B700 Series

OKI
PRINTING SOLUTIONS

B710

Reference Guide

B710
B720
B730

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:
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Printer Model No: B710: JEB11; B720: JEB12; B730: JEB13

As an Energy Star Program Participant, the manufacturer has determined that this product meets the Energy Star guidelines for energy efficiency.

B710n	✔	B720n	✗	B730n	✗
B710dn	✔	B720dn	✔	B730dn	✔

B720n and B730n achieve Energy Star energy savings; product fully qualifies when packaged (or used) with a duplex unit.

This product complies with the requirements of the Council Directives 2004/108/EC (EMC) and 2006/95/EC (LVD) and 2009/125/EC (EUP), as amended where applicable, on the approximation of the laws of the member states relating to Electromagnetic Compatibility Low Voltage 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	2.0	✗	✗
USB	3.0	✔	✗
Serial	3.0	✔	✗
Parallel	3.0	✔	✗
LAN	3.0	✔	✗

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/IMPORTER TO THE EU/AUTHORISED REPRESENTATIVE

Oki Europe Limited (trading as Oki Printing Solutions)

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For all sales, support and general enquiries contact your local distributor.

ENVIRONMENTAL INFORMATION

CONTENTS

NOTES, CAUTIONS AND WARNINGS

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

CAUTION!

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

WARNING!

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

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

Use of non-genuine products may invalidate your warranty.

Specifications subject to change without notice. All trademarks acknowledged.

CAUTION!

Data Loss in Hard Disk/Compact Flash Disk
Saved data may be lost if the hard disk/compact flash in the printer breaks down due to external shocks or if the power is accidentally cut off in a manner not following the methods listed in this guide or other documentation. Oki is not responsible for such data loss and any consequence caused by such data loss.

CAUTION!

Class I Laser System
> **This product is a "Class I Laser System" that does not emit dangerous laser beam.**
> **Operate the printer according to the instructions in this guide.**
> **Do not carry out any operation not mentioned in the guide. Otherwise, it may lead to unforeseen accident or printer breakdown.**

BASIC OPERATIONS

MAIN COMPONENTS AND THEIR FUNCTIONS

STANDARD CONFIGURATION
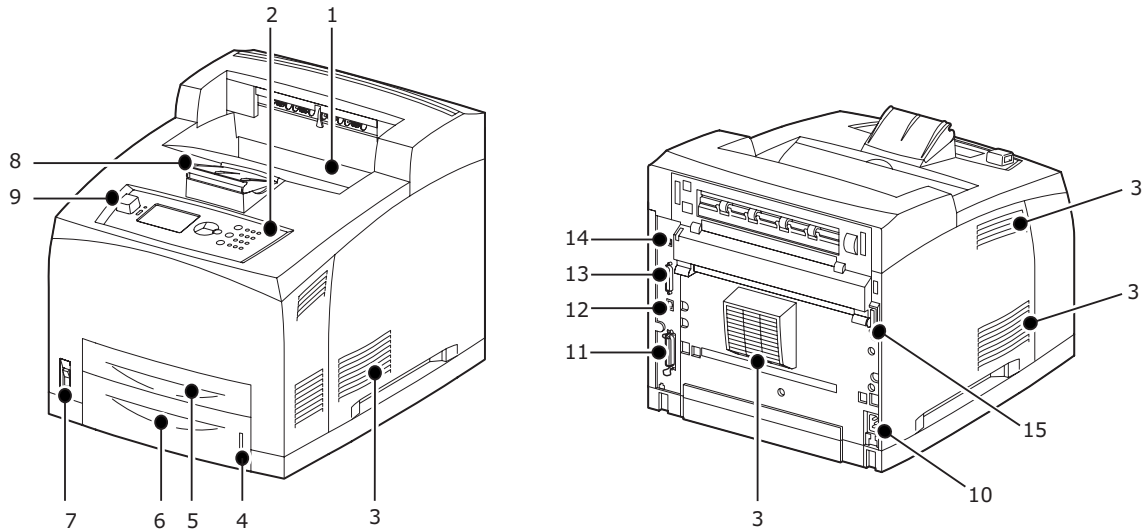
NO.	NAME	DESCRIPTION
1.	Centre output tray	Print jobs are output here with the printed side facing down.
2.	Control panel	Consists of the essential operation buttons, indicators and display.
3.	Ventilation hole	Releases heat to prevent the interior of the printer from heating up. Do not block.
4.	Paper meter	A meter to check the amount of remaining paper. Attached to the 550 tray.
5.	Tray 1	Sets the 150 tray.
6.	Tray 2	Sets the 550 tray.
7.	Power switch	Switches the power of the printer on and off. Pressing the switch to the <|> position switches it on and pressing it to the <0> position switches it off.
8.	Paper stopper	Raise this when printing on paper larger than Letter/A4 size.
9.	Host USB port	For connecting the USB Flash Drive.
10.	Power cord cable connector	For connecting the power cord cable.
11.	Parallel connector	For connecting the parallel cable.
12.	Network connector	For connecting the network cable when connecting this printer to the network for use.
13.	USB connector	For connecting the USB cable.

NO.	NAME	DESCRIPTION
14.	Serial connector	For connecting the serial cable.
15.	Duplex unit connector	For connecting the optional duplex unit.

WITH OPTIONAL ACCESSORIES
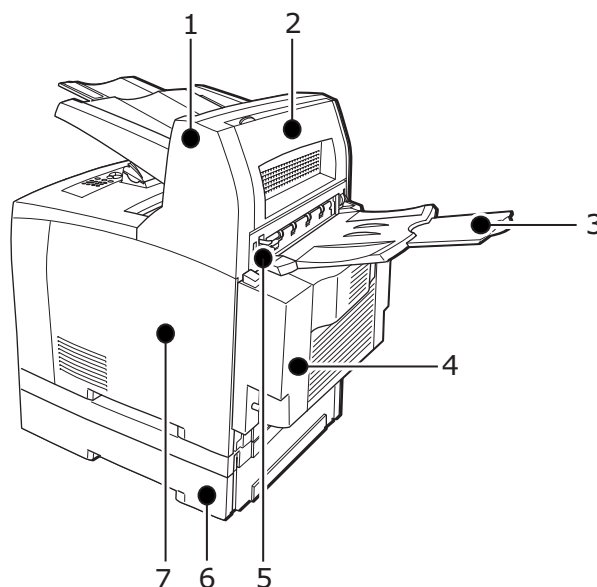
NO.	NAME	DESCRIPTION
1.	Offset catch tray (optional)	Allows you to stagger the output position for each print job (offset output).
2.	Cover D (optional)	Open this when paper is jammed inside the offset catch tray.
3.	Rear tray (optional)	Use this tray if you want to reduce curling of paper when printing heavyweight paper. Print jobs are output here with the printed side facing up.
4.	Duplex unit (Cover C)	Enables 2 sided printing. When paper is jammed inside the duplex unit, it is described as cover C.
5.	Rear output tray lever	When the rear tray has been installed, the paper output location can be switched between it and the centre output tray. Raise the lever to output to the rear tray and lower the lever to output to the centre output tray.
6.	A4 universal tray (optional Tray3 and Tray4)	Can install up to two levels of an Letter/A4 universal tray (550) to this printer.
7.	Right detachable cover	Remove this when installing optional accessories such as hard disk, compact flash and additional DDR memory module.

INTERNAL VIEW
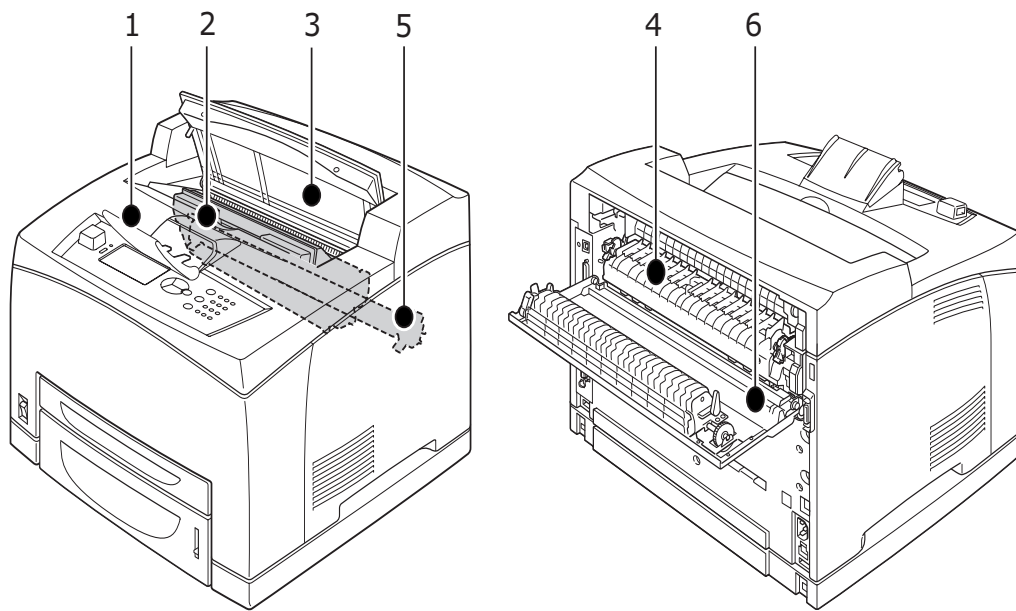
NO.	NAME	DESCRIPTION
1.	Paper stopper	Raise this when printing on paper larger than A4 size.
2.	Drum/toner cartridge	Contains the toner and the photosensitive drum.
3.	Cover A	Open this when replacing the drum/toner cartridge and removing jammed paper.
4.	Fuser unit	Fixes the toner on the paper. Do not touch this when using the printer as it is hot.
5.	Transfer roll cartridge	Transfers the toner image on the surface of the photosensitive drum to the paper.
6.	Cover B	Open this when removing jammed paper.

SWITCHING ON AND OFF THE POWER

SWITCHING ON THE POWER

1. Press the power switch of the printer to the <|> position.
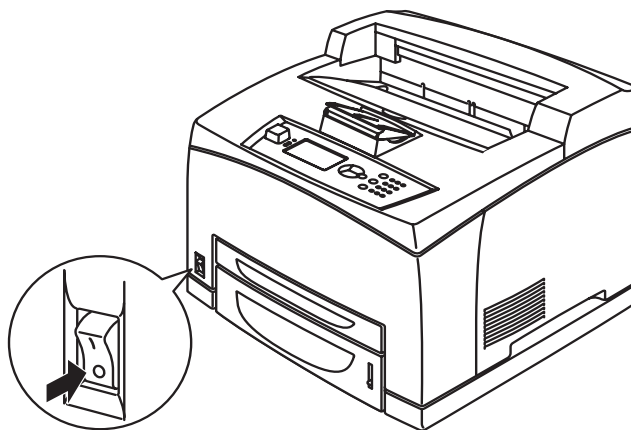
2. When the power is switched on, various screens will be displayed on the control panel. Check that this display changes to `Ready To Print`.

> *NOTE*
> *If error message is displayed, refer to the "Message list" on page 112 for guidance on how to fix it.*

SWITCHING OFF THE POWER

> *NOTE*
> > *Do not switch off the printer power when printing is in progress. It may lead to a paper jam.*
>
> > *Once the power is switched off, print data remaining in this printer or information saved in the memory of this printer will be deleted.*

1. By checking the display on the control panel, confirm that the printer is not processing any data. `Ready To Print` or `Power Save` should be displayed.

2. Press the power switch to the <O> position to switch the power off.
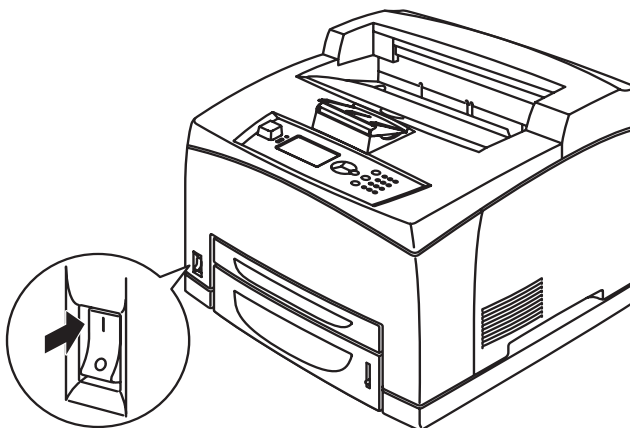
POWER SAVE MODE

This printer is equipped with a Power Save mode to reduce power consumption when it is left idle. The default idle time from last print activity until the printer enters Power Save mode is 5 minutes. This time can be adjusted by the operator to any of the following: 5, 15, 30, 60 or 120 minutes.

When no print data is received within 5 minutes (default) since the last page is printed, the printer will enter Power Save mode. An informative message is displayed on the control panel indicating Power Save Mode. Consumption of power during Power Save mode is 10 Watts or less, and the time required to exit from Power Save mode to a print-ready status is about 10 seconds.

EXITING THE POWER SAVE MODE

The printer automatically exits from Power Save mode once it receives data from the computer or if any key on the control panel is pressed.

CANCELLING/CHECKING PRINTING

CANCELLING PRINTING

To cancel printing, you can either cancel the print job at this printer or at the computer.

Cancelling a print job at the printer

Press the **CANCEL** button then press the **ON LINE** button on the control panel. However, pages being printed at the moment will continue to be printed.

Cancelling print jobs at the computer

Double-click the printer icon at the bottom right of the taskbar in Windows.

From the displayed window, right click the document name that you wish to delete and click the **DELETE** key.
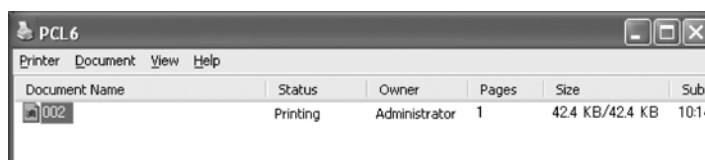
CHECKING STATUS OF PRINT DATA

Checking in Windows

Double-click the printer icon on the task bar at the bottom right of the screen.

From the displayed window, check the column, **Status**.
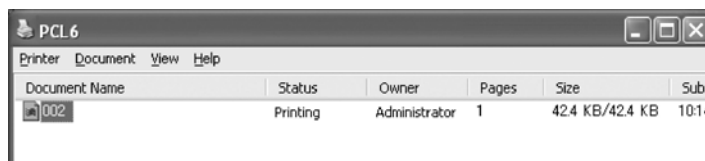
DISPLAYING OPTIONAL ACCESSORY CONFIGURATION AND PAPER TRAY SETTINGS

When using this printer as a network printer and with SNMP protocol enabled, you can display on the printer driver, the optional accessory configuration and settings configured at the control panel such as paper type or size. These settings are displayed on the **Options** tab. This section explains the procedure using Windows XP as an example.

> *NOTE*
> > *When using USB or Parallel connection to this printer, this feature cannot be used. You have to manually set the items on the printer driver.*
> > *The rear tray information cannot be obtained. You have to manually set the item.*
> > *For paper size and paper type settings, you must configure them at the control panel beforehand. Even if you change the settings here, they will not be reflected on the printer itself.*
> > *When using this feature, you have to activate the SNMP port (default: Enable) on the printer using the control panel.*
> > *Only users with administrator's rights can change the settings. Users without administrator's rights can only check the contents.*

1. From the **Start** menu, click **Printers and Faxes** and then display the properties of the printer to be used.

2. Select this printer, right click and Select **Properties**.

3. Click the **Device Options** tab.

4. Click **Get Information from Printer**.

> *NOTE*
> *The properties of the printer can be displayed on the printer driver.*

5. Click **OK**. The contents of the **Device Options** tab will be updated based on the data obtained from the printer.

PRINTING PDF FILES FROM USB FLASH DRIVE

You can print PDF files (up to version 1.6) directly from a standard USB flash drive without any connection to a host computer. See .

CONTROL PANEL

This chapter introduces the control panel and its functions, and also demonstrates how to navigate through the control panel menus and sub-menus that allow you to view and change the printer settings.

CONTROL PANEL FEATURES

The control panel is located on the front of the printer and contains the display (LCD), indicators and push buttons that allow you to view and change the printer settings.
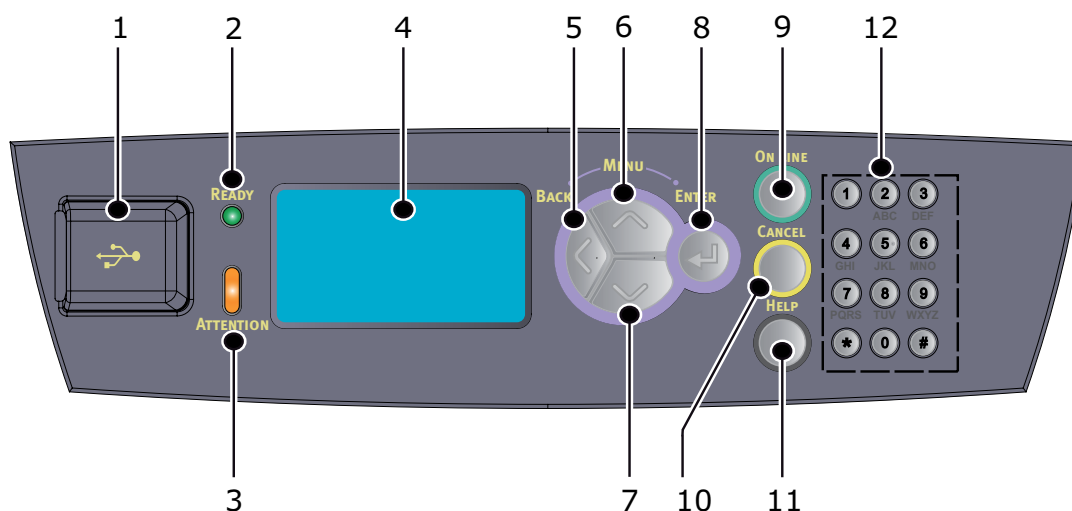
NO.	NAME	DESCRIPTION
1.	Host USB port	For printing PDF and other files from a USB flash drive.
2.	Ready indicator	When the light is on, the printer is ready to receive data from the computer.
3.	Attention indicator	When the light is on, there is a malfunction in the printer. Operator intervention is required.
4.	LCD	Displays the setting items, machine status, and messages.
5.	BACK button	Press to move back a step in the Menu structure.
6.	MENU up button	Press to enter Menu screen. Press to move to menu operation.Once in the menu operation, repeatedly pressing the menu button moves down the menu list.
7.	MENU down button	Press to enter Menu screen. Press these to move to the required menu, item and candidate value on the display.
8.	ENTER button	Press to enter Menu screen. Press to select the currently displayed menu setting. When you are changing the candidate values, pressing the ENTER button runs the currently displayed activity or saves the currently displayed candidate.

NO.	NAME	DESCRIPTION
9.	ON LINE button	Press to enter the off-line status. When in the off-line status, the machine cannot receive data or process printing. Press again to exit the off-line status and enter the on-line status (where the machine can receive data from the computer).
10.	CANCEL button	Press to cancel printing. Press to exit Menu Mode.
11.	HELP button	When an error occurs, a message is displayed on the LCD to press the Help button for more information on available Help screens.
12.	Keypad	Used to enter numbers, upper-case/lower-case letters and symbols in the Entry Line.

DISPLAY

There are two types of screens shown: Print screen (for displaying printer status) and Menu screen (for setting configuration).

> *NOTE*
> *The message displayed differs according to the options installed and setting status.*

PRINT SCREEN

The Print screen appears when the machine is printing or waiting for data. The following contents are shown on the screen.

> Current printer status— e.g. Online (ready to print), printing, etc.

> Port receiving data— Which printer port is currently receiving print data, e.g. USB, Net, etc.

> Emulation— Which page description language emulation is currently in use, e.g. PCL, PS, etc.

> Toner status bar — How much toner is remaining.

MENU SCREEN

Screen for configuring settings related to the printer. This screen appears when you press the **MENU** buttons. The first of a list of menu appears, and further depressions of the **up** button or **down** button cycles through the available printers menus.

NAVIGATING THE CONTROL PANEL MENUS

To navigate the control panel menus, do the following:

1. Press the **MENU** button to enter the Menu.

2. Use the **up** and **down** 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** and **down** buttons to scroll through the sub-menu items. When the item you want to change is displayed, press **ENTER** to display the setting.

4. Use the **up** and **down** 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 select 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 the **BACK** button to move up to the list of menus;

or…

> Press **ON LINE** or **CANCEL** to exit from the menu system.

CHANGING THE DISPLAY AND REPORTING LANGUAGE

The default language for display messages and printed reports is English. You can change this to a different language as follows.

1. Press the **MENU** button on the control panel to enter the Menu.

2. Press the **down** button scroll to `Menus and` press the **ENTER** button to select.

3. Press the **down** button to `Sys Config Menu` and press the **ENTER** button to select.

4. Press the **down** button to scroll to the `Language` sub-menu and press the **ENTER** button.

5. Press the **down** button to scroll to the language you want and press the **ENTER** button. An asterisk (*) appears next to the selected language.

6. Do one of the following:

> Press the **BACK** button to move up to the list of menus;

or…

> Press **ON LINE** or **CANCEL** button to exit from the menu system.

PRINTING THE MENU MAP

To print a menu map from the control panel on your printer:

1. Press the **MENU** button on the control panel.

2. Press the **down** button to scroll to `Information Menu` and press the **ENTER** button.

3. Press the **down** button to scroll to `Print Menu Map` and press the **ENTER** button.

4. Press the **ENTER** button to execute the printing of the Menu map.

HOW TO CHANGE PASSWORD - ADMINISTRATOR

You can set each category in the user menu and also restrict access to change these settings. The administrator settings are password protected.

The default password is **aaaaaa**.

To change the password from the control panel on your printer:

1. Press the **MENU** button on the control panel.

2. Press the **down** button to scroll to `Admin Setup` and press the **ENTER** button.

3. At the `Enter Password` prompt, enter the Admin password.

4. Using the **down** button scroll to Change Password and press the **ENTER** button.

5. At the New Password prompt, enter the new password.

To enter a new password do one of the following:

Using the Control Panel:

(a) Press the **up** and **down** 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 and then press the **ENTER** button.

or...

Using the alpha-numeric buttons on the keypad:

(a) Press the required button in rapid succession to enter a letter/digit.

(b) When all letters/digits have been entered, press the **ENTER** button.

NOTE
> *The new password must be 1 - 12 characters long.*

> *In both the methods of entering the password, the **BACK** button can be used only to back up and delete the last entered character or return from the option if the prompt is on the first character position.*

After entering the new password, you will be prompted to `Verify Password`. Enter the new password again using either one of the methods described in Step 5. to validate the entry. If you enter the wrong password, the message `Incorrect Password` is displayed, and the menu is exited.

If the correct password is entered, the control panel password is successfully changed.

MENU MAP

Print Jobs Menu

          Enter Password

Configuration
Page Counts

          Usage Counter
          Page Count
          Toner Page Count
          Fuser Count

Supplies Life

          Tray 1 Level
          Tray 2 Level
          Tray 3 Level
          Tray 4 Level
          Toner

Network

          Printer Name
          IP Address
          Subnet Mask
          Gateway Address
          Network Address
          Network Version

System

          Serial Number
          CU Version
          PU Version
          Installed Memory
          User FLASH
          Disk
          Compact FLASH

Information Menu

          Print Usage Rep
          Print Menu Map
          Network Summary
          Print PCL Fonts
          Print PS Fonts
          Print FX Fonts

Menus
Tray Configuration

          Paper Feed
          Auto Tray Switch
          Output Tray
          Output Linking
          Unit of Measure
          Tray1 Auto-Sense
          Tray1 Paper Size
          Tray1 Media Type
          Tray1 X Dimen
          Tray1 Y Dimen
          Tray2 Auto-Sense
          Tray2 Paper Size

Tray Configuration contd.

Tray2 Media Type
Tray2 X Dimen
Tray2 Y Dimen
Tray3 Auto-Sense
Tray3 Paper Size
Tray3 Media Type
Tray3 X Dimen
Tray3 Y Dimen
Tray3 Auto-Sense
Tray4 Paper Size
Tray4 Media Type
Tray4 X Dimen
Tray4 Y Dimen

Sys Config Menu

Power Save Time
Wait Timeout
Toner Low
Jam Recovery
Language
Display Contrast
Print PS Errors
Print Density
Tray1 X Adjust
Tray1 Y Adjust
Tray2 X Adjust
Tray2 Y Adjust
Tray3 X Adjust
Tray3 Y Adjust
Tray4 X Adjust
Tray4 Y Adjust
Duplex X Adjust
Duplex Y Adjust
Hex Dump

Admin Setup
Network Menu

TCP/IP
IPv6
IPSec
802.1X
Netware
Ethertalk
IP Address Set
IP Address
Subnet Mask
Gateway Address
Factory Default
DNS
WINS
Web
SNMP
FTP Print
Hub Link Setting
PS Protocol
HTTP Port
Netware Frame

Print Menu

Personality
Copies
Duplex
Duplex Bind
Auto Resize
Media Check
Resolution
Toner Save Mode
Orientation
Lines Per Page
Separator Page
White Page Skip
Edge to Edge

PCL Emulation

Font Source
Font No.
Font Pitch
Symbol Set
CR Function
LF Function
A4 Print Width
Print Area
PCL Tray1 ID#
PCL Tray2 ID#
PCL Tray3 ID#
PCL Tray4 ID#
PCL Auto ID#

FX Emulation

Character Pitch
Character Set
Symbol Set
Letter O Style
Zero Character
Line Pitch
CR Function
Line Length
Form Length
TOF Position
Left Margin
Fit To Letter
Text Height

Parallel Menu

Parallel
Bi-Direction
PS Protocol

Serial Menu

Serial
Baud Rate
Data Bits
Stop Bits
Parity
DTR Ready/Busy
DTR Onl/Offl
DTR Error

Serial Menu contd.	RTS Ready/Busy
	RTS Onl/Offl
	RTS Error
	XON Ready/Busy
	XON Onl/Offl
	XON Error
	DTR Polarity
	RTS Polarity
	Robust XON
	PS Protocol
USB Menu	
	USB
	PS Protocol
Date/Time Menu	
	Month
	Day
	Year
	Hour
	Minute
	Second
	GMT Offset/Hours
	GMT Offset/Mins
	Daylight Savings
Flash Menu	
	Data Security
	Print
	Delete
	Format Usr FLASH
	Flash Summary
Disk Menu	
	Data Security
	Print
	Delete
	Format Disk
	Disk Summary
Compact Flash Menu	
	Data Security
	Print
	Delete
	Format Cmp FLASH
	CFLASH Summary
Spooling Menu	
	Start Spooling
	Stop Spooling
	Play Back
	Delete
	Destination
Job Accounting	
	Enabled
	Print Info

Change Password

New Password

Maintenance Menu

Menu Reset
Save Menu
Restore Menu
Panel Security

PRINT MEDIA

MEDIA SIZES

PAPER TRAY	MEDIA SIZES	WEIGHT	LOADING CAPACITY
Tray 1	**Standard sizes that can be automatically detected:** A5, B5, A4, Executive (7.25 × 10.5in), Letter (8. 5 × 11in), Legal (8. 5 × 13in), Legal (8. 5 × 14in) Other sizes: A6[a], Statement Envelopes[a]: COM-9, COM-10, Monarch, DL, C5 **Custom Sizes[b]** *Minimum*: 3 x 5inches (76 x 127mm) *Maximum*: 8.5 x 48 inches (215.9 to 1219.2mm[c])	16-58 lb US Bond (64 - 216 g/m^2)	150 sheets 20-lb US Bond (75 g/m^2)
Tray 2, and optional Trays 3 and 4	Same as above, but custom sizes are restricted to *Minimum*: 3.875 x 5.83inches (98.4 x 148mm) *Maximum*: 8.5 x 14inches (215.9 x 355.6mm)	Same as above	550 sheets 20-lb. US Bond (75 g/m^2)

a: Requires the paper size settings be set on the control panel.

b: Requires the paper size settings be set on the control panel and the printer driver.

c: Print quality on the part of the paper that extends beyond 14 inches (355.6 mm) cannot be guaranteed.

> *NOTE*
> > *Printing on paper whose setting is different from the paper size or paper type selected in the printer driver or loading paper into an unsuitable paper tray for printing may lead to paper jams. To ensure printing is correctly done, select the correct paper size, paper type, and paper tray.*
>
> > *The printed image may fade due to moisture such as water, rain or vapour. For details, contact service.*

CUSTOM SIZES

In addition to the standard sizes of paper you can also print on custom size paper from any tray. The custom size paper must meet the following guidelines:

> All Custom sizes must be fed short-edge first.

> Paper smaller than 3in by 5in (76.2mm by 127mm) cannot be printed.

> Paper larger than 8.5in by 48in (215.9mm by 1219.2mm) cannot be printed from Tray 1.

> Paper larger than 8.5in by 14in (215.9mm by 355.6mm) cannot be printed from Trays 2, 3, and 4.

> Paper that is smaller than: 98.4mm (3.875in) x L: 148mm (5.827in) must be placed in Tray 1.

> Paper that is smaller than 3.5in (88.9mm) x 5.5in (139.7mm) or longer than 14in (355.6mm) cannot be duplexed or output to the Offset Catch tray.

Insert paper in the tray so the side to be printed is facing up and the short-edge of the paper goes into the printer first.

CONFIGURING CUSTOM SIZES

To print on custom size paper loaded in trays 1 to 4, you must set the paper size on the control panel. Use the Menu to set Auto-Sense OFF and then set Custom Size for the intended tray.

You may also need to set it in the printer driver, depending on the paper size. Use your application software to send data to be printed on the installed custom size paper. See the description of Express Print (see) for an easy way to print on various Custom Sizes.

> *NOTE*
> *When setting the paper size in the printer driver and control panel, be sure to specify the same size as the actual paper used. Setting the wrong size for printing will cause printer failure. This is especially true if you configure a bigger size when using a narrow width paper.*

To return to standard paper size settings, select Auto. This printer will automatically detect the size and orientation of the loaded paper.

LOADING MEDIA

LOADING STANDARD SIZE PAPER

1. Pull the tray out and place it on a flat surface. If installed, remove the lid.
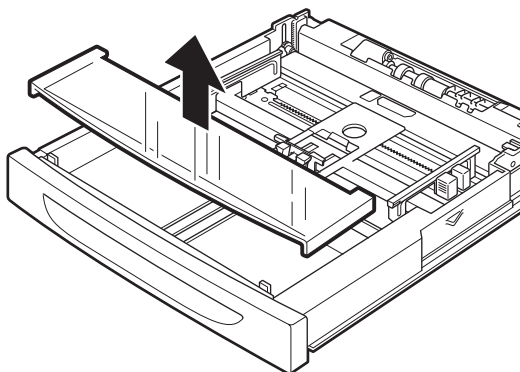
2. If the base plate of the paper tray is raised, push it down.
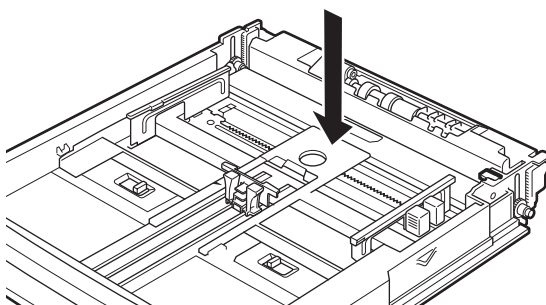
3. When loading paper longer than A4 size, slide the left and right lock tabs in the paper tray outwards to unlock them.
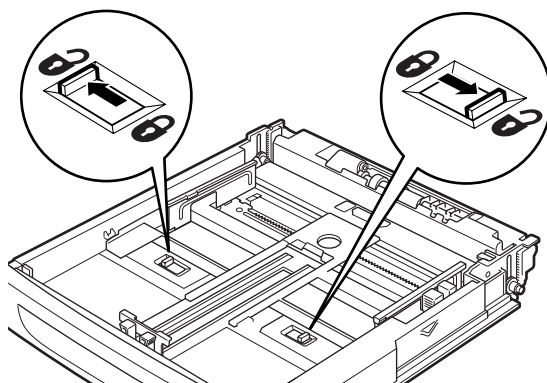
4. Hold the grip of the paper tray and pull its extendable part to the front until it reaches its maximum.
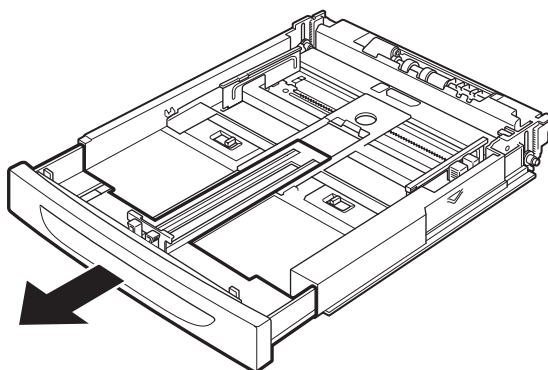
5. Squeeze the length guide and slide it to the desired paper size (1). Squeeze the right width guide and slide it to the desired paper size (2).

6. Load the paper with the side to be printed facing up and with all four corners aligned.

NOTE
> *Do not place paper over the right width guide.*
> *Do not load paper exceeding the maximum fill line or the maximum capacity allowed.*
> *Align the right width guide with the paper width correctly. If the right width guide is not in place, the paper will not be properly fed and this may cause paper jams.*

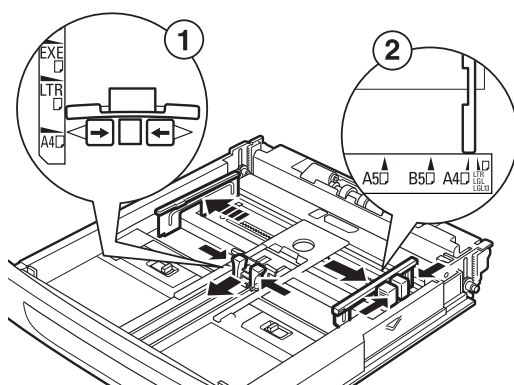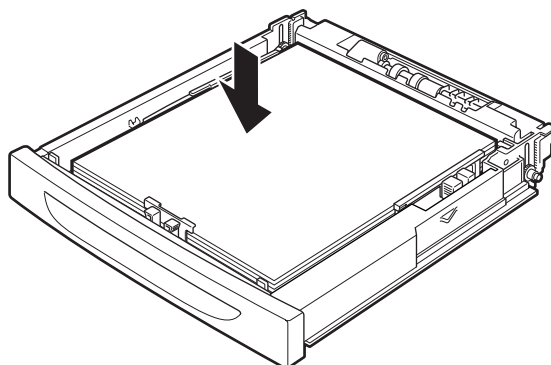**7.** Close the lid of the paper tray and push the tray completely into the printer.

NOTE
The lid of the tray must be firmly closed. If not, the paper might become misaligned.

---

8. Depending on the types and sizes of the loaded paper, you need to configure settings on the control panel.

MEDIA TYPES

The following table shows different media types for this printer along with the fuser mode and restrictions.

PAPER TYPES	FUSER MODE	RESTRICTIONS
Plain	Normal	None
Transparency	Transparency	No duplex Half speed
Pre-Punched	Normal	None
Letter Head	Normal	None
Color	Normal	None
Pre-Printed	Normal	None
Bond	Thick1	None
Labels	Thick1	No Duplex
Cardstock	Thick2	No Duplex
Postcard	Thick1	None
Envelope	Thick3	No Duplex

PAPER TYPES	FUSER MODE	RESTRICTIONS
Thick1 (106-159 gsm)	Thick1	None
Thick2 (160-216 gsm)	Thick2	None
Thick3	Thick3	Half Speed
Thin	Thin	None

You should set your printer Media Type to Thick1 or any of the other paper types that use Thick1 fuser mode for any paper that is from 106 gsm to 159 gsm. If your paper is 160 gsm to 216 gsm, you should set your printer Media Type to Thick2 or Cardstock. If you do not get satisfactory results using Thick1 or Thick2 on some paper types with rough or uneven surfaces, it is possible you will get improved results using Thick3 because of the lower fuser temperature and slower paper speed.

The fuser temperature progression for different fuser modes is:

> (Lowest Temp)

> Transparency

> Thin

> Thick3

> Normal

> Thick1

> Thick2

> (Highest Temp)

Transparencies

Transparencies can be printed from all trays, but they can not be printed on two sides using the Duplex Module. Only use transparencies that are designed to withstand the heat required for laser printing. It is possible to damage your printer by using unsupported transparencies.

NOTE
> *Transparencies with white frames or full-color transparencies cannot be used.*

> *When printing transparencies, be sure to select transparencies as the Media Type.*

> *When setting media type from the control panel, ensure Auto-sense is set to OFF.*

Loading transparencies into the trays:

1. Remove the tray from the printer.

2. Remove all paper from a tray before loading transparencies.

3. Fan the stack of new transparencies before putting them in the tray.

4. Insert the transparencies into the tray.

   Place the transparencies in the input tray with the side to be printed facing up. Do not fully load a tray with transparencies. The printer supports loading up to 100 transparencies in a tray. Handle them by the edges with both hands and avoid getting fingerprints and creases on them.

5. Adjust the paper guides to fit the transparencies.

6. Insert the tray firmly into the printer.

7. Using the Control Panel or EWS, select the Transparency Media Type and correct Media Size for the tray to be used.

8. In the printer driver or the computer application program, select Transparency as the media type you wish to use.

NOTE
As output transparencies may stick together, remove the transparencies from the output tray after about 20 sheets, and then fan them to lower their temperature.

ENVELOPES

Envelopes can be printed from all trays. There are 5 sizes of standard envelopes that can be used. They are COM10, COM9, C5, Monarch, and DL. All other envelope sizes must be specified as custom size. Only use envelopes designed for use in laser printers. The heat from the fuser can melt some adhesives and possibly damage your printer.

Loading envelopes into the trays:

1. Remove the tray from the printer.

2. Insert the envelopes into the tray.

3. Adjust the paper guides to fit the envelopes.

4. All sizes of envelopes go in all trays with the printing side up and the "flap side down". All envelope sizes except C5 should be placed with the top toward the right side of the printer. C5 envelopes are available in two configurations. C5 with the flap on the long edge must be placed with the flap toward the right side of the printer. C5 with the flap on the short edge must be placed with the flap edge feeding into the printer. Do not load more than 15 envelopes in Tray 1 or more than 80 in Trays 2.

5. Insert the tray firmly into the printer.

6. Using the Control Panel or EWS, select the Envelope Media Type and correct Media Size for the tray to be used.

7. In the printer driver or the computer application program, select Envelope as the paper type you wish to use, and select the size and orientation of the image to be printed.
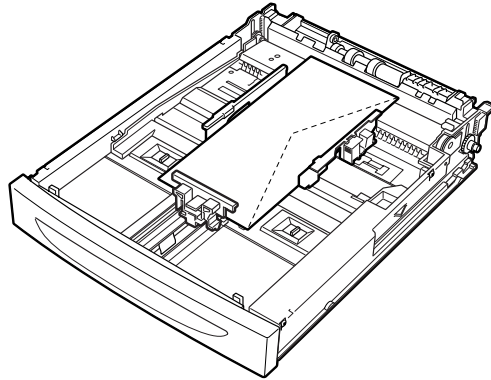

NOTE
> *The reverse side of the envelope cannot be printed.*

> *When setting media type from the control panel, ensure Auto-sense is set to OFF.*

LOADING ENVELOPES

Place the envelopes face up in the center of the tray as shown. Make sure to adjust the guides as needed.

LABELS

Labels can be printed from any tray. Use labels that were designed for use in laser printers. Insert the labels into the tray and adjust the guides to fit the sheets. Place the side to be printed facing up and the top of the sheets to be fed into the printer first. Do not load more than 100 label sheets in Tray 1 or more than 290 in Tray 2 – 4, and do not fill any tray above the fill line marked inside the tray.

Use the Control Panel Menu to select the Label Media Type and size for the tray in use. Then use your computer's application software to print the labels.

> NOTE
> When setting media type from the control panel, ensure Auto-sense is set to
> OFF.

PROHIBITED MEDIA TYPES AND CONDITIONS - USABLE PAPER

Using the following types of paper might cause paper jams, malfunctions or damage to the printer. Do not use them.

> Full-color transparencies.

> Paper exclusively for ink-jet printer use

> Paper that is too thick or thin

> Paper that has been printed on before (including color printing)

> Wrinkled, folded or torn paper

> Wet paper

> Curled paper

> Paper with static electricity

> Adhesive paper

> Paper with special coatings

> Treated colored paper

> Paper using ink that will run at a temperature of 150°C

> Thermal paper

> Carbon paper

> Paper with staples, paper clips, ribbons or tape

> Paper with rough surfaces such as pulp paper, or fibrous paper

> If acid paper is used, the characters might appear fuzzy. Replace it with alkaline paper.

> Labels that do not fully cover the adhesive backing

CONFIGURING TRAY SELECTION

If you display the properties dialogue box of the printer driver and select a paper size and Media Type, and Automatically Select for Paper Source. This printer will be able to automatically detect paper trays loaded with the selected paper type and then among them, select the tray that matches the document. This is known as automatic tray selection.

If there are multiple trays that match those criteria for automatic tray selection, a tray is selected based on the printer's Tray Priority as set using the printer's web pages.

> *NOTE*
> > *If there are no input trays that match the automatic tray selection, an error message prompting for replenishment of paper will be displayed. You can configure the printer not to display this message but to automatically select a nearest or larger paper size of the document for printing.*
>
> > *When paper runs out during printing, and if Auto Resize is configured in the Printer Control Panel then a paper tray containing paper of the same size and orientation of the paper used for printing will be selected to continue printing. From the Printer driver select Printer Properties > General > Printing Preferences > Paper Feed Options > Auto Tray Change > Enable.*

ADVANCED MEDIA CONTROL

Auto tray change

When an input tray runs out of paper, auto tray changing enables the printer to switch to another available tray that contains the same Media size and type.

Media check

When Media Check is enabled (default):

The printer first checks the requested input tray, or the printer's default tray if one is not specifically requested, to see if it contains paper loaded that matches the Media Size and Type specified from your computer.

> If the input tray does not contain the requested Media the printer searches other input trays to find one that has Media matching the requirements. If none is found, the printer stops and asks you to load the requested paper.

 The Control Panel will display the following:

 "Load Paper" or "Load Paper TrayX"

 "X" is the tray number where the paper should be loaded.

 > If "Load Paper" is the displayed message, the paper may be loaded into any tray. If the paper size being loaded cannot be auto-sensed, then the Control Panel must be used to configure the paper size. After the paper is loaded, the printer will automatically resume printing. If you want to simply continue printing on the default input tray without checking the paper size requested, press the **ON Line** button to resume printing.

> If "Load Paper TrayX" message is displayed, then loading the requested paper into the indicated tray will cause the printer to automatically resume printing. If the paper is loaded into a tray other than the one indicated, then pressing the **ON Line** button will allow the printer to resume printing if "Auto Tray Change" is enabled.

> When both `Auto Resize` and `Media Check` are `ON`, the paper size requested, via the driver, will not be enforced because `Auto Resize` overrides the paper size aspect of Media Check. If you want to enforce a specific paper size, then it is necessary to disable `Auto Resize` via the Control Panel's Paper Menu.

Express print

Express Print occurs when `Media Check` is turned off. If you wish to print on Custom Size paper without setting the Size or Type at the control panel, you can use the driver to turn off Media Check. When in this mode, you can leave the default settings in the printer, and it will assume the paper you put in the tray selected in your driver is the correct size and type to match the output from your application. This allows you to switch between paper sizes easily without configuring custom paper sizes at the printer. It is up to the operator to load the desired media into the correct trays.

STORING AND HANDLING MEDIA

Even for suitable papers, poor storage conditions may lead to a change in the paper quality, paper jams, poor print quality and printer breakdown. Take note of the following points when storing paper:

> Store paper at a temperature of 50 to 86°F (10 to 30°C), with a relative humidity of 30 - 65%.

> After opening a ream of paper, use the original cover sheets to wrap up the paper not used and store it in a cabinet or a location with low humidity.

> Store the paper flat, not on its edge.

> Ensure that the paper is stored properly without being bent or curled.

> Store the paper in a location not exposed to direct sunlight.

It is important to follow the manufactures orientation instruction.

Example:

MENU SETTINGS

The Printer Menu allows you to view and change the printer's internal settings. This chapter details the various menu settings and the default settings.

USB DRIVE MENU

> *NOTE*
> *This Menu item will only be found if a USB Flash drive is installed in the Host USB connector on the Control Panel.*

The **USB Drive** menu allows the user to print a selected file from the installed USB Flash Drive. The file selected for printing must be one of the following formats:

> Supported PDF (upto v 1.6)

> PCL5, PCL6, FX80 or PostScript

> Generic text (e.g. .txt format)

Size of PDF files to be printed is limited by available space in standard user flash memory unless a Compact Flash or Hard Disk option is installed.

To print a PDF file, save the PDF on any USB flash drive in either the root directory or a subdirectory. Plug the flash drive into the Host USB connector on the control panel.

1. Press the **ON LINE** button before plugging the flash drive into the socket. When the flash drive is recognized by the printer, you will hear a brief tone indicating the flash drive was plugged in.

> *NOTE*
> *If the printer is in power save mode and the USB Flash Drive is plugged in, the printer will not recognise it. The printer must be in Ready to Print state.*

2. The printer will then automatically go to the `USB Drive` menu. Select the `Print` sub-menu. You will see the list of files on the USB drive.

3. Select the desired file. The **BACK** button may be used to return from a sub-directory to the parent directory to exit the Print option.

4. The user will be prompted to enter a number of Copies for the print request (the default value is 1).
The numeric keypad may be used to change the requested number of copies.

5. Press the **ENTER** button and the file will be processed for printing.
After printing is completed, the printer will return to the **Ready to Print** state and you may remove the USB flash drive.

PRINT JOBS MENU

The **Print Jobs** menu is used to access print jobs that are stored in the printer. As specified by the print driver, the print jobs stored in the printer are of one of the following types:

> Stored Job

> Secure Print

> Proof and Print

> Timed Job

All stored jobs are accessed by entering the Job PIN associated with the job. When the **Print Job Menu** is selected, the user is prompted to `Enter PIN`. The 6-digit PIN value should be entered using the numeric keypad buttons. As each digit is entered the display

will automatically advance to the next digit. When all 6 digits have been entered, the `Select Jobs` screen is displayed.

If there are no stored jobs associated with the PIN value entered, the display will show: `Select Jobs PIN has no jobs.`

If there are stored jobs associated with the PIN value entered, the display will show:

> `Select Jobs`
>
> **>** `All Jobs`
>
> **>** `Job1`
>
> **>** `Job2`
>
> **>** `Job3`

Lines 2 through 5 of the display will be used to scroll through the "All Jobs" selection and all jobs associated with the PIN.

Job delete

To delete the currently selected entry, press the **CANCEL** button - the display will change to: `Delete the Job, Enter and Cancel.`

Press the **ENTER** button to confirm the delete request, or press **CANCEL** button to abort the delete request.

Job print

To Print the currently selected entry, press the **ENTER** button – the display will change to: `Copies 1.`

The numeric keypad may be used to change the requested number of copies. When the **ENTER** button is pressed, the printer will return to `Ready To Print` state and the print request will be processed.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Password	0000-9999	0000	Prints jobs stored on printer. Used for Secure Print, Stored Job, Proof Print and Timed Job

CONFIGURATION - PAGE COUNTS MENU

The **Page Counts Menu** provides access to the following counters inside the printer.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Usage Counter	nnnn	-	This is the count of images printed. This indicates the normal printer usage.
Page Count	nnnn	-	This is the count of images printed during the entire life of the printer.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Toner Page Count	nnnn	-	This is the count of the number of images printed using the toner cartridge. This count is stored in the toner cartridge.
Fuser Count	nnnn	-	This is the count of the number of images using this fuser. Images larger than A4 or Letter are counted as 2 images. When the count reaches 200K, a message is displayed on the LCD indicating that maintenance is required. An additional 10K pages can be printed after which, the printing will stop. At this stage, the fuser unit, transfer roller and tray feed rollers must be replaced before printing can be resumed. Contact service.

CONFIGURATION - SUPPLIES LIFE MENU

The **Supplies Life Menu** provides access to the printer supply levels.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Tray1 Level	OK Low Empty	OK	Displays the paper supply level in Tray1.
Tray2 Level	OK Low Empty	OK	Displays the paper supply level in Tray2.
Tray3 Level	OK Low Empty	OK	Displays the paper supply level in Tray3. (Displayed only when Tray3 is attached.)
Tray4 Level	OK Low Empty	OK	Displays the paper supply level in Tray4. (Displayed only when Tray4 is attached.)
Toner	0% to 100%	100%	Displays the percentage of toner remaining.

CONFIGURATION - NETWORK MENU

The **Network Menu** provides a view of the printer network settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Printer Name	-	-	Displays this Printer's Network Host name.
IP Address	-	-	Dispalys the IP address.
Subnet Mask	-	-	Displays the Subnet Mask.
Gateway Address	-	-	Displays the Gateway Address.
Network Address	-	-	Dispalys the Network Address.
Network Version	-	-	Displays the Network firmware version.

CONFIGURATION - SYSTEM MENU

The **System Menu** provides a view of the printer system settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Serial Number	-	-	Displays the Printer Serial Number.
CU Version	-	-	Displays the Controller firmware version.
PU Version	-	-	Displays the Printer Engine firmware version.
Installed Memory	-	-	Displays the capacity of the installed DRAM memory.
User FLASH	-	-	Displays the available capacity of the installed Flash memory.
Disk	-	-	Displays if the Hard Disk drive is installed or not.
Compact FLASH	-	-	Displays if the Compact Flash is installed or not.

INFORMATION MENU

The **Information Menu** provides printouts of printer settings for various printing functions.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Print Usage Rep	Execute	Execute	Prints the usage report
Print Menu Map	Execute	Execute	Prints the menu map
Network Summary	Execute	Execute	Prints the network settings
Print PCL Fonts	Execute	Execute	Prints the PCL font list
Print PS Fonts	Execute	Execute	Prints the PS font list
Print FX Fonts	Execute	Execute	Prints the FX font list

MENUS - TRAY CONFIGURATION MENU

The **Tray Configuration Menu** provides access to the paper tray settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Paper feed	Tray 1 Tray2 Tray3 Tray4	Tray1	Select the paper tray. Tray 3 and 4 is displayed only when they are installed.
Auto Tray Switch	On Off	On	Select On to automatically switch to a different input tray when the current one becomes empty.
Output Tray	Face Down Tray Offset Tray	Face Down Tray	Select the desired output tray for a print job.
Output Linking	On Off	On	Select On for the printer to automatically switch to the other output tray if the current tray becomes full.
Unit of Measure	Inch Millimeter	Inch (US) Millimeter (Otherwise)	Select unit of measure used for Custom Paper Sizes.
Tray1 Config			
Tray1 Auto-Sense	On Off	On	Allows the input Tray1 paper size to be determined by the guides in the tray.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Tray1 Paper Size	Legal13 Legal14 A4 Letter B5 Statement A5 A6 Officio Com9 Envelope C5 Envelope DL Envelope Com10 Envelope Monarch Envel. Executive Custom	Letter (US) A4 (Otherwise)	Allows manual selection of the media size. Tray1 Auto Sense must be switched off to use this feature.
Tray1 Media Type	Plain Transparency Prepunched Letterhead Colored Preprinted Bond Label Card Stock Postcard Envelope Thick 1 Thick 2 Thick 3 Thin Other	Plain	Set the media type for Tray 1.
Tray1 X Dimen	76 - 216Millimeter (3.0 - 8.50Inch)	209Millimeter (8.23Inch)	Set the paper width. Tray1 Paper Size must be set to Custom Size to use this feature.
Tray1 Y Dimen	127 - 1219Millimeter (5.0 - 48Inch)	296Millimeter (11.65Inch)	Set the paper length. Tray1 Paper Size must be set to Custom Size to use this feature.
Tray2 Config			
Tray2 Auto-Sense	On Off	On	Allows the input Tray2 paper size to be determined by the guides in the tray.
Tray2 Paper Size	Same as Tray1	Letter (US) A4 (Otherwise)	Set the media size. Tray2 Auto Sense must be switched off to use this feature.
Tray2 Media Type	Same as Tray1	Plain	Set the media type.
Tray2 X Dimen	99 - 216Millimeter (3.88 - 8.50Inch)	209Millimeter (8.23Inch)	Set the paper width. Tray2 Paper Size must be set to Custom Size to use this feature.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Tray2 Y Dimen	148 - 356Millimeter (5.83 - 14Inch)	296Millimeter (11.65Inch)	Set the paper length. Tray2 Paper Size must be set to Custom Size to use this feature.
Tray3 Config (Displayed when Tray3 is installed)			
Tray3 Auto-Sense	On Off	On	Allows the input Tray3 paper size to be determined by the guides in the tray.
Tray3 Paper Size	Same as Tray1	Letter (US) A4 (Otherwise)	Set the media size. Tray3 Auto Sense must be switched off to use this feature.
Tray3 Media Type	Same as Tray1	Plain	Set the media size.
Tray3 X Dimen	99 - 216Millimeter (3.88 - 8.50Inch)	209Millimeter (8.23Inch)	Set the paper width. Tray3 Paper Size must be set to Custom Size to use this feature.
Tray3 Y Dimen	148 - 356Millimeter (5.83 - 14 Inch)	296Millimeter (11.65Inch)	Set the paper length. Tray3 Paper Size must be set to Custom Size to use this feature.
Tray4 Config (Displayed when Tray4 is installed)			
Tray4 Auto-Sense	On Off	On	Allows the input Tray4 paper size to be determined by the guides in the tray.
Tray4 Paper Size	Same as Tray1	Letter (US) A4 (Otherwise)	Set the media size. Tray4 Auto Sense must be switched off to use this feature.
Tray4 Media Type	Same as Tray1	Plain	Set the media size.
Tray4 X Dimen	99 - 216Millimeter (3.88 - 8.50Inch)	209Millimeter (8.23Inch)	Set the paper width. Tray4 Paper Size must be set to Custom Size to use this feature.
Tray4 Y Dimen	148 - 356Millimeter (5.83 - 14Inch)	296Millimeter (11.65Inch)	Set the paper length. Tray4 Paper Size must be set to Custom Size to use this feature.

MENUS - SYS CONFIG MENU

The **Sys Config Menu** provides access to the system settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Power Save Time	5, 15, 30, 60, 120	5 min	Set delay time in minutes for printer to enter power saver.
Wait Timeout	5 - 9999 Seconds	20	Timeout set for end of print job.
Toner Low	Continue Stop	Stop	When set to Continue, a warning Toner Low message is displayed. When set to Stop, every time the printer is powered On, a error message is displayed and the ONLINE button must be pressed. The error message then changes to a warning message and printing will be possible.
Jam Recovery	On Off	On	Set it to On for the printer to automatically reprint pages that were lost because of a paper jam.
Language	English other	English	Default language set to English.
Display Contrast	1 - 5	3	Set the contrast of the LCD.
Print PS Error	On Off	Off	Prints a page with postscript errors.
Print Density	1 - 7	4	Set the desired print density.
Tray1 X Adjust	0 - 15	4	Make fine adjustment of the registration in the X axis.
Tray1 Y Adjust	0 - 15	8	Make fine adjustment of the registration in the Y axis.
Tray2 X Adjust	0 - 15	4	Make fine adjustment of the registration in the X axis.
Tray2 Y Adjust	0 - 15	8	Make fine adjustment of the registration in the Y axis.
Tray3 X Adjust	0 - 15	5	Make fine adjustment of the registration in the X axis.
Tray3 Y Adjust	0 - 15	8	Make fine adjustment of the registration in the Y axis.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Tray4 X Adjust	0 - 15	5	Make fine adjustment of the registration in the X axis.
Tray4 Y Adjust	0 - 15	8	Make fine adjustment of the registration in the Y axis.
Duplex X Adjust	0 - 15	7	Make fine adjustment of the registration in the X axis.
Duplex Y Ajust	0 - 15	8	Make fine adjustment of the registration in the Y axis.
Hex Dump	Enable Disable	Disable	Enables the printer to print all incoming jobs in Hexadecimal format. The feature will be disabled at every power On.

ADMIN MENUS

The following menus are all located inside the Admin Menu. A password is needed to enter these menus. Refer to .

ADMIN - NETWORK MENU

The **Network Menu** provides access to the printer network settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
TCP/IP	Enable Disable	Enable	Enable/Disable protocol.
IPv6	Enable Disable	Enable	Enable/Disable protocol.
IPSec	Enable Disable	Disable	Enable/Disable protocol.
802.1X	Enable Disable	Disable	Enable/Disable protocol.
Netware	Enable Disable	Disable	Enable/Disable protocol.
EtherTalk	Enable Disable	Enable	Enable/Disable protocol.
IP Address Set	Automatic Manual	Automatic	Determines whether the IP Address is to be set by the host DHCP server, or is set manually using the key pad.
IP Address	Specified	Specified	Enter manually using the keypad.
Subnet (Mask)	Specified	Specified	Enter manually using the keypad.
Gateway Address	Specified	Specified	Enter manually using the keypad.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Factory Default	Execute	Execute	Restores factory defaults for Network interface options.
DNS	Enable Disable	Disable	Enable/Disable protocol.
WINS	Enable Disable	Enable	Enable/Disable protocol.
Web	Enable Disable	Enable	Enable/Disable the web page.
SNMP	Disable SNMP v1/v2 SNMP v1/v2/v3 SNMP v3	SNMP v1/v2	Disable or configure the required SNMP protocol.
FTP Print	Enable Disable	Disable	Allows you to print through the printer's FTP server.
Hub Link Setting	Auto Negotiate 10 Base-T Full 10 Base-T Half 100 Base-T Full 100 Base-T Half 1000 Base-T Full 1000 Base-T Half	Auto Negotiate	To connect to a network hub. When Auto Negotiate is selected, connection to the Hub is automatic. If anyother setting is selected, connection to the Hub is only through the selected setting.
PS Protocol	Raw ASCII	ASCII	When set to ASCII, the printer will search for embedded control codes in the PostScript data stream. When set to RAW, all data will be handled by the PS interpreter.
HTTP Port	1 - 9999	80	Selects the network port to be used for HTTP communication with the printer's embedded web pages.
Netware Frame	Auto-Sense 802.3 Ethernet II 802.2 SNAP 802.2	Auto-Sense	Select the Frame Type that is suitable to support the Netware protocol.

ADMIN - PRINT MENU

The **Print Menu** provides access to the print setup procedures. These settings are defaults for the printer. A print job can specify and use other settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Personality	Auto Emulation PCL PostScript 3 FX	Auto Emulation	Select the Emulation.
Copies	1 - 999	1	No. of copies printed.
Duplex	On Off	Off	Select On for two sided printing.
Duplex Bind	Long Edge Short Edge	Long Edge	Select the type of binding for the print job.
Auto Resize	Enable Disable	Enable	Scales the print job to the paper size selected.
Media Check	Enable Disable	Enable	Checks if the specified paper size and media type is suitable to execute the print job.
Resolution	600 dpi 1200dpi	600 dpi	Resolution in dots per inch.
Toner Save Mode	On Off	Off	Sets the printer to use less toner for all text and graphics, producing a lighter print.
Orientation	Potrait Landscape	Potrait	Select the orientation of the print job.
Lines Per page	5 - 128	64	Sets the maximum number of lines for each page.
Separator Page	Off Tray1 Tray2 Tray3 Tray4	Off	Select the input tray for the separator page when the data stream requests one.
White Page Skip	Enable Disable	Disable	Select Enable to print blank pages.
Edge to Edge	On Off	Off	Select On to print page edge to edge.

ADMIN - PCL EMULATION

The **PCL Emulation Menu** provides access to the PCL settings and functions.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Font Source	Internal Compact Flash User Flash Disk Drive	Internal	Select the device used for Font Source.
Font No.	Available Fonts	50	Default font number.
Font Pitch	0.08 - 100.00	10.00	Default font pitch.
Symbol Set	Available Symbol sets	10U:PC-8 CP437	Default Symbol sets.
CR Function	CR CR+LF	CR	Printer action on Carriage Return.
LF Function	LF LF+CR	LF	Printer action on line feed.
A4 Print Width	78 Columns 80 Columns	78 Columns	Default A4 width.
Print Area	Normal Expanded	Normal	Normal uses standard area values and default margins and Expanded allows access to the entire printable region of the page.
PCL Tray1 ID#	0 - 9	1	Sets the PCL escape sequence parameter value for Input Tray1.
PCL Tray2 ID#	0 - 9	4	Sets the PCL escape sequence parameter value for Input Tray2.
PCL Tray3 ID#	0 - 9	5	Sets the PCL escape sequence parameter value for Input Tray3. Displayed when Tray3 is installed.
PCL Tray4 ID#	0 - 9	6	Sets the PCL escape sequence parameter value for Input Tray4. Displayed when Tray4 is installed.
PCL Auto ID#	0 - 9	7	Sets the PCL escape sequence parameter value for Auto ID.

ADMIN - FX EMULATION

The **FX Emulation Menu** provides access to the FX settings and functions.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Character Pitch	10 cpi 12 cpi 17.1 cpi 20 cpi Proportional	10 cpi	Default font pitch
Character Set	Set-1, Set-2	Set-2	Default character set.
Symbol Set	Available Symbol sets	10U:PC-8 CP437	Default symbol set.
Letter O Style	Enable Disable	Disable	Selects replacing Ø(9B) and Ø(9D).
Zero Character	Normal, Slashed	Normal	Selects not slashed or slashed zero character.
Line Pitch	6 lpi 8 lpi	6 lpi	Default lines per inch.
CR Function	CR CR+LF	CR	Printer action on carriage return
Line Length	80 Column, 130 Column	80 Column	Characters per line.
Form Length	11 inch 11.7 inch 12 inch	11 inch	Set length of paper.
TOF Position	0.0 inch 0.1 inch ↓ 1.0 inch	0 inch	Downward shift of image by 0.1 inch increments.
Left Margin	0.0 inch 0.1 inch ↓ 1.0 inch	0 inch	Right shift of image by 0.1 inch increments.
Fit To Letter	Enable Disable	Disable	Enable fit of image to paper size
Text Height	Same, Diff	Same	Selects text height to remain uniform or to differ.

ADMIN - PARALLEL MENU

The **Parallel Menu** provides access to the Parallel settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Parallel	Enable Disable	Enable	Enable port.
Bi-Direction	Enable Disable	Enable	Enable bi-direction communication.
PS Protocol	ASCII RAW	ASCII	When set to ASCII, the printer will search for embedded control codes in the PostScript data stream. When set to RAW, all data will be handled by the PS interpreter.

ADMIN - SERIAL MENU

The **Serial Menu** provides access to the Serial settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Serial	Enable Disable	Enable	Enables or Disables the serial interface.
Baud-Rate	1200 2400 4800 9600 19200 38400 57600 115200	9600	The speed of the serial data stream.
Data Bits	8 7	8	Number of bits for each character in the serial data stream.
Stop Bits	1 2	1	The number of stop bits.
Parity	None Even Odd	None	Select the Serial parity.
DTR Ready/Busy	On Off	Off	Selects whether DTR signal should reflect the Ready/Busy state of the printer.
DTR Onl/Offl	On Off	Off	Selects whether DTR signal should reflect the Online/Offline state of the printer.
DTR Error	On Off	Off	Selects whether DTR signal should reflect the Error state of the printer.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
RTS Ready/Busy	On Off	Off	Selects whether RTS signal should reflect the Ready/Busy state of the printer.
RTS Onl/Offl	On Off	Off	Selects whether RTS signal should reflect the Online/Offline state of the printer.
RTS Error	On Off	Off	Selects whether DTR signal should reflect the Error state of the printer.
XON Ready/Busy	On Off	On	Selects whether XON transmission should reflect the Ready/Busy state of the printer.
XON Onl/Offl	On Off	On	Selects whether XON transmission should reflect the Online/Offline state of the printer.
XON Error	On Off	Off	Selects whether XON transmission should reflect the Error state of the printer.
DTR Polarity	High Low	High	Sets the signal polarity as normal or inverted.
RTS Polarity	High Low	High	Sets the signal polarity as normal or inverted.
Robust XON	On Off	Off	When set to On, the transmission will be sent repeatedly with a pause in between transmissions. When set to Off, the XON will be sent once per transmission.
PS-Protocol	ASCII RAW	ASCII	When set to ASCII, the printer will search for embedded control codes in the PostScript data stream. When set to RAW, all data will be handled by the PS interpreter.

ADMIN - USB MENU

The **USB Menu** provides access to the USB settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
USB	Enable Disable	Enable	Enable port
PS Protocol	ASCII RAW	ASCII	When set to ASCII, the printer will search for embedded control codes in the PostScript data stream. When set to RAW, all data will be handled by the PS interpreter.

ADMIN - DATE/TIME MENU

The **Date/Time Menu** provides access to the printer time settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Month	January - December	Current Month	Month
Day	1 - 31	Current Day	Day
Year	2000-2099	Current Year	Year
Hour	Midnight 1 AM – 11 AM Noon 1 PM – 11 PM	Current Hour	Hour
Minute	0 - 59	Current Minute	Minute
Second	0 - 59	Current Second	Second
GMT Offset/Hours	+12 to -12	0	GMT Offset
GMT Offset/Mins	0 30	0	GMT Offset
Daylight Saving	On Off	Off	Enable daylight savings time.

ADMIN - FLASH MENU

The **Flash Menu** provides access to the User Flash settings. This menu is displayed only if a USB Flash device is installed.

> *NOTE*
> *All files will be deleted in the User Flash if Format User Flash function is selected.*

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Data Security	Disabled Clear Sanitize	Disabled	If option is set to Disabled, then no additional erase actions will be performed. If option is set to Clear, then a Clear-Erase will be performed on all sectors that contain file data. If option is set to Sanitize, then Sanitize-Erase will be performed on all sectors contain file data. See "Data security settings" on page 52.
Print	Files	Selected File	This selection will read the selected file from the User Flash and print it as if it were being received from one of the output ports.
Delete	Files	Selected File	This selection will delete the selected file or directory from the User Flash. To delete an entire directory, all the files within that directory must first be deleted.
Format Usr FLASH	Execute	Execute	Reformats the User Flash.
Flash Summary	Execute	Execute	Prints information about the installed User Flash, including a list of all current and existing files and directories.

ADMIN - DISK MENU

The **Disk Menu** provides access to the disk settings. This menu is displayed only if a Hard Disk Drive is installed.

NOTE
All files on the Hard Disk will be deleted if Format Disk function is selected.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Data Security	Disabled Clear Sanitize	Disabled	If option is set to Disabled, then no additional erase actions will be performed. If option is set to Clear, then a Clear-Erase will be performed on all sectors that contain file data. If option is set to Sanitize, then Sanitize-Erase will be performed on all sectors contain file data. See "Data security settings" on page 52.
Print	Files	Selected File	This selection will read the selected file from the Disk and print it as if it were being received from one of the input ports.
Delete	Files	Selected File	This selection will delete the selected disk file or directory from the hard disk. To delete an entire directory, all the files within that directory must first be deleted.
Format Disk	Execute	Execute	Reformats the Hard Disk.
Disk Summary	Execute	Execute	Prints information about the installed Hard Disk, including a list of all current and existing files and directories.

ADMIN - COMP FLASH MENU

The **Comp Flash Menu** provides access to the compact flash settings. This menu is displayed only if the Compact Flash Card is installed.

NOTE
All files on the COmpact Flash will be deleted if Format Cmp Flash function is selected.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Data Security	Disabled Clear Sanitize	Disabled	If option is set to Disabled, then no additional erase actions will be performed. If option is set to Clear, then a Clear-Erase will be performed on all sectors that contain file data. If option is set to Sanitize, then Sanitize-Erase will be performed on all sectors contain file data. See "Data security settings" on page 52.
Print	Files	Selected File	This selection will read the selected file from the Compact Flash and print it as if it were being received from one of the input ports.
Delete	Files	Selected File	This selection will delete the selected disk file or directory from the hard disk. To delete an entire directory, all the files within that directory must first be deleted.
Format Cmp FLash	Execute	Execute	Reformats the Compact Flash.
CFLASH Summary	Execute	Execute	Prints information about the installed Compact Flash, including a list of all current and existing files and directories.

Data security settings

Clear-Erase: This operation requires writing one-byte (0x00 for Compact Flash and Hard Disk, 0xFF for User Flash) to every byte of each sector.

Sanitize-Erase: The Sanitize-Erase operation is a 3-step operation. Each sector is written 3 times - first with a constant byte value, then with the complement of that byte value, then with random byte values.

> *NOTE*
> *The Clear and Sanitize settings will increase the amount of time required to delete a file or format the device. For smaller files or smaller storage devices, the time taken is less. However, larger files and larger storage devices can take longer time.*
> *For example, a Clear-Erase Device Format operation on a 40GB Hard Drive will take approximately 1.5 hours, and a Sanitize-Erase Device Format operation can take upto 5 hours.*

ADMIN - SPOOLING MENU

The **Spooling Menu** provides access to the functions and settings related to this feature.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Start Spooling	Spool and Print Spool Only Off	Off	The spooling feature allows print jobs to be automatically spooled to the Flash memory or Hard Drive.
Stop Spooling	Yes No	No	Disable spooling.
Playback	USB Parallel Serial Network	User defined	Used to read and print a spooled file from the User Flash, Disk or Compact Flash. This menu item is available if there are spooled files available.
Delete	User Flash Disk Compact Flash	User defined	Used to delete a spool file from the User Flash, Disk or Compact Flash.
Destination	User Flash Disk Compact Flash	User defined	If the Hard Disk or the Compact Flash is installed, this option will be displayed to determine the destination of the spool files.

ADMIN - JOB ACCOUNTING MENU

The **Job Accounting Menu** provides access to functions and settings related to this feature.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Enabled	Yes No	No	Enable or disable this feature.
Print Info	_	Execute	Prints the Job Accounting file.

ADMIN - CHANGE PASSWORD MENU

The **Change Password Menu** provides access to the printer Password setting. This option is to used to change the Control Panel Password that is used to gain access to the "Admin Setup" menus. Refer to .

ADMIN - MAINTENANCE MENU

The **Maintenance Menu** provides access to the printer maintenance settings.

PARAMETERS	VALUE	DEFAULT	DESCRIPTION
Menu Reset	Execute	Execute	Reset menu to factory default
Save Menu	Execute	Execute	Saves the current menu setup for recall at a later time.
Restore Menu	Execute	Execute	Restores the saved menu setting.
Panel Security	Enable Disable	Disable	When Enable is selected, all configuration changes will require the password. If the operator tries to change an item that is not under the Admin menu, the message Panel Locked is displayed.
USB Drive	Enable Disable	Enable	Enables or disables the USB FLASH Drive Port.

ADVANCED PRINTING

Listed below are several features that this printer supports. Use the Print Driver to configure these features. Some of these features may also be configured with the Control Panel Menu or the Embedded Web Server.

PRINTING ON BANNERS

This printer can print on long paper.

> *NOTE*
> *Banners up to 35.4 inches (900 mm) long must be loaded in tray 1.*

Tray 1

> Minimum 3 x 5 inches (76 x 127 mm)

> Maximum 8.5 x 35.4 inches (216 to 900 mm)

Trays 2, 3 and 4

> Minimum 3.9 x 5.8 inches (98 x 148 mm)

Loading banner paper in tray1

1. Pull out the tray and place it on a flat surface. Remove the lid (if installed).

2. If the base plate of the paper tray is raised, push it down.
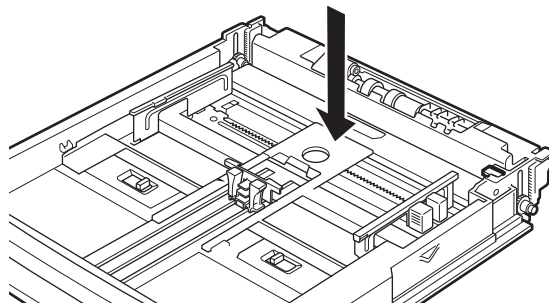
3. Slide the left and right lock tabs in the paper tray outwards to unlock them.
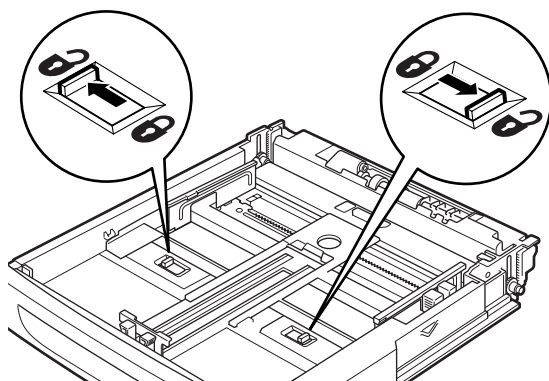
4. Hold the grip of the paper tray and pull its extendable part to the front until it reaches its maximum.
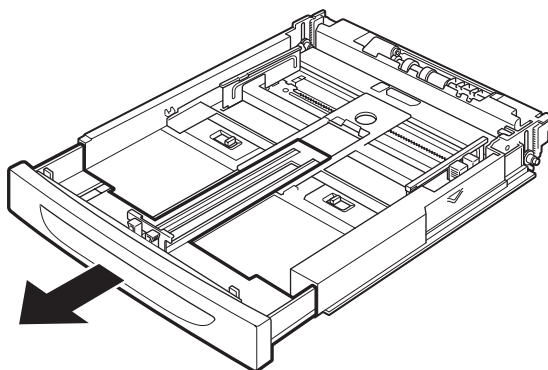
5. Squeeze the right width guide (1) and slide it to the paper width.

6. Load the paper with the side to be printed facing up. Curl up the back end of the paper so that it will not fall from the tray.
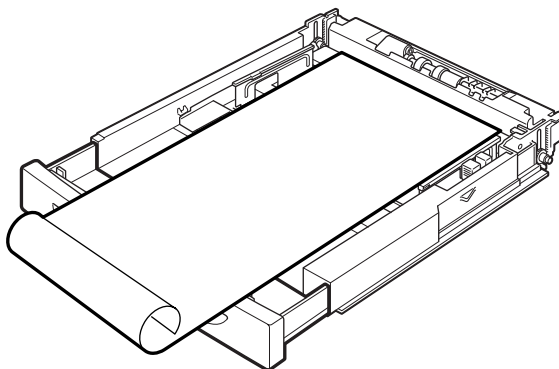
7. Push the paper tray completely into the printer.

MANUAL FEED

Tray 1 can be used for manual feed. You must also set your Printer Properties for manual feed. Tray 1 normally operates in multiple-purpose mode, where multiple sheets can be loaded and printed continuously. In Manual mode, you are prompted to press the Start button for each sheet.

SELECTING NUMBER OF COPIES

You can select the number of copies to print via your Printer Properties. When selecting the number of copies, you should also decide if those copies are collated.

COLLATING COPIES

When printing multiple copies of a job, the output can be automatically collated. When copies are collated, they are printed in groups by the print job, not by the page. If you do not select the collate option, your copies will be printed by page. So, ten page number 1's will print and then ten page number 2's will print. Collated jobs will print all pages in sets, pages 1 through 10, until all sets have been printed.The default for Collating is On when there is more than one copy being printed.

2-SIDED PRINTING - DUPLEX

The printer can automatically print on both sides of the paper when the optional Duplex module is installed. With two-sided printing, you can print a document in the form of a small book.

COVER SHEET

A cover sheet is the first page of the document. The printer enables you to choose a different paper source for the cover sheet than for the rest of the document. You can then use a different stock paper for the first page of the document while sending the document as a single print job. The paper must be the same size as the rest of the document.

FIT TO PAGE

You can scale any page image to fit the paper size being used. This setting is unavailable if you have chosen a Document style of N-Up or Pamphlet.

MULTIPLE PAGES TO SINGLE SHEET (N-UP)

You can print multiple pages on a single sheet when printing a multi-page document. This can save paper and is handy for draft reviews. You can print one, two, four, six, eight, nine, or sixteen pages per sheet.

FINISHING

You can add room on a page to allow for binding without modifying the document in the authoring application.

POSTER PRINTING

If you have a large page image that can not be printed on the available paper sizes, you can printed document in poster printing mode. Poster Print prints the document to the edges of paperweight no border and breaks the document up into multiple pages. The pages can then be placed together, edge-to-edge, to create a large version of the printed page.

JOB OFFSET

The Offset Catch Tray can place sheets in alternate positions to separate one print job from another. This is called job offsetting. When selected, the output position changes after the final sheet of the print job is printed. The next job is offset (shifted a bit) to keep it separate from the previous print job. The Offset Catch Tray must be installed to use this option. Once installed, this feature is enabled by default.

PRINT QUALITY

You can adjust quality settings. These include:

> Resolution: Select 600 dpi for normal printing or 1200 dpi for high quality mode

> Toner Save: This prints everything with less print density.

FONT SUBSTITUTION

This feature allows you to substitute TrueType fonts with printer fonts. You can also set the TrueType font output type.

WATERMARK

A Watermark is faded text that appears in the background of all pages or only the first page. The text can indicate items that are draft versions, confidential, or other important marking text. COPY, DRAFT, and CONFIDENTIAL watermarks are provided. You can view these by

clicking on their name in the Watermark Pane of the Watermark Window of the Print Driver. You can edit their settings or the settings of any configured watermark by clicking the Edit button.

DIRECT PRINTING OF PDF FILES

You can send a PDF file directly to the printer for printing without using the printer driver. The size of PDF you can print is limited by the amount of available space in the printer's memory. If you are printing large files, you may need to install either a Compact Flash or Hard Disk option.

> *NOTE*
> *You may not be able to print some PDF files directly by the printer due to the way they were created. When this happens, open the PDF files and use the printer driver to print them.*

PRINTING A PDF FILE

To print PDF files directly, you can send the PDF using any method of file transmission such as DOS Copy or using a utility to send it directly to Port 9100 on a TCP connected printer. You can also use the Oki PC based utility (LPR) for printing PDF files directly to the printer.

When sending the PDF file to the printer for printing using the lpr command, printing will be done with the defaults set at the control panel. These defaults include:

>	Copies	**>**	Paper size
>	Duplex	**>**	Paper feed
>	Print mode		

> *NOTE*
> *When the lpr command is used for printing, you must specify the number of copies using the lpr command. The Quantity setting on the control panel will become disabled. If the number of copies is not specified by lpr command, it will be treated as one copy.*

PRINTING VIA ELECTRONIC MAIL /E-MAIL PRINTING

When the optional hard disk or compact flash has been installed and the printer is connected to a network, enabling it to receive e-mails via TCP/IP communication, e-mails can be sent from the computer to this printer.

Printing of e-mail contents and TIFF or PDF attachments can be done from this printer.

This feature is known as E-mail Printing.

A = E-Mail; B = Prints automatically
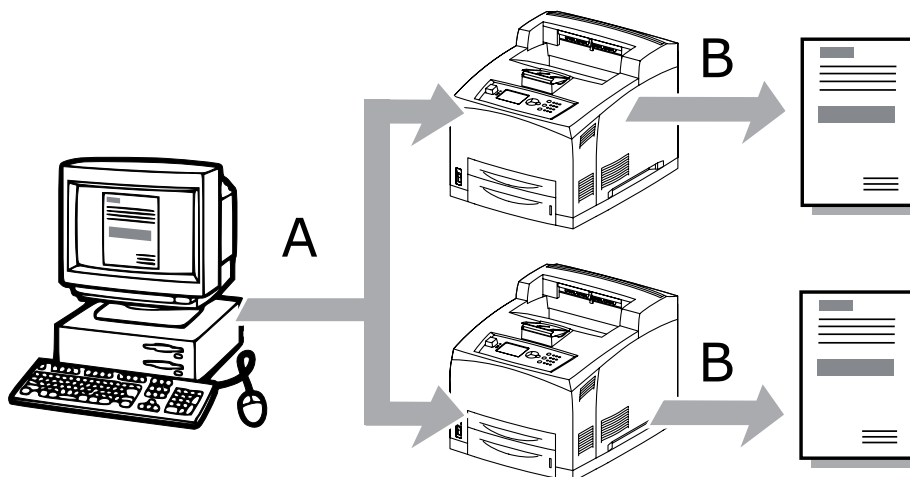
ENVIRONMENT SETTINGS FOR E-MAIL PRINTING

To use the E-mail Printing feature, you need to configure server settings (such as SMTP and POP3 servers) on your network environment.

> *NOTE*
> *Wrong e-mail environment settings may cause disruptions in your network. Always ask your network administrator to configure e-mail environment settings.*

Attachments that can be sent

The following files can be sent as an attachment:

> PDF file created by Adobe Acrobat.

> TIFF file

> *NOTE*
> *The PDF files sent will be printed by using the PostScript feature and according to the PDF setting on the control panel. For details refer to "Direct printing of PDF files" on page 57.*

SENDING E-MAILS

This section explains how to send e-mails from the computer to the printer using Outlook Express as an example.

1. Create mail contents using your mailing software and attach TIFF or PDF files if any.

> *NOTE*
> > *Only text format can be used for the mail contents. Set the format of the e-mail content to text format in your mailing software.*
>
> > *If the extension of the attached file is not "tif" or "pdf", it may not be printed correctly.*
>
> > *Maximum 31 documents can be attached.*

2. Enter the printer's e-mail address in the address column.

3. Send the e-mail. The printer will print the e-mail automatically after receiving it.

POINTS TO NOTE WHEN SENDING E-MAILS

Security issues

E-mails are sent via the Internet, connecting computers from all over the world. As a result, precaution must be taken relating to security issues such that information is not easily seen or altered by third parties.

Therefore, we recommend that you use methods to ensure that important information is secured. You are also advised not to reveal the e-mail address of this printer to third parties to avoid receiving spam.

Internet provider and e-mail features

> In the case where a flat-rate contract with the Internet provider exists and the user is not always connected to the network, a telephone charge will be incurred every time this printer retrieves data regularly from the mail server.

> Connect the printer to an IP private address. Functionality of this printer is not guaranteed when it is assigned public IP addresses.

> When receiving e-mails via POP, always apply an exclusive e-mail account for the printer. Using a common e-mail account shared with other users will result in errors.

> When the internet connection speed is slow, it takes time to receive large amount of data such as images.

> There are also providers that allow reception of e-mails via SMTP. Detailed adjustments with the provider is required for such cases.

> When setting up the e-mail configuration in an environment where MTA support is set up in private segments, match the operating configuration.

BARCODE PRINTING

FONT BASED BARCODES

Barcode fonts that are internal to the printer support the following symbologies:

> Code 128

> Code 3 of 9

> Interleaved 2 of 5 UPC/EAN

> PostNet

COMPUTATIONAL BARCODES USING PCL5

Algorithm generated barcodes are printed by firmware that uses special PCL font selection commands.

Computational barcodes can:

> generate any size of barcode

> automatically generate checksums

> automatically add stop and start characters

Computational barcodes can support the following symbologies:

> UPC/EAN

> Code 128

> EAN/UCC 128

- > PostNet
- > Interleaved 2 of 5
- > Code 39
- > Codabar
- > Code93

INTELLIGENT BARCODING

Unlike some barcode solutions, which merely add fonts to a PC or printer, this firmware actually extends the PCL5 language. Barcode formatting, error detection and checksum calculation are performed by the firmware, reducing the load on the host and the network. Barcodes can be printed in almost any size or rotation, bar width and height. The printing of HRI text is user selectable.

Other features that the user can select are:

- > Barcode symbology
- > Height of the barcode
- > Rotation of the barcode
- > HRI select or de-select
- > HRI placement
- > Width of bars
- > Wide to narrow ratio of bars

See "Appendix B" on page 132 for additional information on barcodes.

PRINTING STORED AND SECURE DOCUMENTS

There are four types of jobs that can be stored in the printer:

> Stored

> Secure

> Proof Print

> Timed

Optionally an expiration time may be specified for Stored, Secure and Proof Print job types. The expiration time indicates the number of days the jobs may be stored before being automatically deleted.

> **CAUTION!**
>
> **The hard disk may be damaged and erase important data saved in the hard disk. We recommend you back up your data.**

STORED JOBS

A stored job is the same as a secure print job except that it is not deleted from the storage device after it is printed. By storing frequently-used data in the printer, you can print the job from the printer control panel, without sending it from the computer again and again.
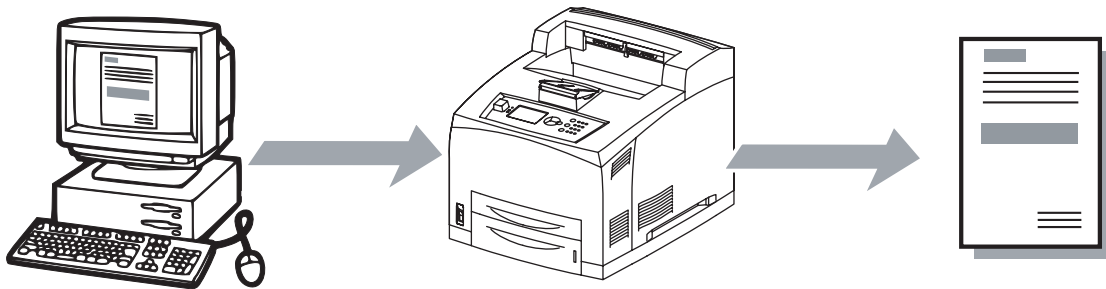
AT THE COMPUTER

This section explains the procedure using WordPad on Windows XP as an example. The procedure is the same for other Operating Systems.

> *NOTE*
> *The way to display the printer properties dialog box differs according to the application software. Refer to the manual of your respective application software.*

1. From the **File** menu, select **Print**.

2. Select this printer as the printer to be used and click **Preferences** or for some applications may say **Properties**.

3. From **Job Options** tab in the **Job Type** group, select **Stored**.

4. In the **Job Identification** group, enter a name at **Job Name**. *The job name is needed at the printer to retrieve the particular job.*

5. In the **Job Identification** group, enter a 6 digit password at **Job Pin**. Enter a Six digit numeric password. *The Password must be strong, i.e. non consecutive numbers.*

6. Enter the job expiration time. A value of zero specifies that the job will not expire.

7. Click **OK**. Click **Print** in the Print dialog box to start printing. The document will now be stored in the printer.

AT THE PRINTER CONTROL PANEL

This section explains the procedure to print data stored in the printer for Stored job type.

1. Press the **MENU** button.

2. Check that Print Jobs Menu is highlighted and then press the **ENTER** button.

3. Input the 6 digit Password number via the numeric keypad on the right side of the control panel.

4. Press the **up** button or **down** button until the desired document is displayed and then press the **ENTER** button.

5. Input the number of copies desired via the numeric keypad on the right side of the control panel, then press **ENTER**. Press the **BACK** button if a wrong # is entered.

> *NOTE*
> *You can also delete the secure print data, stored in the printer. To Delete, without printing. After step: 6, press the CANCEL button and then ENTER button.*

SECURE PRINT

Secure Print is a feature that allows you to attach a password to a print job on the computer, send it to the printer for temporary storage, and then print the job from the printer control panel. When the printing of a Secure Print job is complete, the job is automatically deleted.
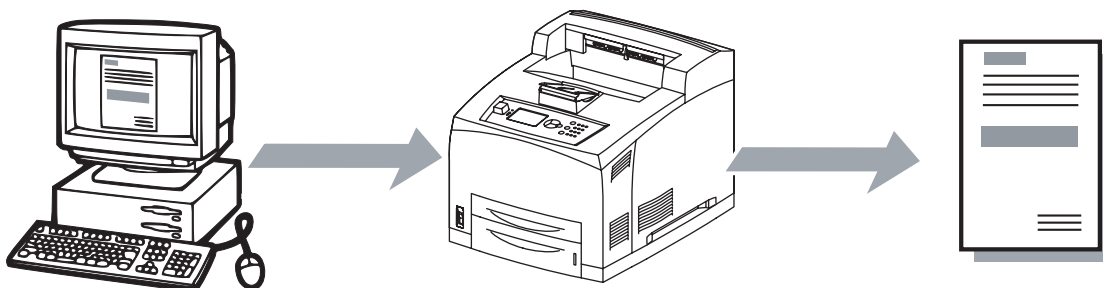
AT THE COMPUTER

This section explains the procedure using WordPad on Windows XP as an example. The procedure is the same for other Operating Systems.

> *NOTE*
> *The way to display the printer properties dialog box differs according to the application software. Refer to the manual of your respective application software.*

1. From the **File** menu, select **Print**.

2. Select this printer as the printer to be used and click **Preferences** or for some applications may say **Properties**.

3. From **Job Options** tab in the **Job Type** group, select **Secure Print**.

4. In the **Job Identification** group, enter a name at **Job Name**. *The job name is needed at the printer to retrieve the particular job.*

5. In the **Job Identification** group, enter a 6 digit password at **Job Pin**. Enter a Six digit numeric password. *The Password must be strong, i.e. non consecutive numbers.*

6. Enter the job expiration time. A value of zero specifies that the job will not expire.

7. Click **OK**. Click **Print** in the Print dialog box to start printing. The document will now be stored in the printer.

AT THE PRINTER CONTROL PANEL

This section explains the procedure to print data stored in the printer by Secure Print.

1. Press the **MENU** button.

2. Check that `Print Jobs Menu` is highlighted and then press the **ENTER** button.

3. Input the 6 digit Password number via the numeric keypad on the right side of the control panel.

4. Press the **up** button or **down** button until the desired document is displayed and then press the **ENTER** button.

5. Input the number of copies desired via the numeric keypad on the right side of the control panel, then press **ENTER**. *Press the **BACK** button if a wrong # is entered.*

> *NOTE*
> *You can also delete the secure print data, stored in the printer. To Delete, without printing. After step: 6, press the CANCEL button and then ENTER.*

6. After printing, the job is deleted.

PROOF PRINT

Proof Print is a feature that allows you to store the print data of multiple copies in the hard disk or compact flash, print only the first set to check the print result and if satisfactory, print the remaining copies from the control panel.
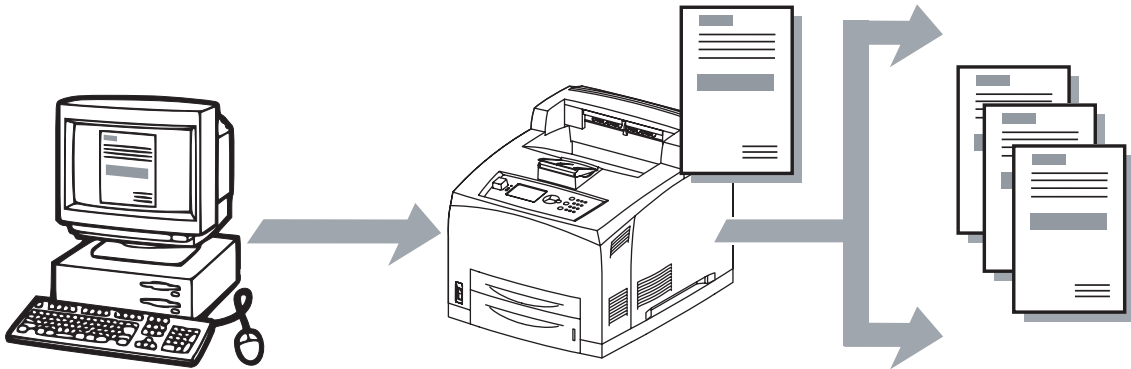
CONFIGURING PROOF PRINT

This section explains the procedure using WordPad on Windows XP as an example. The procedure is the same for other Operating Systems.

> *NOTE*
> *The way to display the printer properties dialog box differs according to the application software. Refer to the manual of your respective application software.*

1. From the **File** menu, select **Print**.

2. Select this printer as the printer to be used and click **Preferences** or for other applications may say **Properties**.

3. From **Job Options** tab in the **Job Type** group, select **Proof and Print**.

4. In the **Job Identification** group, enter a name at **Job Name**. *The job name is needed at the printer to retrieve the particular job*.

5. In the **Job Identification** group, enter a 6 digit password at **Job Pin**. Enter a Six digit numeric password. Click **OK**.

6. Enter the job expiration time. A value of zero specifies that the job will not expire.

7. Click **Print** in the Print dialog box to start printing.
    The document will be stored in the printer.

AT THE PRINTER CONTROL PANEL

This section explains the procedure to print data stored in the printer by Proof and Print

1. Check the print proof copy that was printed to see that it is correct before proceeding.

2. Press the **MENU** button

3. Check that `Print Jobs Menu` is highlighted and then press the **ENTER** button.

4. Input the 6 digit Password number via the numeric keypad on the right side of the control panel, then press the **ENTER** button.

5. Press the **ENTER** button.

6. Press the **up** button or **down** button until the desired document is displayed and then press the **ENTER** button.

7. Input the number of copies desired via the numeric keypad on the right side of the control panel, then press **ENTER**. Press the **BACK** button if a wrong # is entered.

TIMED JOB

This feature allows you to store a job in the printer and configure it to print at a specified time. The job will be automatically deleted after it is printed.

CONFIGURING A TIMED JOB

The procedure to configure Delayed Print is as follows.

This section explains the procedure using WordPad on Windows XP as an example. The procedure is the same for other Operating Systems.

> *NOTE*
> *The way to display the printer properties dialog box differs according to the application software. Refer to the manual of your respective application software.*

1. From the **File** menu, select **Print**.

2. Select this printer as the printer to be used and click **Preferences**.

3. From **Job Type** on the **Job Options** tab, select **Timed Jobs**.

4. Set the time to start printing by selecting **Elapse Time** or **Real Time**. For **Elapse Time** specify the number of minutes to delay before printing. For **Real Time** specify the Year, Month, Day, Hour, and Minute to start printing.

5. In the **Job Identification** group, enter a name at **Job Name**. The default job name is "blank", if left blank the job may fault.

6. Click **OK**.

7. Click **Print** in the Print dialog box to start printing. Printing will start at the specified time.

CANCELLING A TIMED JOB

Use the control panel to cancel Timed Job or to print without waiting for the specified time.

1. Press the **Menu** button.

2. Press the **up** button or **down** button until `Print Jobs Menu` is displayed and then press the **ENTER** button.

3. Press the **up** button or **down** button until the desired digit of the Password (PIN number) is displayed, then press the **ENTER** button.

4. Repeat step 3 until all six digits of the password are displayed.

5. Press the **ENTER** button.

6. Press the **up** button or **down** button until the required document is displayed and then press the **ENTER** button.

7. To delete job press the **CANCEL** button.

8. Press **ENTER** to print displayed job.

9. Enter the number of copies using the **up** button or **down** button.

10. Press the **ENTER** button. The document will be printed.

> *NOTE*
> *The document name displayed (up to 12 characters) is the Document Name*
> *set in the Timed Job dialog box of the Job Option tab of the printer driver.*

NETWORK OPERATIONS

This chapter explains the various network protocols available to the user for configuring the printer to their specific network environment. The default network configuration for IP Address Set: Automatic (equivalent to DHCP On).

You may choose to disable Automatic IP Address Set by selecting IP Address Set: *Manual (equivalent to DHCP Off).*

NETWORK PROTOCOLS

The printer supports the following protocols:

> IPv4 (TCP/UDP)

> IPv6

> IPsec

> 802.1x authentication

> SSL/TLS

> DHCP

> DNS

> DDNS

> WINS

> LPD

> SNMP v1, v2, v3

> FTP

> POP3

> SMTP

> HTTP

> EtherTalk

> Bonjour

> Netware

> IPX/SPX

NETWORK FEATURES

This section describes some of the advanced networking features in the printer. For further information, see the Network Guide.

IP FILTERING

The purpose of IP filtering is to limit access to the printer to only those Host computers that have IP addresses within IP ranges predefined on the configuration page. The IP configuration page, accessible from the EWS (when logged in as administrator), has enable and disable parameters. When IP filtering is disabled, all network traffic is allowed.

When IP filtering is enabled and incoming data is from an address that falls within the predefined range, it is allowed to print, if the "Printing" or "Config" checkboxes are checked. If the incoming data does not fall into a predefined range, it is rejected.

In cases where IP ranges overlap but have different permissions (for example, one to print only and another to print and configure), permissions for the overlapping addresses are

determined by IP Filter priority. Higher priority overrides lower priority permissions. If an administrator IP address is entered, it takes highest priority over any configured IP range.

> NOTE
> *The address 0.0.0.0 is not allowed.*

IPv6 PROTOCOL SUPPORT

The IPv6 implementation conforms to the following IETF documents:

> - RFC 2460: Internet Protocol, Version 6 (IPv6) Specification
> - RFC 2461: Neighbor Discovery for IP Version 6 (IPv6)
> - RFC 2462/4862: IPv6 Stateless Address Auto Configuration
> - RFC 1981: Path MTU Discovery for IP Version 6
> - RFC 2463/4443: Internet Control Message Protocol (ICMPv6)
> - RFC 2710/3810: Multicast Listener
> - Discovery Version 2 (MLDv2)

IPv6 enabled devices can auto configure their IPv6 address. This happens automatically whenever there is an IPv6 enabled router on the subnet to which the device is connected. The printer unique ID is obtained from the Ethernet MAC address. The router may advertise multiple network prefixes, depending on the network configuration. The Network summary page displays all the above addresses, if they exist. If only the Local Link address (starting with "xFE80…") is displayed, that is an indication that the link is not connected to a router (gateway). No manual configuration of IPv6 addresses is supported, nor is there support for DHCPv6, and the printer does not register its IPv6 address with DNS.

Upper Level Protocols such as UDP, TCP run with either IPv4 or IPv6. For instance, a print job can be sent to the printer over IPv4 or IPv6. Similarly the EWS or SNMP can be accessed over IPv4 or IPv6. IPv6 and IPv4 coexist independent of each other. They can be Enabled/ Disabled in any combination. They are both enabled by default. In cases where a particular network is configured to run only one IP version, it makes sense to disable the other one (for better resource utilisation).

SNMP

The printer supports SNMP v1, v2, and v3. SNMP can be used to manage any network device. SNMP is a protocol that allows an SNMP manager (the controller) to control an SNMP agent (the controlee) by exchanging SNMP messages. The main purpose of an SNMP message is to control (set) or monitor (get) the parameters in a network device.

In SNMP, a parameter is an instance of a more generic object. For example, an SNMP agent may have several instances of an object. An SNMP manager can set or get the value for each object instance (each parameter).

In an SNMP agent, parameters are arranged in a tree. SNMP uses an Object Identifier (OID) to specify the exact parameter to set or get in the tree. An OID is a list of numbers separated by periods. An OID is a combination of two values. The first value is the OID of the generic object and the second is the instance value, which specifies the particular instance of the object.

Every SNMP agent has an address book of all its objects, called the MIB or Management Information Base. The MIB provides the name, OID, data type, read/write permissions, and a brief description for each object in an SNMP agent. Armed with information about an object from the MIB, and the instance value, an SNMP manager can send an SNMP message to set or get one of the parameters on an SNMP agent.

Traps

The printer sends generic traps at power up and online and offline traps. Traps are sent on all printer status changes such as: paper out, cover open, tray missing, and jams. The Trap Host ID must be set via the EWS for traps to be enabled.

Alerts

Support for SNMP alerts is based on Printer MIB (RFC 1759) requirements. All outstanding alerts are logged into the Printer MIB alert table. Whenever critical alert is entered into the table trap is generated to the Host application. Traps are sent only if Trap Host IP address is defined. It can be set through the EWS under the SNMP setup menu.

EMBEDDED WEB SERVER

This section explains how to navigate through the printers Embedded Web Server (EWS). The EWS allows you to view or change various printer settings. The changes made via the EWS change the printer settings in the same manner as the Control Panel. To change settings for specific documents, use your Printer Properties options within the driver.

> *NOTE*
> *> If there is a conflict between settings in the Control Panel, Printing Preferences, or Embedded Web Server and printer settings set via your application, the application settings supersede any other setting.*
>
> *> The EWS facility is only available when the printer is connected to the network.*

ACCESSING THE EWS

If you are working in a network environment, you can use a web browser to view printer statuses and make changes to various configuration settings.

The IP value can be found on Page 1 of the printed MenuMap under the heading **Network.**

IP Address = xxx.xxx.xxx.xxx

WEB PAGES FOR GENERAL USE

STATUS

The home page of the printer is shown below. Navigation to various statuses and functions is done using the selections on the left side of the page.

The Status Page shows at-a-glance information regarding the current state of the printer.

The current content of the Control Panel Display, current toner coverage information, and printer alert conditions are shown in the top portion of the page.

The remainder of the page contains basic information about the printer (identification and installed options), information about the firmware installed in the printer.

You can also see whether certain basic network protocols are enabled. Green indicates Enabled and Gray indicates Disabled.

STATUS – PRINTER SUMMARY

The Printer Summary displays a complete view of the printer's options. It also displays the toner level, percent of coverage, and page counters.

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Status
- Printer Status
- Printer Summary
- Network Summary
- Usage Report
- Print Jobs
- Links
- Send File

[Administrator Login]

Printer Information

Tray 1	Letter
Tray 2	Letter
Duplex	Installed
Offset Tray	Not Installed
Hard Disk	Not Installed
Compact FLASH	Not Installed
Memory	128 MB
Printer Serial Number	
Printer Asset Number	
PU Firmware	0.44.0
CU Firmware	6.7a

Supplies

Remaining Toner :

Black	64%

Toner Coverage Average :

Black	7.14%

Counts :

Total Page Count	4825
Fuser Page Count	4825
Toner Page Count	9918
Toner Coverage Page Count	461

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STATUS - NETWORK SUMMARY

The Network Summary will display a view of the most commonly used Network configuration settings.

B720n

Status
- Printer Status
- Printer Summary
- Network Summary
- Usage Report
- Print Jobs
- Links
- Send File

Administrator Login

General Information

F/W Version	10/100 Ethernet Rev 3.5 (id 0020)
MAC Address	00:50:27:03:00:60
Printer Serial Number	
Printer Asset Number	

TCP/IP Configuration

IP Address	10.5.1.165
Subnet Mask	255.255.0.0
Gateway Address	10.5.2.1
Link Status	100Base-T Full
Active DNS Servers:	10.5.1.2
Active WINS Servers:	10.5.1.2
Active Domain Name	

IPv6 Status

Status	Enable
IPv6 Local-Link Address	FE80::250:27FF:FE03:60

EtherTalk Status

EtherTalk	Enable
Printer Name	B720n 030060
Type Name	LaserWriter
Zone Name	*

Netware Status

Netware	Disable
Netware Mode	PSERVER
Frame Type	Auto-Sense
Status	Not Connected
Network Number	

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USAGE REPORT

Shows the current Usage Page Count in the printer.

PRINT JOBS

Allows the User to print **Stored Job**, **Secure Print** or **Proof and Print** jobs located on the printer storage devices such as the optional Hard Drive, Compact Flash or standard User Flash. The password given when the job is stored must be entered on this page. After clicking the "Jobs" button a list of jobs with that stored password will be displayed and may be printed or deleted.

LINKS

On this page you may have easy access to specific web sites for technical support purposes.

SEND FILE

Allows the User to Browse to and Print select files directly from the PC Folder. Supported file types are displayed on the **Send File** screen.

WEB PAGES FOR ADMINISTRATOR USE

The following pages show the EWS functions available to the Administrator. To access these functions, the administrator must log in with User Name = **root** and default Password = **aaaaaa**.

Log-in

Printer identification

The first time you log in you will be given the opportunity to configure the Printer Name, Location, Asset Number and Administrator Name. This information assists remote printer Administrators by providing more specific identification information.

PRINT JOBS ADMIN

The Print Jobs Admin web page allows the administrator to change attributes of previously stored **Stored Job**, Secure Printed **Proof and Print** jobs.

Print jobs expiration settings

When stored print jobs are created, an expiration time can be chosen. The expiration time is set as a number of days that the job will be stored before it is automatically deleted.

The Administrator can use this page to override the print driver setting for job expiration for all subsequent jobs that are to be stored in the printer.

If the **Enforce Expiration** check-box is checked, all subsequent jobs for storage will have their expiration time set to the **Days** setting. If the check-box is not checked, then the print driver setting will be used.

Print jobs administration

The Administrator can also change the expiration settings for jobs that are already stored in the printer. In addition, jobs that are stored can be deleted.

PRINTER - PRINT MENU - PRINT METHOD

This page contains basic print settings. These settings are effective unless overridden by settings contained in a print document.

For further information about these settings, see the **Print Menu** section of the Operator Panel.

PRINTER - PRINT MENU - PRINT QUALITY

This page is used to specify the default print quality settings. The Resolution setting controls the default Dots Per Inch (DPI) for printing, while the Print Density and Toner Save Mode settings affect the amount of toner used for black areas of the printed page. If reduced toner usage is desired, it is recommended that the Toner Save Mode setting be set to **On**. Otherwise, leave these settings at their default values.

Allows you to adjust the printing position of individual trays. There is usually no need to change this setting. However, it can be useful if printed data needs to be aligned on preprinted forms, or if the printed page is not properly centered on the paper.

PRINTER - MEDIA MENU

This page includes all settings under the `Menus > Tray Configuration` menu path on the Control Panel (see "Menus - Tray configuration menu" on page 37), plus an additional feature, which is called **Tray Priority**.

The Priority setting instructs the printer as to which order paper trays are used when there are multiple paper trays that contain the same size and type of media. The Priority setting affects the following operations:

1. The order in which trays are examined when the paper source selected by an application is **Auto Select**

2. The order in which trays are used when **Auto Tray Switch** occurs, after a paper tray becomes empty.

No two paper trays can be assigned the same priority.

This page includes settings from the Sys Config Menu. For descriptions of the following settings, (see "Menus - Sys config menu" on page 40) Language, Print PS Errors, Jam Recovery, Power Save Delay Time, Low Toner, and Wait Timeout.

The **Personality** setting can be used to instruct the printer to treat all incoming print data as if it were intended to a specific PDL (e.g. PCL5 or PostScript).

The **PS Sys/Start** setting is an advanced PostScript administration feature that is not often used. It controls whether or not a special file is processed when the PostScript interpreter is "restarted".

This page provides access to the settings found in the `Admin Setup > PCL Emulation` menu path on the control panel. (see "Admin - PCL emulation" on page 44) for more information.

PRINTER - EMULATION - FX EMULATION

This page provides access to the settings found in the `Admin Setup > FX Emulation` menu path on the Control Panel. (see "Admin - FX emulation" on page 45)for more information.

PRINTER - INTERFACE - PARALLEL

This page provides access to the settings found in the `Admin Setup > Parallel Menu` menu path on the Control Panel. (See "Admin - Parallel menu" on page 46) for more information.

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PRINTING SOLUTIONS

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- » **Status**
- » **Usage Report**
- » **Print Jobs**
- » **Print Jobs Admin**
- ⌄ **Printer**
  - •Summary
  - •Print Menu
    - •Print Method
    - •Print Quality
    - •Printer Sys Adjust Menu
  - •Media Menu
  - •Printer Sys Config Menu
  - •Emulation
    - •PCL Emulation
    - •FX Emulation
  - •Interface
    - •Parallel
    - •Serial
    - •USB
  - •Job Accounting
  - •Save / Restore
  - •Hex Dump
  - •Information Print
- » **Network**
- » **User FLASH**
- » **Security**
- » **Maintenance**

Serial Menu
Changes take effect after powering the printer off and on.

Serial	Enable ▾

Communication setting

Baud Rate	9600 ▾
Data Bits	8 ▾
Stop Bits	1 ▾
Parity	None ▾
DTR Ready/Busy	Off ▾
DTR Onl/Offl	Off ▾
DTR Error	Off ▾
RTS Ready/Busy	Off ▾
RTS Onl/Offl	Off ▾
RTS Error	Off ▾
XON Ready/Busy	On ▾
XON Onl/Offl	On ▾
XON Error	Off ▾
DTR Polarity	High ▾
RTS Polarity	High ▾
Robust XON	Off ▾

Data setting

Serial PS-Protocol	ASCII ▾

This page provides access to the settings found in the `Admin Setup > Serial Menu` menu path on the Control Panel. (See "Admin - Serial menu" on page 46) for more information.

PRINTER - INTERFACE - USB

This page provides access to the settings found in the `Admin Setup > USB Menu` menu path on the Control Panel. (See "Admin - USB menu" on page 48.)

PRINTER - JOB ACCOUNTING

This page allows you to enable or disable the Job Accounting feature. The Job accounting feature keeps a record of jobs printed by the printer.

This page can also be used to print or reset the Job Accounting information stored in the printer.

PRINTER - SAVE / RESTORE

This page allows you to save the current printer settings as a form of "backup data". This allows you to restore the printer to a known state in situations where a variety of printer settings may have been changed. (see "Admin - Maintenance menu" on page 53) for more information.

PRINTER - HEX DUMP

Hex dump is a tool primarily used for diagnosing data stream errors or problems when print drivers are not being used. When Hexprint is activated all data is printed out in the hexadecimal output format.

PRINTER - INFORMATION PRINT

Information print allows the user to conduct remote print functions such as Information Print of the Status Page titled "Menu Map".

The "Network" web page is where you can administer all of the networking features of the printer. The networking features can be categorised as follows:

1. Basic Network Settings

2. Remote Printer Management Features

3. Security Features

The Network Guide contains extensive information regarding the administration of these features. Please refer to the Network Guide for detailed information regarding these features.

USER FLASH - FILES

Allows the user to View, Delete and Print stored files in the User FLASH memory.

USER FLASH - PRINT SUMMARY

Allows the user to Submit/Print the User FLASH Summary report.

USER FLASH - FORMAT.

WARNING!
Formatting User Flash will erase all data stored on the User Flash.

Allows the user to format the User FLASH. This will cause the printer to reboot when complete.

SECURITY - PROTOCOL ON/OFF

This allows you to configure basic EWS settings (Port Number and whether or not the EWS is enabled). In addition, the ability to print via FTP Protocol, and which version of SNMP to support can also be configured.

SECURITY - IP FILTERING

This page allows you to perform simple filtering of TCP/IP traffic to the printer. Please refer to the Network Guide for more information.

Data erase security setting

This setting controls whether more thorough methods are used to format permanent storage when requested. (see "Admin - Job accounting menu" on page 53) for more information.

USB drive enable/disable setting

This feature enables or disables the ability to attach USB Mass storage devices to the front panel USB connector.

SECURITY - PANEL LOCKOUT

Locks the Control Panel to prevent Menu changes

SECURITY - PASSWORD CONFIGURATION

Allows the user to change the root/admin Password.

MAINTENANCE - RESET/RESTORE

Allows the user to perform the following actions:

> Reset Printer

> Reset Network Card

> Restore Printer to Factory Defaults

> Restore Network Card to Factory Defaults

> Reset Average Toner Coverage
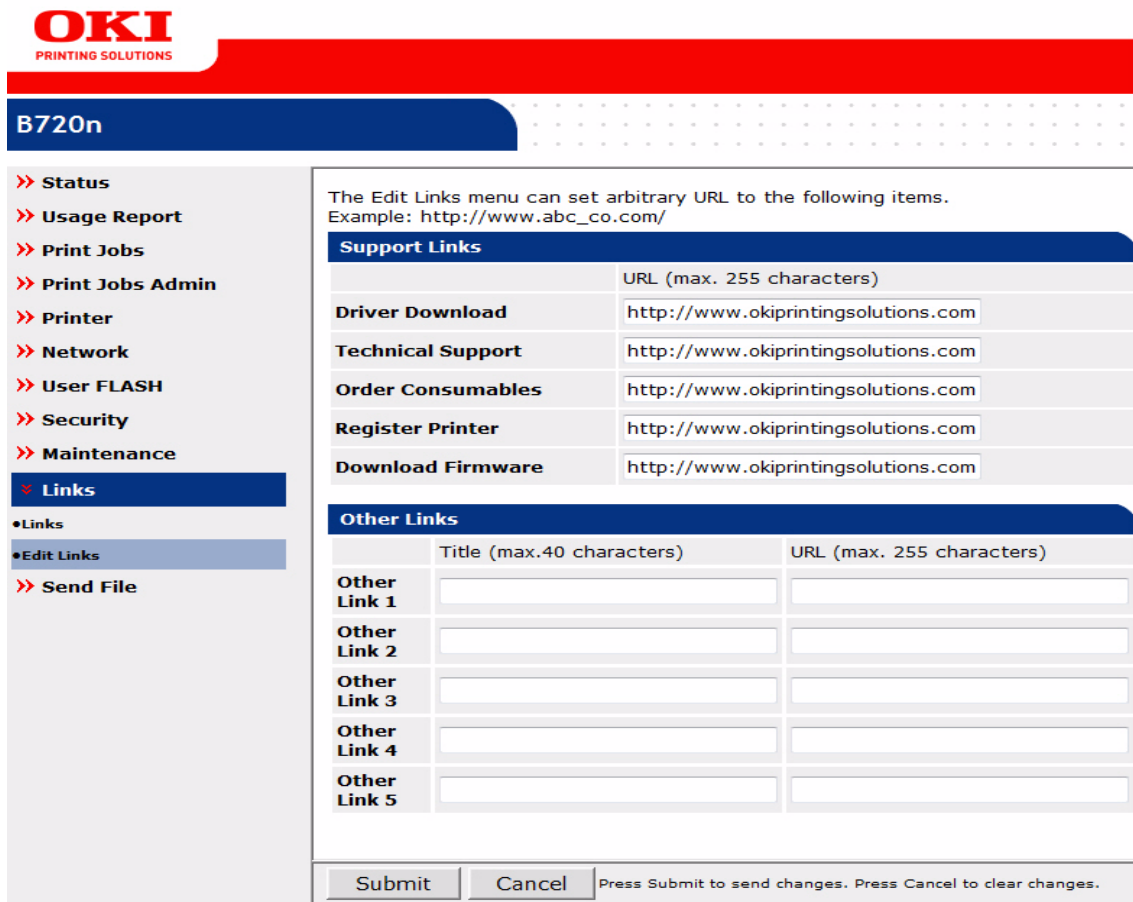
This page contains commonly needed URLs for support.

Links - Edit Links

This page allows the administrator to edit the Support Links and add other URL's that may be needed for local purposes.

TROUBLESHOOTING

WHEN PAPER JAMS

<table>
<tr><td>CAUTION!</td></tr>
<tr><td>When removing jammed paper, make sure that no pieces of torn paper are left in the machine. If a sheet of paper is wrapped around the heat roller, or when clearing a jammed paper that is difficult or impossible to see, do not try to remove it by yourself. Doing so can cause injuries or burns. Switch off the machine immediately, and contact your dealer or service.</td></tr>
</table>

Following the message on the control panel, open the cover (covers are identified as illustrated) and remove the jammed paper. If paper is torn, check for any remaining torn pieces of paper.
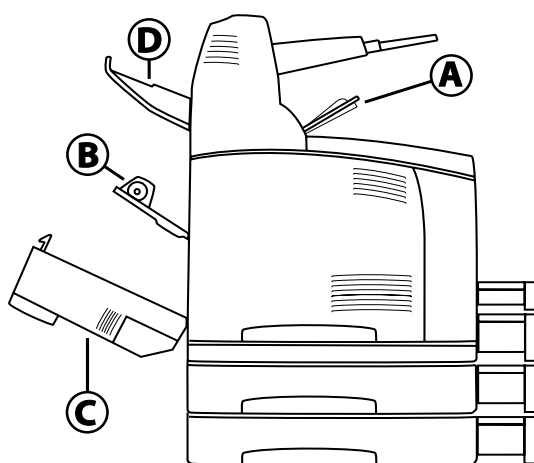
A Top Cover

B Back Cover

C (Optional) Duplex Unit Cover

D (Optional) Offset Catch Tray Cover

INSIDE COVER A

When the optional offset catch tray is installed, fold the tray first before opening cover A.

Open Cover A when a message to remove the drum/toner cartridge is displayed.

1. Open cover A (1), and holding the drum/toner cartridge by the grip, remove it from the printer (1).

2. Turn the roll as shown and remove any jammed paper inside (2).
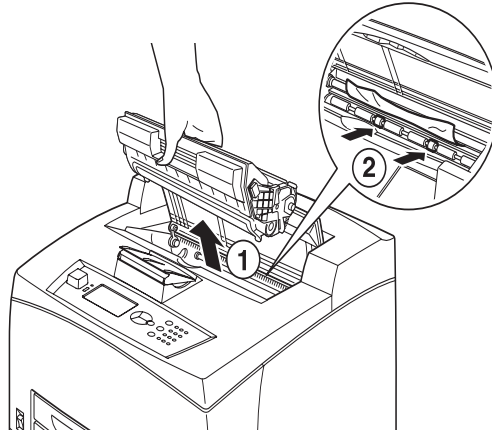
3. Return the drum/toner cartridge and cover A to their original positions.
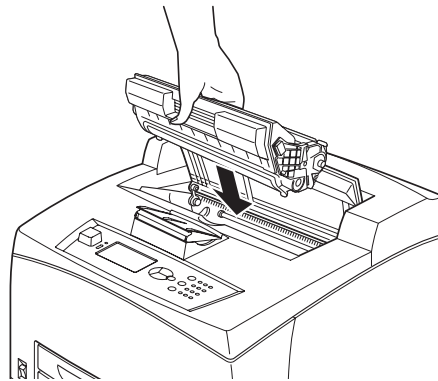
4. If installed, lower the offset catch tray to its original position.
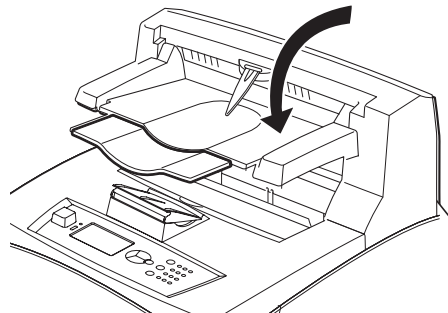
CAUTION!

If you continue to print with the offset catch tray in the up position this may cause a paper jam. Always use the printer with the tray in the down position.

INSIDE PAPER TRAY

1. Pull out all paper trays and remove any wrinkled paper.
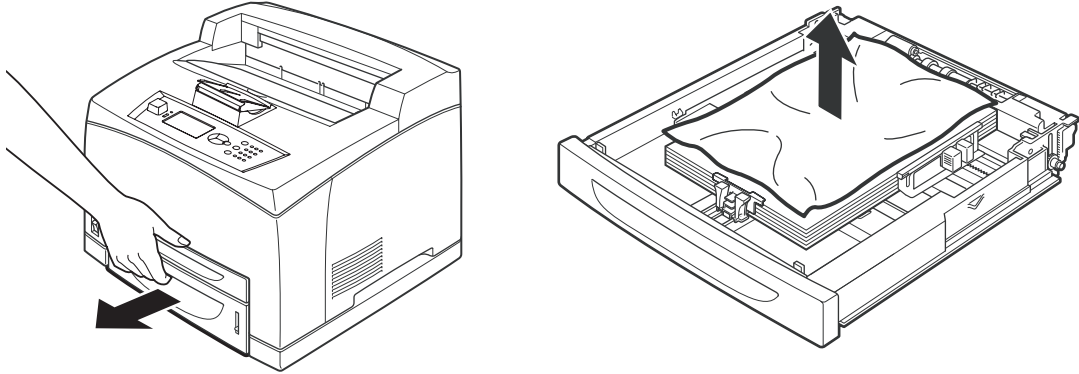
2. Examine the inside of the printer and remove any jammed paper.
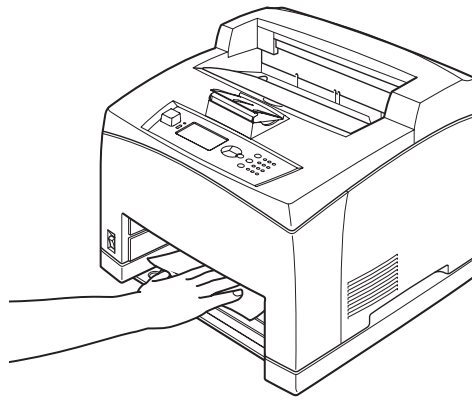
After removing paper,

1. Push the paper trays completely back into the printer.
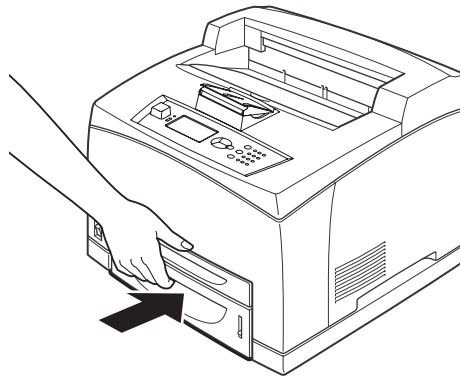
2. Open and close cover A. Doing this will clear the error message.
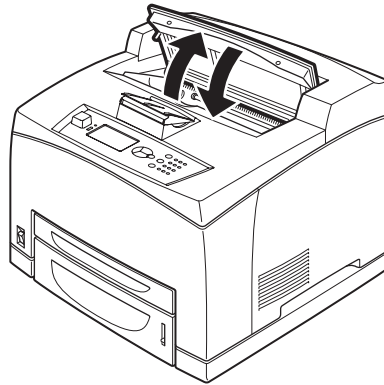
INSIDE COVER **B**
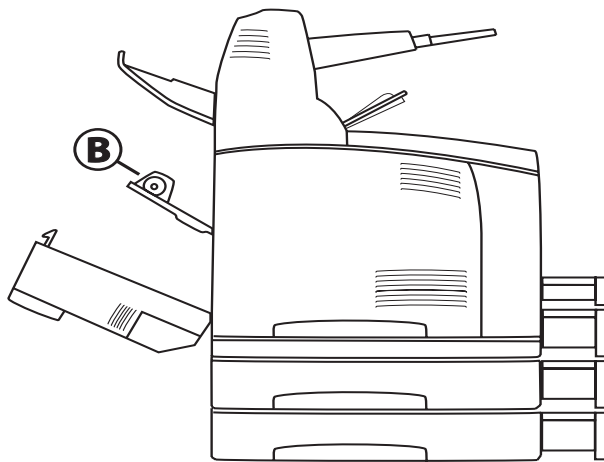
1. Open the Duplex cover, if installed.

2. Remove the rear tray when opening the back cover.
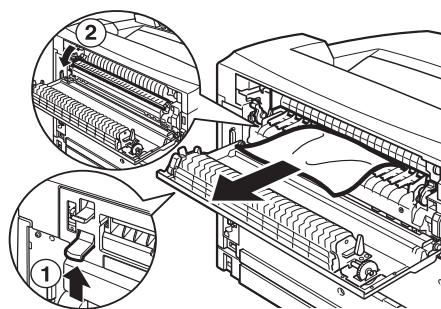
3. Raise the lever as shown in the diagram and open the cover B (1).

CAUTION!
The fuser unit is hot. You may get burned if you touch it directly.

4. After opening cover B, open the cover of the fuser unit (2) and remove any jammed paper.

5. Close the fuser unit, cover B and then attach the rear tray.

6. If installed, close the Duplex unit cover.

INSIDE COVER C (DUPLEX UNIT)
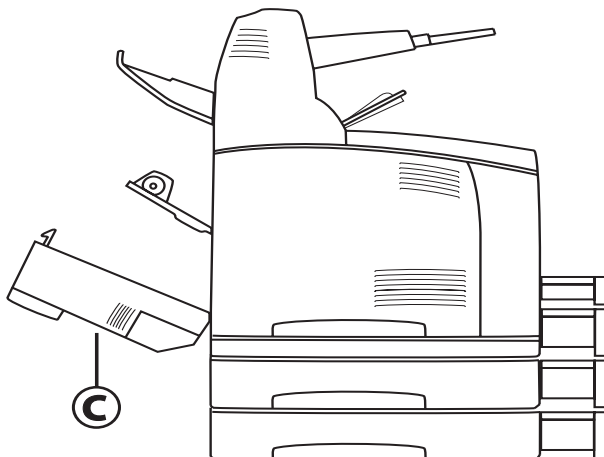
1. Push up the lever shown in the diagram to open the cover.
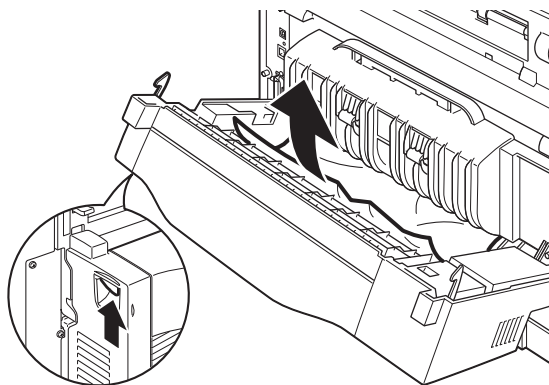
2. Remove the jammed paper and close the cover.

INSIDE COVER D (OFFSET CATCH TRAYS)
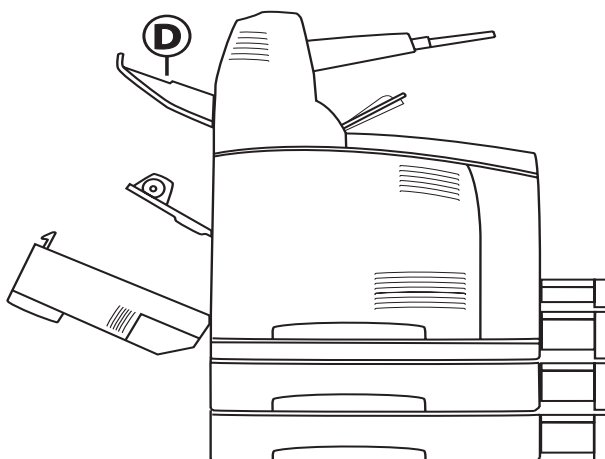
Open the cover and remove paper as shown.
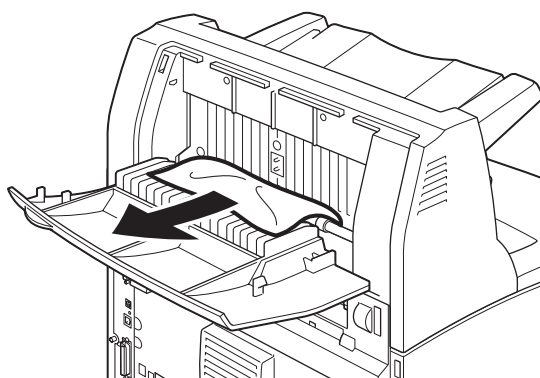
WHEN PROBLEMS OCCUR

Before treating the problem as a machine breakdown, refer to the following table and check the printer condition again.

> ### WARNING!
>
> > **Never open or remove machine covers that are secured with screws unless specifically instructed in the user guide. A high voltage component can cause electric shock.**
>
> > **Do not try to alter the machine configuration, or modify any parts. An unauthorized modification can cause smoke or fire.**
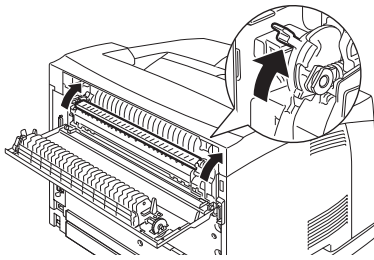
> *NOTE*
> *Limitations of the printer and incorrect settings at the printer, computer and server corresponding to your network environment may also result in printing problems.*

SYMPTOM	REASON/ACTION
No power.	Is the power of the printer switched off? Push the power switch to the <|> position to switch on the power.
	Is the power cord disconnected or not securely connected? Switch off the power of the printer and connect the power cord to the power outlet again. Then, switch on the power to the printer.
	Is the power cord connected to a power outlet with the correct voltage? Connect the printer exclusively to a power outlet with a suitable voltage and current rating.
Cannot print.	Is the light of the READY indicator off? If so, the printer is off-line or in menu setting mode. Press the ON LINE button to return the printer to its on-line status. Press the BACK button to exit the menu setting mode.
	Is there a message displayed on the control panel? Follow the message to rectify the problem. See "Message list" on page 112.
	When a parallel cable is used for connection, are you using a computer that supports bi-directional communication? By default the printer's bi-directional communication is set to Enable. if the computer is not responding to bi-directional communication, printing is not possible. Turn the bi-directional communication setting to Disable on the control panel and then try printing.
	If the printer has insufficient memory, use one of the following methods to rectify the problem. When the printer driver is set to **1200dpi** on the Graphics tab, set it to **600**dpi. Install the additional memory (optional) to increase the memory. Reduce the complexity of the print job.
Print job sent but the light of the READY indicator is not blinking or on.	Is the interface cable disconnected? Switch off the power and check the connection of the interface cable.
	Is the interface configured? Check the port status of the interface.
	Is the computer environment correctly set up? Check the computer environment, such as the printer driver.
Light of ATTENTION indicator is on.	Is there an error message displayed on the control panel? Check the displayed message and rectify the error. See "Message list" on page 112.
Light of ATTENTION indicator is blinking.	An error that you cannot rectify yourself has occurred. Record the displayed error message or error code, switch off the power, pull out the power plug from the outlet, and then contact service.

SYMPTOM	REASON/ACTION
Although no print job is sent, the message "Printing" is displayed on the control panel (when using the parallel interface).	Did you switch on the power of the computer after switching on the power to the printer? Pressing the CANCEL button cancels the printing. Check that you switch on the power of the computer before switching on the power to the printer.
Poor print quality.	There may be a problem with the image. Refer to the section after this, "When the Print Quality is Poor" to rectify the problem. " When the print quality is poor" (P. 110)
The correct characters are not printed (printing garbage).	The printer is printing with non-standard built-in fonts. Check the fonts used in the application. Download the necessary fonts when using PostScript.
The printout is different from what is displayed on the screen.	Did you change the TrueType font settings to printer fonts? Change to TrueType font printing for **Font Substitution** on the **Setup** tab of the printer driver. Online Help for the printer driver
Waiting is displayed but nothing is printed.	Printer is waiting for data from the host computer and is in the middle of a job. Sometimes a job is sent without normal job termination characters. Press and hold the ON LINE button for 3 seconds until the printer flushes the job buffers and completes the printing of this job. Alternatively, you can simply wait for a timeout to occur, which will automatically flush the buffers and complete the printing of the job. This default timeout is normally 20 seconds and can be adjusted with a control panel command.
Printing is very slow.	The receive buffer is insufficient. When printing documents of high resolution, reduce the memory capacity of items not in use. It is recommended to disable ports not in use, and channel the memory to other purposes.
	Is the printer driver set to **1200dpi** on the **Graphics** tab? Changing the setting to **600dpi** will shorten the print time. For guidance refer to the online help in the printer driver.
	Printing with TrueType fonts may take up printing time. Change the printing method for TrueType fonts in **Specify Fon**t on the **Detailed Settings** tab of the printer driver. For guidance refer to the online help in the printer driver.
Top section of printed document is missing. Text is reduced.	Are the paper tray guides set in the correct positions? Set the length guide and the right width guide in the correct positions.
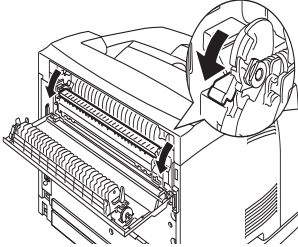
SYMPTOM	REASON/ACTION
Paper cannot be fed. Paper jam. Multiple sheets of paper is fed. Paper is fed at an angle. Paper is wrinkled.	Is the paper correctly set? Load the paper correctly. For labels, transparencies or envelopes, fan them well first to allow air to enter between each sheet before loading. See "Loading media" on page 25.
	Is the paper damp? Replace with paper from a new ream. See "Prohibited media types and conditions - usable paper" on page 30.
	Is the correct type of paper used? Load the correct type of paper. See "Media types" on page 27.
	Is the paper tray set correctly? Push the paper tray completely into the printer.
	Is the printer placed on a flat location? Place the printer on a flat stable surface.
	Are the paper tray guides set in the correct positions? Set the length guide and right width guide in the correct positions. See "Configuring tray selection" on page 31.
	Have you used any picture papers? Clean the feed roll. See "Cleaning the feed rollers" on page 126.
	More than 1 sheet of paper is fed at a time. Fan the paper before loading in the tray.
Envelope is wrinkled.	Envelopes can get wrinkled depending on the type used. Open cover B of this printer and lift up the levers at both ends of the fuser unit. The wrinkles can be reduced. After printing the envelope, remember to return the levers to their original positions.
Strange noise.	Is the printer placed on a flat location? Place the printer on a stable surface.
	Is cover A open? Close cover A securely.
	Is the paper tray set correctly? Push the paper tray completely into the printer.
	Are there foreign objects inside the printer? Switch off the power and remove any foreign objects inside the printer. If the object cannot be removed unless the printer is disassembled, contact service.

WHEN THE PRINT QUALITY IS POOR

When the print quality is poor, select the closest symptom from the following table to rectify the problem.

If the print quality does not improve after carrying out the appropriate action, contact service.

SYMPTOM	REASON/ACTION
Printing is light. (faded, blurred).	The paper is damp. Replace with paper from a new ream. See "Prohibited media types and conditions - usable paper" on page 30.
	The drum/toner cartridge is defective/damaged or there is no more toner inside the cartridge. Replace with a new drum/toner cartridge. See "Drum/Toner cartridge replacement" on page 119.
	The Toner Saving feature is on. Uncheck the **Toner Saving** checkbox on the **Graphics** tab of the printer driver. Online Help for the printer driver
	Levers on both sides of the fuser unit are raised. Open cover B of this printer and push down the levers at both ends of the fuser unit.
Black spots or streaks are printed.	The drum/toner cartridge is defective or damaged. Replace with a new drum/toner cartridge.
Toner appears at equal intervals.	The paper feed path contains excess toner. Print a few pages to eliminate the toner from the paper path.
	The drum/toner cartridge is defective or damaged. Replace with a new drum/toner cartridge.
White dots appear in black filled areas.	The paper used is not suitable. Load the correct type of paper.
	The drum/toner cartridge is defective or damaged. Replace with a new drum/toner cartridge.

SYMPTOM	REASON/ACTION
Printed image smudges when rubbed with your finger. The toner is not fixed on the paper. Paper is smeared with toner.	The paper loaded in the paper tray does not match the paper type set on the control panel. Ensure that the paper type set on the control panel and the printer tray match. See "Media types" on page 27.
	The paper is damp. Replace with paper from a new ream. See "Prohibited media types and conditions - usable paper" on page 30.
	The paper used is not suitable. Load the correct type of paper.
The whole piece of paper is printed black.	The drum/toner cartridge is defective or damaged. Replace with a new drum/toner cartridge.
	This may be due to breakdown of high voltage power. Contact service.
Nothing is printed.	The drum/toner cartridge is defective/damaged or there is no more toner inside the cartridge. Replace with a new drum/toner cartridge. See "Replacing the drum/toner cartridge" on page 120.
Spots of missing text.	This may be due to breakdown of high voltage power. Contact service.
	The paper is damp. Replace with paper from a new ream.
	The paper used is not suitable. Load the correct type of paper.
Text is blurred.	The paper used is not suitable. Load the correct type of paper.
	The paper is damp. Replace with paper from a new ream.
Missing characters throughout the length of the paper.	The drum/toner cartridge is defective/damaged or there is no more toner inside the cartridge. Replace with a new drum/toner cartridge.
Text or images are printed at an angle.	The paper tray guides are not set in the correct positions. Set the length guide and the right width guide in the correct positions.
Transparencies and envelopes are not printed clearly.	The type of transparency or envelope loaded cannot be used in this printer. Load the correct type of paper. See "Loading media" on page 25.
	Check that the paper type on the printer driver or the control panel is correctly set. See "Configuring tray selection" on page 31.
	The Toner Saver Mode feature is turned on. Change the settings on the control panel > Admin Setup> Print Menu or the Graphics tab of the printer driver.

MESSAGE LIST

This section describes the messages displayed on the control panel.

MESSAGE	CONDITION/REASON/ACTION
Bad Action	Format error.
Bad Action Str	Missing or bad action defined for job.
Bad BUFSIZE Cmd	Format error on BUFSIZE command.
Bad COLUMN Cmd	Format error on COLUMN command.
Bad FEntry CMD	Unrecognized Form Entry command.
Bad FORMLINES	Format error on FORMLINES command.
Bad Header Cmd	Unrecognized Header command.
Bad LINE Cmd	Format error on LINE command.
Bad PAGE Cmd	Format error on PAGE command.
Bad PORT Cmd	Format error on PORT command.
Bad Target Str	TARGET string format error.
Bad TEntry CMD	Unrecognized Target Entry command.
Call Service	Help message used for service-type errors.
Call Service Perform Maintenance	Fuser End of Life: Call service technician to install maintenance kit (Fuser, Feed Rollers and Transfer Roller).
Cancel Job	Confirmation prompt used when CANCEL is pressed.
Canceling Job	An operator-requested Cancel is in progress.
Clock Not Set	Real Time Clock has not been initialized.
Close Duplexer	Recovery message displayed when duplex door is open.
Close Rear Cover	Recovery message displayed when rear cover is open.
Close Top Cover	Recovery message displayed when top cover is open.
Code FLASH Error	Defective Code Flash - user forced into Firmware Upgrade.
Command Format	Bad command format.
Completed	Display for the files status.
Cover Open	Recovery action displayed when cover is open.
Disk Unformatted	Error message displayed when unformatted disk is detected.
Drive Full Error	The storage device that you are trying to copy to is full.
Duplex Failure	Duplex Unit Failure.
Engine NV Fail	Error message displayed for Engine NV Failure. Call Service.
Exit Jam	Paper jam detected.

MESSAGE	CONDITION/REASON/ACTION
Face Up Failure	Error message displayed for Face-Up tray unit failure.
Fan Failure	Error message displayed for Fan failure.
File Error 26	Invalid format detected in the header of Firmware Download attempt.
File Error 27	Bad checksum detected for one of the files included in a Firmware Download attempt.
File Error 29	Download Type Mismatch - Firmware Download File rejected due to mismatch in one of the following: engine class, controller class, Download Format class.
File Not Found	Could not find a filter configuration file.
Filter Error	Syntax error in data stream filter control. Detail of error on line 2.
Firmware Upgrade	Indicates "Firmware Upgrade" mode is active.
Format Error	Failure during attempted format of flash.
Formatting	Status display for file status.
Fuser Failure	Error message for Fuser failure.
ID Mismatch	Displayed for ID Mismatch on Drum/Toner cartridge.
Incompatible Duplexer	Incompatible Duplex Option installed.
Incompatible OCT	Incompatible Offset Catch Tray option installed.
Incompatible Tray 3	Incompatible Tray 3 Option installed.
Incompatible Tray 4	Incompatible Tray 4 Option installed.
Initializing	Displayed during Power-on initialization.
Insert Tray	Recovery action displayed when tray needs to be inserted.
Install/Reset	Recovery message displayed for ROS failure.
Load Paper	Un-specific "Load Paper" prompt.
Load Paper Tray 1	A user prompt that paper needs to be loaded in Tray 1.
Load Paper Tray 2	A user prompt that paper needs to be loaded in Tray 2.
Load Paper Tray 3	A user prompt that paper needs to be loaded in Tray 3.
Load Paper Tray 4	A user prompt that paper needs to be loaded in Tray 4.
Lower Switch	Face Up Tray failure.
Main Motor Fail	Displayed for Main Motor failure.
Maintenance Reqd	Used for error/warning when Maintenance is required (replace fuser/rollers/etc). Press ON LINE to continue for 10k additional pages.
Misfeed Jam	Paper jam detected inside the printer.

MESSAGE	CONDITION/REASON/ACTION
Net Comm Error	Error Message used to report Network Interface Communication Failure.
Net: Error	Used for display of Network Interface error code (Net1: Error yy)
NVRAM Failure	NVRAM failure message.
Offset Tray	Optional face-down output tray (offset-capable)
Offset Tray Fail	Error message displayed for Offset Tray Unit Failure.
Offset Tray Full	Error message displayed when optional output bin is full.
Offset Tray Jam	Paper jam detected. Error message displayed for Offset Tray jam.
Out of Memory	Error displayed when there is insufficient memory to print a page or job.
Output Tray Full	Error message displayed when output tray is full.
Panel Locked	Message "flashed" when user requests panel function that has been disabled.
Paper Low Tray 1	Tray 1 is low on paper.
Paper Low Tray 2	Tray 2 is low on paper.
Paper Low Tray 3	Tray 3 is low on paper.
Paper Low Tray 4	Tray 4 is low on paper.
Paper Out Tray 1	Tray 1 has no paper.
Paper Out Tray 2	Tray 2 has no paper.
Paper Out Tray 3	Tray 3 has no paper.
Paper Out Tray 4	Tray 4 has no paper.
Paper Size Error	Incorrect setting of paper size has caused an error. Refer to "Media sizes" on page 24.
PDF Format Error	PDF File format later than V1.6 is not supported. Check the version of the PDF file.
Power Save	Displayed when printer is idle for a longer period of time than the Power Save timer is set for.
Press ON LINE	Prompts the user to press the ON LINE button.
Processing	Printer is actively processing job data.
Receive	Status display for file status "Receive xx" (where xx is percentage received).
Remove Paper	A help message to remove paper.
Replace EP Cart	A help message to replace the Drum/Toner cartridge.
ROS Failure	Error message displayed for ROS failure. The laser scanner unit is not functioning. Call service.
SELECT to Format	User prompt displayed when unformatted disk detected.

MESSAGE	CONDITION/REASON/ACTION
Service Code 02 Change Transfer Roller	Transfer Roller failure. Call service technician to replace transfer roller.
Service Error 01	Problem with the controller NVRAM has occurred. Call technical support.
Service Error 02	Firmware logic error has been detected. Record the identifying "error ID" message by pressing the MENU up button. Call technical support.
Service Error 03	Controller Firmware error has occurred. Record the identifying "error ID" message by pressing the MENU up button and note the events that led to the condition. Call technical support.
Service Error 09	Wrong engine type has been detected.
Service Error 10	A Controller Firmware internal messaging error has occurred. Record the identifying "error ID" message by pressing the MENU up button. Call technical support.
Toner Low	Toner cartridge is low.
Toner Missing	Error message displayed when Toner cartridge is missing.
Toner Out	Toner Out message.
Too Many Filters	Too many filters defined.
Tray 1 Missing	Warning message displayed when Tray 1 is missing.
Tray 2 Missing	Warning message displayed when Tray 2 is missing.
Tray 3 Missing	Warning message displayed when Tray 3 is missing.
Tray 4 Missing	Warning message displayed when Tray 4 is missing.
USB Drive / Device Not Supported	Installed USB Flash Device is not supported.
USB Drive / Format Not Supported	The file format used on the installed USB Flash Drive is not supported.
User FLASH	String used to describe FLASH used for USER storage.
Waiting	Printer has completed processing data, but has not detected end-of-job.
Warming Up	Displayed when printer is "Warming Up".
Write	Status display for file status "Write xx" (where xx is percentage received).

NETWORK RELATED TROUBLES

USING TCP/IP

This section describes how to identify the cause and fix an error when a problem occurs in the TCP/IP environment. For the troubles that occur in other environments, refer to the Network User Guide.

When the printer is not printing

This section explains how to fix the printer status when `Unable to print` (xxxx Error) appears in the window displayed by clicking **Start > Printers**.

CAUSE	VERIFICATION	ACTION
The printer and the computer are connected to different networks.	Check with your network system administrator to verify that the network connecting the computer and that connecting the printer are linked by a router or a gateway.	Connect this printer directly to the network connecting the computer.
An error has occurred in the network between the computer and the printer. Connection cannot be established.	"Unable to print (NetworkError)" is displayed.	Ask your network system administrator to check the network for errors.
The printer is switched off after a print instruction has been sent from a computer. Or the print instruction is sent to the printer which is switched off.	"Unable to print (NetworkError)" is displayed. Check whether the printer is switched on.	Switch on the printer.
Print instructions from multiple computers are sent to the printer at the same time.	"Unable to print (NetworkError)" is displayed.	None (Printing will be resumed automatically).
Printing files cannot be spooled due to insufficient disk capacity of the computer.	"Unable to print (SpoolError)" is displayed. Double-click **My Computer** and right-click the disk (example: C drive) with **Windows> Select Properties** from the menu displayed and then check available free space.	After deleting unnecessary files to increase the free space available, select **Pause** from the **Documents** menu of the **Printers** window to enable printing to restart.

FOR WINDOWS

When the printer is not printing

CAUSE	VERIFICATION	ACTION
Incorrect IP address.	Ask your network administrator to check that the IP address is correct.	Specify the correct IP address for the printer.
When LPD Spool is set to Memory, the print data sent from a computer in a single print instruction has exceeded the upper limit of the receiving capacity.	Check the memory capacity of LPD Spool and compare it with the print data which was sent in the single print instruction.	1. If a single file of print data has exceeded the upper limit of the memory capacity, divide the file into smaller ones and try again.
		2. If multiple files have exceeded the upper limit of memory capacity, reduce the number of files to be sent at one time.
An irrecoverable error has occurred during printing.	Check if an error is displayed on the control panel.	Switch off and then switch on the printer.
The transport protocol is different from that of the computer.	Check the selected transport protocol.	Select the same transport protocol as that of the computer.

USING PRINTER WEB PAGE

SYMPTOM	REASON/ACTION
Cannot access the Printers' Web Page (EWS).	Is the printer working correctly? Check if the power of the printer is switched on.
	Is Printer Web Page enabled? Print out the System Settings List to check.
	Is the URL correctly entered? Check the URL again. If connection fails, enter the IP address to connect.
	Is the proxy server being used? Some proxy servers do not allow this feature. Try connecting without using the proxy server. Online Help for the web browser
The "Please wait" message is displayed throughout the Web browser.	Wait for a while as instructed. If the problem persists, refresh the Web browser. If nothing happens, check if the printer is working properly.
The Refresh button is not working.	Are you using the supported OS and Web browser?
Selecting the left frame menu does not change the display	Check whether the OS and web browser you are using are supported
The screen display is distorted.	Change the window size of the web browser.

SYMPTOM	REASON/ACTION
The latest information is not displayed.	Click Refresh.
The new settings were not reflected by clicking the Submit button.	Is the entered value correct? If an invalid value is entered, it will be automatically changed to a value within the range.
Clicking the Submit button prompts messages such as "no data" or "the server has returned invalid or unrecognizable response".	Are the user name and password correct? Enter the correct user name and password.
	Switch off and then switch on the printer.

E-MAIL RELATED PROBLEMS

This section explains how to solve the problems that occur when the mail notification services and E-mail Printing features are used.

SYMPTOM	REASON/ACTION
Cannot perform E-mail printing.	Check the following settings: > Is the printer e-mail address specified? > Is Enable set for Receive E-mail? > Are the SMTP server IP address and POP3 server IP address (if POP3 is selected as the receive protocol) specified correctly? > Are the POP user name and password specified correctly?
	Are the SMTP server and POP server working correctly? Check with your network administrator.
During E-mail printing, the attached PDF file was not printed.	If the memory capacity is insufficient, it may not be printed. If you print big attachments frequently, we recommend adding memory.
During mail notification services, the printer status was not notified by e-mail.	Check the following settings: > Is the printer e-mail address specified? > Is Enable set for Mail Notice Service? > Are the SMTP server IP address and POP3 server IP address (if POP3 is selected as the receive protocol) specified correctly? > Are the POP user name and password specified correctly? > Are the items to be notified set correctly? > Are the destination e-mail addresses entered correctly?
	Are the SMTP server and POP server working correctly? Check with your network administrator.

DAILY CARE

DRUM/TONER CARTRIDGE REPLACEMENT

The drum/toner cartridge includes the toner and the photosensitive drum. A message will appear on the control panel when it is about time to replace the drum/toner cartridge. If the message indicates that the printer is still ready to print you should still be able to print about 100 pages before actually replacing the cartridge, otherwise you should replace it immediately.

The possible number of pages that can be printed with the drum/toner cartridge is the number of pages printed using ISO Standard 19752.

The possible number of pages that can be printed differs according to factors such as the print contents, paper size, paper type, environment used, and the frequency of switching on/off the power of the machine.

If you continue to print with a drum/toner cartridge whose replacement is long overdue, it may affect the functions of this machine, such as the print quality. It is recommended to install a new drum/toner cartridge.

You can set whether to stop printing when the drum/toner cartridge is due for replacement.

> **WARNING!**
>
> **Never expose a drum/toner cartridge to an open flame. It can cause an explosion and you can be burnt.**

CAUTION ON HANDLING THE DRUM/TONER CARTRIDGE

When handling the drum/toner cartridge, take note of the following points:
> Do not subject it to direct sunlight or strong light.

> When installing the drum/toner cartridge, select a location not subject to strong light and try to finish the installation within 5 minutes.

> Do not touch the surface of the photosensitive drum. Do not let the drum/toner cartridge stand or place it upside down. The drum might be damaged.

> A drum shutter protects the photosensitive drum from light. Do not open the drum shutter.

> Although the toner is not harmful to the body, wash it off immediately if your hands or clothes are stained with it.

> It is recommended to use the drum/toner cartridge within 1 year after opening it.

REPLACING THE DRUM/TONER CARTRIDGE

1. Remove any output paper and open cover A.
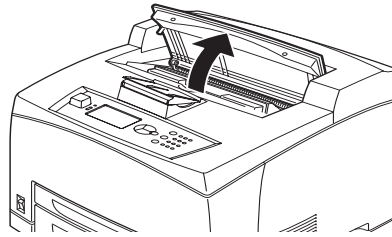
NOTE
When the offset catch tray (optional) is installed, fold the tray first before opening cover A.

<div style="background:orange">

CAUTION!

</div>

Do not touch any parts inside the printer.

2. Hold the drum/toner cartridge by the grip and pull it out slowly.
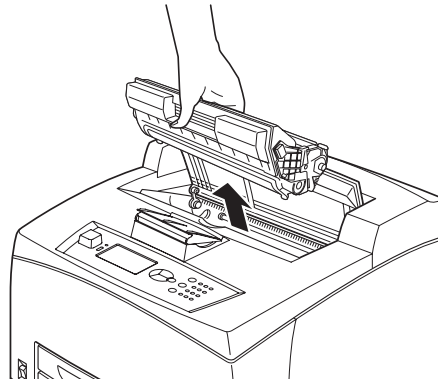
NOTE
To prevent the toner from dirtying the floor, lay a piece of paper on the floor first before putting the drum/toner cartridge down.

---

3. Take the new drum/toner cartridge out of the packaging box and shake it 7 to 8 times as shown in the diagram.
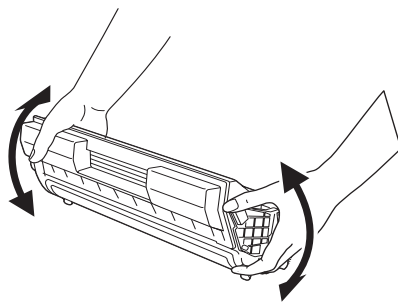
NOTE
> *If the toner is not evenly spread out, the print quality may be reduced. Also, if you did not shake the drum/toner cartridge well, there may be operating noise or the interior of the cartridge may be damaged during operation.*

> *Do not touch the surface of the photosensitive drum.*

4. Place the drum/toner cartridge on a flat surface and pull out the seal horizontally.
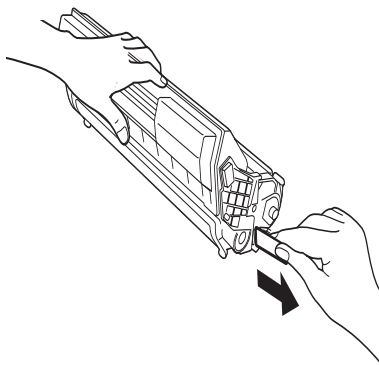
NOTE
> *When pulling out the seal, pull it out horizontally. The tape might break if it is pulled out diagonally.*

> *After the seal has been pulled out, do not shake or bump the drum/toner cartridge.*

5. Hold the drum/toner cartridge by the grip and insert it into the slot inside the printer.

> *NOTE*
> *> Do not touch any parts inside the printer.*
>
> *> Ensure that the drum/toner cartridge is firmly set.*
>
> *> After opening cover A, remove any dust or stains inside the printer with a dry clean cloth.*

6. Close cover A securely.

> *NOTE*
> *> If the offset catch tray is folded as in step 1, close cover A and then return the tray to its original position.*
>
> *> If you continue to print with the offset catch tray folded, this may cause a paper jam. Always use the printer with the tray open.*
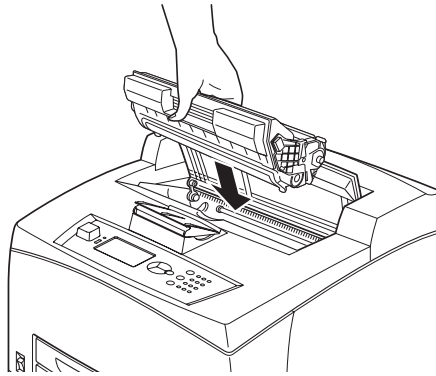
PRINTING REPORTS/LISTS

This section explains the types of reports/lists and how to print them. Also see "Message list" on page 112.

TYPES OF REPORTS/LISTS

REPORTS	DESCRIPTION
System Settings List See "Printing the menu map" on page 17.	Prints status of the printer such as hardware configuration and network information. Print this report to check whether optional accessories have been correctly installed.
Print Usage Report	Part of the status report is information on the total printed images and total number of sheets used in this printer.

CHECKING PRINTER STATUS VIA E-MAIL

When connected to a network environment where sending and receiving of e-mails is possible, this printer can send an e-mail with the following report to a specified e-mail address: completed print jobs from the computer, error history, list of rejected print jobs/e-mails.

This feature is known as Mail Notice Service.

ABOUT MAIL NOTICE SERVICE

The types of information that can be sent through Mail Notice Service are listed below.

TYPES OF INFORMATION	DESCRIPTION
Job Completion	Notifies the status of print jobs (completed, cancelled or confirm) from the computer (set in driver).
Printer status is set through the printers Web Server	Off-line Consumable message Toner low / toner out Paper low / paper out Paper Jam Cover open Stacker error Mass storage error Recoverable error Service call required Usage Report

SETTINGS FOR MAIL NOTICE SERVICE

To use the Mail Notice Service, settings on the network and e-mail environment are required. Check with your network administrator whether these settings are completed.

SETTING THE E-MAIL ENVIRONMENT

Activate Printer Web Page and set Port Status, Printer E-Mail Address, TCP/IP environment and mail server.

Configure the following items according to your e-mail environment under **Network**, **Email**.

> *NOTE*
> *After configuring the settings, always click **Submit** and switch Off/On the printer to reboot.*

ITEM	ITEM TO BE SET	DESCRIPTION
Network > Email Send Settings	ENABLE/DISABLE SMTP Server Name Printer e-mail Address	ENABLE SMTP Sending of e-mails from the printer.
Network > Email Receive Settings	ENABLE/DISABLE	Enables POP3 email receiving of jobs to print.
Network > Mail Notice Settings	Mail Notice Settings	Select appropriate settings for mail notification.
	Mail Recipient Settings	Up to 128 alphanumeric characters can be entered for the recipient e-mail address, including the ASCII characters for "@" (at mark), "." (full stop), "-" (hyphen) and "_" (underscore).

CHECKING PRINTED PAGES

This section explains how to check the total number of printed pages.

CHECKING TOTAL PRINTED PAGES ON METER

The total number of printed pages for different meters can be checked on the display of the control panel.

The following procedure shows how to check the meter.

1. Press the **MENU** button to display the Menu screen.

2. The Information Menu is displayed. Press the **ENTER** button.

3. Press the **down** button until Usage Rep is displayed and then press the **ENTER** button.

4. Press **ENTER** again to execute.

An image count report will be printed indicating the number of impressions per media Size.

CLEANING THE PRINTER

This section describes how to clean the printer in order to maintain it in good condition and print clean printouts all the time.

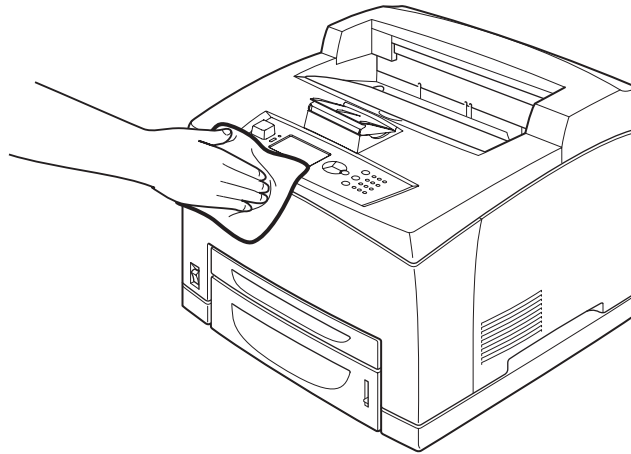| WARNING! |
| --- |
| **Be sure to switch off and unplug the machine before accessing the interior of the machine for cleaning, maintenance, or fault clearance. Access to a live machine's interior can cause electric shock.** |

CLEANING THE EXTERIOR

Clean the exterior of the printer about once a month. Wipe the parts with a wet but well-wrung soft cloth. Then wipe with another dry soft cloth. For stubborn stains, moisten a soft cloth with a small amount of neutral detergent, and gently wipe the stain off.

| CAUTION! |
| --- |
| **Do not spray the detergent directly on the printer. The liquid detergent may enter the printer through a gap and cause problems. Never use cleaning agents other than water or neutral detergent.** |

CLEANING THE INTERIOR

After clearing paper jams or replacing the drum/toner cartridge, inspect the inside of the printer before closing cover A.


WARNING!

> **Never touch a labelled area found on or near the heat roller. You can get burned.**
> **If a sheet of paper is wrapped around the heat roller, do not try to remove it by yourself to avoid injuries or burns. Switch off the machine immediately, and contact service.**

> Remove any remaining pieces of paper.

> Remove any dust or stains with a clean dry cloth.
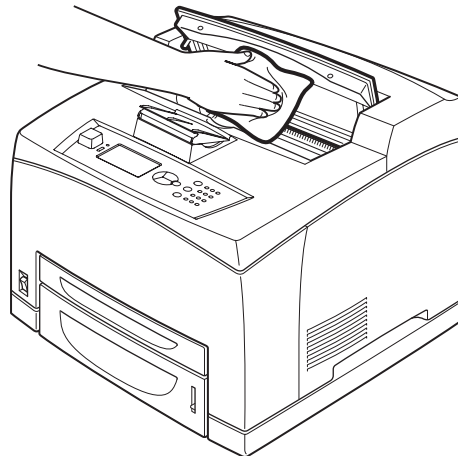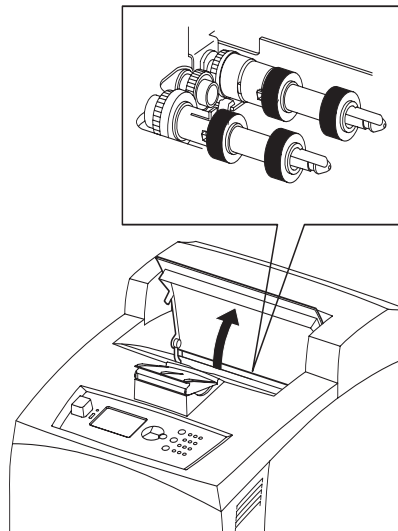
CLEANING THE FEED ROLLERS

When feeding cannot be done, follow the procedure below to wipe the feed roller gently with a well-wrung soft cloth.
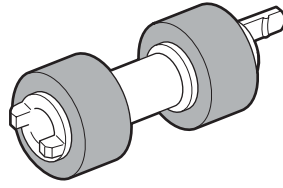
There are feed rollers in the interior of this printer (two locations, total of four), tray module (one location) and paper tray (one location). Follow the **cleaning procedure** (page 127) to clean the feed rollers at each location.
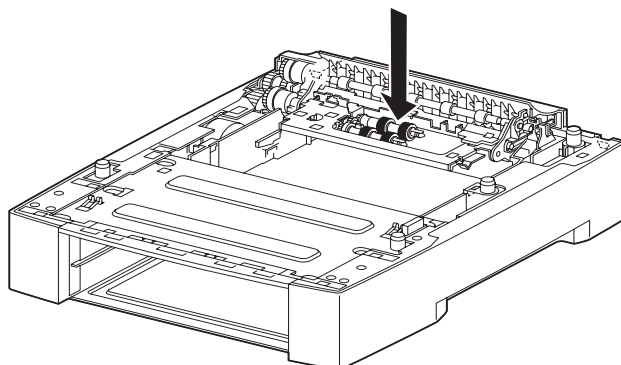
Inside of machine (two locations)

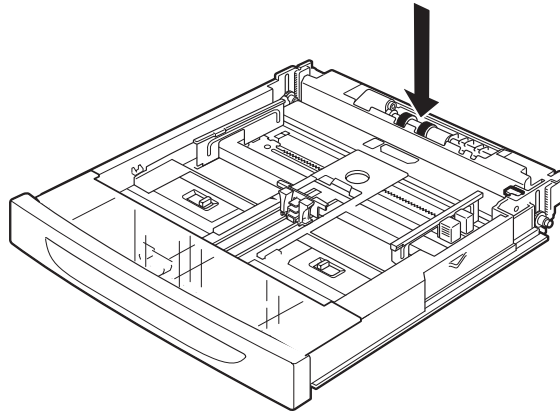Open cover A and after removing the drum/toner cartridge, clean the feed rollers.

Tray module (one location)

Even without uninstalling the tray module you can clean the feed roller after pulling out the paper tray.

Paper tray (one location)

Pull out the paper tray and clean the feed roller.

Cleaning procedure

The following procedure explains how to clean the feed roller set in the paper tray. Follow this procedure also when cleaning the feed rollers inside of the printer and the tray module.

> *NOTE*
> *The feed roller is a regular replacement part.*

1. Pull the paper tray out of the printer.
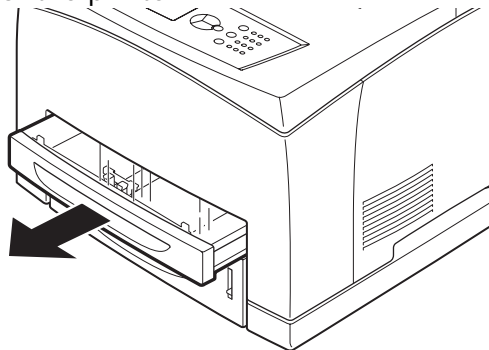
2. While pushing the retard part (see right diagram) down (1), widen the tab on the feed roller to loosen it (2) and then slowly remove the feed roller from the shaft of the paper tray (3).
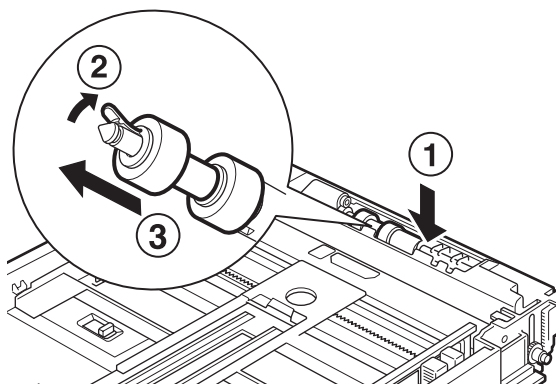
3. Wipe the rubber parts with a wet but well-wrung soft cloth.
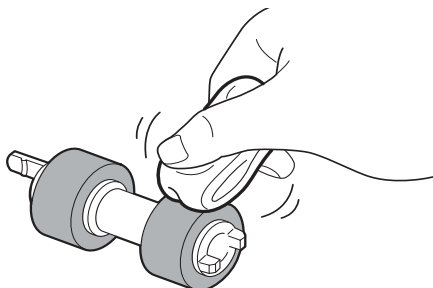
4. Turn the short tab (1) of the feed roller to the right and slowly push it onto the shaft of the paper tray.
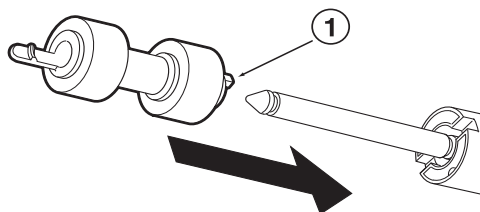
By aligning the slot of the feed roller with that of the shaft, push the feed roller completely in so that the short tab fits into the slot of the shaft.

5. Push the paper tray completely into the printer.

WHEN MOVING THE PRINTER

Carry out the following procedure when moving the printer.

WARNING!

> The machine, without the optional accessories, paper trays, consumables and paper, weighs 18.8kg. When moving the equipment, make sure that there are two or more persons carrying it.

> If the duplex unit (optional) or A4 universal tray (optional) has been installed, uninstall it before moving the printer. If these are not fixed securely to the printer, they may fall to the ground and cause injuries.

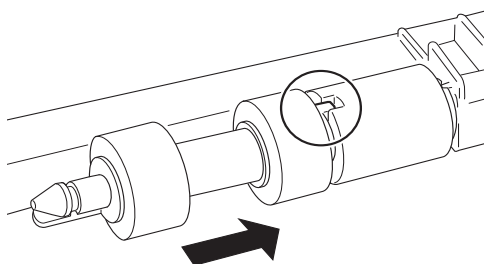> When lifting the machine, be sure to observe the following points, failure to do so may cause the machine to fall and result in injuries.

>> 2 persons, one facing the front of the machine (control panel) and the other facing the back, should firmly grip the recessed areas on the bottom part of both sides of the machine. Never try to lift the machine by gripping any other areas.

>> Bend your knees to avoid possible injuries to your back.

CAUTION!

Do not tilt the machine more than 10 degrees.
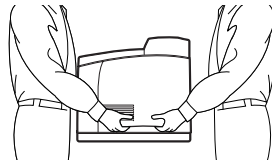
Correct moving procedure

Carry out the following procedure when moving the printer.

1. Press the power switch of this printer to the <O> position to switch the power off.

2. Remove all cords, such as the power cord and interface cables.

3. Remove any paper in the centre output tray and return the paper stopper to its original position if it is raised.

4. Pull out the paper tray from the printer and remove any paper in the tray. Keep the paper wrapped and away from humidity and dirt.

5. Push the paper tray completely into the printer.

6. Open cover A but do not touch any parts inside the printer.
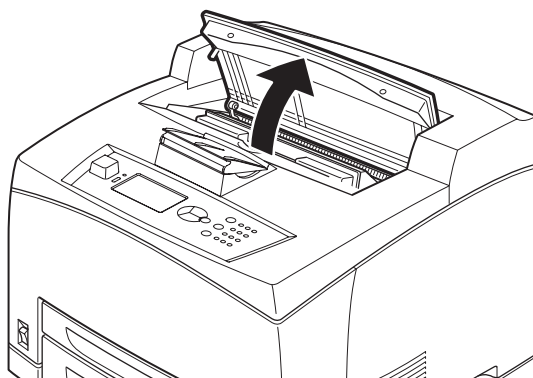
7. Hold the drum/toner cartridge by the grip and pull it out slowly.
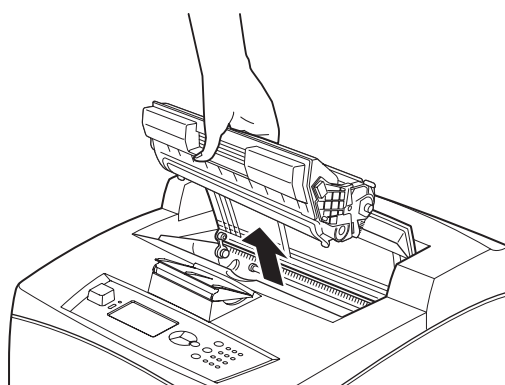
CAUTION!

> It is necessary to uninstall the drum/toner cartridge. If you move the printer with the drum/toner cartridge installed, the toner may spill out inside of the machine.
> Do not shake the drum/toner cartridge after uninstalling it from the printer. The toner will spill.
> Put the uninstalled drum/toner cartridge back into its original bag or wrap it with a thick cloth to prevent it from being exposed to strong light.

8. Close cover A securely.

9. Lift the printer and move it gently.
If the printer is to be moved over a long distance, pack it inside a box.

APPENDIX A

PCL EMULATION SYMBOL SETS

10U: PC-8 CP437	6S: ISO85 SPANISH	2024Z: GREEK-437
11U: PC-8 D/N	OG: GERMAN	2025Z: GRK-437CY
12U: PC-850	1S: SPANISH	2026Z: GREEK 928
17U: PC-852	90D: ISO DUTCH	2018Z: SERCROAT 2
9T: PC-Turkish	OE: ROMAN EXT	2017Z: UKRAINIAN
19U: WIN Latin1	91S: ISO SWEDISH 1	2016Z: BULGARIAN
9E: WIN Latin2	92S: ISO SWEDISH 2	OO: OCR-A
5T: WIN Latin5	93S: ISO SWEDISH 3	1O: OCR-B
7J: Desk Top	2038Z: IBM-437	10L: DINGBATS
10J: PS Text	2039Z: IBM-850	9J: PC-1004
13J: Ventura Int	2037Z: IBM-860	19L: WIN BALTIC
14J: Ventura US	2036Z: IBM-863	26U: PC-775
6J: Microsoft Pub	2035Z: IBM-865	2010Z: SERCROAT 1
8M: Math-8	8Q: PC SET 1	9N: ISO L9
5M: PS Math	9Q: PC EXT US	2009Z: GREEK-737
6M: Ventura Math	2033Z: PCEXT D/N	2008Z: ARABIC 864
15U: Pi Font	2034Z: PCSET2 US	8U: Roman 8
1U: Legal	2032Z: PCSET2 DN	ON: ISO 8859-1
1E: ISO4 UK	12J: MC TEXT	2N: ISO 8859-2
0U: ISO6 ASCII	2044Z: CWI HUNG	5N: ISO 8859-5
0S: ISO11 Swedish	2040Z: PC-857 TK	
0I: ISO15 Italian	2022Z: KAMENICKY	
2S: ISO17 Spanish	2020Z: HEBREW NC	
1G: ISO21 German	2021Z: HEBREW OC	
0D: ISO60 Norweg	2023Z: PLSKA MAZ	
1F: ISO69 French	6N: ISO L6	
9U: WIN3.0 Latin1	2019Z: WIN3.1 HEB	
2U: ISO2 IRV	15Y: HP ZIP	
3S: ISO10 S/F	9R: WIN3.1 CYR	
0K: ISO14 JASCII	3R: PC-866	
4S: ISO16 PORTUG	2042Z: WIN3.1GRK	
0F: ISO25 FRENCH	2041Z: PC-869	
2K: ISO57 CHINESE	2031Z: PC-855	
1D: ISO61 NOR.V2	579L: WINGDINGS	
5S: ISO84 PORTUG	19M: SYMBOL	

APPENDIX B

COMPUTATIONAL BARCODES

The Barcode feature provides access to scalable, configured barcode printing via special PCL5 font selection sequences. Such barcodes can be printed in a variety of sizes and rotations, with automatic generation of check characters, etc. upon request. The barcodes are rendered algorithmically; there are no "barcode fonts" used.

This feature offers better barcode support than bar coding fonts, due to the fact that bar thickness, wide-to-narrow ratios, check digit support, etc. can be supported in ways that are not available with bar coding fonts. Also, there are some barcodes (like Interleaved 2 of 5) that cannot conveniently be supported with barcode fonts.

HOW BARCODING WORKS

The use of this printer's PCL5 bar codes requires the user to insert certain special font selection commands in the PCL5 data stream. Special typefaces are reserved for activation of the processor.

There are several steps that are taken in order to process barcode data.

1. Activation is by selection of one of the reserved typeface numbers in the standard PCL typeface selection escape sequence <ESC>(s#T. In general, the reserved typefaces are all in the range of 24580 to 24800.
   Additional barcode parameters are specified by way of the other standard font selection commands (see page 133 for descriptions of how these commands are interpreted):

   > <ESC>(s#P

   > <ESC>(s#H

   > <ESC>(s#V

   > <ESC>(s#S

   > <ESC>(s#B

2. After the barcode parameters have been selected, subsequent text data will be gathered for processing. The end of bar code data is determined according to the bar code type:
   In general:
   If the barcode numeric only data, the end of barcode data is indicated by space/CR/LF/FF/Escape code.
   If the barcode is alphanumeric, end of data is indicated by CR/LF/FF/Escape code.

   Some bar code formats support use of the full 128-character ASCII character set. (128A, 128auto, EAN/UCC128). If you want to print special characters (ASCII code < 32) with those bar codes, a Transparent Print Data PCL sequence (Esc&p#X, where # is replaced with the number of following data bytes) must follow immediately the font selection sequence. This is the only way to know how many characters have to be printed as bar codes. Please analyse the sample Code/EAN/UCC 128 test files for more information.

3. Once the data is gathered, it is analysed to verify it fits in the bar code specs:
   Correct data size EAN 8/13 and UPC A/E have fixed lengths etc…).
   Valid data: some systems, like UPC-E, accept only specially structured data.

4. Then the barcode data is compressed, if necessary. Some code systems, like UPC-E, print compressed data, while ours allows the barcode data to be precompressed (6-characters input) or uncompressed (10 characters input). If uncompressed data is

provided, but the barcode requires the data to be compressed, then compression is done automatically.

5. If necessary, check digits are generated. Most barcode types require check digits in the generated barcode. The user has the option to either provide the checksum with the barcode data characters, or have them generated automatically. In the case of UPC/EAN barcodes, if the user provides checksum characters, they are discarded, and one will be generated.

6. This feature then renders the barcode itself at the current cursor position, in the current text direction (only 90-degree rotations are supported. The parameters specified by the data stream determine the final properties of the rendered barcode.

INTERPRETATION OF FONT SELECTION PARAMETERS

When the barcode properties are being determined, the standard PCL font selection parameters take on new meanings that are different from their traditional ones. Detailed descriptions of these parameter follows.

<ESC>(#t#b#s#p#h#V

"t" parameter	Selects the barcode symbology to use when a reserved typeface ID is selected.
"p" parameter	Defines if/how text is printed with bars
"h" parameter	Defines what font to use for that text
"y" parameter	Bar code vertical size, in points (like fonts). 1 point size = 1/72 inch.
"b" parameter	Black bars widths (has up to 4 values separated by commas or semicolons)
"s" parameter	White bars widths (has up to 4 values separated by commas or semicolons)

BARCODE SYMBOLOGY

T parameter Esc(s#T (Typeface): Controls what bar code system to use (see table below)

NOTE
For the bar code types with a "+CHK" in their names (IS's 24641 and 24751), it is required that the checksum character is included in the barcode data, because the checksum character for these types will not be generated automatically.

TYPEFACE ID	SYMBOLOGY	TYPEFACE ID	SYMBOLOGY
24600	UPC-A	24620	EAN/JAN-8
24601	UPC-A +2	24621	EAN/JAN-8 +2
24602	UPC-A +5	24622	EAN/JAN-8 +5
24610	UPC-E	24630	EAN/JAN-13
24611	UPC-E +2	24631	EAN/JAN-13 +2
24612	UPC-E +5	24632	EAN/JAN-13 +5
24640	25 (2 of 5) interleaved	24670	39 (3 of 9)
24641	25 interleaved + CHK	24671	39 + CHK
24700	128 autoswitch	24770	ZIP+4 POSTNET 5

TYPEFACE ID	SYMBOLOGY	TYPEFACE ID	SYMBOLOGY
24701	128 A	24771	ZIP+4 POSTNET 9
24702	128 B	24772	ZIP+4 POSTNET 11
24704	128 C	24750	CODABAR
24710	UCC-128	24751	CODABAR+CHK
24720	EAN-128	24690	Code 93

Human readable interpretation (HRI) output control

"P" parameter Esc(s#p

The base value of the "P" parameter indicates if and how the HRI is printed:

0 Use default value (depends on symbology used)

1 Don't print human readable text

2 Print human readable text embedded below barcode

3 Print human readable text half embedded below barcode

4 Print human readable text completely below code

5 Print human readable text above code

Below are some options for this parameter.

Add 10 to print UPC/EAN/JAN checksum middle right rather than bottom right of bar code (only applies to UPC/EAN/JAN bar codes).

Add 10 to print start & end _*_characters with 39 bar code text (only applies to code 39 bar codes).

NOTE
Note: The first "add 10" is a description of how adding 10 is interpreted with UPC/EAN/ JAN (ONLY!) barcodes are printed. The second "add 10" is a description of how it is interpreted for CODE39 ONLY.

Add 100 to print checksum character with text.

Example: Print checksum character and text half-embedded below barcode: 103p.

Human readable interpretation (HRI) font control

"H" parameter Esc(s#h

This value control the font used for the printing of the HRI text. The value represents the typeface of font to use:

0 Use Courier to print text (default)

1 Use Letter Gothic to print text

2 Use Univers to print text

3 Use Univers Condensed to print text

4 Use CG-Times to print text

5 Use OCR-B to print text (great with UPC/EAN)

The size of the font used for HRI is automatically selected based on the size of the barcode.

Barcode height specification

"V" parameter Esc(s#v

Short bar height in points (1/72 inch). If the specified value is smaller than the Minimum allowable height for the selected barcode type, the allowed minimum value will be substituted.

Example: Bar code in point size 87: 87v

Bar width configuration

"B" parameter Esc(s#1,#2,#3,#4b or Esc(s#1;#2b

This parameter can perform one of two functions:

> Function 1: Specify the exact number of dots to use for bar widths

> Function 2: Specify bar width parameters in terms of unit module width and wide-to-narrow ratio

To perform the Function 1, the values in the escape sequence must be separated by the comma character. When performing Function 1, it is also necessary to set the space width by setting the "S" parameter value (see below)

To perform Function 2, the values in the escape sequence must be separated by the semicolon character. When specifying bar width information in this manner, it is not necessary to specify the "S" parameter for space width, as space width generation is controlled automatically.

Function 2, when used, enables high precision barcode rendering. *Specifying bar parameters in this manner is preferred* so as to be independent of the particular device being used for barcode printing.

Different printing devices have differing amounts of dot gain that can affect the actual width of generated bars and spaces. The printer takes this dot gain into account to accurately control bar and space sizes.

Function 1 parameter interpretation

In Function 1, the parameters represent the width of drawn bars in 600 DPI units. The number of parameters required depends on the symbology being used:

UPC, EAN, Code 128:Four parameters are required. The parameters indicate how wide to render drawn bars in 1/600th inch units for stacks of 1, 2, 3, and 4 modules, respectively.

Code 39,
I-25 Two parameters are required. The parameters indicate the width of the narrow and wide bars, respectively.

Function 2 parameter interpretation

In Function 2, the first parameter specifies the desired unit module width in 0.001 inch units (mils). The second parameter indicates the desired wide-to-narrow ratio. The value to enter here is an integer representing the desired ratio multiplied by 100.

For example, to specify a unit module width of 17 mils and a wide-to-narrow ratio of 2.5, you would use the following sequence:

> **Esc(s17;250B**

The second parameter is optional. If omitted, a traditional default wide-to-narrow ratio will be used (actual value depends on the barcode type).

Space Width Configuration

"S" parameter Esc(s#1,#2,#3,#4s

This parameter must be set when using "Function 1" of the Bar Width Configuration (or "B" parameter (see description above)

The parameters are interpreted exactly as in Function 1 of the "B" parameter, except that this parameter specifies the width of the spaces in the barcode, as rather than the width of the bars.

> *NOTE*
> *There is no "function 2" variety of this command.*

"S" parameter example:

The syntax for the "S" parameter is always in "function 1" form (see "function 1" of "B parameter description). The "S" parameter would only be used when using "function 1" of the "b" parameter. Therefore, the example would really look like this:

> When included in the same escape command:

  <ESC>(s8,16,24,32b8,16,24,32S

> When done separately

  <ESC>(s8,16,24,32B<ESC>(s8,16,24,32S

Code 128 control codes

Code 128 has five non-data special control codes, called FUNCTION CODES, and 2 control codes to switch from one 128 set (A, B or C) to another one. The switching control codes are used to force one 128 set. As an example, the string <<123456>> can be printed with sets A, B and C. Inserting a character with ASCII value = 134 at the beginning of the string will force the barcode feature to use the set B of code 128. Note that both Code 128 Autoswitch and EAN 128 analyse the data and optimise the barcode length by switching automatically between sets A, B and C. EAN128 and UCC-128 already include the FNC1 code as the first character: you should not send it with the data. Special control codes are inserted by passing the following special decimal characters in the bar code:

> 128 = SHIFT
> 129 = FNC 1
> 130 = FNC 2
> 131 = FNC 3
> 132 = FNC 4
> 133 = CODE A
> 134 = CODE B
> 135 = CODE C

PCL escape sequence example

A valid PCL escape sequence to select a barcode is like the following:

<Esc>(s4p102h40v12;250b24670T

Parameter meaning

24670T (Symbology: code 39)

4p (Readable text below bars, without start/stop chars(*))

102h HRI text in Univers Regular

40v Bars height: 40 points 40/72=0.555 inches 40*2.54/72=1.41 cm

12;250b Unit module width 12 mils, wide-to-narrow ration of 2.50

Another PCL escape sequence example

A valid PCL escape sequence to select a barcode is like the following:

<Esc>(s0p5h40v8,16,24,32b8,16,24,32s24600T

Parameter meaning

24670T Symbology: UPC-A

0p Default HRI

5h HRI text in OCRB

40v Bars height: 40 points 40/72=0.555 inches 40*2.54/72=1.41 cm

8,16,24,32b Use thicknesses of 8, 16, 24, and 32 dots for 1-, 2-, 3-, and 4-module bars, respectively.

8,16,24,32 Use thicknesses of 8, 16, 24, and 32 dots for 1-, 2-, 3-, and 4-module spaces, respectively.

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