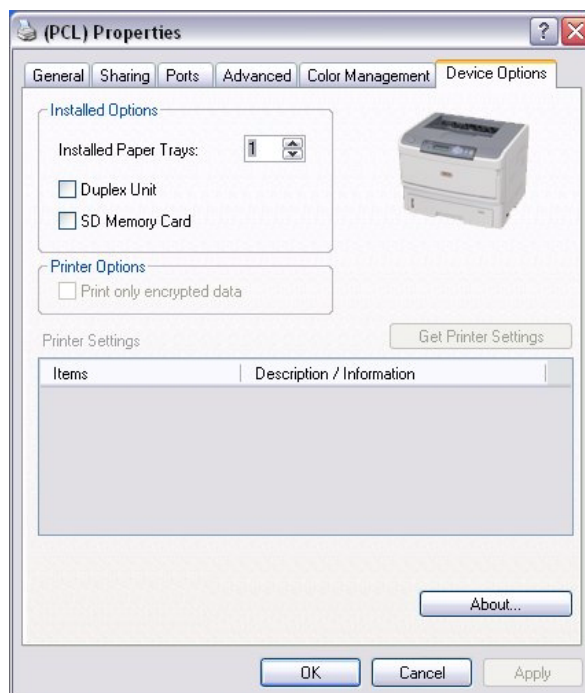
In this window you can select which optional upgrades are installed on your printer. See "Installing options" on page 74.

PS emulation

The main tabs are the **General Tab**, **Advanced Tab** and **Device Settings Tab**. The General and Advanced tabs are the same as for PCL emulation described earlier.

Device settings tab
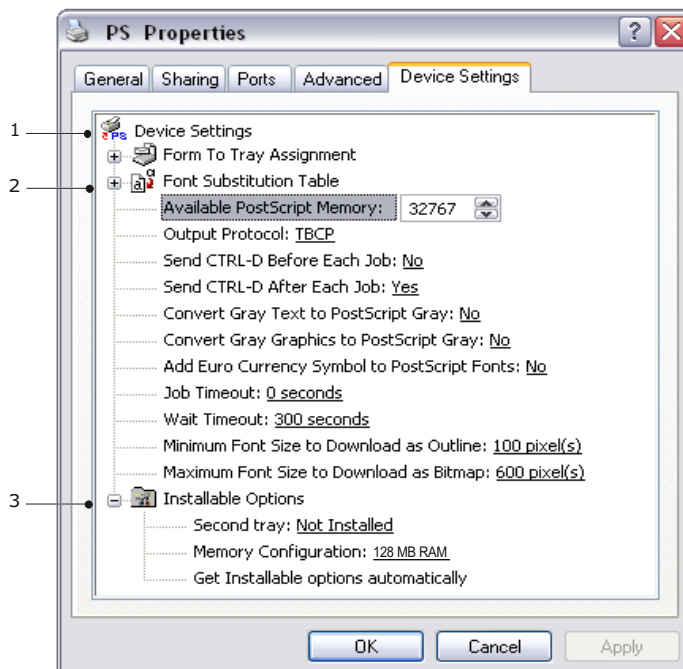
1. You can set the desired paper sizes in each of the available paper feed trays.

2. You can make a variety of font settings depending on your application.

3. You can set which optional upgrades are installed on your printer. See "Installing options" on page 74.

PRINTER SETTINGS IN MAC OS X

Refer to the readme file on the drivers DVD, and the online help provided in the driver software.

2-SIDED 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.

You can print using Auto Duplex or Manual Duplex function.

> *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 printer provides automatic two-sided printing only for Letter, A4, B5, Executive, Legal 13, Legal 13.5 and Legal 14, using paper stocks from 60 - 105g/m².

To carry out Auto Duplex Printing:

1. Select **File > Print** and click the **Properties** button.

2. Select the input tray (Tray1, Tray2 (optional) or Multi Purpose Tray) from the **Source** drop down menu.

3. In the Duplex printing drop down menu, select either **Long Edge (Auto)** or **Short Edge (Auto)** according to your printing preferences.

4. If you require further information, click the Duplex **Help** button.

5. Click the **Print** button.

MANUAL DUPLEX PRINTING USING THE PAPER TRAY (WINDOWS ONLY)

> *NOTE*
> *Manual Duplex printing is available only for Windows PCL Driver.*

To carry out 2-sided, or Manual Duplex Printing you must pass paper through the printer twice. You can carry out 2-sided printing using the Paper Tray or the Multi Purpose Tray. You can use A4, A5, A6, B5, Letter, Legal 13, 13.5 and 14, Statement, Executive and Custom paper sizes, using paper stocks from 60 - 176g/m².

> *NOTE*
> **>** *You cannot use A6 paper size for printing from Tray 2 or Tray 3 (options).*
>
> **>** *You can print on Legal 13.5 paper only from Tray1, Tray 2 (option), Tray 3 (option) and when using Auto Duplex function.*

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. If you require further information, click the **Duplex Help** button. Then, click the **Print** button.


5. Every second page (1) of your document is printed first. When this is complete, a message appears on screen prompting you to take the paper, flip it and replace it in the Paper Tray.
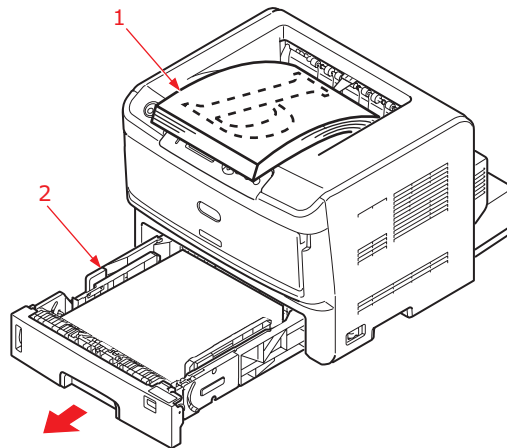
6. Open the Paper Tray (2).

7. 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).
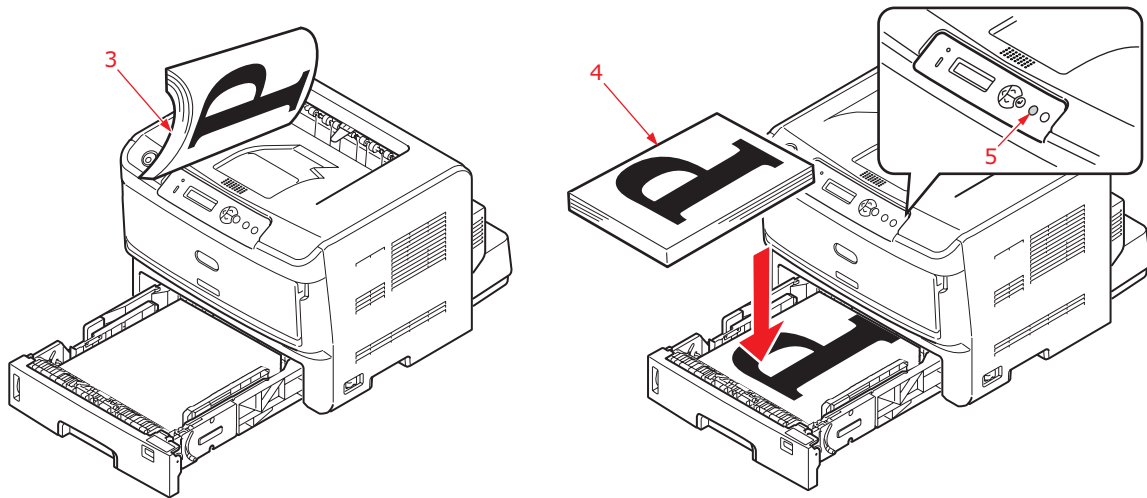
8. Close the Paper Tray and press the **Online** (5) button. The message window should disappear from your screen and the document finishes printing the remaining pages of your document.

> *NOTE*
> *You must press the Online button to start the printing for 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

1. Position the paper guides on the Multi Purpose Tray according to the paper size.

2. Place paper one sheet at a time in the Multi Purpose Tray. The paper is automatically gripped in position.

3. Select **File > Print** to display the Print dialog box.

4. Click the **Properties** button.

5. Select the **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. If you require further information, click the **Duplex Help** button.

7. When every second page has printed, take the paper from the output stacker.
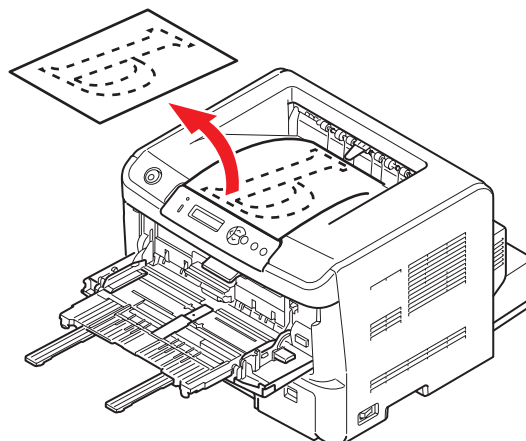
8. Set the paper one page at a time in the Multi Purpose Tray with the printed side facing down and the top of the page facing into the printer. Ensure that the paper is gripped in place.
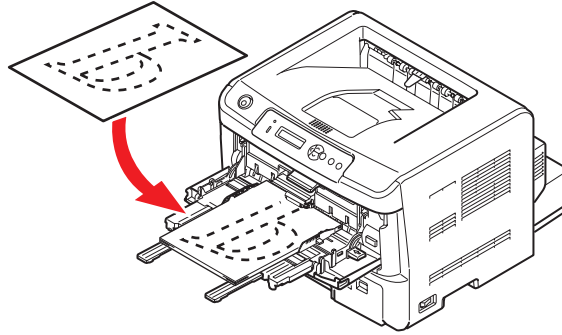
9. Press the **Online** button. The remaining pages of your document print on the blank side of the paper, one sheet at a time as you feed it into the Multi Purpose Tray.

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 use PostScript overlays to generate all your special stationery and store it in the printer for use whenever you need it. If you have chosen to install the PCL driver, macros perform a similar function.

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 POSTSCRIPT 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 DVD with your printer to create a "project file," import the.PRN file(s), and download the generated filter (.HST) file to the printer. The project file will contain one or more overlay images which are functionally related, such as the cover page and the continuation page images for business letters.

3. Use downloaded files to define your overlays ready for use when printing your documents.

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

CREATING THE OVERLAY IMAGE

1. Use your preferred application, perhaps a graphics program, to create the required overlay image and save it.

2. Open your application's **Print...** dialogue.

3. Make sure that the selected printer name (1) is that of your PostScript printer driver.

4. Select the **Print To File** (2) option.

5. Click the **Properties** button (3) to open the Document Properties window.

6. On the Job Options tab, click the **Overlay** button.

7. On the Overlay window, choose **Create Form** from the drop-down list (4).

8. Click **OK** to close the Document Properties window.

9. Click **OK** again to close the Print dialogue.

10. When prompted for a print file name, enter a meaningful name with the extension.PRN.

11. Close your application.
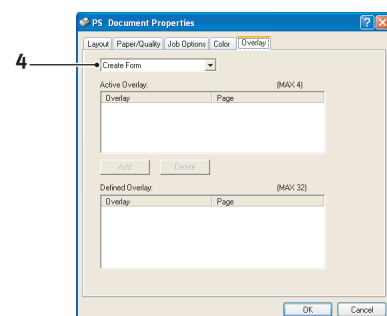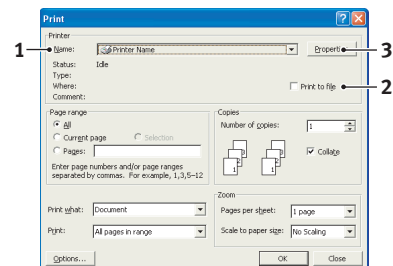
CREATE AND DOWNLOAD THE PROJECT

1. From the Windows **Start** menu, start **Storage Device Manager** (SDM) and allow SDM to discover the printer.

2. Choose **Projects > New Project**.

3. Choose **Projects > Add File to Project**.

4. Set the **Files of Type** drop-down list to **PRN Files(*.prn)**.

5. Navigate to the folder where the.PRN files are stored and select one or more of these to include in your overlay set.

   You can have more than one printer (.PRN) 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.

7. When a message box appears confirming that a filter file has been created, click **OK** to clear the message.

8. The project window will display one.HST file for each printer file added. Make a careful note of each of these names. Ensure that you note them *exactly* as they appear, they are case sensitive, and you will need them later.

9. Choose **Projects > Save Project** and enter a meaningful name (e.g. "Letter Stationery") so that you can recognise it later if you want to modify it.

10. Choose **Projects > Send Project Files to Printer** to download the project to the printer.

    If you have a storage device in the printer, SDM will automatically download files to it. If not, SDM will download files to flash memory. If you have a hard disk but still prefer to download to flash memory, double-click the file name in the Project window and under **Volume**, type in *%Flash0%* and then click **OK**.

11. When the message "Command Issued" appears confirming that the download is complete, click **OK** to clear the message.

TEST PRINTING THE OVERLAY

1. Click on the printer icon for the relevant printer and choose **Printers > Test Form**.

2. In the Test PostScript Form window, to test each overlay select it and click **OK**. There will be a short pause while the printer processes the form, and then it will print.

3. When each overlay 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. In the Overlay window, click the **New** button.

4. In the **Define Overlays** window, enter a suitable name (1) for this overlay and choose which page(s) (2) of your documents will use this overlay.

5. Enter the name of the overlay file (3) *exactly* as it appeared in the Storage Device Manager project window. Remember that this name is case sensitive.

    If you forgot to note the overlay names 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.
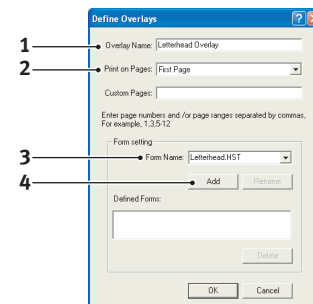
6. Click **Add** (4) to add this overlay into the defined overlays list.

7. Click **OK** to close the Define Overlay window.

    The new overlay now appears in the Defined Overlays list in the printer properties window.

8. Repeat the above procedure if you wish to define more overlays.

9. When done, click **OK** to close the printer properties window.

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

PRINTING WITH POSTSCRIPT 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.

1. Prepare your document in the normal way using your own application software. Remember, if necessary, to format the document so that it will fit within the appropriate space.

2. Open your application's **Print...** dialogue and choose any options you will require, ensuring that the target printer is your PostScript printer driver in which the overlays have been defined.

3. Click the **Properties** button to open the Printing Preferences window.

4. On the Job Options tab, click the **Overlay** button.

5. On the Overlays window, choose **Use Overlay** from the drop-down list (1).

6. Click on the first overlay (2) you wish to use. In this example it is the Cover Page overlay. Then click the **Add** button (3).

7. If you want to use another overlay, in this case it is the Continuation page, click the second overlay (4) and then click the **Add** button (3) again.

8. When you have selected all the overlays you want to use for this document, click **OK**.

9. Finally, in your application's print dialogue, click **OK** to begin printing.
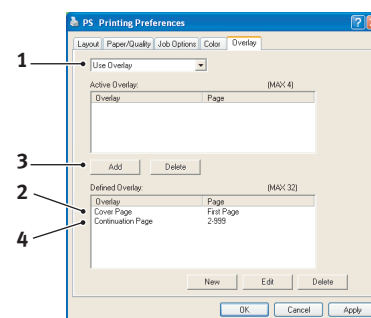
CREATING PCL OVERLAYS

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 DVD 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...** dialogue.

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.
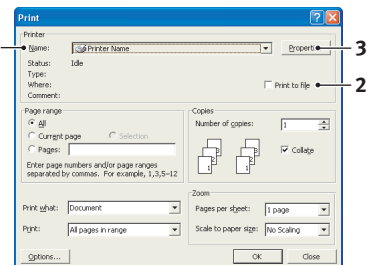
CREATE AND DOWNLOAD MACROS

1. From the Windows **Start** menu, start **Storage Device Manager** (SDM) and allow SDM to discover the printer.

2. Choose **Projects > New Project** to start a new project.

3. Choose **Projects > Filter Macro File**. The Filter Printer Patterns dialogue 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 colour 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. **Volume** details are as follows:

0 = printer's storage device PCL partition;
1 = printer's storage device Common partition;
%disk0% = printer's storage device PostScript partition;
2 = flash memory PCL
%Flash0% = flash memory PostScript

Note that the names are case sensitive, and will be needed later exactly as they appear in this list.

8. Choose **Projects > Save Project** and enter a meaningful name (e.g. "Letter Stationery") so that you can recognise 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).
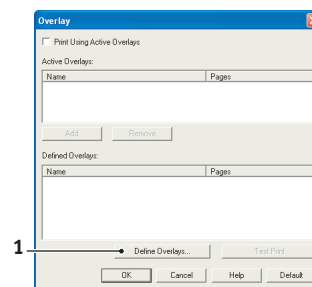
5. In the Define Overlays window, enter the **name** (a) and **ID** (b) of the required overlay, and define which **page(s)** (c) of your documents will use this overlay. Then click the **Add** button (3) to add this overlay to the list of defined overlays. Repeat for any other related overlays. When 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.
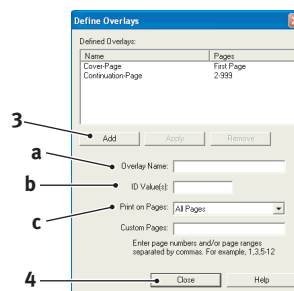
Remember that names and IDs of overlay files must be entered *exactly* as they appeared in the Storage Device Manager project window. Remember also that names are case sensitive.

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.

6. 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.

1. 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.

2. Open your application's **Print...** dialogue and choose any options you will require, ensuring that the target printer is your PCL printer driver in which the overlays have been defined.

3. Click the **Properties** button to open the Printing Preferences window.

4. On the Job Options tab, click the **Overlay** button.

5. On the Overlay window, check the **Use active overlays** checkbox (1).

6. 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.)

7. 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.

8. When the list of active overlays contains all the items you want to use, click **OK**.

9. Finally, click the **Print** button in your application's Print dialogue to begin printing your document.
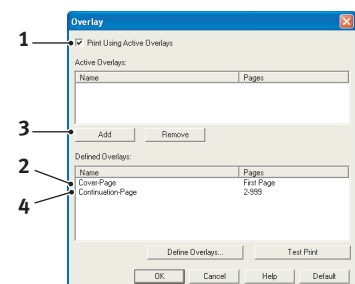
MAINTENANCE

EP TONER CARTRIDGE REPLACEMENT

Only use genuine original consumables to ensure the best quality and performance from your hardware. Non original products may adversely affect your printer's performance and invalidate your warranty.

CAUTION!
Static sensitive devices, handle with care.

> *NOTE*
> *When the LCD display indicates EP TONER LOW, or if print appears faded, first open the top cover and try tapping the cartridge a few times to evenly distribute the toner powder. This will enable you to obtain the best "yield" from your EP toner cartridge.*

The toner used in this printer is a very fine dry powder contained in the EP 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!
> **Never expose an EP toner cartridge to an open flame. It can cause an explosion and you can be burned.**
> **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. Press the cover release and open the printer's top cover fully.

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

2. Holding it by its top centre, pull the used EP toner cartridge out slowly.
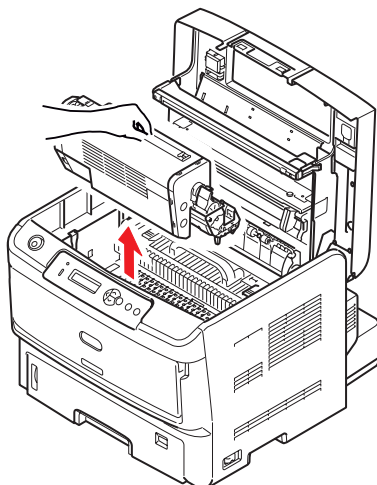
3. Put the assembly down gently onto a piece of paper to prevent toner from marking your furniture and to avoid damaging the green drum surface.
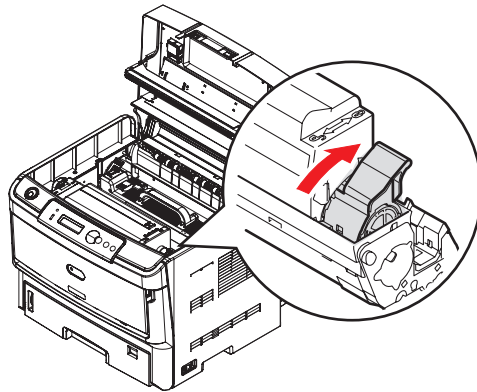
> ### CAUTION!
>
> **The green image drum surface at the base of the EP toner cartridge is very delicate and light sensitive. Do not touch it and do not expose it to normal room light for more than 5 minutes. If the drum unit needs to be out of the printer for longer than this, please wrap the cartridge inside a black plastic bag to keep it away from light. Never expose the drum to direct sunlight or very bright room lighting.**

4. Take the new EP toner cartridge out of its packaging and place it on the piece of paper where the old cartridge was placed. Leave its wrapping material in place for the moment.

5. Pack the old cartridge inside the packaging material for disposal.

6. Remove the wrapping material.

7. Holding the complete assembly by its top centre, 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).
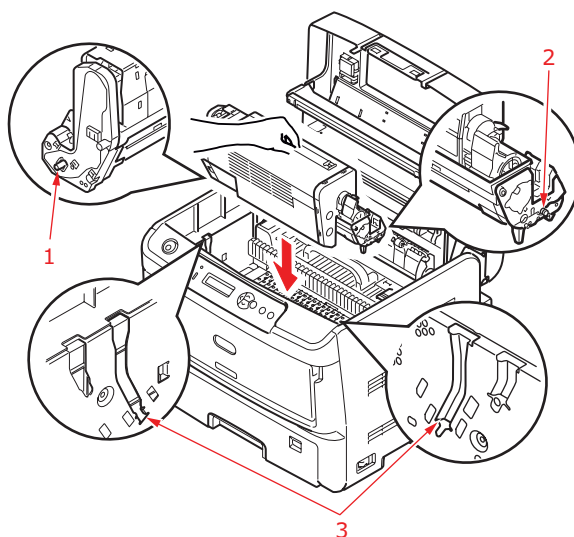
8. Push the coloured lever towards the rear of the printer (lock position) to release toner into the image drum unit.

9. Gently wipe the LED head surface with a clean, lint free cloth.
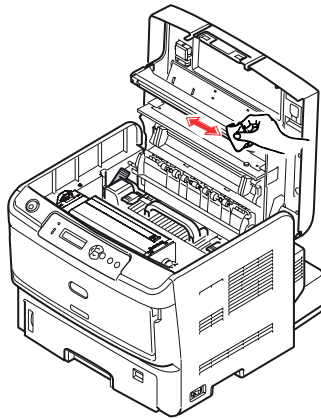
**10.** Close the top cover and press it down to latch it closed.

CLEANING

> ### CAUTION!
>
> **Use a clean, moist, lint-free cloth for cleaning. Do not use benzine, thinners or alcohol as a cleaning agent.**

...THE UNIT CASING

1. Switch the printer off.

2. Wipe the unit surface with a soft cloth moistened sparingly with water or neutral detergent.
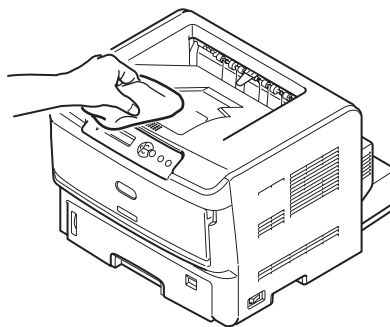
3. Use a soft dry cloth to dry the unit surface.

4. Switch the printer on.

...THE LED HEAD

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

There is no need to switch off the printer to clean the lens.

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

2. Gently wipe the LED head surface with a clean, lint free cloth.
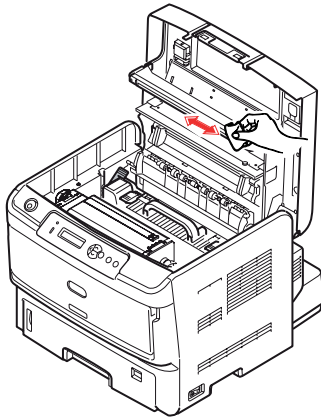
CAUTION!
Do not use methyl alcohol or other solvents on the LED head as damage to the lens surface will occur.

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

...THE PAPER FEED ROLLERS

CAUTION!
Use a clean, moist, lint-free cloth for cleaning. Do not use benzine, thinners or alcohol as a cleaning agent.

Clean the paper feed rollers if paper jams frequently occur.

1. Switch the printer off.

2. Remove the paper tray from the printer.
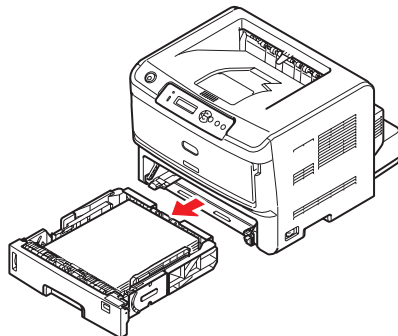
3. Gaining access through the gap left by paper tray, wipe the paper feed rollers with a clean, lint-free cloth moistened with water.
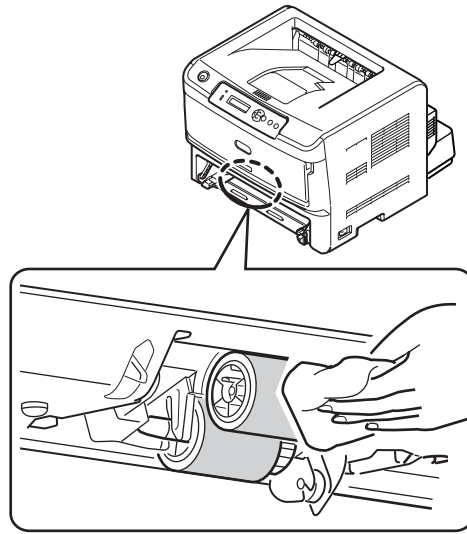
4. Wipe the feed roller on the paper tray.
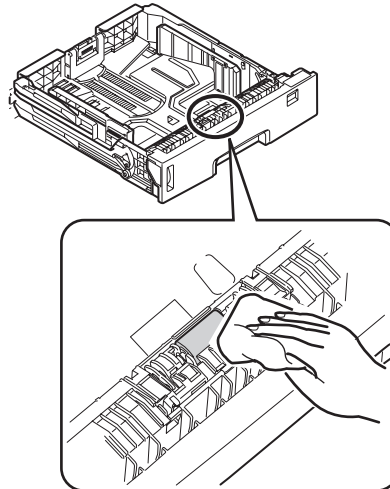
5. Replace the paper tray.

6. Open the multi purpose tray.

7. Lift roller assembly and wipe the feed rollers.
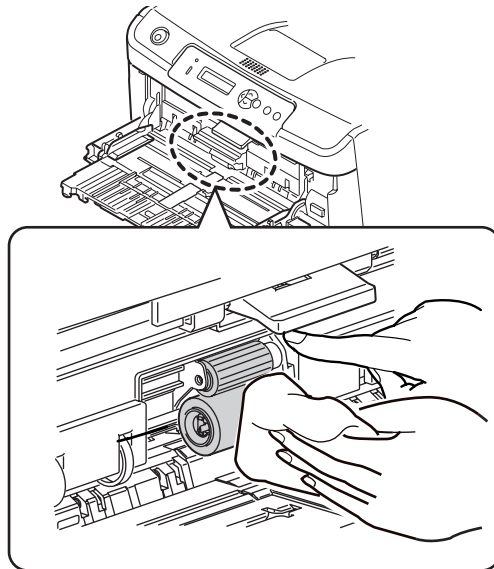
8. Close the multi purpose tray.

TROUBLESHOOTING

STATUS AND ERROR MESSAGES

Your printer has been designed to give you helpful status feedback not only during normal operation but also if a printing problem occurs so that you can take appropriate corrective action.

The LCD on the printer operator panel provides the self-explanatory status and error messages in your chosen language.

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.

If paper jams occur frequently, clean the paper feed rollers. Refer to .

The printer may experience a paper jam in one of three areas.
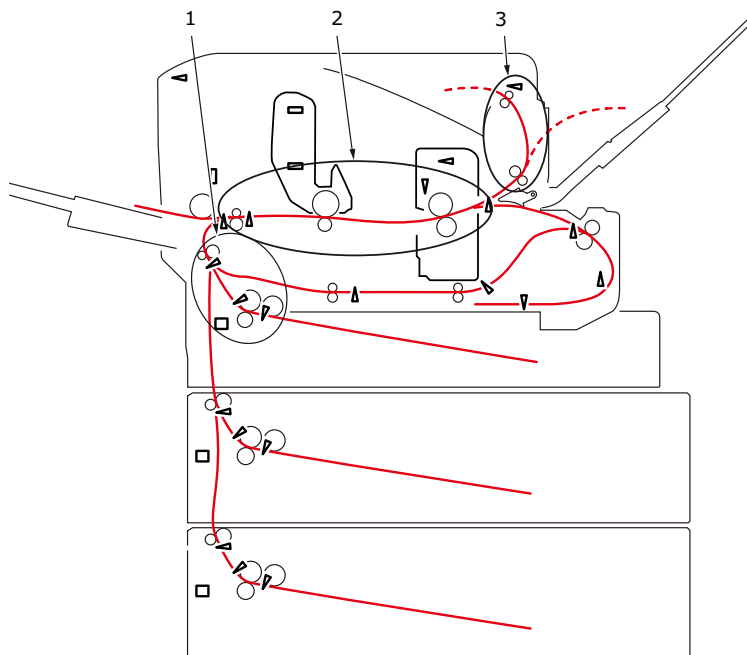
1. **INPUT JAM** - paper has failed to leave the selected feed tray and enter the internal paper path of the printer. A typical message indicates a paper jam and identifies the tray to check.

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

NOTE
The B840dn model has been illustrated below. The principles are the same for all models of this printer.

---

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).
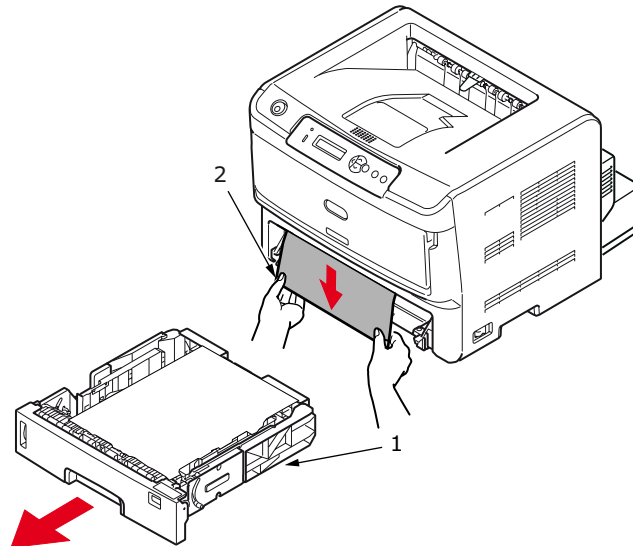
4. Replace the paper tray.

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.

<table>
<tr><td style="background:red;color:white;text-align:center">WARNING!</td></tr>
<tr><td>If the printer has been powered on, the fuser area will be hot. This area is clearly marked. Do not touch it.</td></tr>
</table>

<table>
<tr><td style="background:orange;color:white;text-align:center">CAUTION!</td></tr>
<tr><td>Never expose the EP toner cartridge to light for more than 5 minutes. Never expose the EP toner cartridge to direct sunlight. Always hold the EP toner cartridge by the ends or from the top. Never touch the surface of the green drum inside the EP toner cartridge.</td></tr>
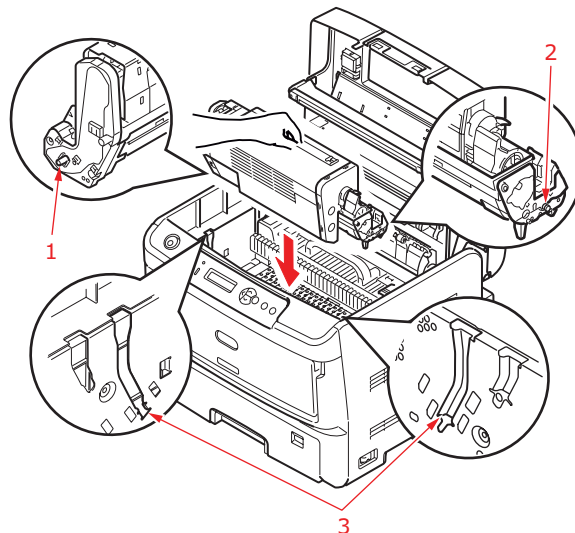</table>

3. Carefully lift out the EP toner cartridge. Be careful not to touch or scratch the green drum surface.
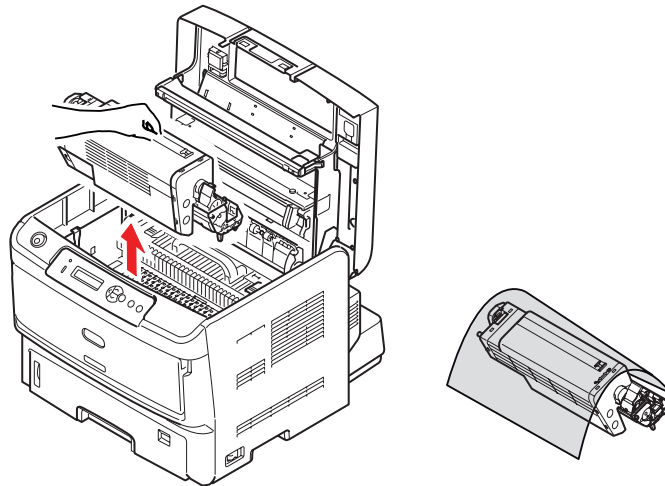
**4.** Remove any jammed sheets from the paper path.
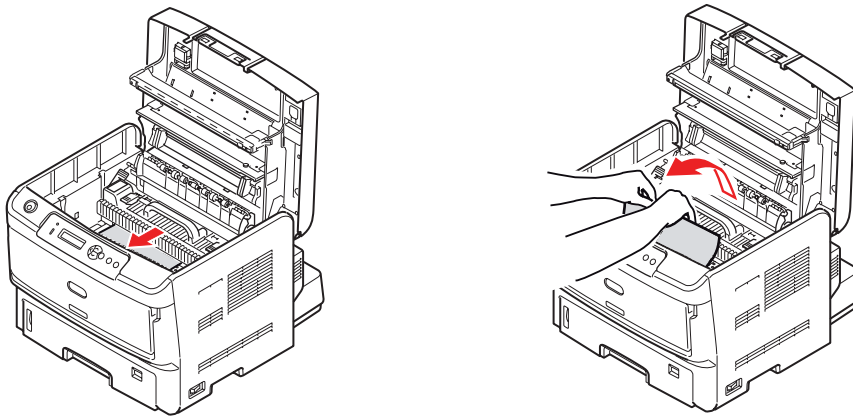
5. Re-install the EP toner cartridge, ensuring that the pegs (1 & 2) correctly locate into the slots on each side of the printer (3).

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. Remove any jammed paper from the fuser.

(a) To remove a sheet just entering the fuser (1), grip the trailing edge of the sheet, lift the fuser pressure release levers (2) up and press toward the rear to release the fuser's grip on the sheet, and withdraw the sheet through the cavity area.
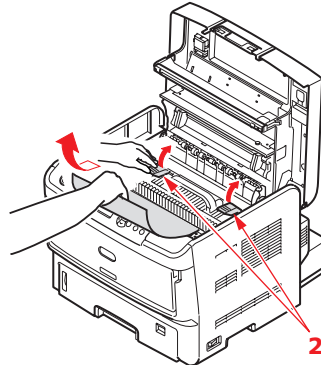

NOTE
If the sheet is well advanced into the fuser (only a short length is still visible), do not attempt to pull it back.

(b) To remove a sheet in the fuser; pull the retaining lever (3) towards the front of the printer to release the fuser. Withdraw the fuser unit using the handle (4).
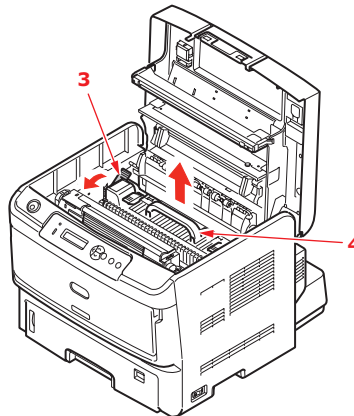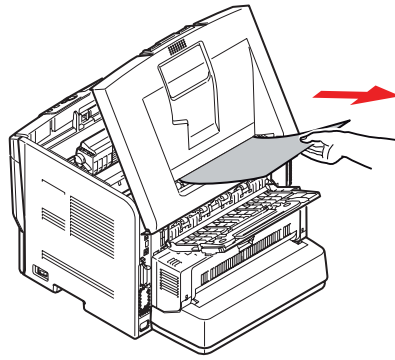

(c) Lift the fuser pressure release levers (2) up and press toward the rear to release the fuser's grip on the sheet. Pull the trapped paper from the fuser.
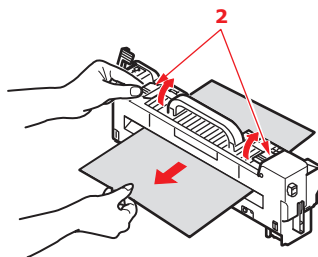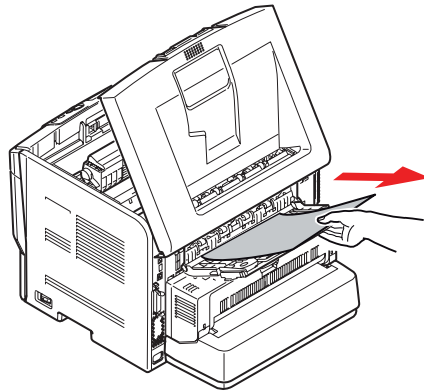

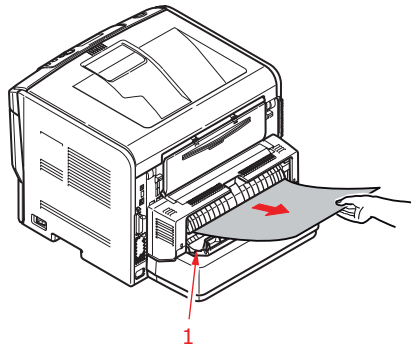(d) Replace fuser unit into the machine and move locking lever (3) toward the rear of the machine.

8. Remove any jammed paper from the face down stacker.

9. Remove any jammed paper from the face up stacker.

10. If a duplex unit is fitted, lift lever (1) and lower the duplex unit cover and pull out any sheets found in this area. Close the duplex unit cover.

1

**11.** If the jammed paper is not ejected when the duplex unit cover is closed, turn off the printer.

> Remove the duplex unit and paper tray extension.

> Open the duplex unit as shown and pull out any sheets found in this area.
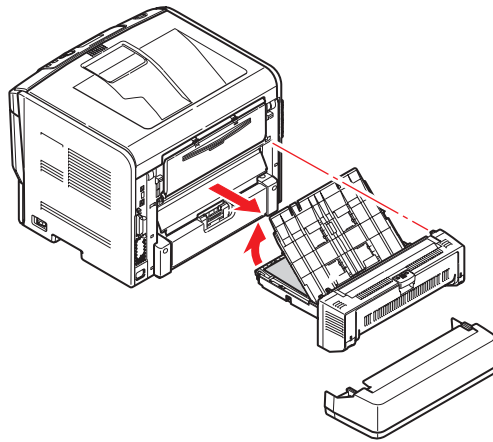
> Re-fit the duplex unit and paper tray extension.

12. Check for paper jam under the Paper Guard.

> Remove the EP toner cartridge as described in step 3.

> Raise the Paper Guard (1) and remove the paper. Lower the Paper Guard back into position.
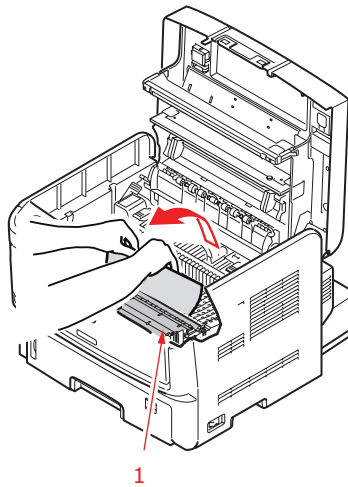
> Re-install the EP toner cartridge as described in step 5.

13. Open the Multi Purpose Tray (1). Lift the front cover release lever and lower the front cover. Check inside the cover for sheets in this area and remove any that you find, then close the cover.
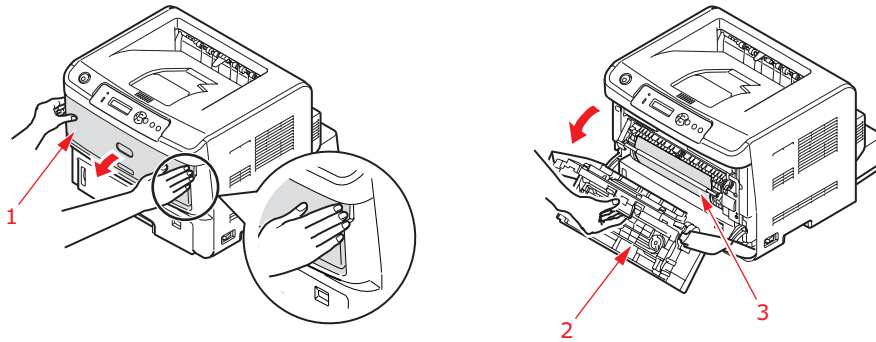
14. Close the top cover and press down to latch it closed.

15. The printer will warm up and commence printing when ready. The page lost through the jam will normally be reprinted.

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 toner cartridge.	Replace with a new EP toner cartridge.
Entire page prints faintly.	Empty toner cartridge. Pages get fainter when toner is used up.	Replace with a new EP 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.
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 with a new EP toner cartridge. 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.
Faded print.	Toner low.	Replace with a new EP toner cartridge.
Smeared or blotched print.	Dirty rollers; toner dropped inside printer or image drum problem.	Replace with a new EP toner cartridge. Contact service.
Printed page is light/ blurred.	Is toner low?	Replace with a new EP toner cartridge.
	Is paper meant for laser printers?	Use recommended paper.
	LED array is dirty.	Clean LED array.
Bold characters and dark lines are smeared.	Toner is low.	Replace with a new EP 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.
Paper is not fed into the printer.	Improper setting is selected for **Paper Source** in the printer driver.	Select the correct paper source from the **Source** 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.
Odours.	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.

INSTALLING OPTIONS

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

> **>** 256, 512MB RAM DIMM: to extend the main memory of your printer and speed up the processing of large files

> **>** SD Card: to enable collating of printed pages and can be used to store overlays and macros, fonts, and secure or proof documents waiting to be printed

> **>** Duplex unit (B840n only): to enable two-sided printing, using less paper and make large documents easier to handle

> **>** Second/third paper tray: to increase your printer's paper handling capacity by 530 sheets (80g/m²) per tray

INSTALLATION PROCEDURE

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

SETTING THE DRIVER DEVICE OPTIONS

Once your new upgrade has been installed, you may need to update the printer driver so that the additional features are available to your applications.

Accessories such as additional paper trays will only be usable if the printer driver on your computer knows they are there.

In some cases the hardware configuration of your machine is automatically detected when the driver is installed. However, it is advisable to at least check whether all of the available hardware features are listed in the driver.

This procedure is essential if you subsequently add extra hardware features to your machine after the drivers have been installed and set up.

Remember that if your printer is shared between users on different computers, the driver must be adjusted on each user's machine.

WINDOWS

1. Access the driver's Properties window.

   (a) Open the Printers window (called "Printers and Faxes" in Windows XP) via the Start Menu or from the Windows Control Panel.

   (b) Right-click the icon for this machine, and choose **Properties** from the pop-up menu.

2. Select the **Device Options** tab.

   In the Windows XP PostScript driver the tab may be called **Device Settings**.

3. Set the options for any devices you have just installed.

4. Click **OK** to close the window and save your changes.

MAC OS X

Snow Leopard (Mac OS X 10.6) and Leopard (Mac OS X 10.5)

1. Open the Mac OS X Print & Fax Preferences.

2. Ensure your machine is selected.

3. Select **Options & Supplies**.

4. Select **Driver**.

5. Select all hardware options appropriate to your machine and click **OK**.

Tiger (Mac OS X 10.4)

1. Open the Mac OS X Print & Fax Preferences.

2. Ensure your machine is selected.

3. Select **Printer Setup...**.

4. Select the menu and choose **Installable Options...**.

5. Select all hardware options appropriate to your machine and click **Apply Changes...**.

Panther (Mac OS X 10.3)

1. Open the Mac OS X Print & Fax Preferences.

2. Select **Printing**.

3. Select **Set Up Printers...**.

4. Ensure your machine is selected and select **Show Info...**.

5. Select the menu and choose **Installable Options...**.

6. Select all hardware options appropriate to your machine and click **Apply Changes...**.

SPECIFICATIONS

GENERAL

PRINTER MODEL	MODEL NUMBER
B840	N21301B

A summary of the basic characteristics of your printer appears in the table below:

ITEM	SPECIFICATION
Dimensions	485mm x 521mm x 373mm (W x D x H)
Weight	28kg approximately (without optional trays)
Power supply	220 to 240VAC @ 50 - 60Hz ± 2%
Power consumption	Typical: <550W Peak: <1.2KW Idle: <75W Power save mode: 15W (no options installed); 17W (with options installed) Sleep mode: 1.2W
Noise level	Operation: <54dB(A) Standby mode: 37dB(A) Power saving mode: Background level
Environmental conditions	Operation: 10 - 32°C, 20% - 80% RH, Storage: -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

Feed and ejection methods vary depending on the type, size and thickness of medium used. Use the chart below and the notes/symbols/terms on the following page for initial guidance. (Minor variations to settings may be necessary depending on user setup and environmental conditions).

Paper type	Size	Weight	Feed Tray			Ejection Method	
			T1	T2/T3	MPT	FU	FD
Plain paper	A3(SEF) A4(LEF/SEF) B4(SEF) A5(SEF) B5(LEF/SEF) Letter(LEF/SEF) Executive(SEF) 8K(260x368mm) (SEF) 8K(270x390mm) (SEF) 8K(273x394mm) (SEF) 16K(184x260mm) (LEF/SEF) 16K(195x270mm) (LEF/SEF) 16K(197x273mm) (LEF/SEF) Tabloid (SEF)	L,ML,M,MH,H	0	0	0	0	0
	Legal 14(SEF) Legal 13.5(SEF) Legal 13(SEF)	L,ML,M,MH,H	0	0	0	X	0
	A6(SEF)	L,ML,M,MH,H	X	X	0	0	0
	B6(SEF) Statement(SEF)	L,ML,M,MH,H	X	X	0	0	0
	Custom W: 76 - 297mm L: 148 - 432mm	L,ML,M,MH,H	△	△	0	△	0

			Feed Tray			**Ejection Method**	
Paper type	**Size**	**Weight**	**T1**	**T2/ T3**	**MPT**	**FU**	**FD**
	A3(SEF) A4(LEF/SEF) B4(SEF) A5(SEF) B5(LEF/SEF) Letter(LEF/SEF) Executive(SEF) 8K(260x368mm) (SEF) 8K(270x390mm) (SEF) 8K(273x394mm) (SEF) 16K(184x260mm) (LEF/SEF) 16K(195x270mm) (LEF/SEF) 16K(197x273mm) (LEF/SEF) Tabloid (SEF) Legal 14(SEF) Legal 13.5(SEF) Legal 13(SEF)	UH	X	X	0	0	X
	A6(SEF) B6(SEF) Statement(SEF)	UH	X	X	0	0	X
	Custom W: 76 - 297mm L: 148 - 432mm	UH	X	X	0	0	X
Postcards		-	X	X	0	0	X
Envelopes	Com-9 Com-10 DL C5 C6 Monarch Custom W: 76 - 297 L: 148 - 432	-	X	X	0	0	X
Labels	A4 Letter	-	X	X	0	0	X
Transparencies	A4 Letter	-	X	X	0	0	X

Paper type	Size	Weight	Duplex Printing					
			Auto			Manual		
			T1	T2/T3	MPT	T1	T2/T3	MPT
Plain paper	A3(SEF) A4(LEF/SEF) B4(SEF) B5(LEF/SEF) Letter(LEF/SEF) Executive(SEF) 8K(260x368mm) (SEF) 8K(270x390mm) (SEF) 8K(273x394mm) (SEF) Legal 14(SEF) Legal 13.5(SEF) Legal 13(SEF)	L,ML,M,MH, H	0	0	0	0	0	0
	16K (184 - 260mm)(LEF/SEF) 16K (195 - 270mm)(LEF/SEF) 16K (197 - 273mm)(LEF/SEF)	L,ML,M,MH, H	0	0	0	0	0	0
	A6(SEF) A5(SEF) B6(SEF) Statement(SEF)	L,ML,M,MH, H	X	X	X	0	X	0
	Custom W: 76 - 297mm L: 148 - 432mm	L,ML,M,MH, H	X	X	X	△	△	0
	A3(SEF) A4(LEF/SEF) B4(SEF) B5(SEF) Letter(LEF/SEF) Executive(SEF) 8K(260x368mm) (SEF) 8K(270x390mm) (SEF) 8K(273x394mm) (SEF) Legal 14(SEF) Legal 13.5(SEF) Legal 13(SEF)	UH	X	X	X	X	X	X
	A6(SEF) A5(SEF) B6(SEF) Statement(SEF)	UH	X	X	X	X	X	X
	Custom W: 76 - 297mm L: 148 - 432mm	UH	X	X	X	X	X	X
Postcards		-	X	X	X	X	X	X

| Paper type | Size | Weight | Duplex Printing | | | | | |
| | | | Auto | | | Manual | | |
			T1	T2/T3	MPT	T1	T2/T3	MPT
Envelopes	Com-9 Com-10 DL C5 C6 Monarch Custom W: 76 - 297 L: 148 - 432	-	X	X	X	X	X	X
Labels	A4 Letter	-	X	X	X	X	X	X
Transpa-rencies	A4 Letter	-	X	X	X	X	X	X

NOTES/SYMBOLS/TERMS

Notes:

1. When an optional second paper tray is used, the original tray is referred to as Tray 1 and the optional tray as Tray 2.

2. It is possible to use custom paper sizes with the PS emulation driver.

3. Tray 1 can accommodate paper with width of 148 to 297mm and length of 182 to 432mm.

4. Tray 2 and tray 3 can accommodate paper with width of 148 to 297mm and length of 182 to 432mm.

5. When printing using Auto Duplex, paper will not be ejected face up.

6. The printing speed is reduced when you set the paper size of A5, A6, Postcards, Envelopes as Medium heavy, Heavy or Ultra heavy.

7. Change the ejection mode to face down if the paper is curled up.

8. Change the ejection mode to face up if the paper curl is large.

9. When changing media settings, allow 15 seconds for the printer to adjust to the new setting.

SYMBOL/ TERM	MEANING
T1	Paper Tray 1
T2	Paper Tray 2 (optional)
T3	Paper Tray 3 (optional)
MPT	Multi Purpose Tray
FU	Face Up printing from the rear of the printer
FD	Face Down printing from the top of the printer
W, L	Width, Length in mm
L	Light paper weight: 60 - 66g/m^2
ML	Medium Light paper weight: 67 - 73g/m^2
M	Medium paper weight: 74 - 88g/m^2
MH	Medium Heavy paper weight: 89 - 104g/m^2
H	Heavy paper weight: 105 - 122g/m^2
UH	Ultra Heavy paper weight: 123g/m^2 - 160g/m^2
o	Can be used
x	Cannot be used
△	Can be used depending on the size.

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