

Canon



Laser Beam Printer

LASER SHOT LBP5970

User's Guide



IMPORTANT:

Read this manual carefully before using your printer.
Save this manual for future reference.

ENG

LBP5970
Laser Printer
User's Guide

Manuals for the Printer

The manuals for this printer are arranged as follows. Please refer to them for detailed information.



Guides with this symbol are printed manuals.



Guides with this symbol are PDF manuals included on the accompanying CD-ROM.

- **Installation**
- **Connecting to a Computer**

- **Basic Operations**
- **Troubleshooting**

- **Setting Up the Network Environment for Printing**
- **Managing the Printer in the Network Environment**

- **Operating/Setting the Printer from the Web Browser**

Getting Started Guide



User's Guide (This Manual)



Network Guide



Remote UI Guide





How This Manual Is Organized

Chapter 1 Before You Start

Chapter 2 Using the Printer

Chapter 3 Paper Loading and Output Tray

Chapter 4 The Printing Environment

Chapter 5 Printing Environment Settings

Chapter 6 Routine Maintenance

Chapter 7 Troubleshooting

Chapter 8 Appendix

Contents

| | |
|--|-------------|
| Preface | viii |
| How To Use This Manual | viii |
| Symbols Used in This Manual | viii |
| Keys and Buttons Used in This Manual | viii |
| Illustrations Used in This Manual | ix |
| Operating Systems | ix |
| Abbreviations Used in This Manual | x |
| Legal Notices | xi |
| Product Name | xi |
| EMC requirements of EC Directive (220 - 240 V model) | xi |
| Laser Safety (220 - 240 V model) | xi |
| International Energy Star-Program | xiii |
| WEEE Directive | xiii |
| License Notice | xiii |
| IPv6 Ready Logo | xiv |
| Trademarks | xiv |
| Copyright | xv |
| Disclaimers | xv |
| Legal Limitations on the Usage of Your Product and the Use of Images | xvi |
| Important Safety Instructions | xvii |
| Installation | xvii |
| Power Supply | xix |
| Handling | xx |
| Maintenance and Inspections | xxi |
| Consumables | xxiii |
| Others | xxiii |

Chapter 1 Before You Start

| | |
|--|------------|
| Features and Benefits | 1-2 |
| Standard Features | 1-2 |
| Optional Equipment | 1-5 |
| Parts and Their Functions | 1-7 |
| Printer Unit | 1-7 |
| Front View | 1-7 |
| Rear View | 1-9 |
| Inner View | 1-10 |
| Control Panel | 1-11 |
| Display | 1-13 |

Chapter 2 Using the Printer

| | |
|---|-------------|
| Turning the Printer ON/OFF | 2-2 |
| Turning the Printer ON | 2-2 |
| Turning the Printer OFF | 2-4 |
| When Not Using a Hard Disk | 2-4 |
| When Using a Hard Disk (Only When a Hard Disk Is Installed) | 2-5 |
| Power Saving (Power Save Mode) | 2-6 |
| Setting the Printer to Power Save Mode | 2-7 |
| Types of Power Save Mode | 2-7 |
| Releasing Power Save Mode | 2-9 |
| Online and Offline | 2-10 |
| Placing the Printer Online | 2-10 |
| Placing the Printer Offline | 2-11 |
| Direct Print | 2-12 |
| Direct Print | 2-12 |
| Direct Printing from the Remote UI | 2-12 |
| Printing the PDF File Using the Direct Print Function | 2-12 |
| Printing the PS/EPS File Using the Direct Print Function | 2-23 |
| Printing the Image File Using the Direct Print Function | 2-27 |
| Direct Printing from Command Prompt | 2-33 |
| E-mail Print (Only When the Hard Disk Is Installed) | 2-34 |
| E-mail Print | 2-34 |
| E-mail Print Settings | 2-36 |
| E-mail Printing | 2-38 |
| If You are Using the POP3 Protocol | 2-38 |
| If You are Using the SMTP Protocol | 2-41 |
| Printing the E-mail Receive Log List | 2-41 |
| When E-mail Print Fails | 2-45 |
| Printing/Saving Jobs (Only When the Hard Disk Is Installed) | 2-50 |
| Job Process Method Types | 2-50 |
| Printing with a Password Specified (Secured Print/Encrypted Secured Print) .. | 2-52 |
| Printing a Job Saved in a Box (Stored Job Print) | 2-54 |
| Print Mode | 2-57 |
| Types of the Print Mode | 2-57 |
| If Auto-Switch Fails | 2-57 |
| Canceling a Job | 2-59 |
| Outputting Data (Forced Output) | 2-59 |
| Canceling a Job (Cancel Job) | 2-60 |
| Canceling the Process Currently Being Performed (Soft Reset) | 2-61 |
| Canceling All the Jobs (Hard Reset) | 2-62 |

Chapter 3 Paper Loading and Output Tray

| | |
|--|-------------|
| Paper Requirements | 3-2 |
| Usable Paper | 3-2 |
| Paper Size | 3-2 |
| Paper Type | 3-4 |
| Printable Area | 3-7 |
| Unusable Paper | 3-8 |
| Storing Paper | 3-9 |
| Storing Printouts | 3-10 |
| Paper Source | 3-11 |
| Paper Source Type | 3-11 |
| Paper Capacity of Paper Source | 3-12 |
| Selecting a Paper Source | 3-12 |
| Precautions for Handling the Multi-purpose Tray or Paper Cassette | 3-13 |
| Output Trays | 3-16 |
| Output Tray | 3-16 |
| Paper Capacity of the Output Tray | 3-17 |
| Loading Paper in the Paper Cassette | 3-18 |
| Precautions on Loading Paper | 3-19 |
| Loading Paper in Cassette 1 | 3-20 |
| Loading Standard Size Paper in Cassette 2, 3, or 4 | 3-28 |
| Loading Custom Size Paper or Paper at a Size of 8K or 16K in Cassette 2, 3, or 4 | 3-37 |
| Specifying the Type of the Paper in the Paper Cassette | 3-46 |
| Loading Paper in the Multi-purpose Tray | 3-48 |
| Loading Paper (Other than Envelopes) | 3-49 |
| Loading Envelopes | 3-54 |
| Specifying the Size of the Paper in the Multi-purpose Tray | 3-59 |
| Specifying the Type of the Paper in the Multi-purpose Tray | 3-61 |
| 2-sided Printing | 3-63 |
| Switching Between Automatic 2-sided Printing and 1-sided Printing | 3-64 |
| Manual 2-sided Printing | 3-65 |
| Printing with a Gutter | 3-67 |
| Specifying a Gutter | 3-68 |
| Paper Loading Orientation | 3-70 |

Chapter 4 The Printing Environment

| | |
|--|------------|
| Menu Functions | 4-2 |
| Menu Functions | 4-2 |
| Setting Priority | 4-3 |
| Menu Categories | 4-4 |
| Printer Status to Enter the Menu Operation | 4-4 |
| How to Use the Operation Keys | 4-5 |
| How to View the Display | 4-7 |

| | |
|--|-------------|
| Menu Structure | 4-7 |
| How to View the Display | 4-7 |
| Menu Functions and Menu Operation | 4-9 |
| SETUP Menu | 4-9 |
| SETUP Menu Functions | 4-9 |
| Operating Procedure for the SETUP Menu | 4-9 |
| UTILITY Menu | 4-11 |
| UTILITY Menu Functions | 4-11 |
| Operating Procedure for the UTILITY Menu | 4-11 |
| JOB Menu | 4-12 |
| JOB Menu Functions | 4-12 |
| Operating Procedure for the JOB Menu | 4-12 |
| RESET Menu | 4-13 |
| RESET Menu Functions | 4-13 |
| Operating Procedure for the RESET Menu | 4-13 |
| CANCEL JOB Menu | 4-14 |
| CANCEL JOB Menu Functions | 4-14 |
| Operating Procedure for the CANCEL JOB Menu | 4-14 |
| SELECT FEEDER Menu | 4-15 |
| SELECT FEEDER Menu Functions | 4-15 |
| Operating Procedure for the SELECT FEEDER Menu | 4-15 |
| Checking the Counter | 4-17 |
| Initializing the SETUP Menu | 4-18 |

Chapter 5 Printing Environment Settings

| | |
|------------------------------------|--------------|
| Setting Items | 5-2 |
| SETUP Menu | 5-2 |
| UTILITY Menu | 5-15 |
| JOB Menu | 5-16 |
| RESET Menu | 5-16 |
| SELECT FEEDER Menu | 5-17 |
| SETUP Menu Settings | 5-18 |
| CONTROL MENU Options | 5-18 |
| FEEDER MENU Options | 5-29 |
| LAYOUT MENU Options | 5-39 |
| QUALITY MENU Options | 5-43 |
| INTERFACE MENU Options | 5-55 |
| PRINT MODE Options | 5-66 |
| USER MAIN. Options | 5-69 |
| PCL SETUP Options | 5-75 |
| UFR II SETUP Options | 5-80 |
| IMAGING SETUP Options | 5-81 |
| PDF1.5 Options | 5-84 |
| PS Options | 5-95 |
| UTILITY Menu Settings | 5-104 |

| | |
|--|--------------|
| JOB Menu Settings | 5-109 |
| RESET Menu Settings | 5-114 |
| SELECT FEEDER Menu Settings | 5-117 |

Chapter 6 Routine Maintenance

| | |
|--|-------------|
| Replacing Toner Cartridges | 6-2 |
| When <PREP."color" TNR>/<CHG."color" TNR> Appears | 6-2 |
| Precautions on Replacing a Toner Cartridge | 6-3 |
| Replacing a Toner Cartridge | 6-4 |
| Resetting the Counter of a Toner Cartridge | 6-10 |
| Precautions for Handling Toner Cartridges | 6-12 |
| Storing Toner Cartridges | 6-14 |
| Replacing Drum Cartridges | 6-15 |
| When <PREP."color" DRM>/<CHG."color" DRUM> Appears | 6-15 |
| Precautions on Replacing a Drum Cartridge | 6-16 |
| Replacing a Drum Cartridge | 6-20 |
| Removing the Drum Cartridge to Be Replaced | 6-20 |
| Installing a New Drum Cartridge | 6-25 |
| Precautions for Handling Drum Cartridges | 6-40 |
| Storing Drum Cartridges | 6-42 |
| Replacing the Fixing Unit | 6-43 |
| When the Message <PREP.FIX.UNIT> Appears | 6-43 |
| Precautions on Replacing the Fixing Unit | 6-43 |
| Replacing the Fixing Unit | 6-45 |
| Resetting the Counter of the Fixing Unit | 6-52 |
| Replacing the Waste Toner Container | 6-54 |
| When the Message <PRE.WST.T.CTN>/<CHG.WST.T.CTN> Appears | 6-54 |
| Precautions on Replacing the Waste Toner Container | 6-55 |
| Replacing the Waste Toner Container | 6-56 |
| Cleaning the Transfer Belt of the ITB Unit | 6-60 |
| Adjusting the Printing Position | 6-62 |
| Checking the Printing Position | 6-62 |
| Adjusting the Printing Position | 6-64 |
| Cleaning the Outside of the Printer | 6-68 |
| Moving the Printer | 6-71 |
| Handling the Printer | 6-79 |

Chapter 7 Troubleshooting

| | |
|--|------------|
| Troubleshooting Flowchart | 7-2 |
| Paper Jams | 7-4 |
| Precautions on Clearing Paper Jams | 7-4 |
| Paper Jam Area | 7-6 |
| Procedure for Clearing Paper Jams | 7-7 |

| | |
|--|-------------|
| Message List | 7-23 |
| Service Call Display | 7-45 |
| When You Cannot Obtain Appropriate Printout Results | 7-48 |
| Problems with the Power or Printer Operation | 7-48 |
| Problems with the Printout Results | 7-52 |
| Print Quality Problems | 7-56 |
| When Any Print Defect Appears | 7-69 |
| Cleaning the Inside of the Printer | 7-69 |
| Precautions on Cleaning the Inside of the Printer | 7-69 |
| Printing Test Chart 1 | 7-87 |
| Printing Test Chart 2 | 7-89 |
| Print Defect Samples | 7-91 |
| Adjusting the Color Balance | 7-95 |

Chapter 8 Appendix

| | |
|---|-------------|
| The Lists Common to All the Settings in the Print Mode | 8-2 |
| The Lists Common to Certain Settings in the Print Mode | 8-5 |
| Typeface Samples | 8-7 |
| Scalable Fonts (PCL) | 8-7 |
| Bitmapped Fonts (PCL) | 8-9 |
| OCR Code Scalable Fonts (PCL) | 8-9 |
| PS Fonts | 8-10 |
| Symbol Sets Supported | 8-19 |
| Character Code Tables | 8-19 |
| Specifications | 8-44 |
| Hardware Specifications | 8-44 |
| Controller Specifications | 8-49 |
| Software Specifications | 8-49 |
| Dimensions of Each Part | 8-51 |
| Index | 8-52 |


Preface


Thank you for purchasing the Canon LASER SHOT LBP5970. Please read this manual thoroughly before operating the printer in order to familiarize yourself with its capabilities, and to make the most of its many functions. After reading this manual, store it in a safe place for future reference.


How To Use This Manual


Symbols Used in This Manual

The following symbols are used in this manual to explain procedures, restrictions, handling precautions, and instructions that should be observed for safety.

 **WARNING** Indicates a warning concerning operations that may lead to death or injury to persons if not performed correctly. In order to use the printer safely, always pay attention to these warnings.

 **CAUTION** Indicates a caution concerning operations that may lead to injury to persons, or damage to property if not performed correctly. In order to use the printer safely, always pay attention to these cautions.

 **IMPORTANT** Indicates operational requirements and restrictions. Be sure to read these items carefully in order to operate the printer correctly, and to avoid damage to the printer.

 **NOTE** Indicates a clarification of an operation, or contains additional explanations for a procedure. Reading these notes is highly recommended.

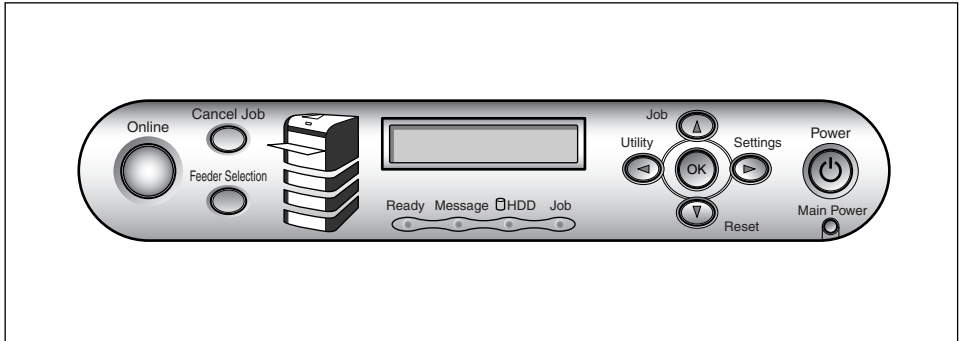
Keys and Buttons Used in This Manual

The following button names are a few examples of how keys and buttons to be pressed are expressed in this manual:

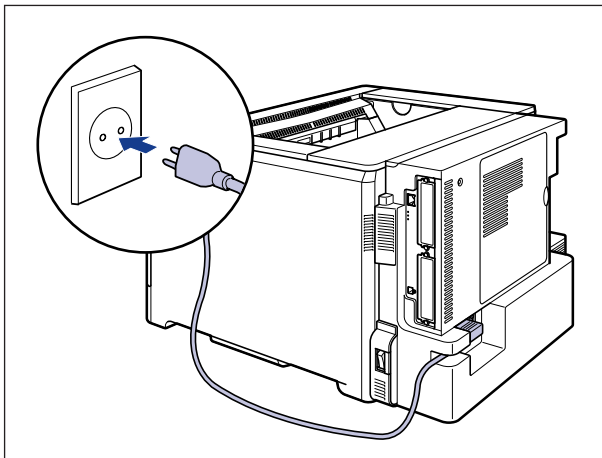
- Keys on the Control Panel: [Key Name]
Example: [Online]
[Utility]
- Buttons on Computer Operation Screen: [Button Name]
Example: [OK]
[Details]

Illustrations Used in This Manual

- The names of the indicators and keys are described in English in the illustrations of the control panel used in this manual.
Also, the panel sheet on which the names of the indicators or key on the control panel are indicated is supplied with the printer depending on the country or region. Attach the panel sheet to the control panel as needed.



- Although the power cord used in this manual is as the one in the following illustration, the form of the power cord may differ depending on the country or region.



Operating Systems

For details on the procedures, instructions, and so on for Windows 7 and Server 2008, refer to those for Windows Vista.

For details on the latest status of the supported operating systems and Service Pack, see the Canon Web site (<http://www.canon.com/>).

Abbreviations Used in This Manual

In this manual, product names and model names are abbreviated as follows:

| | |
|---|---------------------|
| Microsoft Windows 2000 operating system: | Windows 2000 |
| Microsoft Windows XP operating system: | Windows XP |
| Microsoft Windows Server 2003 operating system: | Windows Server 2003 |
| Microsoft Windows Vista operating system: | Windows Vista |
| Microsoft Windows Server 2008 operating system: | Windows Server 2008 |
| Microsoft Windows 7 operating system: | Windows 7 |
| Microsoft Windows operating system: | Windows |
| Wireless Network Interface Board NB-W2: | NB-W2 |

Legal Notices

Product Name

Safety regulations require the product's name to be registered.

In some regions where this product is sold, the following name(s) in () may be registered instead.

LBP5970 (F151500)

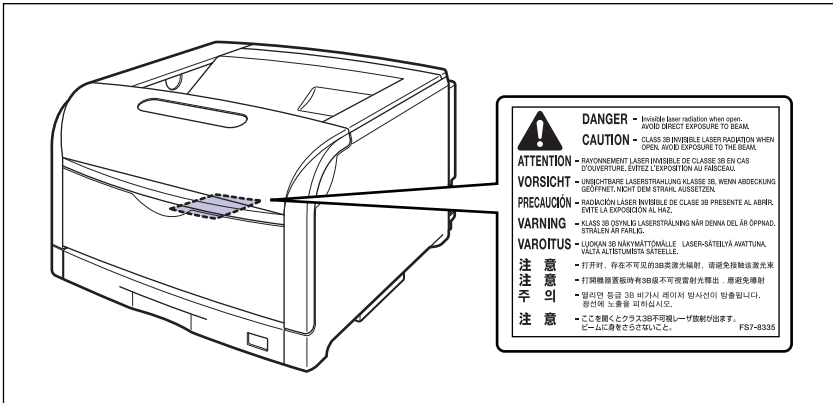
EMC requirements of EC Directive (220 - 240 V model)

This equipment conforms with the essential EMC requirements of EC Directive. We declare that this product conforms with the EMC requirements of EC Directive at nominal mains input 230 V, 50 Hz although the rated input of the product is 220 to 240 V, 50/60 Hz. Use of shielded cable is necessary to comply with the technical EMC requirements of EC Directive.

Laser Safety (220 - 240 V model)

Laser radiation could be hazardous to the human body. For this reason, laser radiation emitted inside this printer is hermetically sealed within the protective housing and external cover. No radiation can leak from the printer in the normal operation of the product by the user.

This printer is classified as a Class 1 laser product under IEC60825-1:2007, EN60825-1:2007, and as for the U.S.A., it is classified as Class 1 under the Code of Federal Regulations, 1040.10 of Title 21.



This printer has been classified under IEC60825-1:2007, EN60825-1:2007 and conforms to the following classes:

- CLASS 1 LASER PRODUCT
- LASER KLASSE 1
- APPAREIL A RAYONNEMENT LASER DE CLASSE 1
- APPARECCHIO LASER DI CLASSE 1
- PRODUCTO LASER DE CLASE 1
- APARELHO A LASER DE CLASSE 1

! CAUTION

Performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

International Energy Star-Program



As an ENERGY STAR Partner, Canon Inc. has determined that this product meets the ENERGY STAR Program for energy efficiency.

The International ENERGY STAR Office Equipment Program is an international program that promotes energy saving through the use of computers and other office equipment.

The program backs the development and dissemination of products with functions that effectively reduce energy consumption. It is an open system in which business proprietors can participate voluntarily.

The targeted products are office equipment, such as computers, displays, printers, facsimiles, and copiers. The standards and logos are uniform among participating nations.

WEEE Directive



European Union (and EEA) only.

This symbol indicates that this product is not to be disposed of with your household waste, according to the WEEE Directive (2002/96/EC) and your national law. This product should be handed over to a designated collection point, e.g., on an authorized one-for-one basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE). Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, approved WEEE scheme or your household waste disposal service. For more information regarding return and recycling of WEEE products, please visit www.canon-europe.com/environment.

(EEA: Norway, Iceland and Liechtenstein)

License Notice

This product contains the Universal Font Scaling Technology or UFST® under license from Monotype Imaging, Inc.

Copyright © 1989 - 1996, 1997, 2003, 2004, 2008, all rights reserved, by Monotype Imaging Inc.

IPv6 Ready Logo



This machine has acquired IPv6 Ready Logo Phase-1, as established by the IPv6 Forum.

Trademarks

Canon, the Canon Logo, LASER SHOT, LBP, and NetSpot are trademarks of Canon Inc.

Adobe, Adobe Acrobat, Adobe Reader, and PostScript are trademarks of Adobe Systems Incorporated.

Apple, AppleTalk, Mac OS, Macintosh, and TrueType are trademarks of Apple Inc., registered in the U.S. and other countries.

PCL, PCL 5, and PCL 6 are trademarks of Hewlett-Packard Company.

Microsoft, Windows, and Windows Vista are trademarks or registered trademarks of Microsoft Corporation in the U.S. and/or other countries.

Novell, NetWare are trademarks of Novell, Inc.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Ethernet is a trademark of Xerox Corporation.

UFST ® is a trademark of Monotype Imaging, Inc. registered in the United States Patent and Trademark Office and may be registered in certain jurisdictions.

Concerning typeface credit, the actual names on a FONTS LIST for this machine may differ from those listed below.

CG and UFST are trademarks of Agfa Monotype Corporation or its affiliated companies and may be registered in some jurisdictions.

Marigold is trademark of AlphaOmega Typography, Inc.

ITC Avant Garde Gothic, ITC Bookman, ITC Lubalin Graph, ITC Mona Lisa, ITC Symbol, ITC Zapf Chancery, and ITC Zapf Dingbats are registered trademarks of International Typeface Corporation.

Clarendon, Helvetica, New Century Schoolbook, Palatino, and Times are trademarks of Linotype-Hell AG and its subsidiaries. Univers is a trademark of Linotype-Hell AG and its subsidiaries and may be registered in some jurisdictions.

Coronet is a registered trademark of Ludlow Type Foundry.

Wingdings is a trademark of Microsoft Corporation.

Albertus, Arial, Century Gothic, and Times New Roman are trademarks of the Monotype Corporation plc., and may be registered in some jurisdictions.

CG Omega is a product of Agfa Corporation and CG Times, based on Times New Roman under license from the Monotype Corporation plc, is a product of Agfa Corporation.

Other product and company names herein may be the trademarks of their respective owners.

Copyright

Copyright 2010 by Canon Inc. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system without the prior written permission of Canon Inc.

Disclaimers

The information in this manual is subject to change without notice.

CANON INC. MAKES NO WARRANTY OF ANY KIND WITH REGARD TO THIS MATERIAL, EITHER EXPRESS OR IMPLIED, EXCEPT AS PROVIDED HEREIN, INCLUDING WITHOUT LIMITATION, THEREOF, WARRANTIES AS TO MARKETABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OF USE OR AGAINST INFRINGEMENT OF ANY PATENT. CANON INC. SHALL NOT BE LIABLE FOR ANY DIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY NATURE, OR LOSSES OR EXPENSES RESULTING FROM THE USE OF THIS MATERIAL.

Legal Limitations on the Usage of Your Product and the Use of Images

Using your product to scan, print or otherwise reproduce certain documents, and the use of such images as scanned, printed or otherwise reproduced by your product, may be prohibited by law and may result in criminal and/or civil liability. A non-exhaustive list of these documents is set forth below. This list is intended to be a guide only. If you are uncertain about the legality of using your product to scan, print or otherwise reproduce any particular document, and/or of the use of the images scanned, printed or otherwise reproduced, you should consult in advance with your legal advisor for guidance.

- Paper Money
- Money Orders
- Certificates of Deposit
- Postage Stamps (canceled or uncanceled)
- Identifying Badges or Insignias
- Selective Service or Draft Papers
- Checks or Drafts Issued by Governmental Agencies
- Motor Vehicle Licenses and Certificates of Title
- Travelers Checks
- Food Stamps
- Passports
- Immigration Papers
- Internal Revenue Stamps (canceled or uncanceled)
- Bonds or Other Certificates of Indebtedness
- Stock Certificates
- Copyrighted Works/Works of Art without Permission of Copyright Owner



Important Safety Instructions

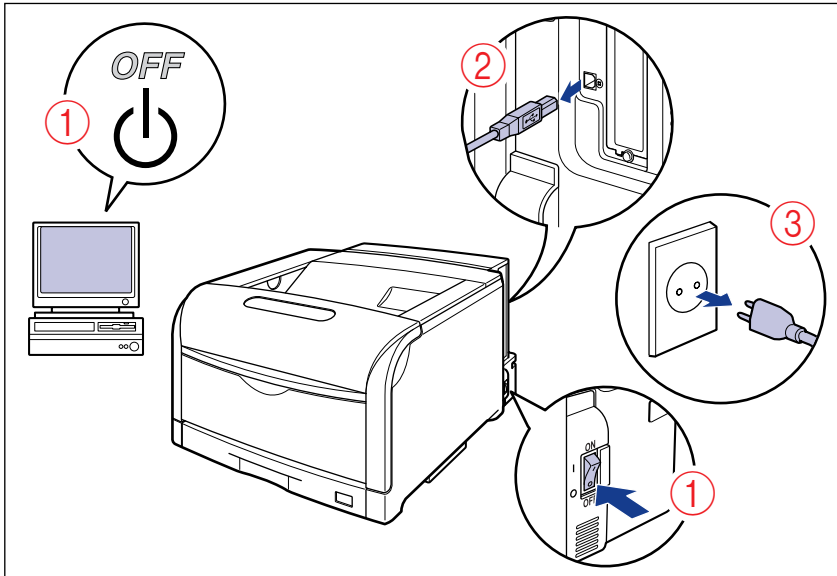
Please read these "Important Safety Instructions" thoroughly before operating the printer. As these instructions are intended to prevent injury to the user or other persons or destruction of property, always pay attention to these instructions. Also, since it may result in unexpected accidents or injuries, do not perform any operation unless otherwise specified in the manual. Improper operation or use of this machine could result in personal injury and/or damage requiring extensive repair that may not be covered under your Limited Warranty.

Installation

WARNING

- Do not install the printer near alcohol, paint thinner, or other flammable substances. If flammable substances come into contact with electrical parts inside the printer, it may result in a fire or electrical shock.
- Do not place the following items on the printer. If these items come into contact with a high-voltage area inside the printer, this may result in a fire or electrical shock. If these items are dropped or slipped inside the printer, immediately turn OFF the power switch ① and disconnect the USB cable ② if it is connected. Then, unplug the power plug from the AC power outlet ③ and contact your local authorized Canon dealer.
 - Necklaces and other metal objects

- Cups, vases, flowerpots, and other containers filled with water or liquids



⚠ CAUTION

- Do not install the printer in unstable locations, such as unsteady platforms or inclined floors, or in locations subject to excessive vibrations, as this may cause the printer to fall or tip over, resulting in personal injury.
- Never block the ventilation slots on the printer. The ventilation slots are provided for proper ventilation of working parts inside the printer. Never place the printer on a soft surface, such as a sofa or rug. Blocking the ventilation slots can cause the printer to overheat, resulting in a fire.
- Do not install the printer in the following locations, as this may result in a fire or electrical shock.
 - A damp or dusty location
 - A location exposed to smoke and steam such as cookeries and humidifiers
 - A location exposed to rain or snow
 - A location near water faucets or water
 - A location exposed to direct sunlight
 - A location subject to high temperatures
 - A location near open flames
- When installing the printer, gently lower the printer onto the floor or other machine to avoid catching your hands, as this may result in personal injury.
- When connecting the interface cable, connect it properly following the instructions in this manual. If not connected properly, this may result in malfunction or electrical shock.
- When moving the printer, follow the instructions in this manual to hold it correctly. Failure to do so may cause you to drop the printer, resulting in personal injury. (See "Moving the Printer," on p. 6-71)

Power Supply

WARNING

- Do not damage or modify the power cord. Also, do not place heavy objects on the power cord, or pull on or excessively bend it, as this could cause electrical damage and result in a fire or electrical shock.
- Keep the power cord away from a heat source; failure to do this may cause the power cord coating to melt, resulting in a fire or electrical shock.
- Do not plug or unplug the power plug with wet hands, as this may result in electrical shock.
- Do not plug the power cord to a multiplug power strip, as this may cause a fire or electrical shock.
- Do not bundle up or tie the power cord in a knot, as this may result in a fire or electrical shock.
- Insert the power plug completely into the AC power outlet, as failure to do so may result in a fire or electrical shock.
- Do not use power cords other than the power cord provided, as this may result in a fire or electrical shock.
- As a general rule, do not use extension cords or plug extension cords to a multiple power strip. If extension cords must be used or plugged to a multiple power strip, however, use them observing the following points on user's own authority. If you use extension cords improperly, this may result in a fire or electrical shock.
 - Do not connect one extension cord to another.
 - Make sure that the voltage of the power plug is the one indicated in the rating label (attached on the back of the printer) when you use the printer.
 - Use an extension cord that allows the current value greater than the necessary one indicated in the rating label (attached on the back of the printer).
 - When you use an extension cord, untie the cord binding, and insert the power plug completely into the extension cord outlet to ensure a firm connection between the power cord and the extension cord.
 - Periodically check that the extension cord is not overheated.

CAUTION

- Do not use power supplies with voltages other than those specified herein, as this may result in a fire or electrical shock.
- Always grasp the plug when unplugging the power cord. Pulling on the power cord may expose or snap the core wire, or otherwise damage the power cord. If the power cord is damaged, this could cause current to leak, resulting in a fire or electrical shock.
- Leave sufficient space around the power plug so that it can be unplugged easily. If objects are placed around the power plug, you will be unable to unplug it in an emergency.

Handling

WARNING

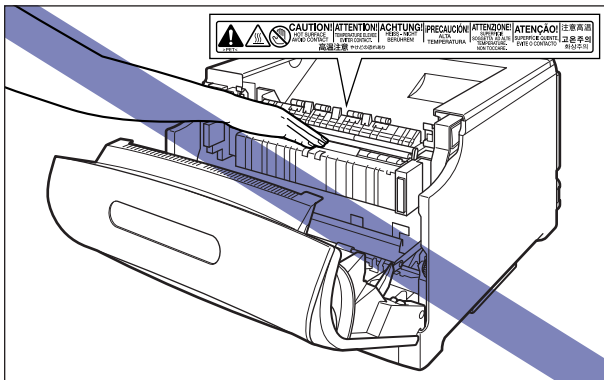
- Do not attempt to disassemble or modify the printer. There are high-temperature and high-voltage components inside the printer which may result in a fire or electrical shock.
- Electrical equipment can be hazardous if not used properly. To avoid injury, do not allow children access to the interior of any electrical product and do not let them touch any electrical contacts or gears that are exposed.
- If the printer makes strange noises, or emits smoke, heat or unusual smells, immediately turn OFF the printer and computer, and disconnect the USB cable if it is connected. Then, unplug the power plug from the AC power outlet and contact your local authorized Canon dealer. Otherwise, this may result in a fire or electrical shock.
- Do not use highly flammable sprays near the printer. If gas from these sprays comes into contact with the electrical components inside the printer, it may result in a fire or electrical shock.
- Always turn OFF the printer and computer, and disconnect the interface cables when moving the printer. Otherwise, the power cord or interface cables may be damaged, resulting in a fire or electrical shock.
- Do not drop paper clips, staples, or other metal objects inside the printer. Also, do not spill water, liquids, or flammable substances (alcohol, benzene, paint thinner, etc.) inside the printer. If these items come into contact with a high-voltage area inside the printer, this may result in a fire or electrical shock. If these items are dropped or slipped inside the printer, immediately turn OFF the printer and computer, and disconnect the USB cable if it is connected. Then, unplug the power plug from the AC power outlet and contact your local authorized Canon dealer.
- When plugging or unplugging the USB cable when the power plug is plugged in an AC power outlet, do not touch the metal part of the connector, as this may result in electrical shock.

CAUTION

- Do not place heavy objects on the printer, as they may tip over or fall resulting in personal injury.
- Be careful when handling the main board, expansion board, and RAM. Touching the edges or a sharp portion of the main board, expansion board, RAM, ROM may result in personal injury.
- Turn OFF the power switch for safety when the printer will not be used for a long period of time such as overnight. Also, turn OFF the power switch on the right of the printer and unplug the power plug for safety when the printer will not be used for an extended period of time such as during consecutive holidays.
- Keep your hands or clothing away from the roller in the output area. Even if the printer is not printing, sudden rotation of the roller may catch your hands or clothing, resulting in personal injury.

⚠ CAUTION

- Never attempt to service this printer yourself, except as explained in this manual. There are no user serviceable parts inside the printer. Adjust only those controls that are covered in the operating instructions. Improper adjustment could result in personal injury and/or damage requiring extensive repair that may not be covered under your Limited Warranty.
- The fixing unit and its surroundings inside the printer are hot during use. When removing jammed paper or when inspecting the inside of the printer, do not touch the fixing unit and its surroundings, as doing so may result in burns.



- When removing jammed paper or replacing a drum cartridge, toner cartridge, or waste toner container, take care not to allow the toner to come into contact with your hands or clothing, as this will dirty your hands or clothing. If they become dirty, wash them immediately with cold water. Washing with warm water will set the toner and make it impossible to remove the toner stains.
- When removing paper jammed inside the printer, remove the jammed paper gently to prevent the toner on the paper from scattering and getting into your eyes or mouth. If the toner gets into your eyes or mouth, wash them immediately with cold water and immediately consult a physician.
- When loading paper or removing jammed paper, take care not to cut your hands with the edges of the paper.
- When removing a used toner cartridge from the toner cartridge slot, remove the cartridge carefully to prevent the toner from scattering and getting into your eyes or mouth. If the toner gets into your eyes or mouth, wash them immediately with cold water and immediately consult a physician.

Consumables

WARNING

- Do not throw a used toner cartridge into open flames, as this may cause toner remaining inside the cartridge to ignite and result in burns or a fire.
- Do not store a toner cartridge or copy paper in places exposed to open flames, as this may cause the toner or paper to ignite and result in burns or a fire.
- Place the toner cartridge or drum cartridge into a plastic bag to prevent its toner from scattering, and then dispose of the toner cartridge or drum cartridge according to local regulations.

CAUTION

- Keep toner cartridges and other consumables out of the reach of small children. If these items are ingested, consult a physician immediately.
- Do not attempt to disassemble the toner cartridge, drum cartridge, or waste toner container. The toner may scatter and get into your eyes or mouth. If the toner gets into your eyes or mouth, wash them immediately with cold water and immediately consult a physician.
- If toner leaks from the toner cartridge, drum cartridge, or waste toner container, be careful not to inhale the toner or allow it to come into contact with your skin directly. If the toner comes into contact with your skin, wash it out with soap. If you have an irritation on your skin, or if you inhaled the toner, immediately consult a physician.

Others

WARNING

The drum cartridge generates a low level magnetic field. If you use a cardiac pacemaker and feel abnormalities, please move away from the drum cartridge and consult your physician immediately.

Before You Start

1

CHAPTER

This chapter describes the major features and basic functions of this printer.

| | |
|-------------------------------------|------|
| Features and Benefits | 1-2 |
| Standard Features | 1-2 |
| Optional Equipment | 1-5 |
| Parts and Their Functions | 1-7 |
| Printer Unit | 1-7 |
| Control Panel | 1-11 |
| Display | 1-13 |

Features and Benefits

This section describes the major features.

Standard Features

■ High Quality A3 Full Color Print

This printer is fitted with an A3 full color laser printer engine. Moreover, 600dpi/multi-value data process resolution delivers high quality full-color printing on A3 size paper.

■ High Speed Printing

Adoption of high-speed CPU and new-type PDL has increases the speed of the controller processing. Moreover, the four development drums have shortened the time of color printing, which used to require four times longer time than when printing in black and white, to as short as 30 sheets of paper per minute (32 sheets of paper per minute for black and white printing).

■ Super High-Definition Image Quality

The equipped 1200dpi engine enables super high-definition image quality on printing data that contains photographs and gradation as well as text. The printer driver achieves "Super Fine Mode" by supporting 1200dpi data resolution process and enhances expression of clear images. "Fine Mode" also supports "High Mode" in which the gradation expression has been enhanced. This enables the compatibility between high-quality printing and super high-speed printing.

■ Various Paper Handling Options

In addition to the standard multi-purpose tray and universal cassette, optional 550-sheet paper feeders are available, enabling the continuous automatic feeding of up to 1970 sheets of paper of 5 different sizes. The multi-purpose tray has a wide array of uses, allowing you to perform 2-sided printing manually and print on various kinds of paper from such as A5 and Envelope Monarch to paper as large as A3 and long size paper.

■ User-Friendly Color Control

The user interface with color matrixes delivers intuitive and easy to use color tone adjustment. The sample print function that outputs the samples of images after adjustment on a sheet of paper allows you to easily and rightly check the colors that you want to use.

The auto color function that automatically detects color pages frees you from having to switch between the black-and-white mode and color mode. As a matter of course, LBP5970 is equipped with ColorGear, Canon's original color management system that recreates the colors as you expect. This system achieves the user-friendly control of color matching that corrects color by each element of text, photographs, and pictures that make up a document.

■ Network Printer

Equipped with a 10BASE-T/100BASE-TX print server as standard. Because LBP5970 compatible with the TCP/IP, AppleTalk, SMB, and NetWare protocols, you can instantly use this printer as a network printer that supports various kinds of host/operating system environments. Also the high-speed DMA transfer that directly transfers data to the printer memory and automatic interface switch function enable fine printing process in a network environment.

NOTE

For details on the operating systems that the print server equipped with this printer support and the configuration procedures, see "Network Guide".

■ Well-developed Security Functions

By installing an optional hard disk, you can use the "Secured Print" function that requires entering a password on printing and the "Encrypted Secured Print" function in which the security for data communication is reinforced. The "Hard Disk Data All Erase" function that completely erases all the data in the hard disk and the capability of using SSL for communication by the Remote UI achieve a safer printing environment.

NOTE

If you want to use the encrypted secured print function, you need to install "Encrypted Secured Print Driver Add-in".

For details on the installation procedure, see "Readme.txt" in the supplied CD-ROM.

■ Software Compatibility and Language Switching

The printer supports Hewlett-Packard's PCL 5c/PCL 6 printer language, which enables the printer to work with a wide variety of software applications supporting PCL. This printer also supports UFR II. UFR II, a printing system compatible with the latest operating systems, distributes the printing process to a computer and printer, achieving a high-speed print output. Additionally, this printer supports "PostScript 3 Emulation"*, making it possible to print from Windows as well as Macintosh with PostScript.

* The optional PS ROM or PS/Barcode ROM is required.

■ Energy Saving

The on-demand fusing technology of the printer provides improved energy efficiency.

Because of this power saving feature, the printer meets the guidelines for the International Energy Star Program.

■ Reducing Toner Consumption

To save toner, you can select toner save to print rough drafts using less toner. The printed page is much lighter, similar to the toner save mode found on many dot matrix printers.

■ Interface Features

The printer uses a USB port that supports Microsoft Plug & Play technology. It also comes with a print server as standard, being used as a network printer for Ethernet.

■ Typefaces

The printer comes with 80 scalable typefaces in 27 typeface families (Agfa 80 MicroType fonts), all compatible with application software supporting Microsoft Windows. In addition, 10 bitmapped typefaces of the Line Printer family are also included. The printer uses the Universal Font Scaling Technology (UFST) for outline fonts, provided under license from Agfa Monotype Corporation. 31 TrueType screen fonts are also included along with Canon Font Manager for easy management of installed fonts in Microsoft Windows 2000/XP.

This printer also has 136 standard fonts and 115 Central Europe fonts available in "PostScript 3 Emulation"*.

* The optional PS ROM or PS/Barcode ROM is required.

■ Printer Drivers and Utilities

LBP5970 is provided with the printer driver for PCL 5c/PCL 6 that supports Windows 2000/XP/Server 2003/Vista and UFR II/PS Printer Driver that supports Windows 2000/XP/Server 2003/Vista and Mac OS X, allowing you to print from a various kinds of system environment.

Also, NetSpot Device Installer supplied with LBP5970 simplifies the management and settings of the printer on a network environment.



IMPORTANT

The supplied CD-ROM does not include the printer driver for Macintosh. Download the printer driver for Macintosh that supports this printer from the Canon website. If you cannot find the printer driver for Macintosh that supports this printer on the Canon website, contact your local authorized Canon dealer.

■ Remote UI Support

The printer supports a Remote UI function that allows you to control or monitor the status of the printer from a computer. (See Remote UI Guide.)

Optional Equipment

Below is a list of the options available for this printer. For more information, consult your local authorized Canon dealer.

■ Paper Feeder

This printer is supplied with 2 paper sources: the paper cassette and multi-purpose tray. By installing three optional paper feeders, up to 5 paper sources can be used.

PAPER FEEDER PF-98B consists of a paper feeder and paper cassette.

The paper cassette can be loaded with up to approximately 550 sheets of plain paper (80 g/m²) at sizes of A3, B4, A4, B5, A5, Ledger (11 x 17), Legal, Letter, Executive, 8K, 16K, and paper at the following custom paper sizes.

- When loading paper in portrait orientation: Width 210.0 to 297.0 mm; Length 210.0 to 431.8 mm
- When loading paper in landscape orientation (Only when UFR II Printer Driver is used): Width 210.0 to 297.0 mm; Length 148.0 to 297.0 mm

■ Expansion RAM

Expansion RAM is an extended memory that expands the amount of memory. This printer comes with 256 MB of memory. One expansion RAM module can be added, and the memory capacity can be expanded up to a maximum of 768 MB. It is recommended that you should use Canon Expansion RAM ER-128A, ER-256A, or ER-512A as the expansion RAM.

■ PS ROM

By installing PS ROM, "PostScript 3 Emulation" which makes it possible to print with PostScript is available.

Also, by installing a hard disk and expansion RAM module (256 MB or more), you can print PDF files using the direct print function.

■ PS/Barcode ROM

By installing PS/Barcode ROM, the following bar code fonts are also available as well as the functions of PS ROM.

- OCR-B
- Symb. FontInform
- Symbole stethos
- BarDIMM ©1997
- USPS ZEBRA+4Stat

■ Hard Disk

You can use a hard disk that can be built in the printer to save the received print jobs temporarily. By installing the hard disk, you can use various functions such as print job spooling, e-mail print, encrypted secured print, secured print, electronic sort, and RIP Once.

Parts and Their Functions

This printer consists of components that perform various functions. This section describes the name and function of each part in order for you to use this printer properly to make full use of its functions.

Printer Unit

The following are the parts and functions of the printer unit.

⚠ CAUTION

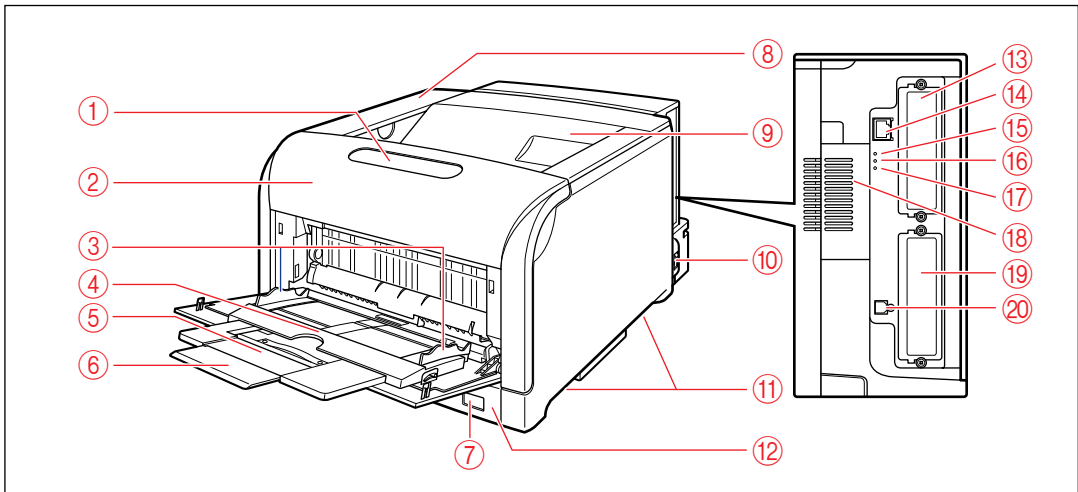
Never block the ventilation slots on this printer. If any ventilation slot is blocked, the temperature inside the printer may rise, resulting in a fire.

Front View

The following are the parts on the front side of the printer and their functions.

✎ NOTE

Remove the film attached to the control panel before using the panel.



① Control Panel

Displays the printer status and allows you to specify the settings. (See p. 1-11)

② Front Cover

Opened when replacing the fixing unit or removing jammed paper. (See p. 6-43)

③ Paper Guides

Adjust the position of the paper guides to the width of the paper loaded in the multi-purpose tray. You can load paper up to the load limit marks on this tray.

④ Multi-purpose Tray

Load paper when feeding the paper from the multi-purpose tray. (See p. 3-48)

⑤ Auxiliary Tray

Pulled out to prevent the paper from hanging out of the multi-purpose tray when loading large-size paper, such as B4.

⑥ Tray Extension

Opened to prevent the paper from hanging out of the multi-purpose tray when loading long-size paper, such as A3.

⑦ Paper Size Guide

Insert the paper size indicator for the paper loaded in the paper cassette into the paper size slot. (See p. 3-25)

⑧ Toner Cover

Opened when replacing the toner cartridges. (See p. 6-2)

⑨ Top Cover/Output Tray

The top cover is opened when a drum cartridge is replaced or the inside of the printer is cleaned (You do not need to open the cover when you remove jammed paper). Before opening the top cover, open the front cover, tilt the fixing unit toward you, and then press the lock release button. For the position of the lock release button, see "Inner View," on p. 1-10.

The output tray outputs paper with the printed side facing down. (See p. 3-16)

⑩ Power Switch

Turns the power of the printer ON/OFF. (See p. 2-2)

⑪ Lift Handles

Hold these handles when moving the printer. (See p. 6-74)

⑫ Paper Cassette

Can be loaded with up to 230 sheets of plain paper at sizes of A3, B4, A4, B5, A5, Ledger (11 x 17), Legal, Letter, and Executive. (See p. 3-18)

⑬ Expansion Slot

This slot is used to expand the functions.

⑭ LAN Connector

Connects to a LAN cable (10BASE-T/100BASE-TX).

⑮ 100 Indicator (Green)

Comes on when the printer is connected to a network by 100BASE-TX.

⑯ 10 Indicator (Green)

Comes on when the printer is connected to a network by 10BASE-T.

⑰ ACT Indicator (Green)

Blinks while communicating with the print server.

⑱ Ventilation Slots

Ventilate air to cool the insides of the printer.

⑲ Hard Disk Slot

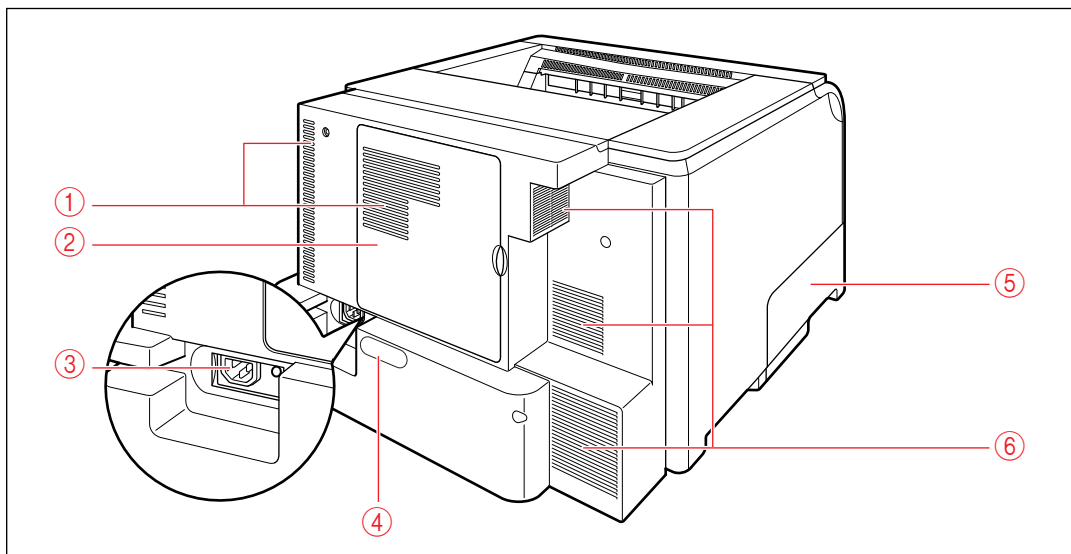
An optional hard disk is installed in this slot. (See Getting Started Guide)

⑳ USB Connector

Connected to the USB cable. (See Getting Started Guide)

Rear View

The following are the parts on the rear side of the printer and their functions.



① Ventilation Slots

Ventilate air to cool the insides of the printer.

② Rear Cover

Opened when installing an optional RAM or ROM module.

③ Power Socket

Connect the supplied power cord to this socket.

④ Rating Label

The current value indicated in this rating label shows the average power current consumption.

⑤ Waste Toner Cover

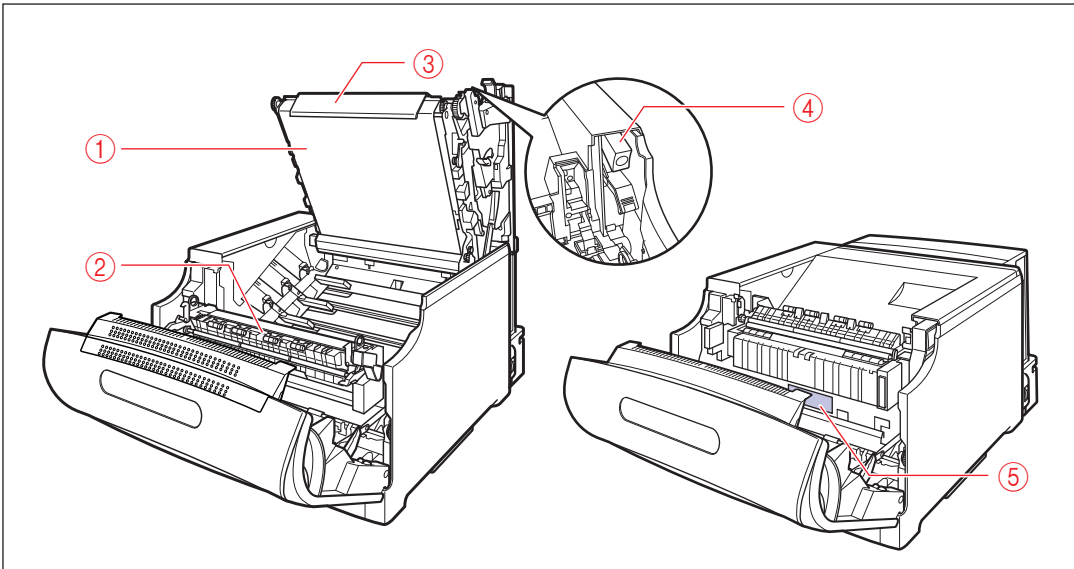
Opened when replacing the waste toner container. (See p. 6-54)

⑥ Ventilation Slots

Ventilate air to cool the insides of the printer.

Inner View

The following are the parts inside the printer and their functions.



① ITB (Intermediate Transfer Belt) Unit

Transfers the toner of the four colors onto paper.

② Fixing Unit (When laid)

Fixes toner onto paper.

③ Top Cover (When opened)

Opened when a drum cartridge is replaced or the inside of the printer is cleaned (You do not need to open the cover when you remove jammed paper). Before opening the top cover, open the front cover, tilt the fixing unit toward you, and then press the lock release button.

④ Lock Release Button

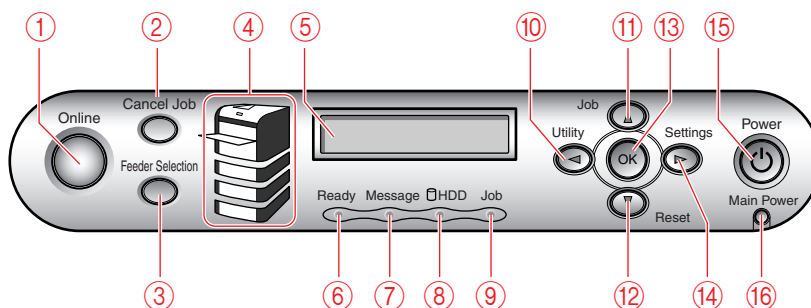
Pressed when the top cover is opened.

⑤ Serial Number Label

The serial number for printer identification is indicated on this label. The number is required for receiving service or repairs.

Control Panel

The control panel on the top of the printer allows you to check the printer status and use the printer functions.



IMPORTANT

Depending on the settings, the printer may operate differently from the description of the following "On menu operation". For more details, see the instructions for each setting.

① [Online] Key/Online Indicator (Green)

Turns on (online)/off (offline) the connection to the computer.

This key also has the function that, when an error has occurred, releases the printer from the error temporarily and continues the paused job. However, depending on the error, you may not be able to cancel it out.

The Online indicator under the Online key indicates the following printer status with its status.

On:

Online (The printer can receive print data from the computer.)

Off:

Offline (The printer cannot receive print data from the computer.)

However, if the printer has entered Power Save Mode, the Online indicator is off even when the printer is online. (See p. 2-10)

② [Cancel Job] Key

On offline:

Cancels the job when the Job indicator is on or blinking. Does not function when the Job indicator is off.

On online:

Cancels the job when the Job indicator is on or blinking. Does not function when the Job indicator is off.

③ [Feeder Selection] Key

On offline:

Displays the SELECT FEEDER menu.

On online:

Displays the SELECT FEEDER menu.

On menu operation:

Does not function.

④ Paper Source Indicators (Green)

On:

The indicator for the currently selected paper source comes on.

Blinking:

There is no paper in the currently selected paper source, or the paper cassette is not set. For the multi-purpose tray, the indicator comes on even when no paper is loaded.

Off:

No paper source is selected. No paper cassette including the optional one or paper feeder is set.

⑤ Display

Displays the printer status, messages, the settings and setting values of the menu functions. (See p. 1-13)

⑥ Ready Indicator (Green)

On:

The printer is ready to print. (If the printer has entered Power Save Mode when it is online, only the Ready indicator (green) is on, and all the other indicators are off.)

Blinking:

The printer is performing a self-diagnostic test. The printer is in a warm-up state.

Off:

The printer cannot print.

⑦ Message Indicator (Orange)

On:

The printer cannot print because a problem has occurred in the printer. (If the printer has entered Power Save Mode when it is offline, only the Message indicator (orange) is on, and all the other indicators are off.)

Off:

The printer is in a normal state.

⑧ HDD Indicator (Green)

On:

Data is being read from the hard disk or being written to the hard disk.

Off:

Data is not being read from the hard disk or being written to the hard disk.

⑨ Job Indicator (Green)

On:

The printer is receiving print data, or any print data remains in the printer memory.

Blinking:

The printer is processing print data.

Off:

There is no print data in the printer memory.

⑩ [Utility] (◀) Key

On offline:

Does not function when the printer is offline.

On online:

Displays the UTILITY menu.

On menu operation:

Displays the next left item in the menu. Decreases the setting value.

⑪ [Job] (▲) Key

On offline:

Does not function when the printer is offline.

On online:

Displays the JOB menu.

On menu operation:

Goes back to the previous menu (Goes back up the hierarchy).

⑫ [Reset] (▼) Key

On offline:

Displays the RESET menu.

On online:

Displays the RESET menu.

On menu operation:

Goes to the next menu (Goes down the hierarchy). In a lowest menu level (When a setting value is displayed), determines the setting.

⑬ [OK] Key

On offline:

Does not function when the printer is offline.

On online:

Does not function when the printer is online.

On menu operation:

Goes to the next menu (Goes down the hierarchy). In a lowest menu level (When a setting value is displayed), determines the setting.

⑭ [Settings] (▶) Key

On offline:

Displays the SETUP menu.

On online:

Displays the SETUP menu. However, the [User Maintenance Menu] options cannot be specified when the printer is online.

On menu operation:

Displays the next right item in the menu. Increases the setting value.

⑮ Control Panel Power Switch (Sub Power Supply)

If POWER SAVE MODE is set to a setting other than OFF, the printer enters Power Save Mode. (See p. 2-6)

Hold down the switch for 4 seconds or more to execute SHUT DOWN. (See p. 2-5)

⑯ Main Power Indicator (Green)

On:

The printer is ON.

Off:

The printer is OFF.

Display

The display on the printer's control panel is shown as the following. It displays the printer status, messages, items and settings of the menu functions.

When the printer is ready to print



① Status/Operation Field

Displays the printer status and print mode.

When operating the printer using the control panel



② Paper Source/Paper Size Field

Displays the size of paper in the currently selected paper source using an abbreviation. The names of the following paper sizes are indicated by an abbreviation. (12 x 18: TxE, Ledger (11 x 17): LD, Legal: LG, Letter: LT, Executive: EX, Statement: ST, Envelope DL: DL, Envelope COM10: CO, Envelope C5: EC5, Envelope Monarch: MO, Envelope B5: EB5, Custom Size: 80 to 99, Custom SizeR/Long Size Paper: 80R to 99R, Free/Mixed Sizes: FR)

Using the Printer

2

CHAPTER

This chapter describes the basic functions of this printer.

| | |
|--|-------------|
| Turning the Printer ON/OFF | 2-2 |
| Turning the Printer ON | 2-2 |
| Turning the Printer OFF | 2-4 |
| Power Saving (Power Save Mode) | 2-6 |
| Online and Offline | 2-10 |
| Placing the Printer Online | 2-10 |
| Placing the Printer Offline | 2-11 |
| Direct Print | 2-12 |
| Direct Print | 2-12 |
| Direct Printing from the Remote UI | 2-12 |
| Direct Printing from Command Prompt | 2-33 |
| E-mail Print (Only When the Hard Disk Is Installed) | 2-34 |
| E-mail Print | 2-34 |
| E-mail Print Settings | 2-36 |
| E-mail Printing | 2-38 |
| Printing the E-mail Receive Log List | 2-41 |
| When E-mail Print Fails | 2-45 |
| Printing/Saving Jobs (Only When the Hard Disk Is Installed) | 2-50 |
| Job Process Method Types | 2-50 |
| Printing with a Password Specified (Secured Print/Encrypted Secured Print) | 2-52 |
| Printing a Job Saved in a Box (Stored Job Print) | 2-54 |
| Print Mode | 2-57 |
| Types of the Print Mode | 2-57 |
| If Auto-Switch Fails | 2-57 |
| Canceling a Job | 2-59 |
| Outputting Data (Forced Output) | 2-59 |
| Canceling a Job (Cancel Job) | 2-60 |
| Canceling the Process Currently Being Performed (Soft Reset) | 2-61 |
| Canceling All the Jobs (Hard Reset) | 2-62 |

Turning the Printer ON/OFF

The printer can be turned ON/OFF using the power switch on the right side of the printer body. Be sure to observe the following instructions in order to prevent unexpected problems.

Turning the Printer ON

To use this printer, press "I" of the power switch to turn the printer ON. After running a self-diagnostic test on the printer unit and optional accessories, the printer will be ready to print.



IMPORTANT

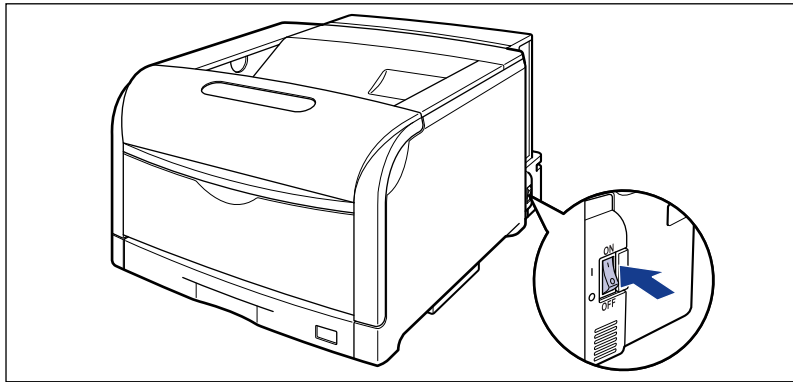
- Do not turn the power ON immediately after turning it OFF. If you want to turn the printer ON again after turning it OFF, wait at least 10 seconds after turning the printer OFF before turning it ON again.
- If the printer does not operate properly or an error message appears, see "Message List" (p. 7-23) and "Service Call Display" (p. 7-45).
- Be sure to set the paper cassette in the printer before you turn the power ON for the first time after you install the printer.



NOTE

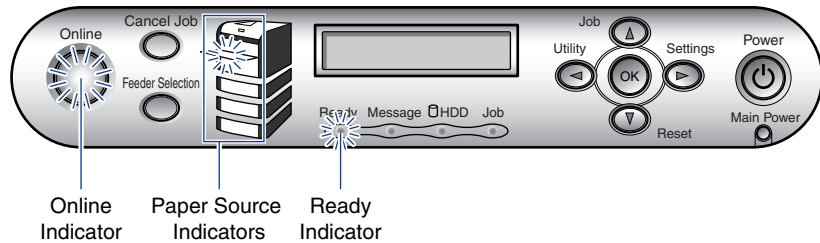
When you turn the power ON for the first time after you install a hard disk or when a problem has occurred to the hard disk, the printer is ready to print after approximately 60 seconds after it is turned ON because the hard disk is formatted after the printer is turned ON.

1 Press "I" of the power switch on the printer.



The indicators and display on the control panel come on, and the printer initiates a self-diagnostic test on the printer unit and optional accessories.

If no abnormality is found during the self-diagnostic test, the Online indicator, Ready indicator and Paper Source indicator for the currently selected paper source come on, <00 READY> appears in the display, and the printer is ready to print.



The following information is displayed in the display.

Printable and not processing print data — 00 READY — A4 — Size of paper in the currently selected paper source

Turning the Printer OFF

Turn the printer OFF using the following procedure. The procedure for turning the printer OFF is different between when a hard disk is used and when it is not used.

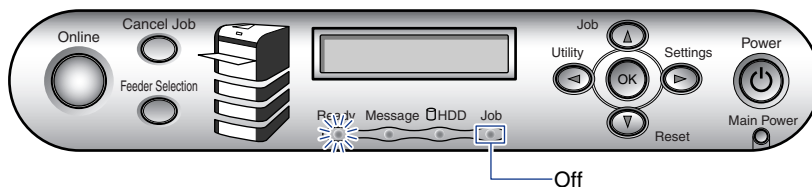
IMPORTANT

- When using the hard disk, be sure to turn the printer OFF as the procedure for the protection of the hard disk. (See p. 2-4)
- If the printer is connected to a network, make sure that other computers are not sending print data to the printer before turning the printer OFF.
- If you turn the printer OFF when the Job indicator is on, all the print data remaining in the printer memory will be erased. If there is any necessary print data remaining in the printer, wait until it is output, or press [Reset] in the offline state and then select FORM FEED to output the data before turning the printer OFF. (See p. 2-61)
- Do not turn the power OFF when the printer is in any of the following status:
 - During printing
 - While the printer is running a self-diagnostic test immediately after turning the power ON
 - While a message informing you that the NVRAM is being initialized or being written is displayed
 - While <02 STARTING UP> or <02 CALIBRATING> is displayed
- When you are using a hard disk, make sure that the HDD indicator is not on. If you turn the printer OFF while the HDD indicator is on (while data is being read from the hard disk or being written to the hard disk), the hard disk may be damaged and disabled.

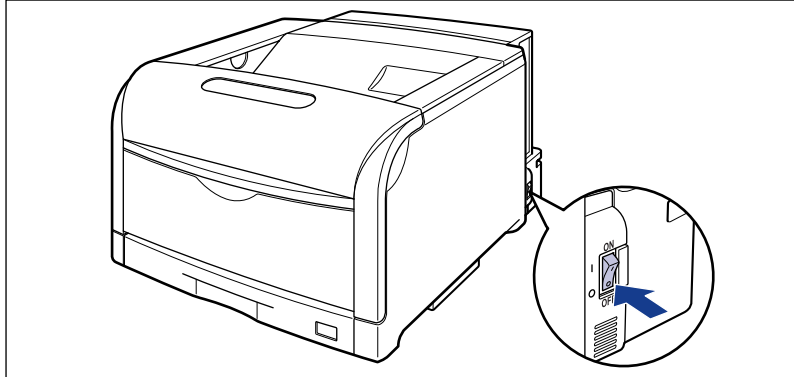
When Not Using a Hard Disk

When you are not using a hard disk, turn the printer OFF using the following procedure.

1 Make sure that the Job indicator is off.



2 Press "O" of the power switch on the printer.



When Using a Hard Disk (Only When a Hard Disk Is Installed)

When using the optional hard disk, turn the printer OFF using the following procedure.

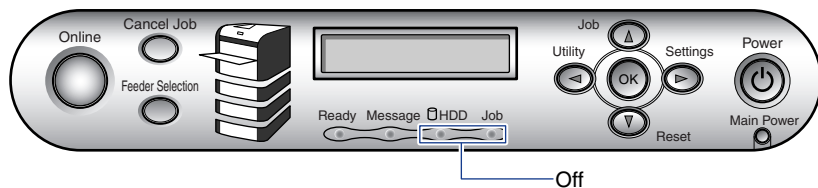
IMPORTANT

- If you perform a shutdown when any job of which you stopped the operation or of secured print is in the hard disk, the message <CANNOT EXECUTE> is displayed. If you want to execute a shutdown, perform a soft reset to delete the job, and then perform a shutdown again.
If you do not want to execute a shutdown, press [Online].
- Once you perform a shutdown, you cannot cancel the operation in midstream. When you want to turn the printer ON again, turn the printer OFF once following the instruction of the message, and then turn the printer ON.

NOTE

You can also perform SHUT DOWN in the RESET menu by pressing [Reset] on the control panel. (See "SHUT DOWN," on p. 5-115)

1 Make sure that the Job indicator and HDD indicator are off.





2 Hold down the control panel power switch (sub power supply) on the control panel until <O2 SHUTTING DOWN> is displayed, then release the switch.

Hold down the switch (approximately 4 seconds) until <O2 SHUTTING DOWN> is displayed. If the switch is released in less than 4 seconds, and POWER SAVE MODE is set to a setting value other than OFF, the printer enters Power Save Mode. (See p. 2-6)

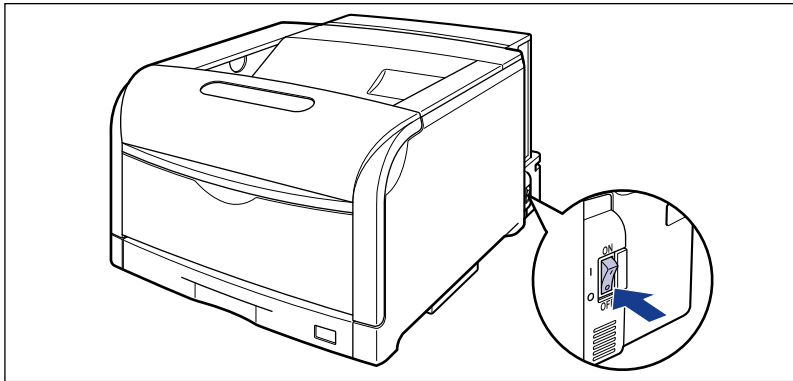
O2 SHUTTING DOWN

3 Confirm the message.

TURN OFF POWER

When the printer is ready to be turned OFF after the process for it is performed, the message <TURN OFF POWER> appears.

4 When the message <TURN OFF POWER> appears, press "○" of the power switch on the printer.



Power Saving (Power Save Mode)

You can reduce power consumption efficiently by using POWER SAVE MODE when the printer is idle or not in use.



IMPORTANT

- Even if "○" of the power switch located on the right side of the printer is pressed, power is consumed only slightly while the power plug is inserted into the AC power outlet. To cut the power consumption completely, unplug the power plug from the AC power outlet.
- For more details on each setting, see "Printing Environment Settings," on p. 5-1.

Setting the Printer to Power Save Mode

There are the following four methods for setting the printer to Power Save Mode.

| | |
|--|---|
| Setting the printer to Power Save Mode automatically when it is not operating | Specify the time interval until the printer enters Power Save Mode in POWER SAVE TIME. You can specify the time interval between 5 to 180 minutes. The default is 10 minutes. |
| Setting the printer to Power Save Mode using the printer's control panel | Press the control panel power switch (sub power supply) on the printer's control panel. |
| Setting the printer to Power Save Mode from a network computer | Select the option in the Remote UI in the following order: [Device Manager] → [Status] → [Device Control] → [Power Save], then click [Execute]. |
| Setting the printer to Power Save Mode on the designated time every day | Specify the time when the printer is to enter Power Save Mode in POWER SAVE TIME. If POW. SAVE TIMER is set to ON, POWER SAVE TIME is enabled. |

If the above operations or settings are performed, and the entering conditions described in "Types of Power Save Mode" (See p. 2-7) are fulfilled, the printer is set to Power Save Mode which consumes less power.

Types of Power Save Mode

There are the following three types of Power Save Mode, and they vary in the entering conditions.

| Types of Power Save Mode | Settings for "POWER SAVE MODE" Which Can be Entered | | | | Entering Conditions |
|---|---|-----------|----|------------|---|
| | OFF | PANEL OFF | ON | DEEP SLEEP | |
| Power Save Mode 1 (the Panel Off mode) Power saving effect: Small | - | ○ | ○ | ○ | <ul style="list-style-type: none"> - Panel operation has not been performed. - No data has been sent from the computer. - The printer is not starting up. - A shutdown is not being performed. - The hard disk is not being initialized. |

| Types of Power Save Mode | Settings for "POWER SAVE MODE" Which Can be Entered | | | | Entering Conditions |
|---|---|-----------|----|------------|---|
| | OFF | PANEL OFF | ON | DEEP SLEEP | |
| Power Save Mode 2 (the Printer Power Save mode) Power saving effect: Middle | - | - | ○ | ○ | <ul style="list-style-type: none"> - The printer has already entered Power Save Mode 1. - The 10 minutes for which the printer is ready to print has elapsed since the printer was turned ON or Power Save Mode 2 was released. - There is no job on the print queue. - A service call is not occurring. - A paper jam is not occurring. - No cover is open. - The toner cartridge is installed. |
| Power Save Mode 3 (the Deep Sleep mode) Power saving effect: Large | - | - | - | ○ | <ul style="list-style-type: none"> - The printer has already entered Power Save Mode 2. - The following settings in NETWORK MENU are set to OFF. <ul style="list-style-type: none"> - APPLETALK - SMB SERVER* in SMB - A USB cable is not connected. - The 15 minutes for which the printer is ready to print has elapsed since the printer was turned ON or Power Save Mode 2 was released. |

* If [Server Name] for SMB is not specified, the printer can enter Power Save Mode regardless of the setting for SMB SERVER.

NOTE

- When the printer enters Power Save Mode 1 or 2, the Ready indicator and Main Power indicator come on. However, when the printer is in the following statuses, indicators other than the Ready indicator also come on.
 - When the printer is offline (Only the Message indicator comes on.)
 - While a job is being stored in a box* (The Job indicator comes on.)

* A job can be stored in a box only when a hard disk is installed.
- When the printer enters Power Save Mode 3, only the Main Power indicator comes on.
- To configure the printer so that it does not enter Power Save Mode when an error is occurring in the printer (when the Message indicator is on, or when the number in the message is blinking), set PWR SAVE IN ERR to OFF.

- In the state that the SNTP or DHCP communication is going to be performed within a minute or that the Wake Up function is going to be executed within a minute, the printer does not enter Power Save Mode 3.

Releasing Power Save Mode

The following are the methods to release Power Save Mode.

| | |
|--|---|
| Releasing Power Save Mode using the printer's control panel | Press the key on the printer's control panel.* * If the printer has entered Power Save Mode 3, you can release the mode only when the control panel power switch (sub power supply) is pressed. |
| Releasing Power Save Mode on the designated time every day | Specify the time when Power Save Mode is to be released in WAKE UP TIME. If WAKE UP TIMER in TIMER SETTINGS is set to ON, the setting for WAKE UP TIME is enabled. |
| Releasing Power Save Mode from a computer | <ul style="list-style-type: none"> - Send data to the printer (except for storing a job into a box). - Perform the following in the Remote UI. <ul style="list-style-type: none"> - Operating the UTILITY menu - Performing calibration - Performing device controls - Displaying the [User Maintenance Menu] page in the [Device Settings] menu and specifying the settings |

NOTE

- Power Save Mode 1 and 2 are released also when an error occurs (However, Power Save Mode 2 may not be released depending on the error type.).
- Additionally, if CALIBRATE TIMER in TIMER SETTINGS is set to ON, and if the time specified in CALIBRATE TIME has elapsed, Power Save Mode is released.

Online and Offline

When the printer can receive data from the computer and print the data, the printer is in the state of "Online", and when the printer is disconnected with the computer and cannot receive data, the printer is in the state of "Offline".

To perform the settings for each menu using the control panel, switch the printer status as follows:

- : The status that you can enter the menu
-: The status that you cannot enter the menu

| | When the printer is online | When the printer is offline |
|--------------------|----------------------------|-----------------------------|
| SETUP Menu | ○* | ○ |
| SELECT FEEDER Menu | ○ | ○ |
| RESET Menu | ○ | ○ |
| JOB Menu | ○ | - |
| UTILITY Menu | ○ | - |

* The [User Maintenance Menu] options cannot be specified when the printer is online.

Placing the Printer Online

When printing from the computer, the printer has to be online. Before printing, make sure that the printer is online. If not, place the printer online using the following procedure. The printer comes online automatically after you turn it ON.



1 Press [Online].

The Online indicator comes on, and the printer is ready to print.

IMPORTANT

When an error is occurring in the printer (when the Message indicator is on, or the number in the message blinks), the printer does not come online. Eliminate the cause of the error before you place the printer online.

 **NOTE**

If the printer has entered Power Save Mode, the Online indicator is off even when the printer is online, and only the Ready indicator is on. If the printer receives data while it is in Power Save Mode, the mode is released, the Online indicator comes on, and the printer is ready to print.

Placing the Printer Offline

To configure the printer so that it does not receive data from the computer or specify the settings for all the options in the SETUP menu, place the printer offline using the following procedure.



1 Press [Online].

The Online indicator goes off, allowing you to specify the settings on the control panel.

 **IMPORTANT**

This printer comes online automatically if left in the offline state for five minutes or longer. However, when an error is occurring in the printer (when the Message indicator is on, or the number in the message blinks), or while you are performing any setting, such as selecting the menu functions or a paper source, or when specifying the paper size, the printer does not come online.

Direct Print

Direct Print

The direct print function is a function that transmits a file from the host terminal to the printer without the printer driver and allows the printer to detect the file and print. Therefore, you do not need to open a file to print.

To perform printing, from the Remote UI, specify the PDF file, PS/EPS file, or image file in TIFF/JPEG format that you want to print. You can also print PDF files by specifying a URL on the Web.

This printer also supports direct printing by command entry from Command Prompt (the LPR command).

■ **Printing from the Remote UI (See p. 2-12)**

■ **Printing from Command Prompt (See p. 2-33)**

Direct Printing from the Remote UI

You can perform direct printing from the Remote UI by specifying a PDF file, PS/EPS file, or image file in TIFF/JPEG format. For details on the Remote UI, see "Remote UI Guide".

 **NOTE**

Even if you cannot print or the printing position is skewed by the direct print function, you may be able to print successfully by opening the file from the application and using the printer driver.

Printing the PDF File Using the Direct Print Function

 **IMPORTANT**

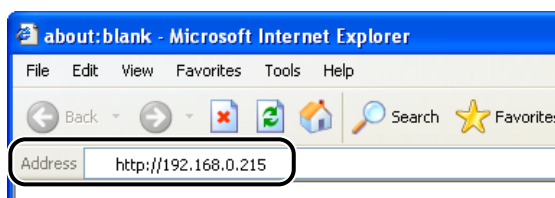
Note the following when printing the PDF files using the direct print function.

- To print the PDF files using the direct print function, the following optional accessories are required.
 - Hard disk
 - PS ROM or PS/Barcode ROM
 - RAM (ER-256A, ER-512A)

- Although the printer is compatible with PDF version 1.5, some of the functions are not supported by the printer. The PDF files of version 1.6 or later are processed by the functions compatible with the version 1.5 (However, some of the functions are excluded.)
- The following items are not supported for PDF version 1.5.
 - JBIG2 decoder
 - JPX (JPEG2000) decoder
 - File Specifications (Reference to an external file is not supported.)
 - Public Key Security Handler (Support is limited to the PDF Standard Security Handler.)
 - PS X Object
 - Transfer Functions
 - Halftones
 - Transparency Groups
 - Free Text Annotations (XHTML, XML, and CSS are not supported.)
 - Field Dictionaries (Rich Text strings are not supported.)
 - Digital Signatures (A signature will be printed although its authenticity will not be verified. If an icon exists to indicate the presence of a signature in the PDF file or of an edited signature, printing will be still performed without an indication of authenticity.)
 - File Identifiers (Reference to an external file is not supported.)
 - Output Intents
 - Open Prepress Interface (OPI)

1 Run the web browser, enter the following URL in the address entry field, and then press the [ENTER] key on your keyboard.

http://<the IP address of the printer>/



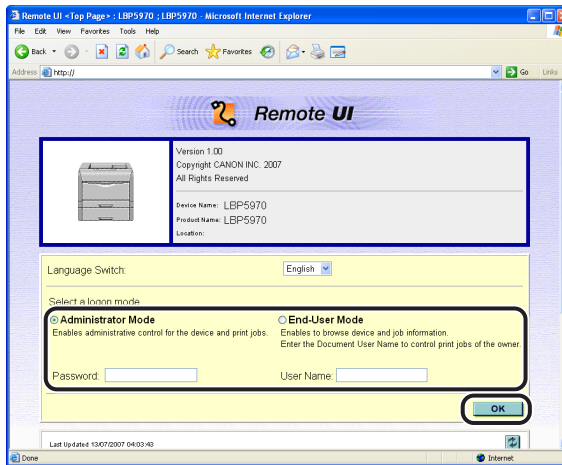
NOTE

- If you are not sure about the IP address of the printer, ask your network administrator.
- If the host name of the printer is registered in the DNS server, you can enter ["hostname"."domain name"] instead of the IP address.
Example: http://my_printer.xy_dept.company.com/
- When you want to specify the settings with the Remote UI using SSL encrypted communication, enter "https://the IP address or name of the printer/". If the [Security Alert] dialog box or other dialog box appears, follow the directions in the message.

- SSL encrypted communication can be used only when an optional hard disk is installed. To use SSL encrypted communication, a key and its certificate need to have been created and the key needs to have been registered as the default key. For details on the SSL encrypted communication function and the procedure for registering the default key, see "Remote UI Guide".

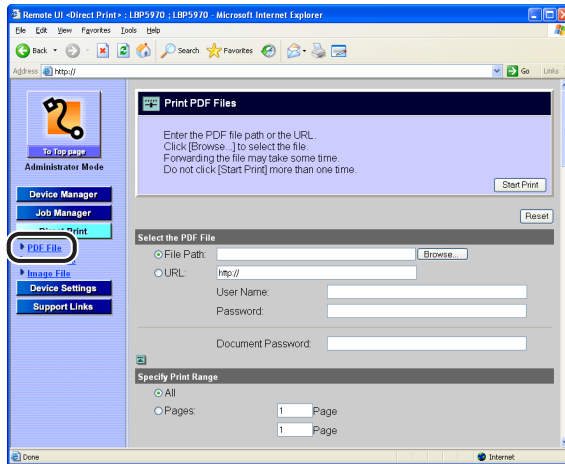
2 Select the mode in which you want to log on to the Remote UI ([Administrator Mode] or [End-User Mode]), then click [OK].

If you select [Administrator Mode], enter the values for [Password], and then click [OK].



3 Select [PDF File] from the [Direct Print] menu.

If IDs are managed on a departmental basis, a screen to enter [User Name] and [Password] appears. Enter [Department ID] and [Password] specified in [Department ID Management], and then click [OK].

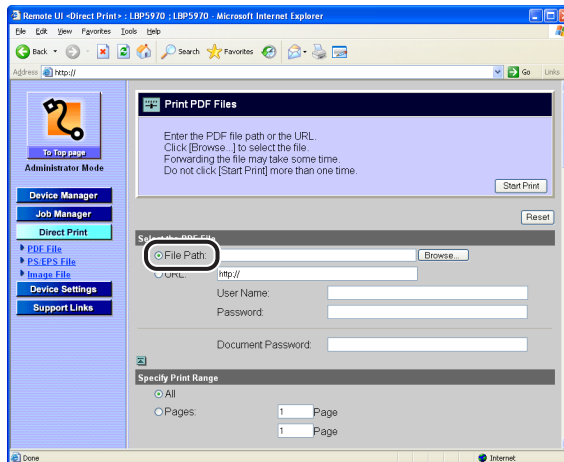


4 Perform [Select the PDF File].

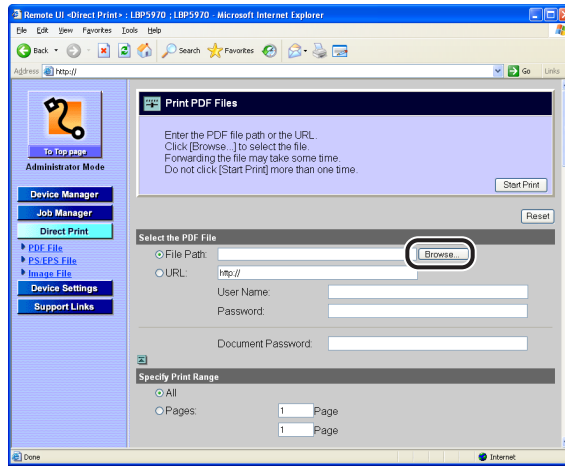
- If specifying a file path (See p. 2-15)
- If specifying a URL (See p. 2-16)

● If specifying a file path

- Select [File Path].



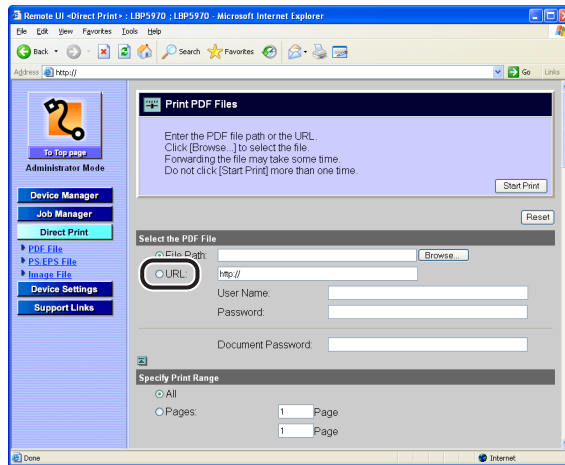
- ❑ Click [Browse], select the PDF file, and then click [Open].



- ❑ Proceed to Step 5.

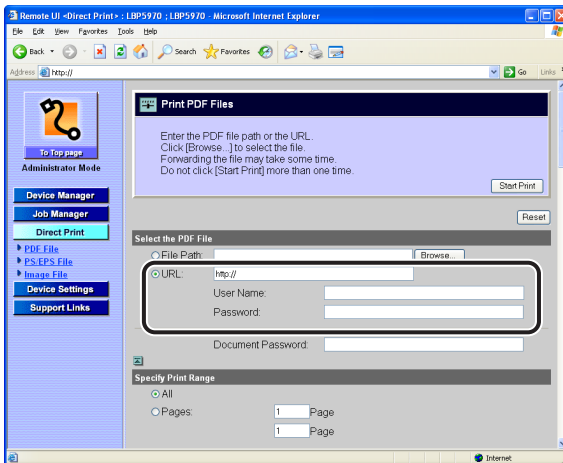
- **If specifying a URL**

- ❑ Select [URL].



- ❑ Enter the URL at which the PDF file to be printed is located.

If you specified a URL which requires a user authentication, enter [User Name] and [Password].

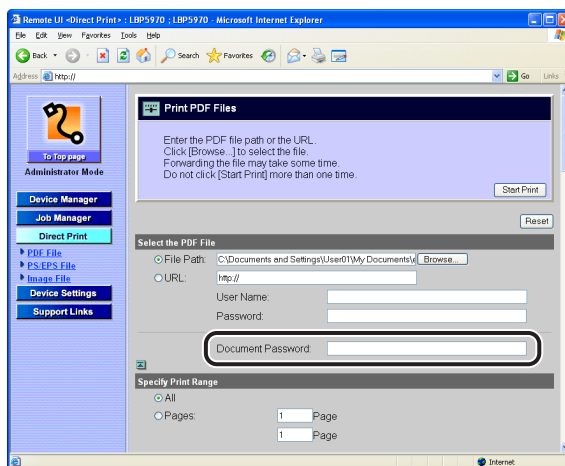


□ Proceed to Step 5.

NOTE

- When printing with a URL specified, you cannot print the next job until the PDF file download finishes or the connection to the web server is disconnected.
- The protocol for printing with a URL specified supports only HTTP.

5 If a password is set to open the PDF file, enter it in [Document Password].



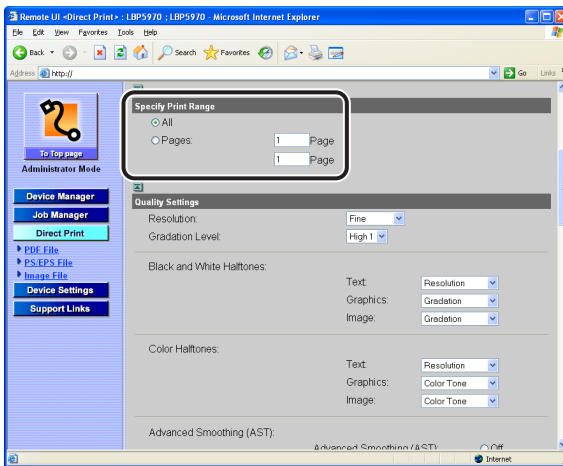
IMPORTANT

- If you try to print without entering the password, the error message <DA DATA DECDE ER> is displayed and printing is canceled.
- If you want to print the PDF file which is prohibited to be printed, enter the master password in [Document Password].
- If only the password for changing the security settings is set, you do not need to enter the master password.

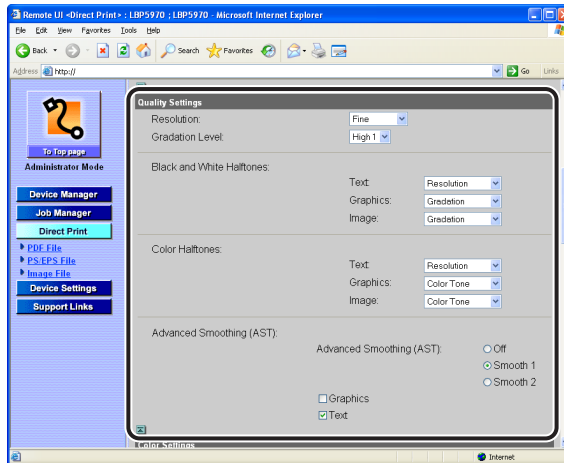
6 Specify the setting for [Specify Print Range].

If you select [All], all pages are printed.

If you select [Pages] and enter the page range, only the pages within the entered range are printed.

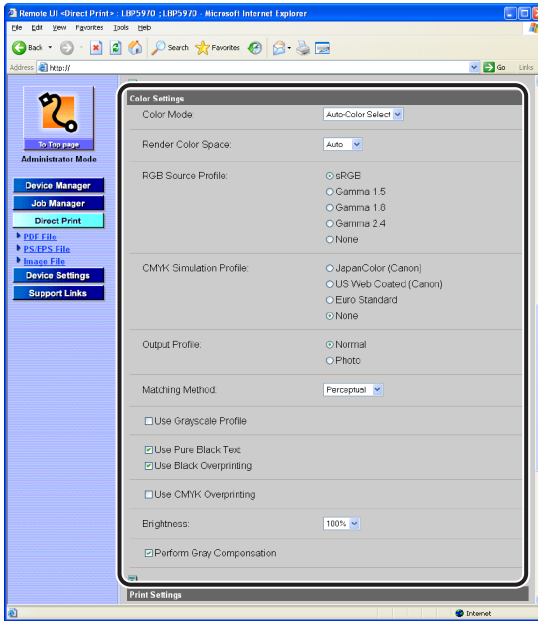


7 Specify the settings for [Quality Settings] as the following, as needed.



- | | |
|-----------------------------|--|
| [Resolution] | Specifies the resolution for when processing print data. |
| [Gradation Level] | Specifies the gradation level for printing data. Specify [High 1] when printing pictures or other data in general quality and specify [High 2] when printing in higher quality. |
| [Black and White Halftones] | Specifies the display pattern of subtle gradation (medium gradation) for black-and-white data. |
| [Color Halftones] | Specifies the display pattern of subtle gradation (medium gradation) for color data. |
| [Advanced Smoothing (AST)] | Specifies whether to use the smoothing process which can print the outlines of graphics (illustrations created by an application) and text smoothly. You can select a target for the smoothing process by selecting the [Graphics]/[Text] check box. |

8 Specify the settings for [Color Settings] as the following, as needed.



- | | |
|---------------------------|--|
| [Color Mode] | Specifies whether to print in color or in black and white. |
| [Render Color Space] | Specifies the method for rendering a PDF file. |
| [RGB Source Profile] | Selects the profile appropriate for RGB data according to the monitor you are using. |
| [CMYK Simulation Profile] | Specifies the setting for simulating the ink properties on printing CMYK data. |
| [Output Profile] | Specify the output profile. The output profile is applied to all the print data. |
| [Matching Method] | Specifies the color adjusting method for when "RGB Source Profile" is applied. Select the adjustment method according to your use or preference. |
| [Use Grayscale Profile] | If the check box for this option is selected, gray color data is converted into CMYK data by "Grayscale Profile" of this printer. |
| [Use Pure Black Text] | If the check box for this option is selected, you can print black color created by an application, using only the black (Bk) toner. |

[Use Black Overprinting]

If the check box for this option is selected, the printer prints black text over a color background. If this option is used with [Use Pure Black Text], the printer prints all the background first, and then prints the text over the color background using only the black (Bk) toner. This alleviates the phenomenon in which the outlines of the printed black text are rimmed with white.

[Use CMYK Overprinting]

If the check box for this option is selected, you can overprint CMYK data in the composite output.

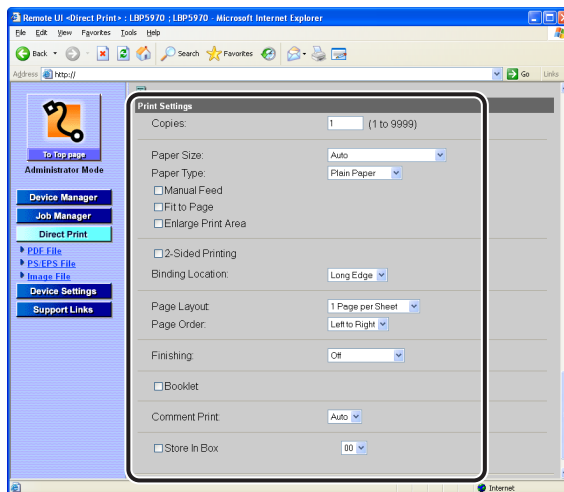
[Brightness]

Adjusts the brightness of the whole image. The smaller the specified value is, the brighter the color is, and the larger, the darker it is.

[Perform Gray Compensation]

Specifies whether to print gray color data with the black (Bk) toner only.

9 Specify the settings for [Print Settings] as the following, as needed.



[Copies]

Enter the number of copies (1 to 9999) to be printed.

[Paper Size]

Specify the size of the paper to be printed.

[Paper Type]

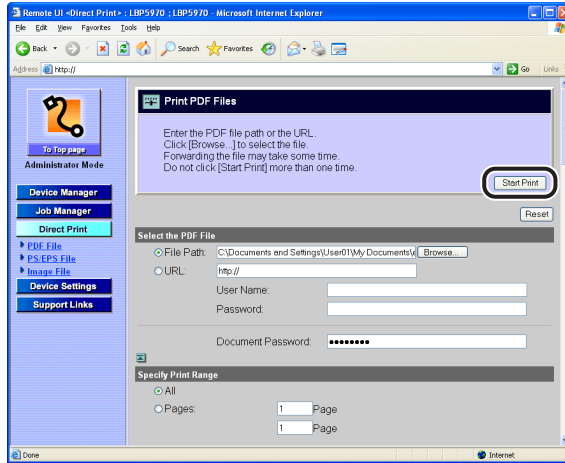
Specify the type of the paper to be printed.

[Manual Feed]

If the check box for this option is selected, you can fix the paper source at the multi-purpose tray.

| | |
|----------------------|--|
| [Fit to Page] | If the check box for this option is selected, the printer prints with the page size of a PDF file reduced to fit within the printable area when the page size is larger than the printable area. Also, when the page size of a PDF file is smaller than the printable area, the printer prints with the page size expanded to the margins of the printable area. |
| [Enlarge Print Area] | Specifies whether the printer should print a document with its printable area expanded. If the check box for this option is selected, the printer prints with the printable area expanded to the edges of the paper, with no margins. However, depending on the print data to be printed, the edge of paper may be missing partly during printing or may blot during color printing. |
| [2-Sided Printing] | Specifies whether the printer should perform automatic 2-sided printing. If the check box for this option is selected, the printer prints on both sides of the paper. |
| [Binding Location] | Select the binding location from [Short Edge] and [Long Edge]. |
| [Page Layout] | Prints multiple pages on one sheet of paper. |
| [Page Order] | Specifies this option when using [Page Layout]. You can specify the page order layout. |
| [Finishing] | If you select [Off], printouts of a complete job are grouped. If you select [Collate], printouts of a complete job are collated. |
| [Booklet] | By printing 2 pages on both sides of paper and folding the paper in half, the pages are aligned properly and ready to be bound into a booklet (that is, 4 pages in total are printed on a single sheet of paper). |
| [Appropriate Layout] | Specifies the binding location for when you selected the [Booklet] check box. |
| [Comment Print] | Specifies whether the printer should print comments. |
| [Store In Box] | If you want to store the data on the hard disk (boxes) of the printer, select the check box for this option, and then select the box to store the data. |

10 Click [Start Print].



NOTE

- To reset the settings to the default values, click [Reset].
- Do not click [Start Print] repeatedly during the transmission of a PDF file. It may take a long time to transmit a PDF file. If you click the button repeatedly during the transmission, you may have a problem with the PDF file, failing to transmit the file.

Printing the PS/EPS File Using the Direct Print Function

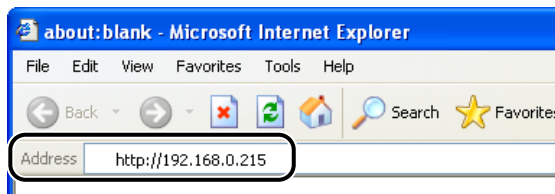


IMPORTANT

To print the PS/EPS files using the direct print function, the optional PS ROM or PS/Barcode ROM is required.

1 Run the web browser, enter the following URL in the address entry field, and then press the [ENTER] key on your keyboard.

http://<the IP address of the printer>/



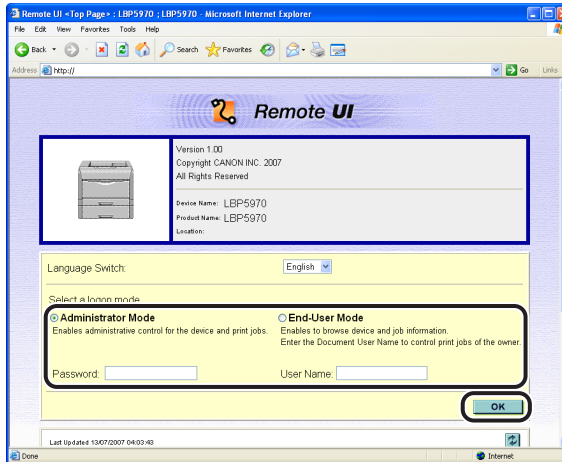


NOTE

- If you are not sure about the IP address of the printer, ask your network administrator.
- If the host name of the printer is registered in the DNS server, you can enter ["hostname"."domain name"] instead of the IP address.
Example: http://my_printer.xy_dept.company.com/
- When you want to specify the settings with the Remote UI using SSL encrypted communication, enter "https://the IP address or name of the printer/". If the [Security Alert] dialog box or other dialog box appears, follow the directions in the message.
- SSL encrypted communication can be used only when an optional hard disk is installed. To use SSL encrypted communication, a key and its certificate need to have been created and the key needs to have been registered as the default key. For details on the SSL encrypted communication function and the procedure for registering the default key, see "Remote UI Guide".

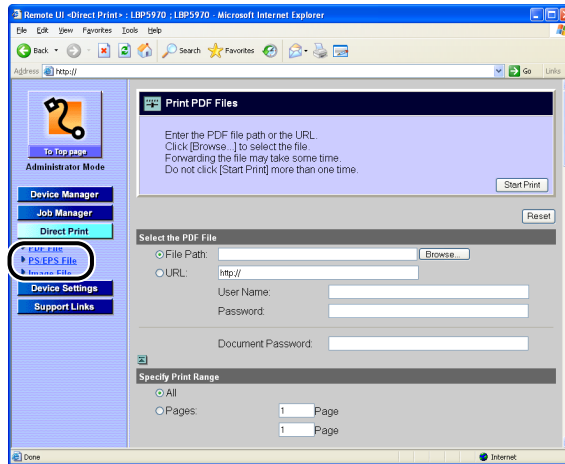
2 Select the mode in which you want to log on to the Remote UI ([Administrator Mode] or [End-User Mode]), then click [OK].

If you select [Administrator Mode], enter the values for [Password], and then click [OK].



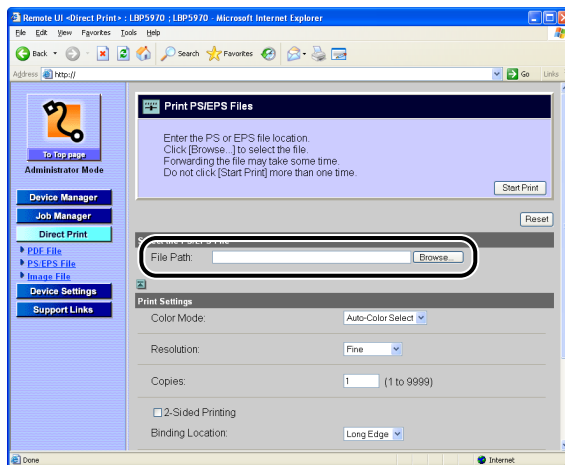
3 Select [PS/EPS File] from the [Direct Print] menu.

If IDs are managed on a departmental basis, a screen to enter [User Name] and [Password] appears. Enter [Department ID] and [Password] specified in [Department ID Management], and then click [OK].

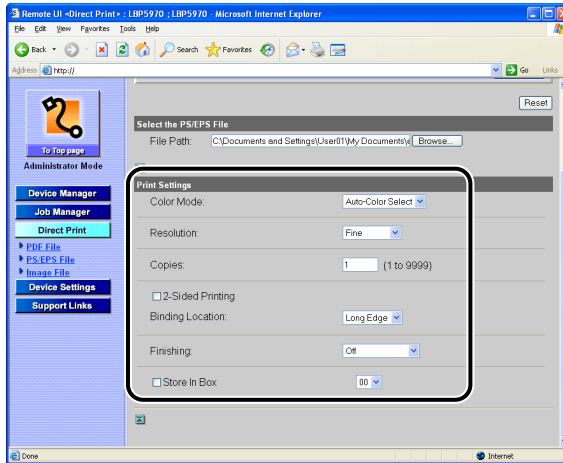


4 Specify [File Path].

Click [Browse], select the file, and then click [Open].

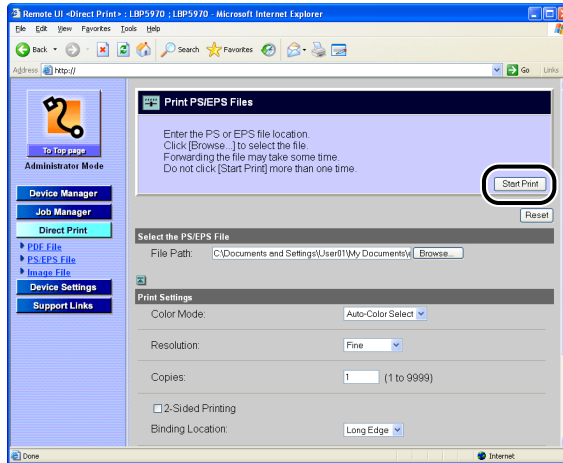


5 Specify the settings for [Print Settings] as the following, as needed.



- | | |
|--------------------|---|
| [Color Mode] | Specifies whether to print in color or in black and white. |
| [Resolution] | Specifies the resolution for when processing print data. |
| [Copies] | Enter the number of copies (1 to 9999) to be printed. |
| [2-Sided Printing] | Specifies whether the printer should perform automatic 2-sided printing. If the check box for this option is selected, the printer prints on both sides of the paper. |
| [Binding Location] | Select the binding location for 2-sided printing from [Short Edge] and [Long Edge]. |
| [Finishing] | If you select [Off], printouts of a complete job are grouped. If you select [Collate], printouts of a complete job are collated. |
| [Store In Box] | If you want to store the data on the hard disk (boxes) of the printer, select the check box for this option, and then select the box to store the data. |

6 Click [Start Print].



NOTE

- To reset the settings to the default values, click [Reset].
- Do not click [Start Print] repeatedly during the transmission of a PS/EPS file. It may take a long time to transmit a PS/EPS file. If you click the button repeatedly during the transmission, you may have a problem with the PS/EPS file, failing to transmit the file.

Printing the Image File Using the Direct Print Function



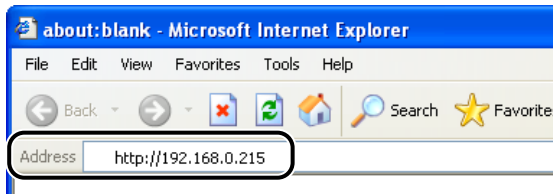
IMPORTANT

- Note the following when printing image files using the direct print function.
- JPEG data is in compliance with the specifications of ITU-T recommendation T.81. TIFF data is in compliance with the specifications of Adobe TIFF Revision 6.0.
 - The supporting status of encoding methods for JPEG data is as follows.
 - Supported encoding method
 - DCT baseline
 - Unsupported encoding methods
 - DCT extension
 - Reversible compression
 - Hierarchical
 - The supporting status of encoding methods for TIFF data is as follows.
 - Supported encoding methods
 - Uncompressed
 - ITU-T recommendation T.4 One-dimensional coding
 - ITU-T recommendation T.4 Two-dimensional coding
 - ITU-T recommendation T.6 Basic facsimile coding
 - ITU-T recommendation T.81 JPEG (Basic DCT only)
 - PackBits (Apple Macintosh PackBits)

- Unsupported encoding methods
 - LZW
 - ITU-T recommendation T.82 JBIG
 - ITU-T recommendation T.43 JBIG
 - ITU-T recommendation T.44 MRC

1 Run the web browser, enter the following URL in the address entry field, and then press the [ENTER] key on your keyboard.

http://<the IP address of the printer>/

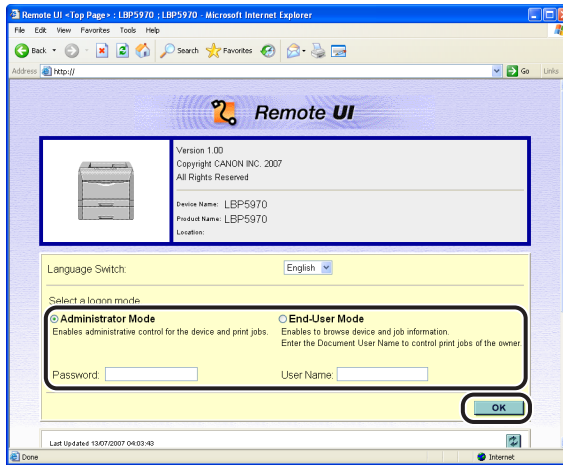


NOTE

- If you are not sure about the IP address of the printer, ask your network administrator.
- If the host name of the printer is registered in the DNS server, you can enter ["hostname"."domain name"] instead of the IP address.
Example: http://my_printer.xy_dept.company.com/
- When you want to specify the settings with the Remote UI using SSL encrypted communication, enter "https://the IP address or name of the printer/". If the [Security Alert] dialog box or other dialog box appears, follow the directions in the message.
- SSL encrypted communication can be used only when an optional hard disk is installed. To use SSL encrypted communication, a key and its certificate need to have been created and the key needs to have been registered as the default key. For details on the SSL encrypted communication function and the procedure for registering the default key, see "Remote UI Guide".

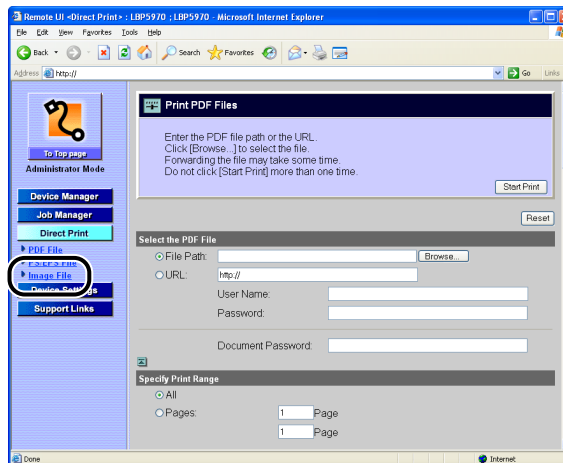
2 Select the mode in which you want to log on to the Remote UI ([Administrator Mode] or [End-User Mode]), then click [OK].

If you select [Administrator Mode], enter the values for [Password], and then click [OK].



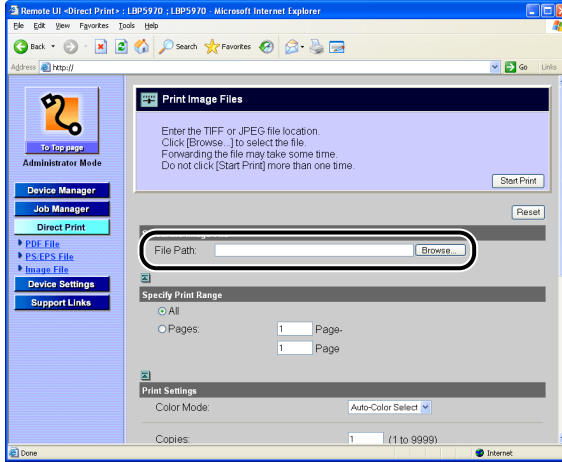
3 Select [Image File] from the [Direct Print] menu.

If IDs are managed on a departmental basis, a screen to enter [User Name] and [Password] appears. Enter [Department ID] and [Password] specified in [Department ID Management], and then click [OK].



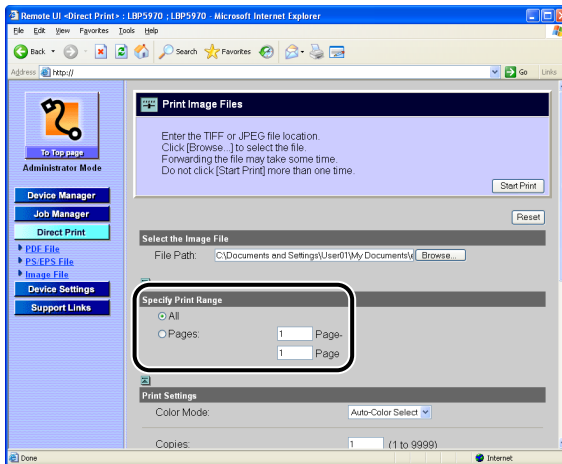
4 Specify [File Path].

Click [Browse], select the file, and then click [Open].

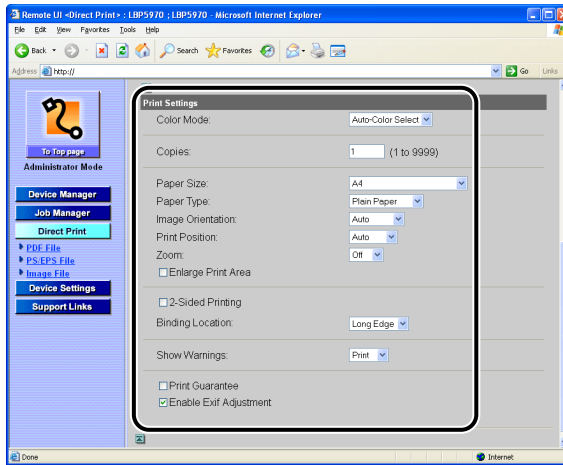


5 Specify the print range.

If [Specify Print Range] is set to [All], entire range of the file is printed.
If [Specify Print Range] is set to [Pages], data is printed on the print range specified by page number. Enter the starting page number and ending page number.



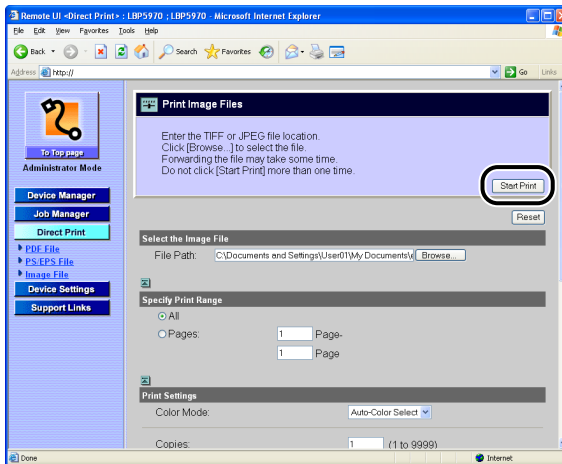
6 Specify the settings for [Print Settings] as the following, as needed.



- | | |
|----------------------|--|
| [Color Mode] | Specifies whether to print in color or in black and white. |
| [Copies] | Enter the number of copies (1 to 9999) to be printed. |
| [Paper Size] | Specify the size of the paper to be printed. |
| [Paper Type] | Specify the type of the paper to be printed. |
| [Image Orientation] | Select the orientation of the image to be printed from [Auto], [Vertical] (portrait), and [Horizontal] (landscape). |
| [Print Position] | Select the printing position for the image from [Auto], [Center], and [Top Left]. If [Auto] is selected, and if the data to be printed is in TIFF format in which the printing position is specified, the image is printed on the specified position. If a printing position is not specified, the image is printed in the center of the paper. You cannot specify a printing position for data in JPEG format. Therefore, if [Auto] is selected, the image is printed in the center of the paper. |
| [Zoom] | Select [Off] or [Auto] based on whether the printer should print with scaling outputs according to the printable area. |
| [Enlarge Print Area] | Specifies whether the printer should print a document with its printable area expanded. If the check box for this option is selected, the printer prints with the printable area expanded to the edges of the paper, with no margins. However, depending on the print data to be printed, the edge of paper may be missing partly during printing or may blot during color printing. |

- [2-Sided Printing] Specifies whether the printer should perform automatic 2-sided printing. If the check box for this option is selected, the printer prints on both sides of the paper.
- [Binding Location] Select the binding location for 2-sided printing from [Short Edge] and [Long Edge].
- [Show Warnings] Select the display setting for the warning message in case of an error occurring from [Print], [Panel], and [Off].
 [Print]: The printer prints the content of the error and exits the job.
 [Panel]: The error message appears in the display, and the printer stops printing.
 [Off]: The printer exits the job without displaying anything even if an error occurs.
- [Print Guarantee] Specify whether the printer should guarantee jobs of TIFF data. (Displayed only when a hard disk is used.)
- [Enable Exif Adjustment] Specify whether image data should be adjusted based on the settings for when it was taken by a digital camera.

7 Click [Start Print].



NOTE

- To reset the settings to the default values, click [Reset].
- Do not click [Start Print] repeatedly during the transmission of a image file. It may take a long time to transmit an image file. If you click the button repeatedly during the transmission, you may have a problem with the image file, failing to transmit the file.

Direct Printing from Command Prompt

You can perform direct printing from Command Prompt using LPR.

Enter the command using the following format. You cannot use any other commands.

`lpr (a space) -P (a space) <the printer name> (a space) <the file name>`

The printer name: Enter the name of the printer. You can check the printer name using the following procedure.

1. Run the web browser, enter the following URL in the address entry field, and then press the [ENTER] key on your keyboard.
`http://<the IP address of the printer>/`
2. Click [Information] from the [Device Manager] menu.
3. Check [Device Name] in [Device Information].

Te file name: Enter the name of the file to be printed.

<Input Example: If the printer name is "LBP-Printer" and the file name is "sample.jpg">

`lpr -P LBP-Printer sample.jpg`

NOTE

The settings specified using the printer's control panel become effective. The settings that can be used by the direct printing function are the following SETUP menu. For details on the settings in each menu, see "Chapter 5 Printing Environment Settings".

- CONTROL MENU Options
- FEEDER MENU Options
- LAYOUT MENU Options
- QUALITY MENU Options
- INTERFACE MENU Options
- USER MAIN. Options
- IMAGING SETUP Options
- PDF1.5 Options

E-mail Print (Only When the Hard Disk Is Installed)

E-mail Print

E-mail print is a function in which this printer receives e-mails sent from the host terminal and prints the text as well as the attached files. Therefore, you do not need to use a printer driver or open the attached files to print.

| Available Protocol | Requirements |
|--------------------|---|
| POP3 | The UIDL command of the POP3 protocol needs to be supported. You can access the mail server but cannot receive e-mails in the following circumstances. For details on the mail server, as your network administrator. - The UIDL command is not supported - The response to the UIDL command is <negative ("-ERR")> |
| | Set POP3 RECEIVE to ON using any one of the following methods.* - Control Panel of the Printer (See Chapter 5 Printing Environment Settings) - Remote UI, FTP Client (See Network Guide) |
| SMTP | Specify the IP address of the printer. (See Network Guide) |
| | Set SMTP RECEIVE to ON using any one of the following methods.* - Control Panel of the Printer (See Chapter 5 Printing Environment Settings) - Remote UI, FTP Client (See Network Guide) |

* For other settings, see "E-mail Print Settings," on p. 2-36 and specify them as needed.



IMPORTANT

- There are the following restrictions on e-mail print.
 - Attached files are printable only when they are in TIFF or JPEG format.
 - Attached files are printable only when the size of each file is 100 MB or less. Attached files of 100 MB or more are not printed.
 - The number of attached files has to be 14 or less for each mail. If the number exceeds 14, the first 14 files are printed. However, the files of the 15th or later are not printed.
 - E-mail text in HTML format are not printed.
 - If text data of an e-mail exceeds 25 MB, the text is not printed.
 - E-mail text is printed with its mail header information.
 - If the number of characters in one text line (without a line break) in an e-mail exceeds 998, an automatic linefeed is performed. Because of this, the text in the next line may not be printed properly.

- On e-mail print with this printer, JPEG data is in compliance with the specifications of ITU-T recommendation T.81. TIFF data is in compliance with the specifications of Adobe TIFF Revision 6.0 and IETF RFC2301 (File Format for Internet FAX).
- The e-mail print function of this printer supports Internet FAX Simple Mode.
- For this printer, the supporting status of encoding methods for JPEG data is as follows.
 - Supported encoding method
 - DCT baseline
 - Unsupported encoding methods
 - DCT extension
 - Reversible compression
 - Hierarchical
- For this printer, the supporting status of encoding methods for TIFF data is as follows.
 - Supported encoding methods
 - Uncompressed
 - ITU-T recommendation T.4 One-dimensional coding
 - ITU-T recommendation T.4 Two-dimensional coding
 - ITU-T recommendation T.6 Basic facsimile coding
 - ITU-T recommendation T.81 JPEG (Basic DCT only)
 - PackBits (Apple Macintosh PackBits)
 - Unsupported encoding methods
 - LZW
 - ITU-T recommendation T.82 JBIG
 - ITU-T recommendation T.43 JBIG
 - ITU-T recommendation T.44 MRC
- For this printer, the supporting status of encoding formats is as follows.
 - 7bit
 - 8bit
 - binary
 - quoted-printable
 - base64
 - uuencode
 - x-uuencode
- For this printer, the supporting status of character sets is as follows (If no character sets are specified, the data is processed with "us-ascii").
 - us-ascii
 - iso-8859-1
 - iso-8859-15

E-mail Print Settings

The settings related to e-mail print are as follows. You can specify the settings from the printer's control panel, the Remote UI, and FTP Client. For more details on the settings, see "Chapter 5 Printing Environment Settings", "Remote UI Guide", and "Network Guide". The symbol "○" indicates that the setting is specifiable; the symbol "-" indicates that the setting is not specifiable.

■ Settings for Using the POP3 Protocol

| Option | Setting | Setting Method | | |
|-------------------------|---|----------------|-----------|------------|
| | | Control Panel | Remote UI | FTP Client |
| POP3 Server Name | Specifies the name or IP address of the server which receives e-mails. | - | ○ | ○ |
| POP3 User Name | Specifies the name of the user which receives e-mails. | - | ○ | ○ |
| POP3 Password | Specifies the password for the name of the user which receives e-mails. | - | ○ | ○ |
| POP3 Receive Interval | Specifies the interval for automatically connecting to the server which receives e-mails, by minutes. | ○ | ○ | ○ |
| POP3 Receive | Specifies whether to enable the e-mail print function. | ○ | ○ | ○ |
| POP3 Server Port Number | Specifies the port number for the server which receives e-mails. | - | ○ | ○ |
| Receive E-mails | Performs manual receiving of e-mails. | ○ | ○ | - |

■ Settings for Using the SMTP Protocol

| Option | Setting | Setting Method | | |
|-------------------------|--|-----------------------|-----------------------|-----------------------|
| | | Control Panel | Remote UI | FTP Client |
| SMTP Receive | Specifies whether to enable the e-mail print function. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| SMTP Server Port Number | Specifies the port number for the server which receives e-mails. | - | <input type="radio"/> | <input type="radio"/> |

■ Other Settings

| Option | Setting | Setting Method | | |
|---------------------------|--|-----------------------|-----------------------|------------|
| | | Control Panel | Remote UI | FTP Client |
| Print Log List | Prints e-mail print logs. | <input type="radio"/> | <input type="radio"/> | - |
| E-mail Transmission Error | Specifies whether a message should appear or any indicator should blink when a reception error has occurred on printing e-mails. | <input type="radio"/> | - | - |
| Print E-mail Text | Specifies whether the printer should print the text on printing e-mails. | <input type="radio"/> | - | - |
| Limit E-mail Print | Specifies whether to limit the number of the print pages of e-mail text. | <input type="radio"/> | - | - |

The method for receiving and printing e-mails varies depending on the protocol you are using.

- If You are Using the POP3 Protocol (See p. 2-38)
- If You are Using the SMTP Protocol (See p. 2-41)

If You are Using the POP3 Protocol

There are the following two methods for receiving and printing e-mails.

■ **Receiving e-mails automatically and printing them**

Specify the setting for [POP3 Receive Interval] using the printer's control panel, the Remote UI, or FTP Client. The printer connects to the mail server to receive e-mails automatically and print them at the intervals specified in [POP3 Receive Interval].

- Control Panel of the Printer (See Chapter 5 Printing Environment Settings)
- Remote UI, FTP Client (See Network Guide)

■ **Receiving e-mails manually and printing them**

You connect the printer to the mail server to receive e-mails manually and print them using the printer's control panel or the Remote UI.

- Control Panel of the Printer
 1. Make sure that the printer is online.
 2. Press [Utility] to display the UTILITY menu.
 3. Press [◀] and [▶] to display E-MAIL UTILITY.
 4. Press [OK].
 5. Press [◀] and [▶] to display RECEIVE E-MAILS.
 6. Press [OK].
- Remote UI

You can receive e-mails manually and print them from the Remote UI using the following procedure. For details on the Remote UI, see "Remote UI Guide".

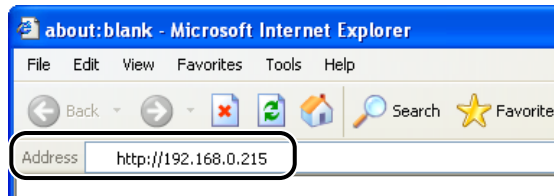


IMPORTANT

- The printer can receive e-mails only when it is online.
- You can receive e-mails manually even if the setting for [POP3 Receive Interval] is specified to receive e-mails automatically. However, while the printer is receiving e-mails, an attempt to receive e-mails manually is ignored.

- 1 **Run the web browser, enter the following URL in the address entry field, and then press the [ENTER] key on your keyboard.**

http://<the IP address of the printer>/

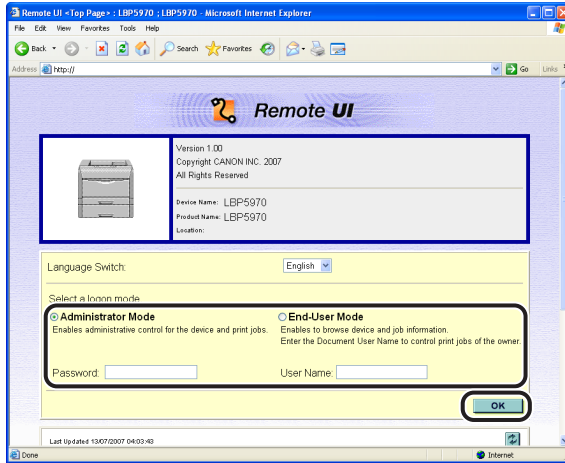


 **NOTE**

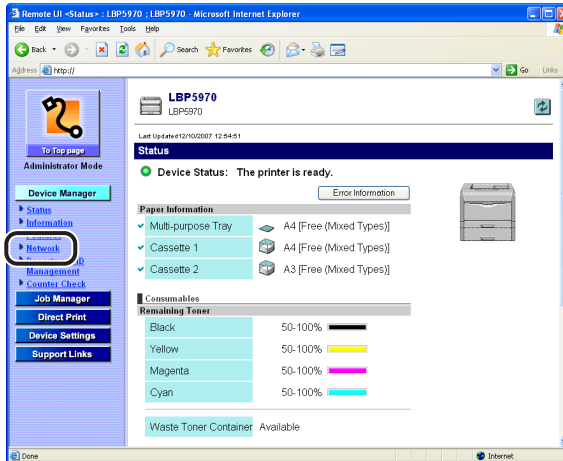
- If you are not sure about the IP address of the printer, ask your network administrator.
- If the host name of the printer is registered in the DNS server, you can enter ["hostname"."domain name"] instead of the IP address.
Example: http://my_printer.xy_dept.company.com/
- When you want to specify the settings with the Remote UI using SSL encrypted communication, enter "https://the IP address or name of the printer/". If the [Security Alert] dialog box or other dialog box appears, follow the directions in the message.
- SSL encrypted communication can be used only when an optional hard disk is installed. To use SSL encrypted communication, a key and its certificate need to have been created and the key needs to have been registered as the default key. For details on the SSL encrypted communication function and the procedure for registering the default key, see "Remote UI Guide".

2 Select the mode in which you want to log on to the Remote UI ([Administrator Mode] or [End-User Mode]), then click [OK].

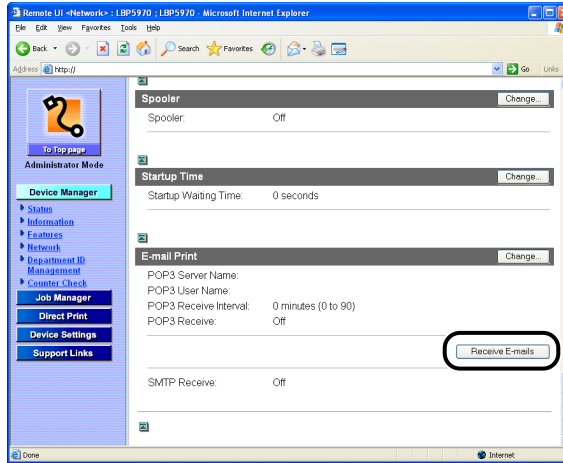
If you select [Administrator Mode], enter the values for [Password], and then click [OK].



3 From the [Device Manager] menu, select [Network].



4 Click [Receive E-mails].



The printer is connected to the mail server. The printer receives e-mails addressed to the printer and print them.

If You are Using the SMTP Protocol

If the printer receives e-mails, it prints them automatically.



NOTE

If you are using the SMTP protocol, you do not need to receive e-mails manually.

Printing the E-mail Receive Log List

You can print the e-mail receive log list. Information such as "Subject" and "From" of the e-mails is printed in the e-mail receive log list. Print the e-mail receive log list using the printer's control panel or the Remote UI.

• Control Panel of the Printer

1. Make sure that the printer is online.
2. Press [Utility] to display the UTILITY menu.
3. Press [◀] and [▶] to display E-MAIL UTILITY.
4. Press [OK].
5. Press [◀] and [▶] to display RX LOG LIST.
6. Press [OK].

• Remote UI

You can print the e-mail receive log list from the Remote UI using the following procedure. For details on the Remote UI, see "Remote UI Guide".

IMPORTANT

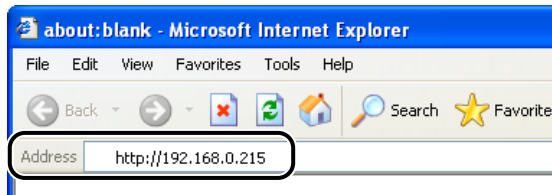
If you format the hard disk using HDD MAINTENANCE in the [User Maintenance Menu] options in the SETUP menu, all the e-mail receive logs are erased.

NOTE

- Up to 96 e-mail receive logs can be printed.
- If an e-mail is not printed properly for some reason, an error code is printed in <Receive Result> in the e-mail receive log list. For details on error codes, see "When E-mail Print Fails," on p. 2-45.

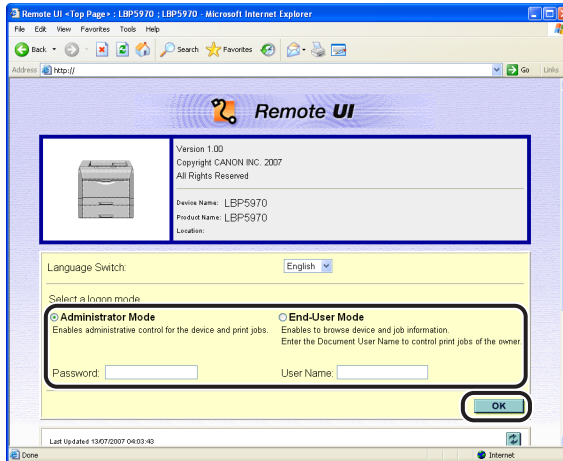
1 Run the web browser, enter the following URL in the address entry field, and then press the [ENTER] key on your keyboard.

http://<the IP address of the printer>/

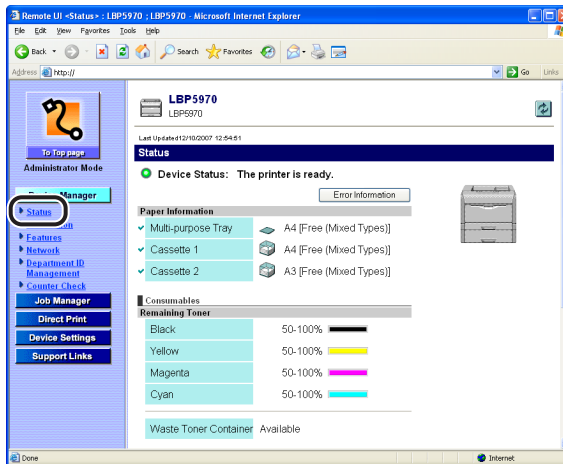


- If you are not sure about the IP address of the printer, ask your network administrator.
- If the host name of the printer is registered in the DNS server, you can enter ["hostname"."domain name"] instead of the IP address.
Example: http://my_printer.xy_dept.company.com/
- When you want to specify the settings with the Remote UI using SSL encrypted communication, enter "https://the IP address or name of the printer/". If the [Security Alert] dialog box or other dialog box appears, follow the directions in the message.
- SSL encrypted communication can be used only when an optional hard disk is installed. To use SSL encrypted communication, a key and its certificate need to have been created and the key needs to have been registered as the default key. For details on the SSL encrypted communication function and the procedure for registering the default key, see "Remote UI Guide".

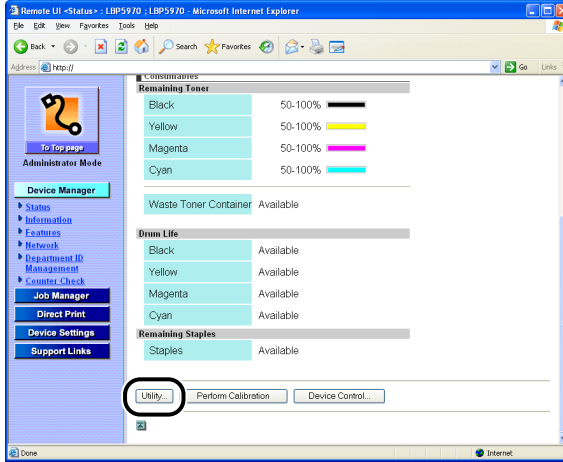
2 Select [Administrator Mode], enter [Password], and then click [OK].



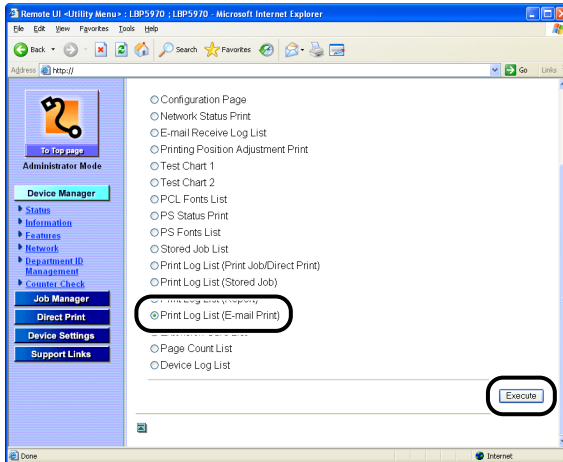
3 From the [Device Manager] menu, select [Status].



4 Click [Utility] in the [Status] page.



5 Select [Print Log List (E-mail Print)], then click [Execute].



The e-mail receive log list is printed.

When E-mail Print Fails

If an e-mail is not printed properly for some reason, an error message appears in the display on the printer, the Remote UI, and N/W Status Print, or an error code is displayed in the e-mail receive log list. Apply the following remedies according to the displayed error message or code.

 **NOTE**

- In the Remote UI, error messages appear in [E-mail Print] in the [Network] page in the [Device Manager] menu.
- For details on the procedures for performing N/W Status Print, see "The Lists Common to All the Settings in the Print Mode," on p. 8-2, and for printing the e-mail receive log list, see "Printing the E-mail Receive Log List," on p. 2-41.

■ The error messages that appear in the display, Remote UI, and N/W Status Print

| Error Message | | Cause | Remedy |
|--------------------|------------------------------------|--|---|
| Display | Remote UI, N/W Status Print | | |
| EM SERVER ERROR | POP3 Server Connection Error | Could not connect to the POP3 server when printing e-mails. | Check the following points. - Whether the following settings in the [Network] page in the Remote UI are correct - [POP3 Server Name] and [POP3 Server Port Number] in [E-mail Print]. - DNS in [TCP/IP] - Whether the POP3 server and the DNS server are operating properly |
| | POP3 Server User Name Error | Failed to authenticate the user name in the POP3 server when printing e-mails. | Check the following points. - Whether the setting for [POP3 User Name] in [E-mail Print] in the [Network] page in the Remote UI is correct - Whether the user name is registered in the POP3 server properly |
| | POP3 Server Password Error | Failed to authenticate the password in the POP3 server when printing e-mails. | Check the following points. - Whether the setting for [POP3 Password] in [E-mail Print] in the [Network] page in the Remote UI is correct - Whether the password is registered in the POP3 server properly |
| | POP3 Server UIDL Error | Could not connect to the POP3 server when printing e-mails, because the server does not support the UIDL command. | Use a POP3 server that supports UIDL. |

| Error Message | | Cause | Remedy |
|-----------------|-----------------------------|--|---|
| Display | Remote UI, N/W Status Print | | |
| EM E-MAIL ERROR | - | The printer could not connect to the POP3 server because an error had occurred in its hard disk. | Clear the hard disk error on the POP3 server. |

■ **The error codes that are displayed in the e-mail receive log list***

*If multiple errors have occurred, only the error of the highest priority is displayed (high: 407 > low: 499).

| Error Code | Cause | Remedy |
|------------|--|--|
| 407 | There was no response for more than 5 minutes when receiving e-mails. | <ul style="list-style-type: none"> - Consult your network administrator. - If errors occur many times on the same e-mail data, check if the e-mail data is normal. |
| | Could not receive data of 1 Kbyte (1024 byte) for 10 minutes while receiving e-mails. | |
| 408 | The response <ERR> was returned from the POP server. | Consult your network administrator. |
| 412 | There was no response for more than 5 minutes when receiving e-mails. | <ul style="list-style-type: none"> - Consult your network administrator. - If errors occur many times on the same e-mail data, check if the e-mail data is normal. |
| 413 | The IP address of the computer which sent the e-mail is restricted in [Receive/Print Range Setting]. | <ul style="list-style-type: none"> - Consult your network administrator. - Confirm the setting for [Receive/Print Range Setting]. (See Network Guide) |
| 420 | The size of the e-mail data exceeded 1.5 GB. | Reduce the size of the e-mail data to 1.5 GB or less. |
| 421 | The size of the e-mail text exceeded 25 MB. | Reduce the amount of the e-mail text. |
| 422 | The size of the attached files exceeded 100 MB. | Reduce the size of the attached files to 100 MB or less. |

| Error Code | Cause | Remedy |
|------------|---|--|
| 423 | An attached file in an unsupported format was sent. | Change the format of the attached file into TIFF or JPEG. |
| 424 | The number of the attached files exceeded 14. | Reduce the number of the attached files to 14 or less. |
| 430 | An e-mail in which [From] is blank was sent. | Enter a name in [From]. |
| 431 | Received a divided mail. | Apply the following remedies to send the e-mail so that it is not divided. <ul style="list-style-type: none"> - Reducing the size of the e-mail to be sent (Reducing it to the size which cannot be divided). - Specifying the application settings so that the e-mail is sent without being divided. |
| | An e-mail which included unsupported encoding or character encoding was sent. | Change the encoding or character encoding into that supported by this printer (See p. 2-34). |
| | Received a mail of an unsupported type (message type). | Change the content type into any one of the following types that are supported by this printer. <ul style="list-style-type: none"> - text/plain - image/jpeg - image/tiff - image/tiff-fx - application/octet-stream |
| | Received an unsupported multipart mail. | Change the content type of the multipart mail into any one of the following types that are supported by this printer. <ul style="list-style-type: none"> - multipart/mixed - multipart/parallel - multipart/alternative If the mail is nested, the mail is supported only when "multipart/alternative" is nested in "multipart/mixed". |
| 432 | Invalid data was sent. | Check if the sent e-mail data is normal. |
| 433 | An e-mail in HTML format was sent. | This printer does not support e-mails in HTML format. |

| Error Code | Cause | Remedy |
|------------|---|---------------------------------|
| 434 | The e-mail does not contain a text. | Enter the text. |
| 440 | The job was canceled for some reason. | Send the e-mail again. |
| 441 | An error has occurred during the process. | Send the e-mail again. |
| 499 | An error has occurred in the printer. | See "Message List," on p. 7-23. |

Printing/Saving Jobs

(Only When the Hard Disk Is Installed)

If you install an optional hard disk in this printer, you can use various print job process functions with the printer driver for this printer.

 **NOTE**

You cannot use this function on the DOS application, UNIX or other computer on which the printer driver cannot be used. Print jobs are processed in the [Print] mode.

Job Process Method Types

You can use the following functions with the printer driver for this printer.

 **NOTE**

- The message <53 SEC.PRINT ERR> or <53 STORE ERROR> appears when the amount of data or number of jobs exceeds the limit that you can save on the hard disk. If either of these messages appear, skip the error by pressing [Online]. However, the jobs in which you skipped the error are deleted. Therefore, delete any unnecessary job from among the jobs saved on the hard disk before performing a secured print or saving a job.
- If you want to use the "Encrypted Secured Print" function in which the security for data communication is reinforced, you need to install "Encrypted Secured Print Driver Add-in". For details on the installation procedure, see "Readme.txt" in the supplied CD-ROM.

■ [Print] Mode

Performs regular printing.

 **NOTE**

You can use this mode even if a hard disk is not installed in the printer.

■ [Secured Print] Mode

Allows you to specify a user name and password for print jobs. Print jobs are saved on the hard disk in the printer, and you can print by entering passwords from the printer's control panel or the Remote UI. This function is convenient when you print a confidential document etc. that you do not want others to read.

 **NOTE**

- The jobs saved on the hard disk using the [Secured Print] mode are deleted in the following circumstances:
 - When the printer is turned OFF
 - When a hard reset or soft reset is performed
 - After a secured print job is printed
 - When no printing operation has been performed by the printer's control panel or Remote UI for a fixed period

- The time interval from when no printing operation is not performed by the Remote UI or printer's control panel for a fixed period until the printer deletes encrypted secured print jobs is set to "1 hour" in the default settings. You can change the setting for the time interval. For more details, see "SECURING TIME," on p. 5-26.

■ [Store] Mode

This mode is used for saving print jobs in the hard disk (boxes) in the printer. To print any of the saved jobs, specify the job in a box using the printer's control panel or Remote UI. The Remote UI is convenient when you print the forms that you use frequently, because it allows you to specify the number of copies or pages to be printed. Also, because you can specify the box when saving data, you can classify the jobs by use.

NOTE

The print jobs printed in the [Store] mode are saved on the hard disk, and they are not deleted even after turning the printer OFF. When you want to delete these jobs, use the Remote UI.

■ [Edit and Preview] Mode

This mode is used for editing multiple print jobs in [Canon PageComposer]. The edit function allows you to change the page order, display the preview of printout results, or print with the number of copies specified. This function is convenient when you print documents to make a simple booklet or edit and print document data from multiple applications or files into a booklet.

NOTE

You can use this mode even if a hard disk is not installed in the printer.

Printing with a Password Specified (Secured Print/ Encrypted Secured Print)

In a secured print or encrypted secured print, a password-protected job is saved in the printer, and the job is printed by the printer's control panel or Remote UI. For details on using the Remote UI, see "Remote UI Guide".

This section describes the procedure for printing using the printer's control panel.

1 Print a secured print job or encrypted secured print job using the printer driver on the computer.



NOTE

- Print a secured print job by selecting [Secured Print] in the printer driver, and then entering the user name and password.
- Specify the user name for a secured print with 15 or less alphanumeric characters and the password with 1 to 7 characters.
- For the character restriction for the password for an encrypted secured print and the procedure for printing encrypted secured print jobs, see Online Help of the encrypted secured print driver.
You can display the Online Help from the Encrypted Secured Print Driver Add-in For Client PC after installing the printer driver.

2 Move to the printer when printing.



NOTE

- Secured print jobs/encrypted secured print jobs are deleted in the following circumstances:
 - When the printer is turned OFF
 - When a hard reset or soft reset is performed
 - After a secured print job/encrypted secured print job is printed
 - When no printing operation has been performed by the printer's control panel or Remote UI for a fixed period
- The time interval from when no printing operation is not performed by the Remote UI or printer's control panel for a fixed period until the printer deletes encrypted secured print jobs is set to "1 hour" in the default settings. You can change the setting for the time interval. For more details, see "SECURING TIME," on p. 5-26.



3 Make sure that the printer is online.

If the printer is not online, press [Online].



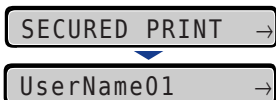
4 Press [Job].



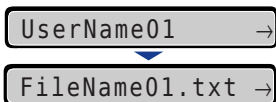
The JOB menu is displayed.



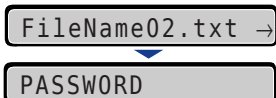
5 Select SECURED PRINT or ENCRYPTED PRINT using [◀] and [▶], then press [OK].



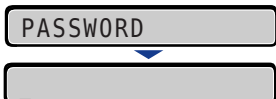
6 If the user names appear, select the target user name using [◀] and [▶], then press [OK].



7 If the file names appear, select the name of the target file using [◀] and [▶], then press [OK].



8 <PASSWORD> is displayed. Press [OK].





9 Select a number using [▲] and [▼], then move a digit using [◀] and [▶].

Repeat this operation to enter the password.



NOTE

- Only numbers can be entered from the control panel.
- Depending on the version of the encrypted secured print driver, you can specify alphabetic characters and marks for passwords. Print an encrypted secured print job from the Remote UI if the password contains any alphabetic characters or marks (See Remote UI Guide).



10 After entering the specified password, press [OK].



The specified file is printed. If you enter a wrong password, the entered password disappears. In this case, re-enter the correct password.

Printing a Job Saved in a Box (Stored Job Print)

In a stored job print, a job is saved on the hard disk in the printer by specifying [Store] from the computer, and the job is printed by the printer's control panel or Remote UI. For details on using the Remote UI, see "Remote UI Guide".

This section describes the procedure for printing using the printer's control panel.



NOTE

- The saved jobs remains in the hard disk even after being printed. When you want to delete the saved jobs, use the Remote UI. (See Remote UI Guide)
- Using the printer driver, you can change the name of the data to be saved when printing the data. Enter the name with 24 or less alphanumeric characters.

1 Select [Store] in the printer driver on the computer, specify the box in which you want to store the job, and then print.



NOTE

Up to the total of 100 jobs in all the boxes can be saved.

2 Move to the printer when printing.



3 Make sure that the printer is online.

If the printer is not online, press [Online].



4 Press [Job].



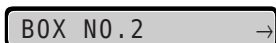
The JOB menu is displayed.



5 Select STOREJOB PRINT using [◀] and [▶], then press [OK].



6 Select the number for the box in which the job is stored using [◀] and [▶], then press [OK].



7 If <PASSWORD> appears, press [OK].



Select a number using [▲] and [▼], then move a digit using [◀] and [▶].

Repeat this operation to enter the password.





- 8** Select the name of the target file using [◀] and [▶], then press [OK].

ListFile.doc →

The specified file is printed.

Print Mode

This printer has four emulation modes, "the PCL mode", "the PS mode", "the IMAGING mode", and "the PDF1.5 mode", and it detects received print data automatically and switches to the appropriate print mode and print.

The printer switches the print mode by default normally. However, if the printer does not automatically switch the print mode successfully, change the setting.

Types of the Print Mode

The following shows the emulation modes that can be used with this printer.

■ PCL Mode

PCL is a command system to control page printers developed by Hewlett-Packard Company.

Print data of PCL-compatible applications in this mode. If the supplied PCL printer driver is installed, data is printed in the PCL mode.

■ PS Mode

PostScript is a page-description language developed by Adobe Systems Incorporated.

This printer supports "PostScript 3 Emulation"*, making it possible to print from Windows as well as Macintosh with PostScript.

To use the PS mode, the optional PS ROM or PS/Barcode ROM is required.

Use the PS mode also when printing PS or EPS files using "Direct Print"*.

■ IMAGING Mode

Use the IMAGING mode when printing TIFF or JPEG files using "Direct Print"*.

■ PDF1.5 Mode

Use the PDF1.5 mode when printing PDF files using "Direct Print"*.

* "Direct Print" is a mode that transmits a file from the host terminal to the printer without the printer driver and allows the printer to detect the file and print.

If Auto-Switch Fails

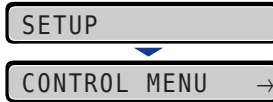
If the printer does not automatically switch the print mode successfully when you are using the printer with its print mode set to AUTO SELECTION (default), remove the unnecessary print mode from the target modes for the auto-switch.

 NOTE

If the printer does not automatically switch the print mode successfully even after changing the setting, print with the print mode fixed at the appropriate one for the print data (See "MODE SELECTION," on p. 5-66).



1 Press [Settings].



2 Select PRINT MODE using [◀] and [▶], then press [OK].



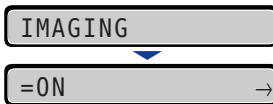
The item for PRINT MODE is displayed.



3 Select AUTO SWITCH using [◀] and [▶], then press [OK].



4 Select the unnecessary print mode using [◀] and [▶], then press [OK].



5 Select OFF using [◀] and [▶], then press [OK].



The setting value is changed..

Canceling a Job

When a part of print data has already been sent to the printer, the print job may not be finished even if you cancel the job from the computer. In this case, you can output the data to finish the printing process of the printer or cancel the job being processed in the printer or all the jobs.

Outputting Data (Forced Output)

When a job is canceled from the computer or the data is less than one page, the data may remain in the printer memory, and the job may not be completed properly. As long as the printer remains in this state, you cannot print the next job because the printer cannot receive the next data. In this case, force the printer to output the print data using the following procedure.



IMPORTANT

- Data from PCL/PS/UFR II Printer Driver cannot be output.
- If you have output data, the data being printed is deleted. Print the data from the computer again as needed.
- You cannot output data while the Message indicator is on. If you want to delete the received data, perform a soft reset. (See p. 2-61)
- When you are using an optional hard disk, set MODE TIMEOUT in the SETUP menu to a setting other than OFF. It is recommended that you should specify the default setting, 15 seconds, if possible.

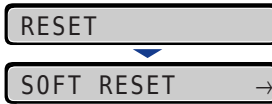


NOTE

- The Job indicator is on when any print data remains in the printer memory or when no print data remains in the printer but a job has not yet been completed.
- If MODE TIMEOUT for a job is specified, data less than one page is also output automatically when the specified time has elapsed (Data from PCL/PS/UFR II Printer Driver is not output.). MODE TIMEOUT for a job is set to 15 seconds in the default settings.
- If the Job indicator does not go off even after outputting the data, perform a soft reset. (See p. 2-61)



1 Press [Reset].



The RESET menu is displayed.



2 Select FORM FEED using [◀] and [▶], then press [OK].



The data remaining in the memory is printed.

Canceling a Job (Cancel Job)

If you want to cancel the job currently being printed, perform [Cancel Job] using the following procedure. A job cancel allows you to cancel the job currently being received or processed. This option does not affect the next print data or the jobs that have not been processed yet.

IMPORTANT

- Cancel the job while the printer is processing the data (While the Job indicator is on or blinking). No job is canceled by pressing [Cancel Job] when the Job indicator is off.
- The data that has already been processed and is being printed (started to be fed) cannot be canceled. In this case, the next print data may be canceled.
- When there is any print data sent from a printer driver other than that for this printer, multiple data may be canceled.

NOTE

When canceling a job, you may not be able to cancel the job even if <03 CANCELING JOB> is displayed. The secure print job before entering the password and the job to be stored in the box cannot be canceled. Delete the secure print job before entering the password and the job to be stored in the box with Remote UI. (See Remote UI Guide)

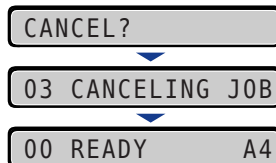
Cancel a job using the following procedure. When canceling a job, be sure that the Job indicator is on or blinking (the job that you want to cancel is being received or being processed).



1 Press [Cancel Job].



2 When canceling the job, press [OK].



<03 CANCELING JOB> appears, and the print data being processed is canceled. The job is canceled when <00 READY> appears.

IMPORTANT

You cannot operate the printer while <03 CANCELING JOB> is displayed.

Canceling the Process Currently Being Performed (Soft Reset)

If you want to cancel the process currently being performed, perform [Soft Reset] using the following procedure. A soft reset deletes the print data received by all the interfaces, the job being processed, and the print data in the printer memory.

IMPORTANT

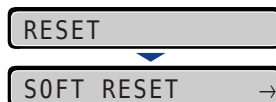
- Be sure to operate the printer from the computer to cancel printing before canceling the job from the printer (Soft Reset).
- When a soft reset is performed, the data being printed and the data being received by all the interfaces is deleted. Therefore, perform printing from the computer again as needed.
- The data that has been already sent to the memory are all deleted even if it is the data of other interface. If you are using the printer on a network, be careful so that this operation does not affect the data from other computers when performing this procedure.

NOTE

Hard resets delete all the registered files such as the form data saved in the RAM of the printer, but soft resets do not delete them.



1 Press [Reset].



The RESET menu is displayed.



2 Select SOFT RESET using [◀] and [▶], then press [OK].

Holding down the [OK] key 3 seconds or more is the operation for HARD RESET.



When <03 SOFT RESET> disappears, the soft reset is completed.

Canceling All the Jobs (Hard Reset)

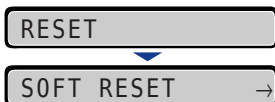
When you want to delete all the jobs and data sent to memory for some reason, perform [Hard Reset] using the following procedure. A hard reset deletes the print data received by all the interfaces, the job being processed, and the print data in the printer memory.

IMPORTANT

- If the printer is reset while it is receiving data, the data that has not yet been sent to the memory will be sent after the reset. However, the data may not be printed properly.
- The data that has been already sent to the memory are all deleted even if it is the data of other interface. If you are using the printer on a network, be careful so that this operation does not affect the data from other computers when performing this procedure.



1 Press [Reset].



The RESET menu is displayed.



2 Select SOFT RESET using [◀] and [▶].





3 Hold down [OK] until HARD RESET is displayed, then release the button.

Hold down the button (approximately 3 seconds) until HARD RESET is displayed. Holding down the button less than 3 seconds is the operation for SOFT RESET.



When <03 HARD RESET> disappears, the hard reset is completed.

Paper Loading and Output Tray

3

CHAPTER

This chapter describes the types of paper that can be used with this printer, and how to load and output paper.

| | |
|--|-------------|
| Paper Requirements | 3-2 |
| Usable Paper | 3-2 |
| Printable Area | 3-7 |
| Unusable Paper | 3-8 |
| Storing Paper | 3-9 |
| Storing Printouts | 3-10 |
| Paper Source | 3-11 |
| Paper Source Type | 3-11 |
| Paper Capacity of Paper Source | 3-12 |
| Selecting a Paper Source | 3-12 |
| Precautions for Handling the Multi-purpose Tray or Paper Cassette | 3-13 |
| Output Trays | 3-16 |
| Output Tray | 3-16 |
| Paper Capacity of the Output Tray | 3-17 |
| Loading Paper in the Paper Cassette | 3-18 |
| Precautions on Loading Paper | 3-19 |
| Loading Paper in Cassette 1 | 3-20 |
| Loading Standard Size Paper in Cassette 2, 3, or 4 | 3-28 |
| Loading Custom Size Paper or Paper at a Size of 8K or 16K in Cassette 2, 3, or 4 | 3-37 |
| Specifying the Type of the Paper in the Paper Cassette | 3-46 |
| Loading Paper in the Multi-purpose Tray | 3-48 |
| Loading Paper (Other than Envelopes) | 3-49 |
| Loading Envelopes | 3-54 |
| Specifying the Size of the Paper in the Multi-purpose Tray | 3-59 |
| Specifying the Type of the Paper in the Multi-purpose Tray | 3-61 |
| 2-sided Printing | 3-63 |
| Switching Between Automatic 2-sided Printing and 1-sided Printing | 3-64 |
| Manual 2-sided Printing | 3-65 |
| Printing with a Gutter | 3-67 |
| Specifying a Gutter | 3-68 |
| Paper Loading Orientation | 3-70 |

Paper Requirements

Usable Paper

To ensure optimum performance, use only paper that falls within the specifications in the following lists. Using inappropriate paper may result in deterioration in print quality or paper jams.

IMPORTANT

When continuously printing the paper of 279.4 mm wide (Letter size) or less, the safety function that prevents damages caused by heat may slow the print speed down in stages. (The print speed may drop to approx. 10 pages/min. in printing A5, B5, and B4 size plain paper.)

Paper Size

The following shows the paper sizes that can be used with this printer. The symbol "●" indicates the paper that can be used for 1-sided printing and automatic 2-sided printing, the symbol "○" indicates the paper that can be used for only 1-sided printing, and the symbol "-" indicates the paper that cannot be used.

| Paper Size | Paper Information | | | | |
|--------------------------------|--------------------|------------|-----------------------|-----------------------|-----------------------|
| | Multi-purpose Tray | Cassette 1 | Cassette 2 (Optional) | Cassette 3 (Optional) | Cassette 4 (Optional) |
| A5* ¹ | ● | ● | ● | ● | ● |
| B5* ¹ | ● | ● | ● | ● | ● |
| A4* ¹ | ● | ● | ● | ● | ● |
| B4* ² | ● | ● | ● | ● | ● |
| A3* ² | ● | ● | ● | ● | ● |
| Statement * ¹ | ● | - | - | - | - |
| Letter* ¹ | ● | ● | ● | ● | ● |
| Executive* ¹ | ● | ● | ● | ● | ● |
| Legal* ² | ● | ● | ● | ● | ● |
| Ledger (11 x 17)* ² | ● | ● | ● | ● | ● |
| 12 x 18* ² | ○ | - | - | - | - |
| 8K * ² | ● | - | ● | ● | ● |
| 16K * ¹ | ● | - | ● | ● | ● |

| Paper Size | Paper Information | | | | |
|--|--------------------|------------|-----------------------|-----------------------|-----------------------|
| | Multi-purpose Tray | Cassette 1 | Cassette 2 (Optional) | Cassette 3 (Optional) | Cassette 4 (Optional) |
| Custom Size | ●*3 | - | ●*4 | ●*4 | ●*4 |
| Long Size*2 | ○*5 | - | - | - | - |
| Envelope*2 | | | | | |
| Envelope DL 110.0 mm x 220.0 mm | ○ | - | - | - | - |
| Envelope COM10 104.7 mm x 241.3 mm | ○ | - | - | - | - |
| Envelope C5 162.0 mm x 229.0 mm | ○ | - | - | - | - |
| Envelope Monarch 98.4 mm x 190.5 mm | ○ | - | - | - | - |
| Envelope B5 176.0 mm x 250.0 mm | ○ | - | - | - | - |

*1 Paper can be loaded only in landscape orientation.

*2 Paper can be loaded only in portrait orientation.

*3 The following sizes of custom size paper can be loaded.

-When loading paper in portrait orientation: Width 98.0 to 320.0 mm; Length 139.7 to 457.2 mm

-When loading paper in landscape orientation (Only when UFR II Printer Driver is used):

Width 139.7 to 297.0 mm; Length 139.7 to 297.0 mm

The following sizes of custom size paper can be used for automatic 2-sided printing.

-When loading paper in portrait orientation: Width 210.0 to 312.0 mm; Length 210.0 to 431.8 mm

-When loading paper in landscape orientation (Only when UFR II Printer Driver is used):

Width 210.0 to 297.0 mm; Length 148.0 to 297.0 mm

*4 The following sizes of custom size paper can be loaded (They are also the sizes of paper on which automatic 2-sided printing can be performed).

-When loading paper in portrait orientation: Width 210.0 to 297.0 mm; Length 210.0 to 431.8 mm

-When loading paper in landscape orientation (Only when UFR II Printer Driver is used):

Width 210.0 to 297.0 mm; Length 148.0 to 297.0 mm

*5 The following sizes of long size paper can be loaded in portrait orientation.

-Width 210.0 to 297.0 mm; Length 457.3 to 1,200.0 mm

Paper Type

The following shows the paper types that can be used with this printer. The symbol "●" indicates the paper that can be used for 1-sided printing and automatic 2-sided printing, the symbol "○" indicates the paper that can be used for only 1-sided printing, and the symbol "-" indicates the paper that cannot be used.

| Paper Type | Paper Information | | | | |
|--|--------------------|------------|-----------------------|-----------------------|-----------------------|
| | Multi-purpose Tray | Cassette 1 | Cassette 2 (Optional) | Cassette 3 (Optional) | Cassette 4 (Optional) |
| Plain paper* (64 - 105 g/m ²) | ● | ● | ● | ● | ● |
| Heavy paper | | | | | |
| 106 - 169 g/m ² | ○ | - | - | - | - |
| 170 - 220 g/m ² | ○ | - | - | - | - |
| Coated paper | ○ | - | - | - | - |
| Labels | ○ | ○ | ○ | ○ | ○ |
| Envelopes | ○ | - | - | - | - |

* 100 % recycled paper (64 - 105 g/m²) can be used as plain paper.

■ Plain Paper

This printer can print plain paper at standard sizes of A3, B4, A4, B5, A5, 12 x 18, Statement, Ledger (11 x 17), Legal, Letter, Executive, 8K, 16K, at custom sizes, and at long sizes that weighs 64 to 105 g/m².

Standard size paper (paper at a size other than sizes of Statement, 8K, and 16K) can be fed from a paper cassette or the multi-purpose tray. Plain paper at the sizes of Statement, 8K, and 16K can be fed from the multi-purpose tray. Automatic 2-sided printing can be performed on paper at sizes of A3, B4, A4, B5, A5, Statement, Ledger (11 x 17), Letter, Legal, Executive, 8K, and 16K.

Custom size paper and long size paper can be fed from the multi-purpose tray. Custom size paper can be used for automatic 2-sided printing from the multi-purpose tray. By installing the optional paper feeders, you can perform automatic 2-sided printing because custom size paper can be fed from Cassette 2, Cassette 3, and Cassette 4.

* 100 % recycled paper (64 - 105 g/m²) can be used as plain paper.

■ Heavy Paper

This printer can print heavy paper at standard sizes of A3, B4, A4, B5, A5, 12 x 18, Statement, Ledger (11 x 17), Legal, Letter, Executive, 8K, 16K, at custom sizes, and at long sizes that weighs 106 to 220 g/m². Heavy paper can be fed only from the multi-purpose tray, and only 1-sided printing can be performed on it.

■ Coated Paper

This printer can print A3 and A4 size coated paper. Load coated paper in the multi-purpose tray.

■ Label

This printer can print A4 size labels. Labels can be fed from a paper cassette or the multi-purpose tray.



IMPORTANT

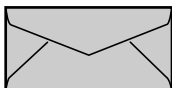
Do not use the labels in the following conditions. Using inappropriate labels may result in paper jams that are difficult to clear or may result in damage to the printer.

- Peeled labels or partly used labels
- Coated labels that are easily peeled off from the backing sheet
- Labels with uneven adhesive

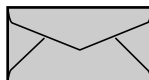
■ Envelope

The envelopes that can be used with this printer are as follows.
You can feed envelopes from the multi-purpose tray.

Envelope DL
(110.0 mm x 220.0 mm)



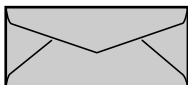
Envelope Monarch
(98.4 mm x 190.5 mm)



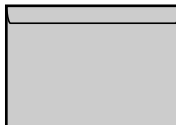
Envelope B5
(176.0 mm x 250.0 mm)



Envelope COM10
(104.7 mm x 241.3 mm)



Envelope C5
(162.0 mm x 229.0 mm)



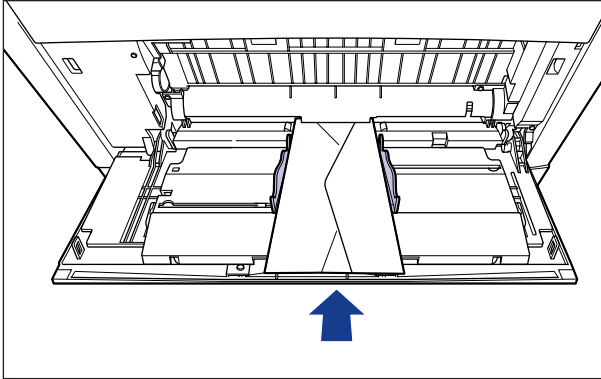
* You cannot use envelopes at sizes of DL, COM 10, Monarch, and C5 that have a flap on the short edge.



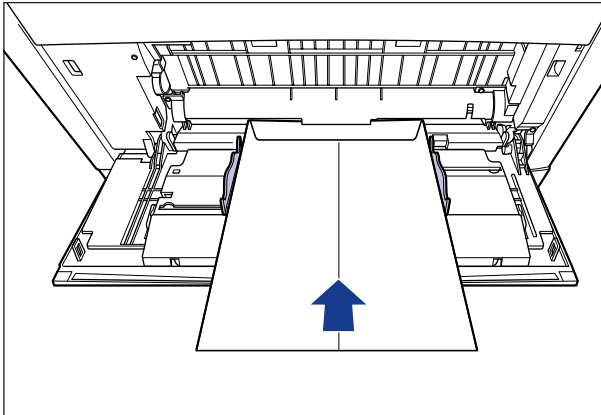
IMPORTANT

- Do not use the following types of envelopes. Using inappropriate envelopes may result in paper jams that are difficult to clear or may result in damage to the printer.
 - Envelopes with fasteners or snaps
 - Envelopes with address windows
 - Envelopes with adhesive on the surface
 - Wrinkled or creased envelopes
 - Poorly manufactured envelopes in which the glued parts are uneven
 - Irregularly-shaped envelopes
- Before loading the envelopes, flatten the stack of envelopes to release any remaining air, and press the fold lines along the edges tight.
- Do not print on the reverse side (glued side) of envelopes.

- When loading envelopes at a size of DL, COM10, C5, or Monarch, load them so that the flap is toward the right of the printer when viewed from the front.



- When printing envelopes of the Envelope B5 size, close the flaps and load them so that the envelopes are printed from the top (the edge with the flap).



- Printing speed drops when printing envelopes.



NOTE

When printing envelopes, they may be creased.

Printable Area

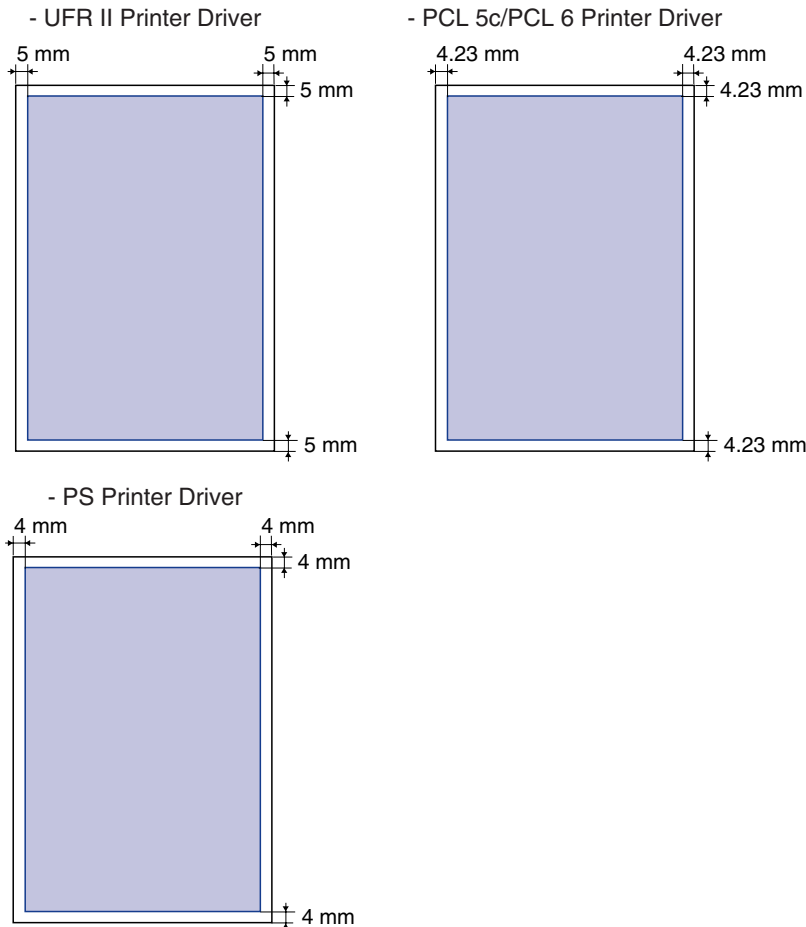
The following shows the printable area of this printer. However, if you are using the PS/UFR II printer driver and select the [Print with Upper Left of Sheet as Starting Point] check box, you can extend the printable area to near the edges of the paper. In order to specify the setting for [Print with Upper Left of Sheet as Starting Point], display the following dialog box.

- For UFR II Printer Driver: Display the [Finishing Details] dialog box by clicking [Finishing Details] in the [Finishing] sheet.
- For PS Printer Driver: See Help of the PS printer driver.

For more details, see the Help of the PS/UFR II printer driver.

■ Plain Paper/Heavy Paper/Coated Paper/Label

The printable areas are as follows.

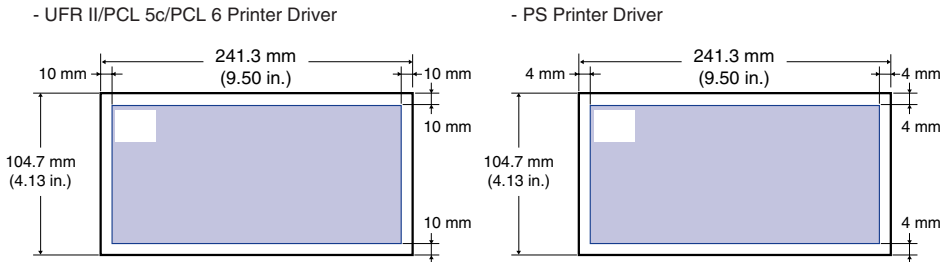


■ Envelope

The printable areas are as follows.

You may have to change the printable area before printing depending on the application you use.

(Sample: Envelope COM10)



Unusable Paper

To avoid problems such as paper jams and other malfunctions, the following types of paper should never be used:



IMPORTANT

- Paper that jams easily
 - Paper that is too thick or too thin
 - Irregularly-shaped paper
 - Wet or moist paper
 - Torn or damaged paper
 - Rough, extremely smooth, or glossy paper
 - Paper with binding holes or perforations
 - Curled or creased paper
 - Specially coated paper (coated paper for ink jet printers, etc.)
 - Labels with backing sheet that is easily peeled off
 - Paper that has already been printed by a copy machine or another laser printer (The reverse side of the paper is also unusable. Using the multi-purpose tray, however, you can perform 2-sided printing manually on the other side of previously printed paper. You cannot print on the printed side again.)
 - Paper with jagged edges (paper that has been poorly cut)
 - Wrinkled paper
 - Paper with the corners folded
- Paper that changes its quality at a high temperature
 - Paper that contains ink that melts, burns, evaporates or emits harmful gases at or lower than the heating temperature (approx. 190 °C or 374 °F) of the fixing unit
 - Heat-sensitive paper
 - Treated color paper
 - Specially coated paper (coated paper for ink jet printers, etc.)
 - Paper with adhesive on the surface

- Paper that damages the printer
 - Carbon paper
 - Paper with staples, clips, ribbons or tapes
 - Paper that has already been printed by a copy machine or another laser printer (The reverse side of the paper is also unusable. Using the multi-purpose tray, however, you can perform 2-sided printing manually on the other side of previously printed paper. You cannot print on the printed side again.)
- Paper that is difficult for the toner to fix onto
 - Paper with rough surfaces
 - Specially coated paper (coated paper for ink jet printers, etc.)
 - Paper containing thick fibers

Storing Paper

The quality of paper may deteriorate if it is stored improperly even when the paper meets the normal specifications. Inferior paper may cause misfeeds, paper jams, or deterioration in print quality.

Observe the following guidelines when storing and handling paper:



IMPORTANT

- Store paper away from moisture.
- Paper wrappers help avoiding moisture and dryness. Keep paper in the wrapper until it is ready to be used. Store all unused paper in a wrapper.
- Store paper on a flat surface.
- Do not store paper on the floor where water and moisture can accumulate.
- When you store paper, prevent it from curling or being folded.
- Do not store paper vertically or store too many stacks of paper in one pile.
- Do not store paper in places exposed to direct sunlight or places with low humidity.
- If the paper storage room and work area differ from each other significantly in temperature or humidity, keep packed paper stack in the work area for at least one day prior to printing so that it can adapt to the new environment. When paper is moved to a location where the temperature or humidity differs significantly, the paper may curl or become creased.

Storing Printouts

When handling or storing printouts printed by this printer, be careful of the following points:



IMPORTANT

- Avoid storing printouts with PVC materials such as clear folders. Otherwise toner may melt and stick to the PVC material.
- Use insoluble adhesive when gluing printouts. Toner may melt when soluble adhesive is used. Before using the adhesive, test it with paper that is no longer required. Make sure that the printed paper is completely dry before placing one over another. Toner may melt if they are placed together half-dried.
- Store paper on a flat surface. Toner may peel when they are folded or creased.
- Avoid storing printouts at high temperatures. Otherwise toner may melt and blot.
- Put printouts in a binder when storing them for a long period of time (two years or longer). (Printouts may discolor when they are stored for a long period of time.)

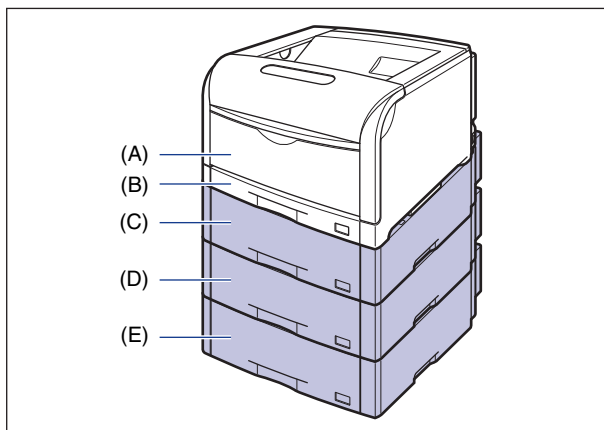
Paper Source

This printer is supplied with two paper sources: the paper cassette (Cassette 1) and multi-purpose tray. By installing the optional paper feeders (Cassette 2, Cassette 3, and Cassette 4), you can use up to five paper sources.

Paper Source Type

This printer has the following paper sources:

- (A): Multi-purpose Tray
- (B): Cassette 1
- (C): Cassette 2 (Optional)
- (D): Cassette 3 (Optional)
- (E): Cassette 4 (Optional)



 **NOTE**

Up to 3 paper feeders can be installed.

Paper Capacity of Paper Source

| Paper Type | Paper Source | | | | |
|-------------------------------------|--------------------|--------------------|-----------------------|-----------------------|-----------------------|
| | Multi-purpose Tray | Cassette 1 | Cassette 2 (Optional) | Cassette 3 (Optional) | Cassette 4 (Optional) |
| Plain paper (80 g/m ²) | Approx. 90 sheets | Approx. 230 sheets | Approx. 550 sheets | Approx. 550 sheets | Approx. 550 sheets |
| Heavy paper (128 g/m ²) | Approx. 50 sheets | - | - | - | - |
| Coated paper | Approx. 50 sheets | - | - | - | - |
| Label | Approx. 40 sheets | Approx. 50 sheets | Approx. 50 sheets | Approx. 50 sheets | Approx. 50 sheets |
| Envelope | Approx. 10 sheets | - | - | - | - |

Selecting a Paper Source

A paper source can be selected using the following procedure.

■ When printing from Windows or Macintosh

Select a paper source in the printer driver. Because the default setting for the paper selection in the printer driver is set to [Auto], if a paper size is specified by an application, the printer selects the paper source automatically and feeds paper from the paper source. Even when the paper source runs out of paper during printing, if paper of the same size is loaded in other paper source, the paper source is switched automatically and the paper is fed.

If you want to specify a paper source, select the paper source in the printer driver. For details on using the printer driver, see Help of the printer driver.

■ When printing from DOS or UNIX

When you are printing from DOS, UNIX, or other operating system on which you cannot use the printer driver, select a paper source using the control panel. The default setting for this printer's paper source is set to AUTO.

Select a paper source with the printer's control panel using the following procedure.



1 Press [Feeder Selection].

PAPER SOURCE →

PAPER SOURCE is displayed in the display.



2 Select PAPER SOURCE using [◀] and [▶], then press [OK].

PAPER SOURCE →

=AUTO →



3 Select the paper source using [◀] and [▶], then press [OK].

CASSETTE 1 →

=CASSETTE 1 →



NOTE

- CASSETTE 2, CASSETTE 3, and CASSETTE 4 are displayed only when the paper feeders are installed.
- If paper of the same size is loaded in two or more paper sources when the paper source setting is specified to be selected automatically, paper is fed from the upper paper source regardless of the status of the paper source indicators. When the paper source runs out of paper, the paper source automatically switches to other one in which paper of the same size is loaded.

Precautions for Handling the Multi-purpose Tray or Paper Cassette

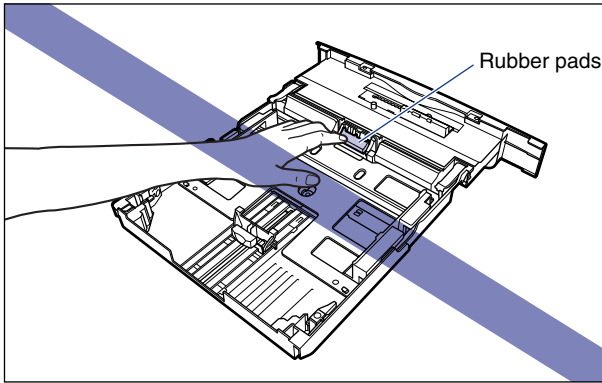
Be careful of the following points when handling the multi-purpose tray or paper cassette.



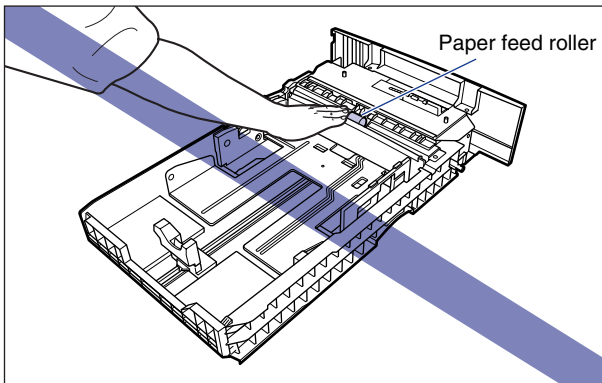
IMPORTANT

- Do not pull out the paper cassette while the printer is printing. This may result in paper jams or damage to the printer.
- Do not touch the paper in the multi-purpose tray or pull it out during printing. This may result in a faulty operation.
- Refill the paper cassette after all the loaded paper runs out. If the cassette is refilled when paper still remains in the cassette, it may result in misfeeds.

- Do not put anything other than the printing paper on the multi-purpose tray. Also, do not press on top of or apply excessive force to the multi-purpose tray. This may result in damage to the multi-purpose tray.
- Do not touch the black rubber pad in Cassette 1 and the paper feed rollers in Cassette 2, 3, and 4. This may result in misfeeds.
 - Cassette 1

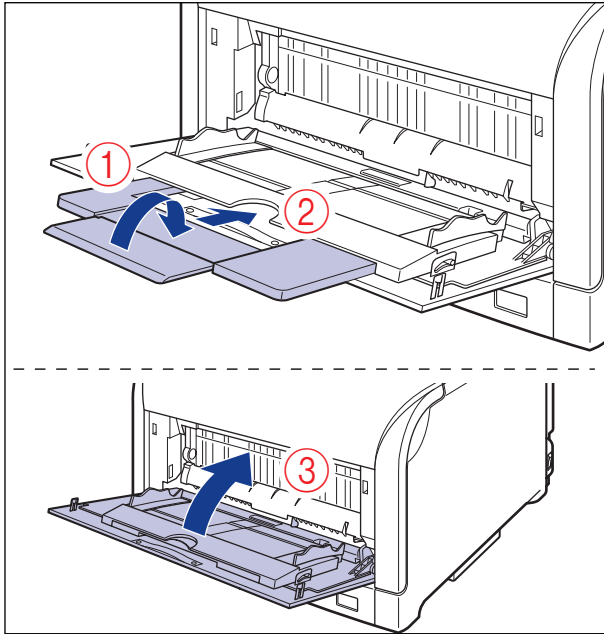


- Cassette 2, 3, and 4



 NOTE

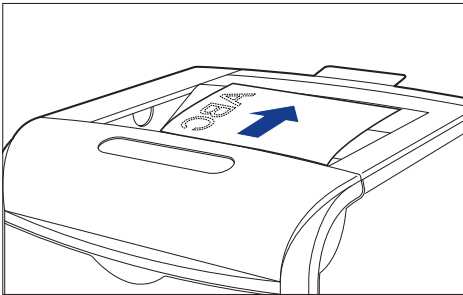
Before closing the multi-purpose tray, remove any loaded paper.
Keep the multi-purpose tray closed when it is not used.



Output Trays

Output Tray

Printed paper is output to the output tray on the top of the printer with the printed side facing down. Printed paper piles in order of page.



CAUTION

Keep your hands or clothing away from the roller in the output area. Even if the printer is not printing, sudden rotation of the roller may catch your hands or clothing, resulting in personal injury.

IMPORTANT

- When printing long size paper, take out one piece at a time each time it is output.
- Do not touch the paper until it is output to the output tray completely.

2-sided Printing

The paper is once output partially after the front side is printed, and then it is fed again to be printed on the reverse side. After the reverse side is printed, the paper is output completely.

Paper Capacity of the Output Tray

| Paper Type | Paper Capacity ^{*1} |
|---|------------------------------|
| Plain paper (Ex. 80 g/m ²) | Approx. 250 sheets |
| Heavy paper (Ex. 128 g/m ²) | Approx. 200 sheets |
| Coated paper | Approx. 150 sheets |
| Label | Approx. 100 sheets |
| Envelope | Approx. 20 sheets |

*1 Actual paper capacity varies depending on the installation environment or paper type.

Loading Paper in the Paper Cassette

When printing from the paper cassette, perform the following procedure.

■ Loading paper

The following kinds of paper can be loaded in the paper cassette.

| Paper Type | Paper Size | Loading Procedure |
|-------------|--|--|
| Plain paper | A3, B4, A4, B5, A5, Ledger (11 x 17), Legal, Letter, Executive | Loading in Cassette 1: p. 3-20 Loading in Cassette 2, 3, or 4*: p. 3-28 |
| | Custom paper sizes*, 8K*, 16K* | p. 3-37 |
| Labels | A4 | Loading in Cassette 1: p. 3-20 Loading in Cassette 2, 3, or 4*: p. 3-28 |

* Only when the optional paper feeders are installed

■ Specifying a paper type (See p. 3-46)

■ Specifying the printer driver settings (See Help of the printer driver)

When printing from the printer driver, specify the following settings. For more details on using the printer driver, see Help of the printer driver.

[Page Setup] Sheet

[Output Size] = the size of the loaded paper

[Paper Source] Sheet

[Paper Source] = [Cassette 1]

[Cassette 2]

[Cassette 3]

[Cassette 4]

[Paper Type] = [Plain Paper]: Plain Paper (64 - 105 g/m²)

[Plain Paper L]: When any of the following problems occur on printing paper with [Plain Paper] specified, specify [Plain Paper L].

- When the paper curls excessively on printing plain paper (64 g/m²)

- When the printing speed drops on printing paper of 279.4 mm wide (Letter size) or less continuously

[Label]: Labels



IMPORTANT

- For more details on the usable paper, see "Usable Paper," on p. 3-2.
- For details on handling the paper cassette, see "Precautions for Handling the Multi-purpose Tray or Paper Cassette," on p. 3-13.

Precautions on Loading Paper

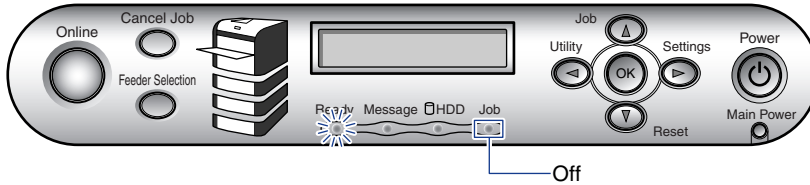
Load paper when the printer status is in any of the following. When the Job indicator is blinking, the printer is printing. Do not pull out the paper cassette.



IMPORTANT

Be sure not to open the covers or paper cassette during printing. The printer may stop, disabling printing.

■ When the Job indicator is off

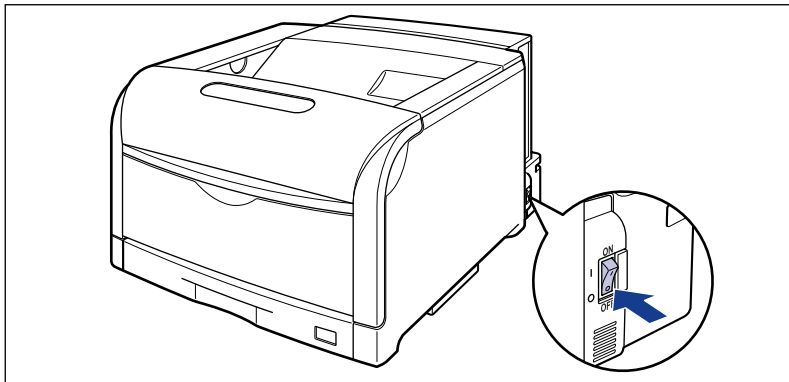


■ When a message that informs you of a paper-out condition or requests paper replacement is displayed

11 NO A4 PAPER

PC LOAD A4

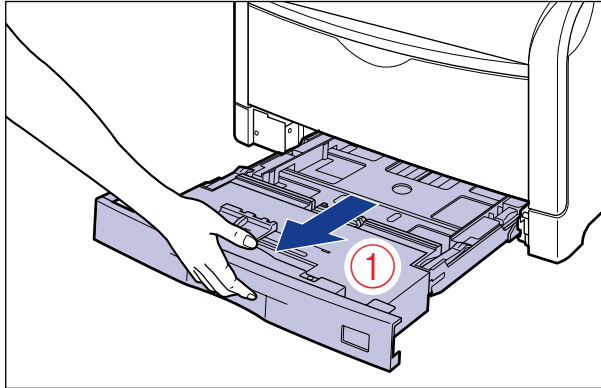
■ When the printer is OFF



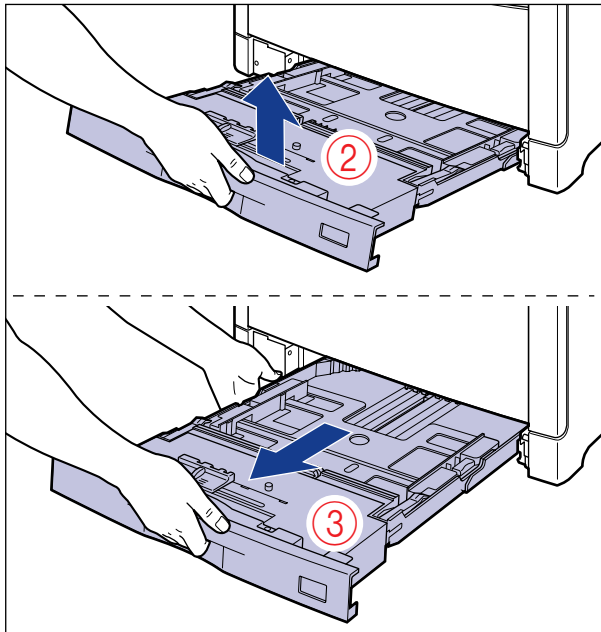
Loading Paper in Cassette 1

1 Pull out the paper cassette.

Pull the paper cassette out until it stops ①.



After lifting the paper cassette up a little ②, pull it out while supporting it with the other hand ③ as shown in the figures.



 **CAUTION**

Be sure to take the paper cassette out of the printer before loading paper. If paper is loaded while the paper cassette is partially pulled out, the paper cassette may drop or the printer may become damaged resulting in personal injury.

 **IMPORTANT**

The paper cassette cannot be pulled out horizontally. If you try to pull it out forcefully, this may result in damage to the paper cassette.

2 When changing the size of the paper to be loaded, adjust the length of the paper cassette and change the positions of the paper guides.

The paper sizes indicated on the paper guides are abbreviated as follows.

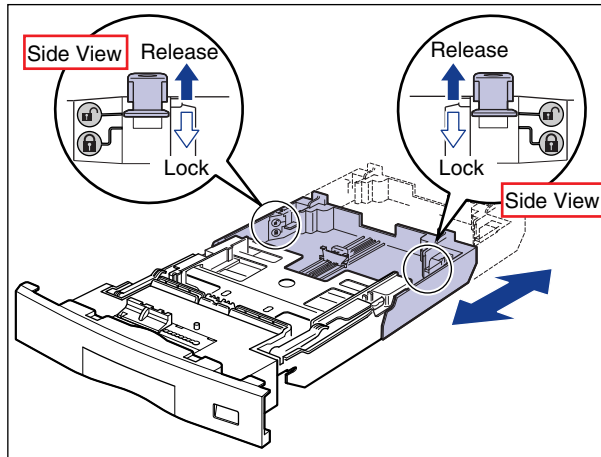
| Paper Size | Paper Guides |
|------------|--------------|
| Ledger | 11 x 17 |
| Legal | LGL |
| Letter | LTR |
| Executive | EXEC |

● **Adjust the length of the paper cassette according to the size of the paper to be loaded.**

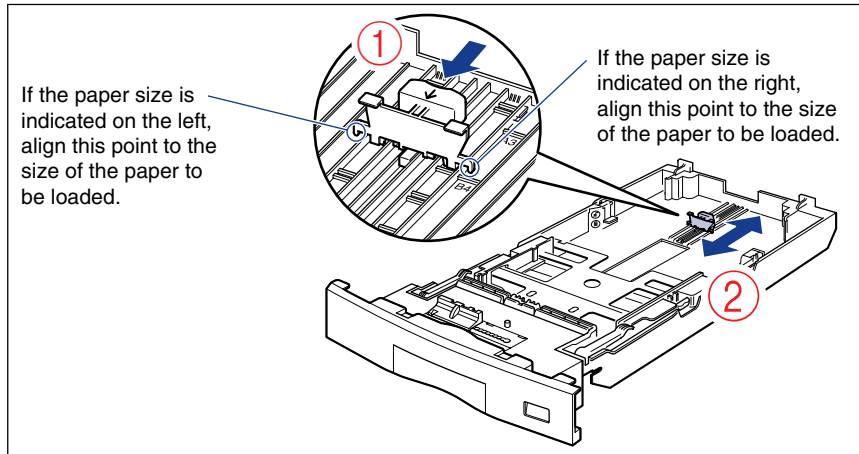
When loading paper in landscape orientation, such as when loading A4, B5, A5, Letter, or Executive size paper, shorten the paper cassette.

When loading paper in portrait orientation, such as when loading A3, B4, Ledger (11 x 17), or Legal size paper, extend the paper cassette.

To adjust the length of the paper cassette, push up the lock release levers gently to release the lock, slide the paper cassette by holding the rear portion of the paper cassette, and then push down the lock release levers to lock the cassette.

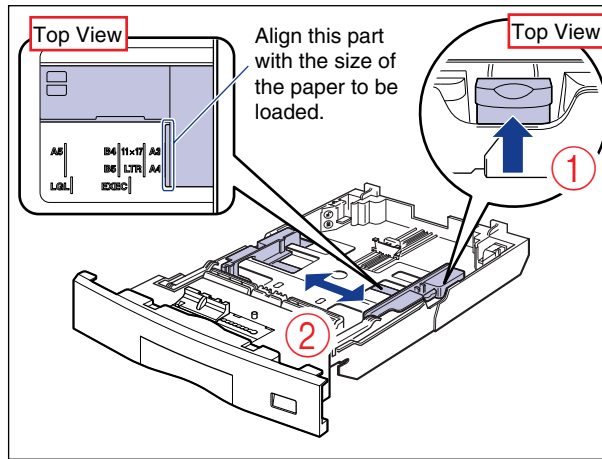


● **While holding the lock release lever of the rear paper guide ①, slide the guide to the mark for the size of the paper to be loaded ②.**

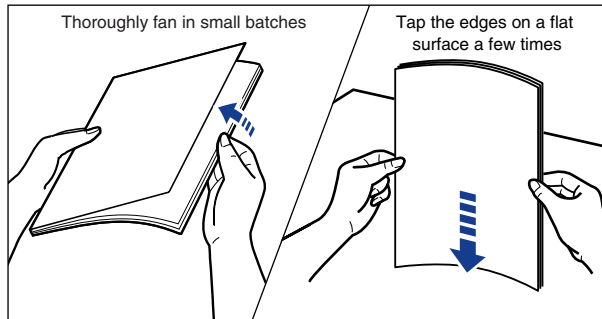


- While holding the lock release lever of the side paper guides ①, slide the guides to the mark for the size of the paper to be loaded ②.

The side paper guides move together.



- 3 Before loading labels, fan them in small batches and align the edges.



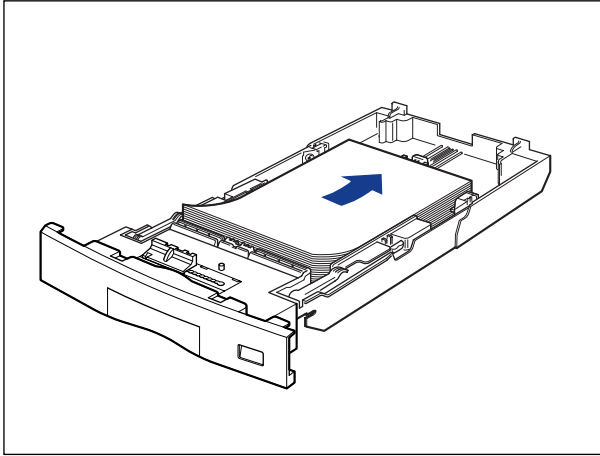
CAUTION

When loading paper, take care not to cut your hands with the edges of the paper.

IMPORTANT

Be sure to fan the labels thoroughly before loading them. If they are not fanned enough, multiple sheets of paper may be fed at once, causing paper jams.

4 Load the paper stack so that the rear edge is aligned with the paper guide.



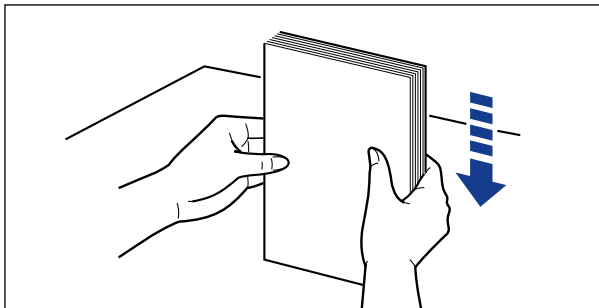
CAUTION

When loading paper, take care not to cut your hands with the edges of the paper.



IMPORTANT

- Be sure to check if the paper guide is at the position of the size of the loaded paper. If the paper guide is set at a wrong position, this may result in misfeeds.
- If you use paper that has been poorly cut, multiple sheets of paper may be fed at once. In this case, align the edges of the stack on a hard, flat surface.

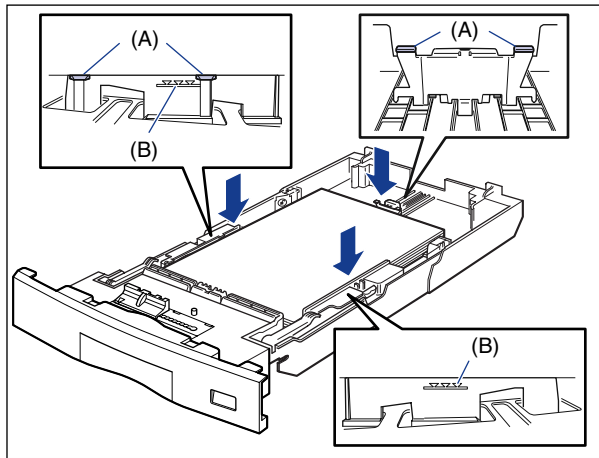


NOTE

To print paper with letterheads or logos, see "Paper Loading Orientation" (p. 3-70) and load the paper in the proper orientation.

5 Press down the paper stack so that it is loaded under the hooks on the side paper guides (A).

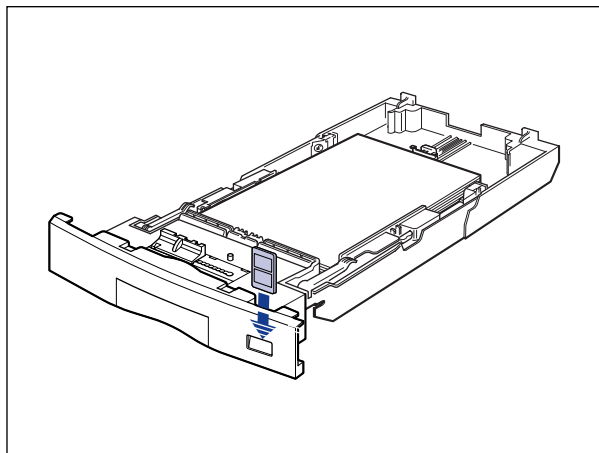
Make sure that there is sufficient space between the hooks and paper stack. If there is no sufficient space, slightly reduce the amount of paper.



IMPORTANT

Up to approximately 230 sheets of plain paper (80 g/m²) or approximately 50 sheets of labels can be loaded in a paper cassette. Be sure that the paper stack does not exceed the load limit marks (B) on the paper guides. If the paper stack exceeds the load limit marks, this may result in misfeeds.

6 Attach the label for the size of the loaded paper to the paper size indicator, and then insert the indicator into the paper size slot at the front of the paper cassette.

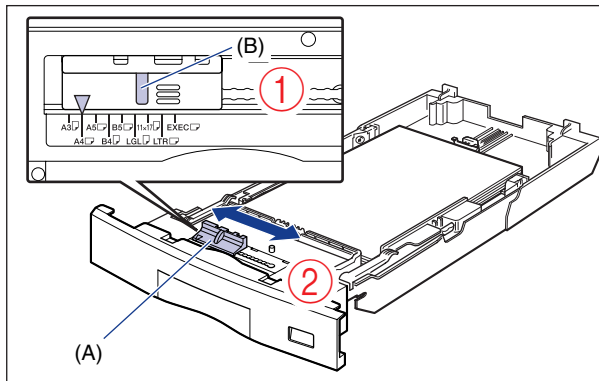


- 7** While holding the tab (B) on the paper size setting switch (A) ①, align the triangular mark on the paper size setting switch with the size of the loaded paper ②.

The following shows the abbreviations of paper sizes that are marked on the paper cassette.

| Paper Size | Paper Size Setting Switch of a Paper Cassette |
|------------|---|
| Ledger | 11 x 17 |
| Legal | LGL |
| Letter | LTR |
| Executive | EXEC |

The default value is "A4".

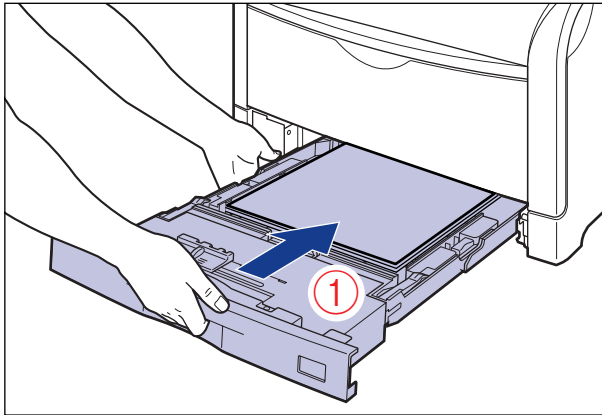


IMPORTANT

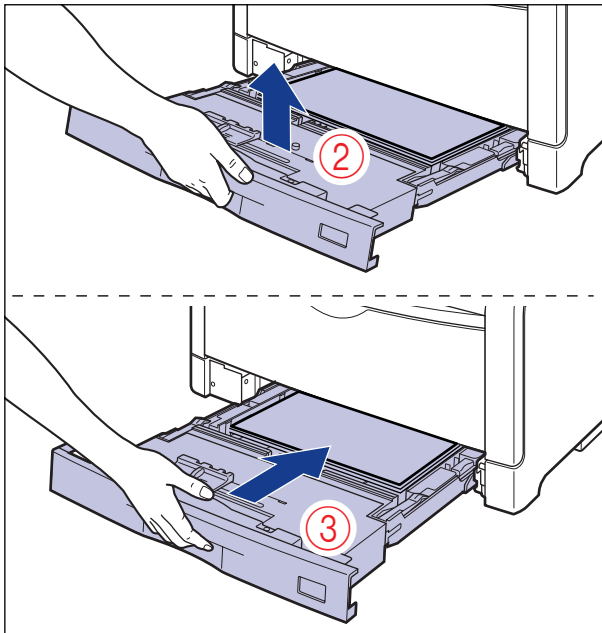
Make sure that the size of the loaded paper matches that of the paper size setting switch before setting the paper cassette in the printer. If the paper size setting switch is not set to the proper position, this may result in printer malfunction.

8 Set the paper cassette in the printer.

While holding the paper cassette with both hands, insert it until it stops ① as shown in the figure.



After lifting the front of the paper cassette up a little ②, push the paper cassette into the printer firmly until the front side of the paper cassette is flush with the front surface of the printer ③.



CAUTION

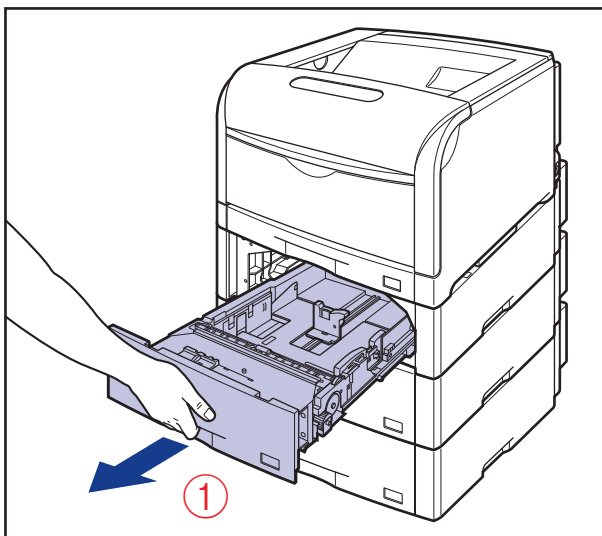
When setting the paper cassette in the paper feeder, be careful not to catch your fingers.

Next, specify the type of the paper in the paper cassette (See p. 3-46).

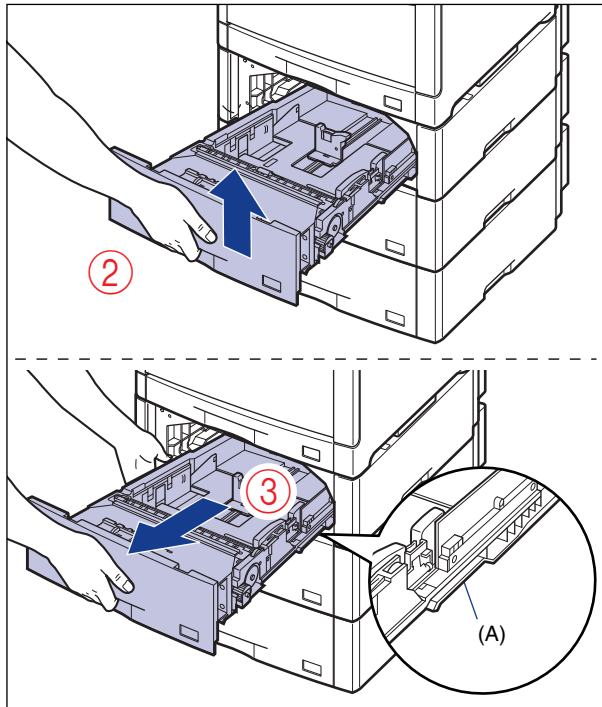
Loading Standard Size Paper in Cassette 2, 3, or 4

1 Pull out the paper cassette.

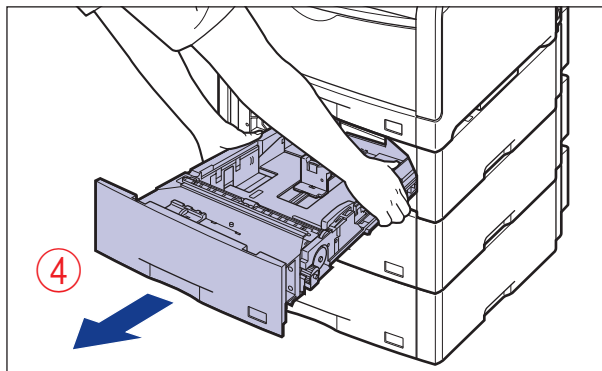
Pull the paper cassette out until it stops ①.



After lifting the front of the paper cassette up a little ②, pull it out while supporting the cassette with your left hand until the handle (A) on the right side of the paper cassette appears completely ③.



While holding the paper cassette with both hands, pull it out completely ④ as shown in the figure.



CAUTION

Be sure to take the paper cassette out of the paper feeder before loading paper. If paper is loaded while the paper cassette is partially pulled out, the paper cassette may drop or the printer may become damaged resulting in personal injury.

IMPORTANT

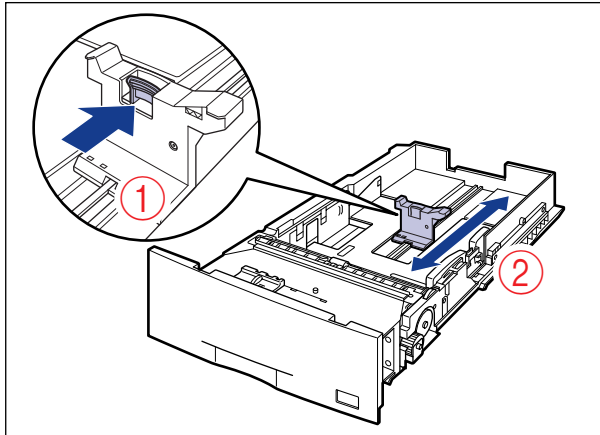
- The paper cassette cannot be pulled out horizontally. If you try to pull it out forcefully, this may result in damage to the paper cassette.
- Because the paper cassette is heavy, hold it with your both hands securely.
- Place the removed paper cassette on an even and stable surface.

2 When changing the size of the paper to be loaded, change the positions of the paper guides.

The paper sizes indicated on the paper guides are abbreviated as follows.

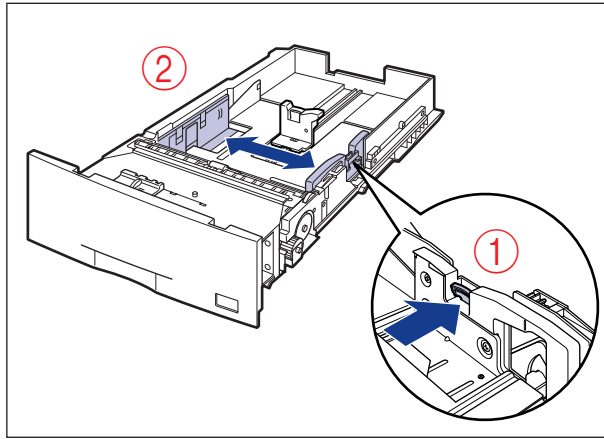
| Paper Size | Paper Guides |
|------------|--------------|
| Ledger | 11 x 17 |
| Legal | LGL |
| Letter | LTR |
| Executive | EXEC |

- While holding the lock release lever of the rear paper guide ①, slide the guide to the mark for the size of the paper to be loaded ②.

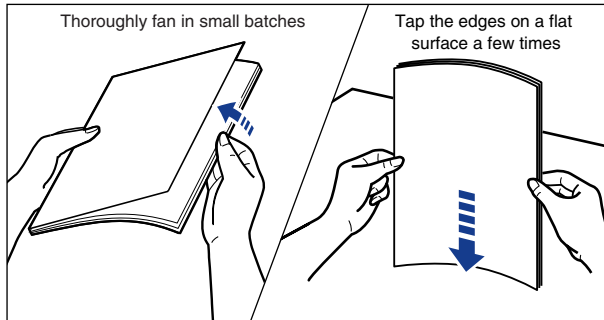


- While holding the lock release lever of the side paper guides ①, slide the guides to the mark for the size of the paper to be loaded ②.

The side paper guides move together.



- 3 Before loading labels, fan them in small batches and align the edges.



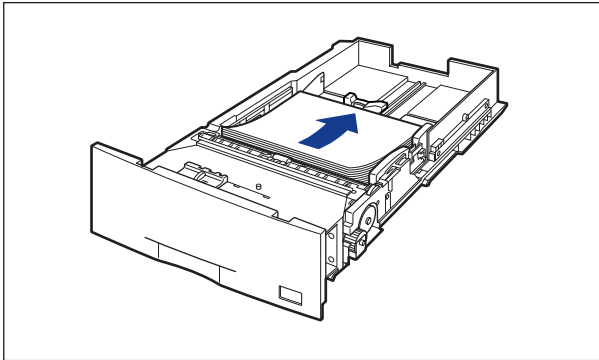
CAUTION

When loading paper, take care not to cut your hands with the edges of the paper.

NOTE

Be sure to fan the labels thoroughly before loading them. If they are not fanned enough, multiple sheets of paper may be fed at once, causing paper jams.

- 4** Load the paper stack so that the rear edge is aligned with the paper guide.

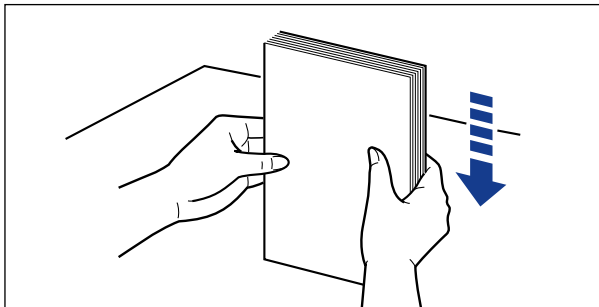


CAUTION

When loading paper, take care not to cut your hands with the edges of the paper.

IMPORTANT

- Be sure to check if the paper guide is at the position of the size of the loaded paper. If the paper guide is set at a wrong position, this may result in misfeeds.
- If you use paper that has been poorly cut, multiple sheets of paper may be fed at once. In this case, align the edges of the stack on a hard, flat surface.

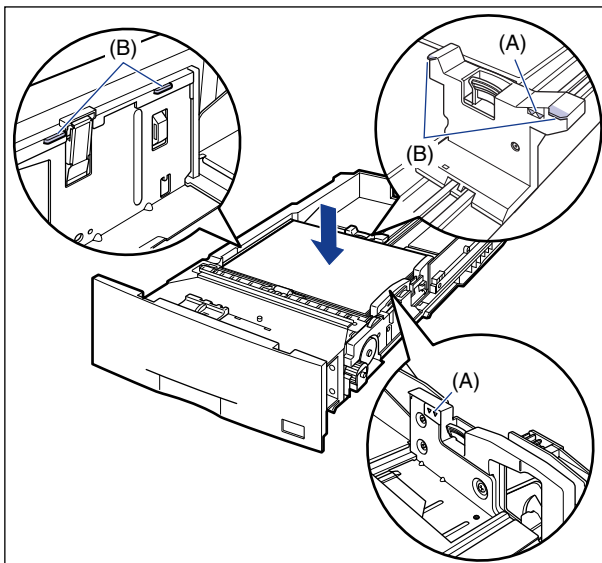


NOTE

To print paper with letterheads or logos, see "Paper Loading Orientation" (p. 3-70) and load the paper in the proper orientation.

5 Press down the paper stack so that it is loaded under the hooks on the side paper guides (A).

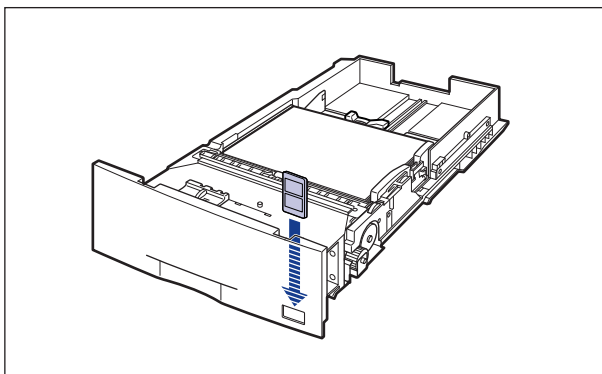
Make sure that there is sufficient space between the hooks and paper stack. If there is no sufficient space, slightly reduce the amount of paper.



IMPORTANT

Up to approximately 550 sheets of plain paper (80 g/m²) or approximately 50 sheets of labels can be loaded in a paper cassette. Be sure that the paper stack does not exceed the load limit marks (B) on the paper guides. If the paper stack exceeds the load limit marks, this may result in misfeeds.

6 Attach the label for the size of the loaded paper to the paper size indicator, and then insert the indicator into the paper size slot at the front of the paper cassette.

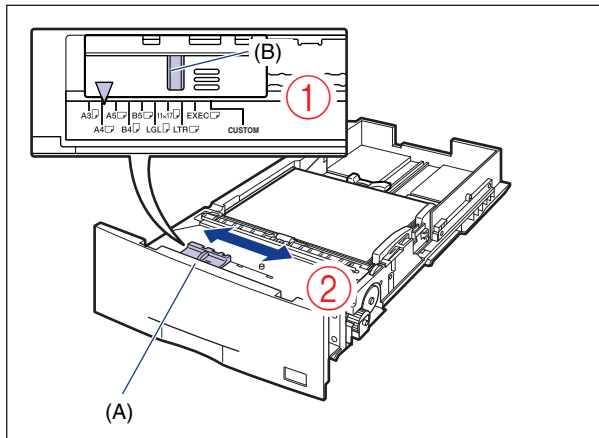


- 7** While holding the tab (B) on the paper size setting switch (A) ①, align the triangular mark on the paper size setting switch with the size of the loaded paper ②.

The following shows the abbreviations of paper sizes that are marked on the paper cassette.

| Paper Size | Paper Size Setting Switch of a Paper Cassette |
|------------|---|
| Ledger | 11 x 17 |
| Legal | LGL |
| Letter | LTR |
| Executive | EXEC |

The default value is "A3".

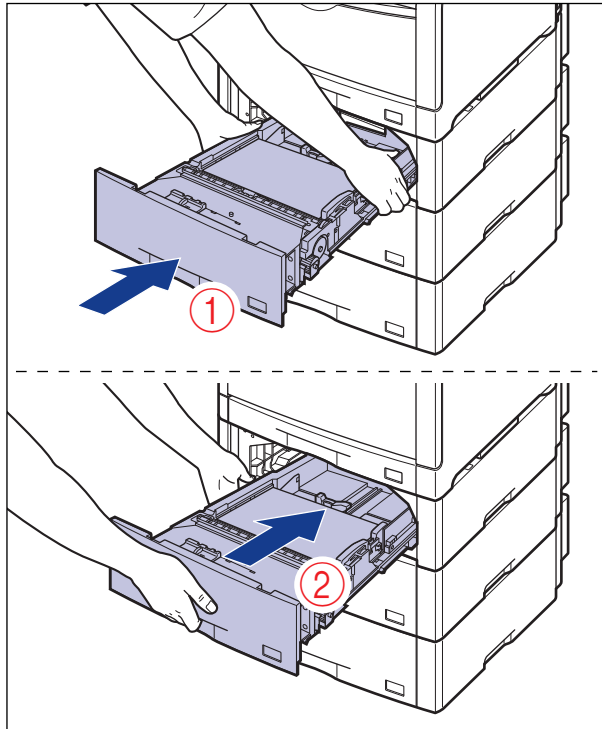


IMPORTANT

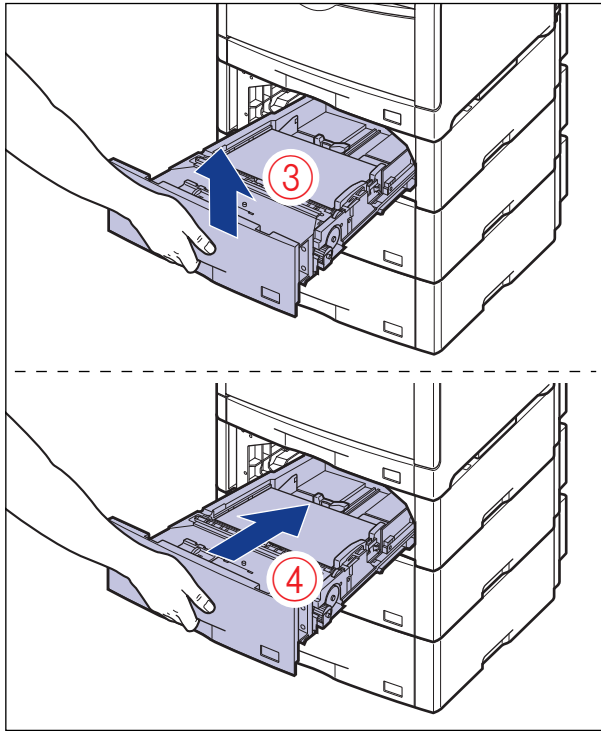
Make sure that the size of the loaded paper matches that of the paper size setting switch before setting the paper cassette in the printer. If the paper size setting switch is not set to the proper position, this may result in printer malfunction.

8 Set the paper cassette in the paper feeder.

While holding the paper cassette with both hands, push it to the position shown in the figure ①. Then, hold the front of the paper cassette with your right hand and push it until it stops ②.



After lifting the front of the paper cassette up a little ③, push the paper cassette into the printer firmly until the front side of the paper cassette is flush with the front surface of the paper feeder ④.

**CAUTION**

When setting the paper cassette in the paper feeder, be careful not to catch your fingers.

Next, specify the type of the paper in the paper cassette (See p. 3-46).

Loading Custom Size Paper or Paper at a Size of 8K or 16K in Cassette 2, 3, or 4

You can load paper of the following custom sizes.

- When loading paper in portrait orientation: Width 210.0 to 297.0 mm; Length 210.0 to 431.8 mm
- When loading paper in landscape orientation (Only when UFR II Printer Driver is used): Width 210.0 to 297.0 mm; Length 148.0 to 297.0 mm

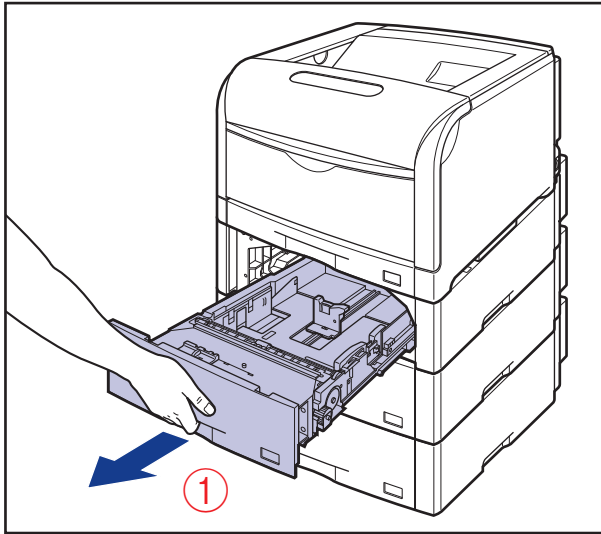


IMPORTANT

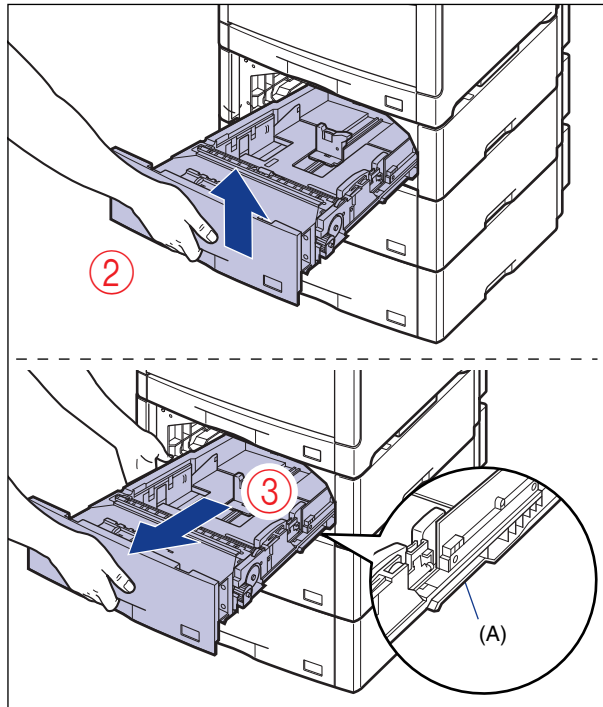
- When non-standard size paper is loaded, specify the setting for CASSETTE(n) SIZE (n = 2, 3, 4) in the control panel as follows.
 - When the paper is loaded in landscape orientation (Only when UFR II Printer Driver is used): CUSTOM SIZE
 - When the paper is loaded in portrait orientation: CUSTOM SIZER
- When paper at a size of 8K or 16K is loaded, set CASSETTE(n) SIZE (n = 2, 3, 4) in the control panel to 8K or 16K.
- When you change the orientation of the custom size paper loaded in a paper cassette frequently, it is convenient if you set CASSETTE(n) SIZE (n = 2, 3, 4) in the control panel to MIXED SIZES. When CASSETTE(n) SIZE (n = 2, 3, 4) is set to MIXED SIZES, you do not need to specify the setting for CASSETTE(n) SIZE (n = 2, 3, 4) each time you change the paper orientation. However, when specifying MIXED SIZES, make sure that the size of the loaded paper matches the paper size specified in the printer driver before printing. If they do not match, the printer may stop printing, displaying the message <41 CHK PAPER SZE>, or a paper jam may occur. Be sure to check if the paper size specified in the printer driver matches the size of the paper loaded in the paper cassette before using the printer.
- When printing custom size paper from UFR II Printer Driver, you can load the paper either in portrait or landscape orientation. However, if you want to print custom size paper of its long edges 297.0 mm or less when CASSETTE(n) SIZE (n=2, 3, 4) is set to MIXED SIZES, load the paper in landscape orientation. When you are not printing from UFR II Printer Driver, load the paper in portrait orientation.

1 Pull out the paper cassette.

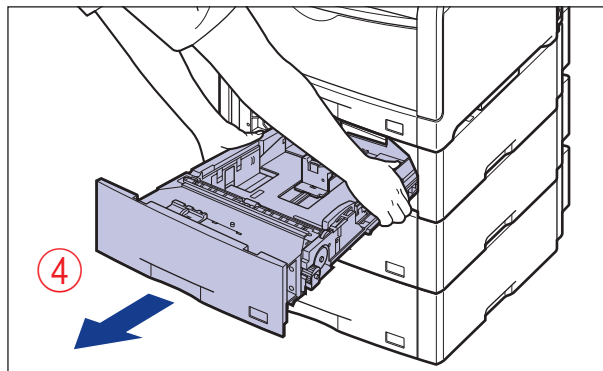
Pull the paper cassette out until it stops ①.



After lifting the front of the paper cassette up a little ②, pull it out while supporting the cassette with your left hand until the handle (A) on the right side of the paper cassette appears completely ③.



While holding the paper cassette with both hands, pull it out completely ④ as shown in the figure.

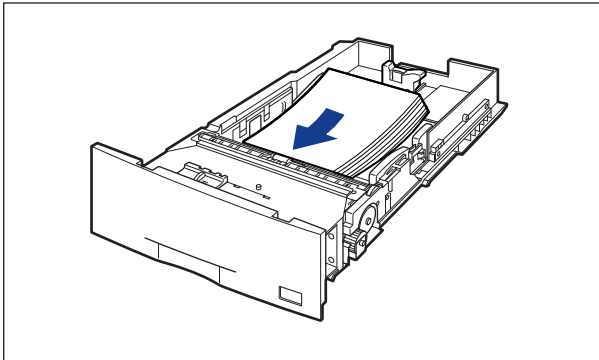


CAUTION

Be sure to take the paper cassette out of the paper feeder before loading paper. If paper is loaded while the paper cassette is partially pulled out, the paper cassette may drop or the printer may become damaged resulting in personal injury.

IMPORTANT

- The paper cassette cannot be pulled out horizontally. If you try to pull it out forcefully, this may result in damage to the paper cassette.
- Because the paper cassette is heavy, hold it with your both hands securely.
- Place the removed paper cassette on an even and stable surface.

2 Load the paper so that the edge of the paper is aligned with the front side of the paper cassette.**CAUTION**

When loading paper, take care not to cut your hands with the edges of the paper.

IMPORTANT

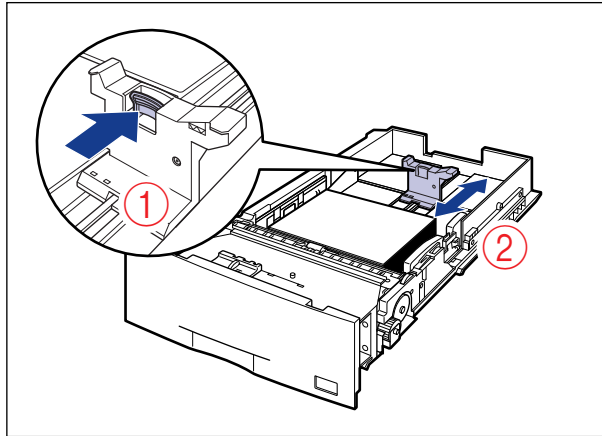
If you use paper that has been poorly cut, multiple sheets of paper may be fed at once. In this case, align the edges of the stack on a hard, flat surface.

NOTE

- If you want to print custom size paper of its long edges 297.0 mm or less when CASSETTE(n) SIZE (n = 2, 3, 4) in the FEEDER MENU options in the SETUP is set to MIXED SIZES, specify the settings according to the printer driver you are using as follows.
 - When using UFR II Printer Driver: Load the paper in landscape orientation
 - When not using UFR II Printer Driver: Load the paper in portrait orientation
- To print paper with letterheads or logos, see "Paper Loading Orientation" (p. 3-70) and load the paper in the proper orientation.

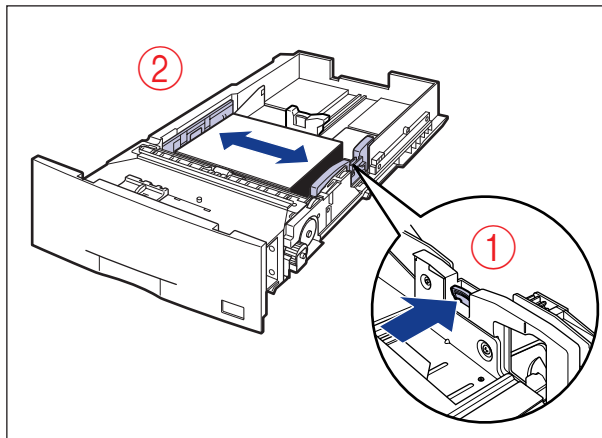
3 Slide the paper guides.

- While holding the lock release lever of the rear paper guide ①, slide the guide to the mark for the size of the paper to be loaded ②.



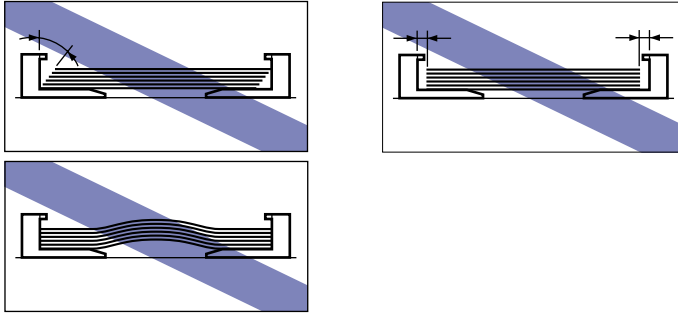
- While holding the lock release lever of the side paper guides ①, slide the guides to the mark for the size of the paper to be loaded ②.

The side paper guides move together.



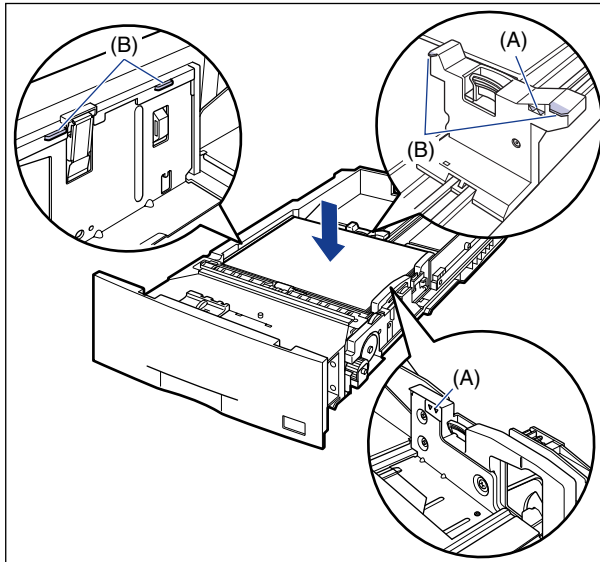
 **IMPORTANT**

Be sure to align the paper guides with the width of the paper. If the paper guides are too loose or too tight, this may result in misfeeds or paper jams.



4 Press down the paper stack so that it is loaded under the hooks on the side paper guides (A).

Make sure that there is sufficient space between the hooks and paper stack. If there is no sufficient space, slightly reduce the amount of paper.

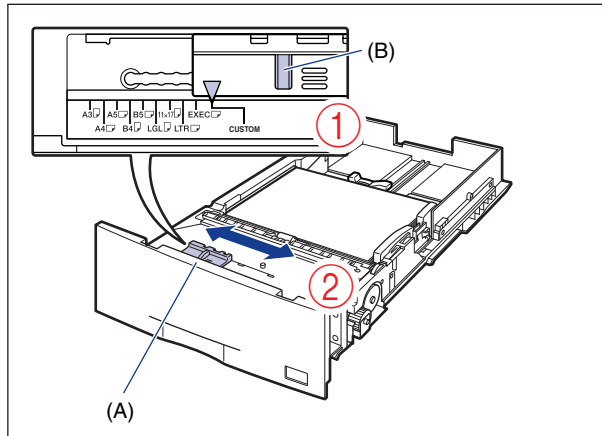


 **IMPORTANT**

Up to approximately 550 sheets of plain paper (80 g/m²) can be loaded in a paper cassette. Be sure that the paper stack does not exceed the load limit marks (B) on the paper guides. If the paper stack exceeds the load limit marks, this may result in misfeeds.

- 5** While holding the tab (B) on the paper size setting switch (A) ①, align the triangular mark on the paper size setting switch with "CUSTOM" ②.

The default value is "A3".

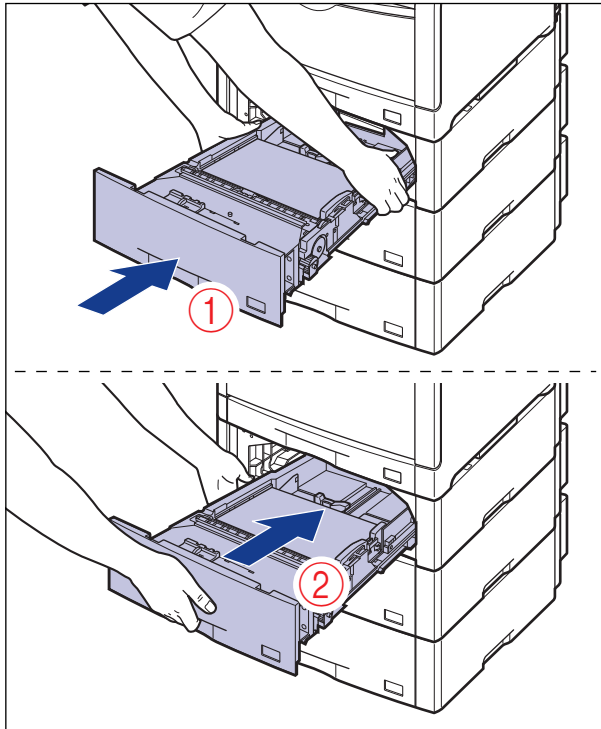


IMPORTANT

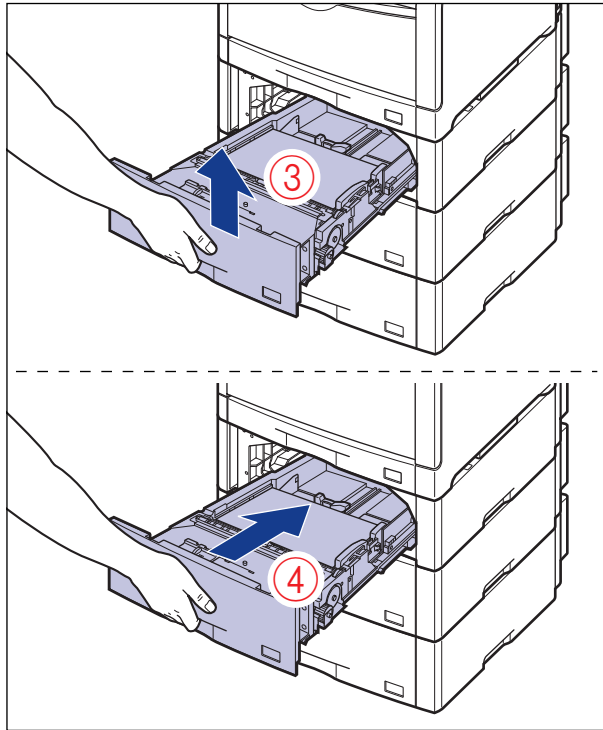
Make sure that the paper size setting switch is set to "CUSTOM" before setting the paper cassette in the printer. If the paper size setting switch is not set to the proper position, this may result in printer malfunction.

6 Set the paper cassette in the paper feeder.

While holding the paper cassette with both hands, push it to the position shown in the figure ①. Then, hold the front of the paper cassette with your right hand and push it until it stops ②.



After lifting the front of the paper cassette up a little ③, push the paper cassette into the printer firmly until the front side of the paper cassette is flush with the front surface of the paper feeder ④.



⚠ CAUTION

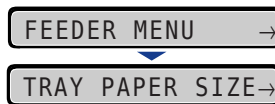
When setting the paper cassette in the paper feeder, be careful not to catch your fingers.



7 To specify the size of the loaded paper on the control panel, press [Settings].

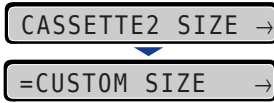


8 Select FEEDER MENU using [◀] and [▶], then press [OK].

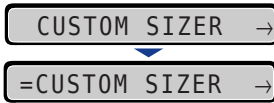




9 Select **CASSETTE(n) SIZE** (n = 2, 3, 4) using [◀] and [▶], then press [OK].



10 Select the paper size using [◀] and [▶], then press [OK].



"=" is displayed on the left of the paper size, and the paper size for the paper cassette is specified.

IMPORTANT

Specify the paper size as follows.

- When loading custom size paper in landscape orientation (Only when UFR II Printer Driver is used): CUSTOM SIZE
- When loading custom size paper in portrait orientation: CUSTOM SIZER
- When loading 8K size paper: 8K
- When loading 16K size paper: 16K

Next, specify the type of the paper in the paper cassette (See the next item).

Specifying the Type of the Paper in the Paper Cassette

When you loaded paper in the paper cassette, specify the setting for CASSETTE(n) TYPE (n = 1, 2, 3, 4) using the control panel according to the paper type.

| Paper Type | SETUP Menu CASSETTE(n) TYPE (n = 1, 2, 3, 4) |
|--|---|
| Plain paper (64 - 105 g/m ²) | PLAIN PAPER |
| | PLAIN PAPER L* |
| Label | LABEL |

* When any one of the following problems occur on printing paper with PLAIN PAPER specified, specify PLAIN PAPER L.

- When the paper curls excessively on printing plain paper (64 g/m²)
- When the printing speed drops on printing paper of 279.4 mm wide (Letter size) or less continuously



IMPORTANT

- Match the paper type specified in the SETUP menu in the printer and that specified in the printer driver. If they do not match, the message <PC LOAD "size"> appears. In this case, the setting value for CASSETTE(n) TYPE (n = 1, 2, 3, 4) is changed to that in the printer driver by pressing [Online], allowing you to continue printing.
- Be sure to match the type of the paper loaded in the paper cassette and the following settings. If they do not match, this may result in crucial damage to the engine.
 - The setting for [Paper Type] in the printer driver*
 - The setting for CASSETTE(n) TYPE (n = 1, 2, 3, 4)
 - * When you are printing from an operating system on which you cannot use the printer driver (such as MS-DOS and UNIX), match the setting for STD PAPER TYPE and the type of the loaded paper (See p. 5-33).
- If CASSETTE(n) TYPE (n = 1, 2, 3, 4) is set to MIXED TYPES, the printer does not check the type of the loaded paper against the paper type specified in the printer driver. Make sure that the paper type specified in the printer driver matches the type of the paper loaded in the paper cassette before using the printer.

Loading Paper in the Multi-purpose Tray

When printing from the multi-purpose tray, perform the following procedure.

■ Loading paper

The following kinds of paper can be loaded in the multi-purpose tray.

| Paper Type | Paper Size | Loading Procedure |
|--|--|-------------------|
| Plain paper | <ul style="list-style-type: none"> - Standard sizes A3, B4, A4, B5, A5, 12 x 18, Ledger (11 x 17), Legal, Letter, Executive, Statement, 8K, 16K - Custom paper sizes, Long sizes | p. 3-49 |
| Heavy paper (106 - 169 g/m ²) | | |
| Heavy paper (170 - 220 g/m ²) | | |
| Coated paper | A3, A4 | |
| Labels | A4 | |
| Envelopes | Envelope DL (110.0 mm x 220.0 mm) Envelope COM10 (104.7 mm x 241.3 mm) Envelope C5 (162.0 mm x 229.0 mm) Envelope Monarch (98.4 mm x 190.5 mm) Envelope B5 (176.0 mm x 250.0 mm) | p. 3-54 |

■ Specifying a paper size and paper type (See p. 3-59, p. 3-61)

■ Specifying the Paper Setting in the Printer Driver (See Help of the printer driver)

When printing from the printer driver, specify the following settings. This manual describes the setting procedure, taking the printer driver for Windows as an example. For details on using the printer driver for Macintosh, see Help of the printer driver.

[Page Setup] Page

[Output Size] = the size of the loaded paper

[Paper Source] Page

[Paper Source] = [Multi-Purpose Tray]

[Paper Type] = [Plain Paper]: Plain Paper (64 to 105 g/m²)

[Heavy Paper 1]: Heavy Paper (106 to 169 g/m²)

[Heavy Paper 2]: Heavy Paper (170 to 220 g/m²)

[Label]: Labels

[Coated Paper]: Coated Paper

[Envelope]: Envelopes



IMPORTANT

- For more details on the usable paper, see "Usable Paper," on p. 3-2.
- For details on how to handle the multi-purpose tray, see "Precautions for Handling the Multi-purpose Tray or Paper Cassette," on p. 3-13.



NOTE

If you are printing from an operating system on which the printer driver cannot be used, previously specify the paper source to TRAY. (See p. 3-12)

Loading Paper (Other than Envelopes)

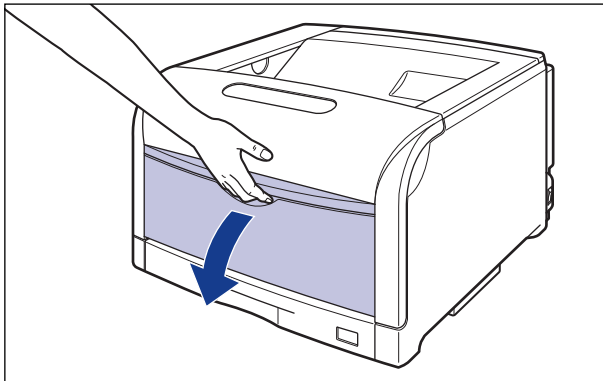
Perform the following procedure to load plain paper, heavy paper, coated paper, or labels in the multi-purpose tray.

3

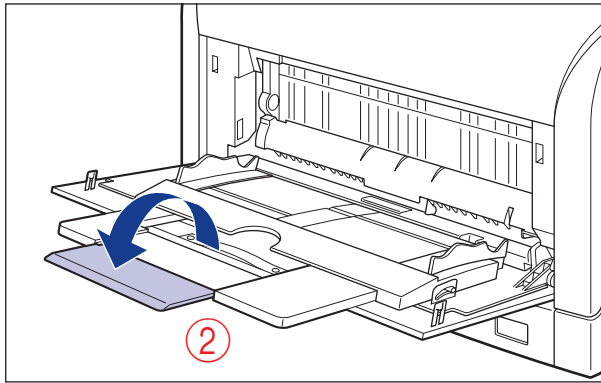
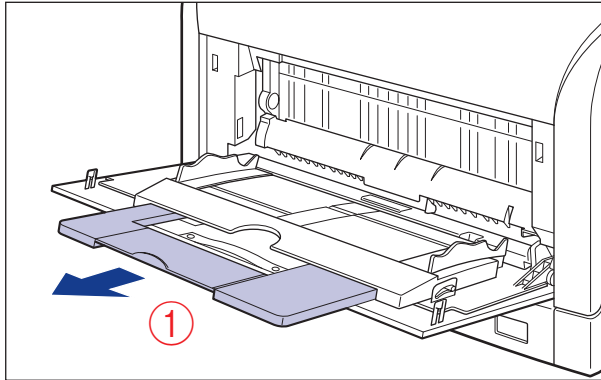
Paper Loading and Output Tray

1 Open the multi-purpose tray.

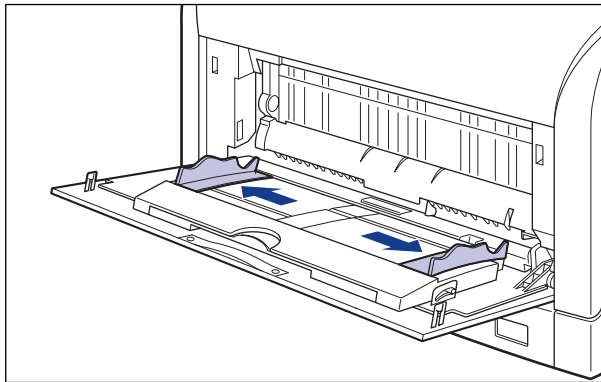
Holding the opening at the center of the printer, open the multi-purpose tray.



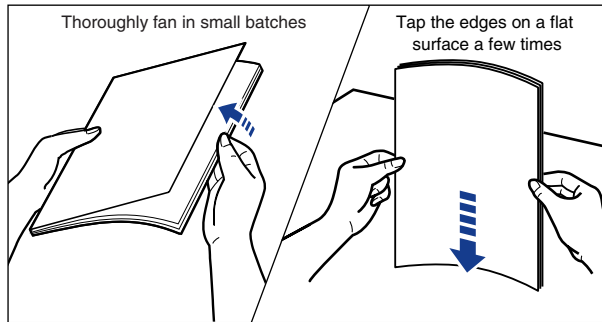
When loading long-size paper such as A3 and A4, pull out the auxiliary tray ①, and then open the tray extension ②.



2 Spread the paper guides a little wider than the actual paper width.



3 Before loading coated paper or labels, fan them in small batches and align the edges.



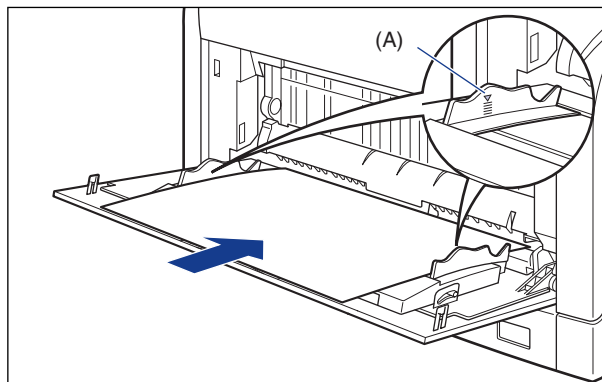
⚠ CAUTION

When loading paper, take care not to cut your hands with the edges of the paper.

👤 IMPORTANT

- Be sure to fan the coated paper or labels thoroughly before loading them. If they are not fanned enough, multiple sheets of paper may be fed at once, causing paper jams.
- When fanning or aligning coated paper, try to hold the edges to avoid touching the printing surface.
- Take care not to mark or stain the printing surface of the coated paper with fingerprints, dust, or oil. This may result in poor print quality.

4 Gently load the stack of paper with the printing side facing down until it touches the back of the tray.

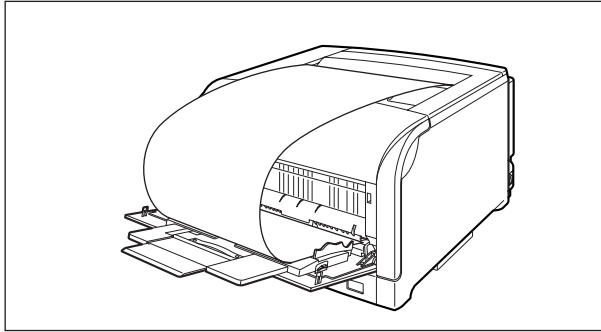


CAUTION

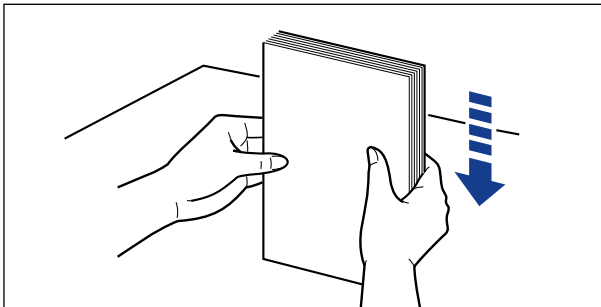
When loading paper, take care not to cut your hands with the edges of the paper.

IMPORTANT

- When loading long size paper, load one piece at a time in the multi-purpose tray as shown in the figure.

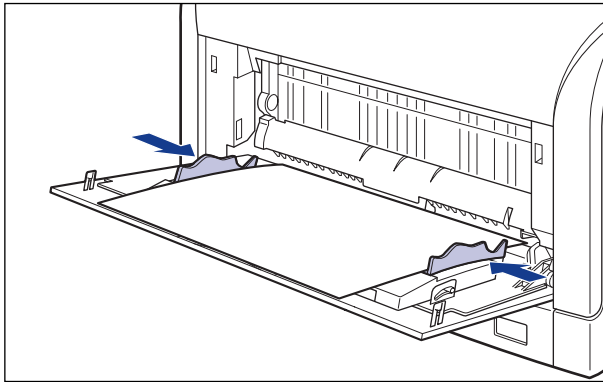


- The multi-purpose tray can be loaded with up to the number of sheets listed below. Make sure that the paper stack does not exceed the load limit marks (A).
 - Plain Paper : Approx. 90 sheets (Ex. 80 g/m²)
 - Heavy paper : Approx. 50 sheets (Ex. 128 g/m²)
 - Coated Paper : Approx. 50 sheets
 - Label : Approx. 40 sheets
- Load the paper so that it is straight.
- If the rear edge of the paper stack is not properly aligned, it may result in misfeeds or paper jams.
- If the paper is curled or folded at corners, flatten it before loading it in the printer.
- If you use paper that has been poorly cut, multiple sheets of paper may be fed at once. In this case, align the edges of the stack on a hard, flat surface.

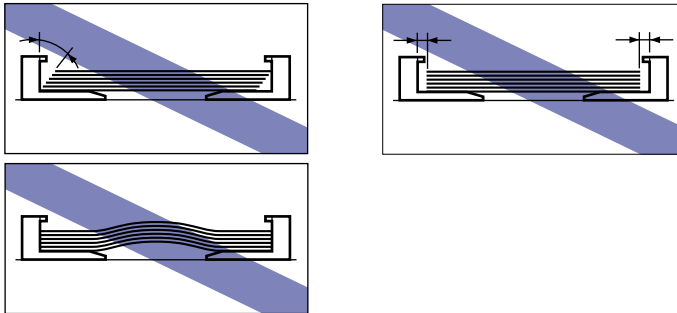


 **NOTE**

- If you want to print custom size paper of its long edges 297.0 mm or less when TRAY PAPER SIZE in the FEEDER MENU options in the SETUP is set to MIXED SIZES, specify the settings according to the printer driver you are using as follows.
 - When using UFR II Printer Driver: Load the paper in landscape orientation
 - When not using UFR II Printer Driver: Load the paper in portrait orientation
- To print paper with letterheads or logos, see "Paper Loading Orientation" (p. 3-70) and load the paper in the proper orientation.

5 Align the paper guides with both sides of the stack. **IMPORTANT**

- Be sure to align the paper guides with the width of the paper. If the paper guides are too loose or too tight, this may result in misfeeds or paper jams.



Next, specify the paper size for the multi-purpose tray (See p. 3-59).

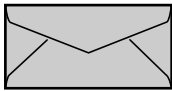
Loading Envelopes

You can load envelopes at sizes of DL, COM10, C5, Monarch, and B5 in the multi-purpose tray. Use the following procedure when loading envelopes in the multi-purpose tray.

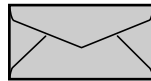
IMPORTANT

- The envelopes that can be used with this printer are Envelope DL, Envelope COM10, Envelope C5, Envelope Monarch, and Envelope B5 with the following structures only.

Envelope DL
(110.0 mm x 220.0 mm)



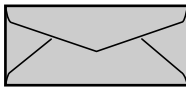
Envelope Monarch
(98.4 mm x 190.5 mm)



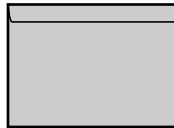
Envelope B5
(176.0 mm x 250.0 mm)



Envelope COM10
(104.7 mm x 241.3 mm)



Envelope C5
(162.0 mm x 229.0 mm)



* You cannot use envelopes at sizes of DL, COM 10, Monarch, and C5 that have a flap on the short edge.

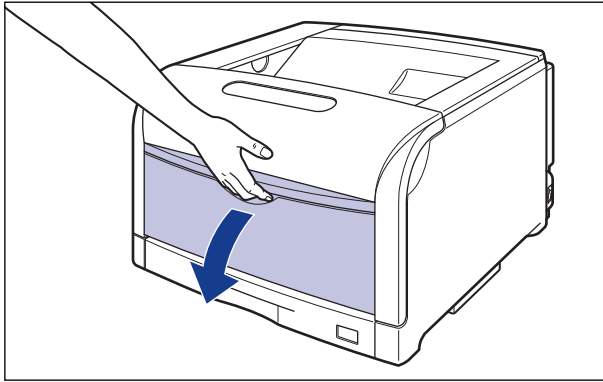
- Do not use the envelopes with adhesive on the surface. This may result in poor print quality or damage to the printer.
- When printing envelopes, you cannot print on any area within 10 mm (4 mm for the PS printer driver) of the edges of paper. (If you have selected the [Print with Upper Left of Sheet as Starting Point] check box in the [Finishing Details] dialog box in the UFR II printer driver, you can extend the printable area to near the edges of the paper. For more details, see Help of the UFR II printer driver.)
- Printing speed drops when printing envelopes.

NOTE

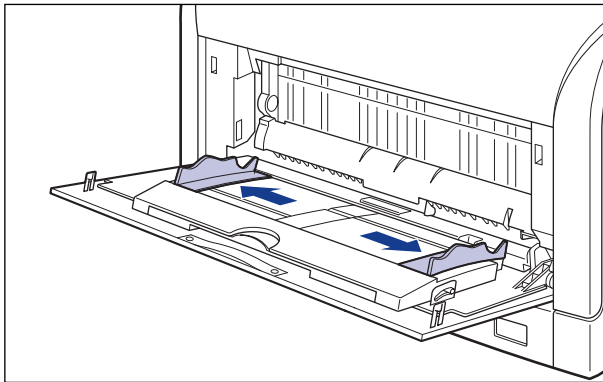
When printing envelopes, they may be creased.

1 Open the multi-purpose tray.

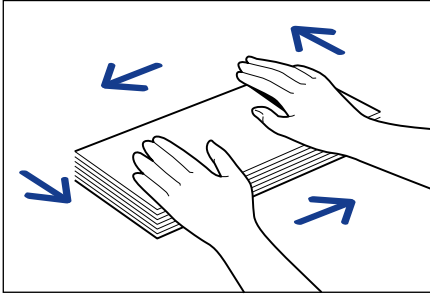
Holding the opening at the center of the printer, open the multi-purpose tray.



2 Spread the paper guides a little wider than the actual envelope width.



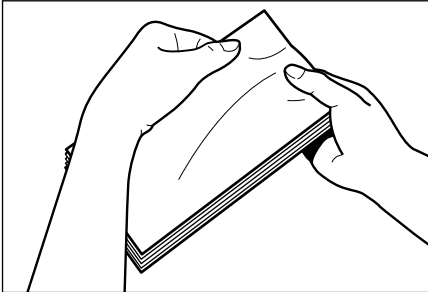
- 3** Place the stack of envelopes on a flat surface, flatten them to release any remaining air, and be sure that the edges are pressed tightly.



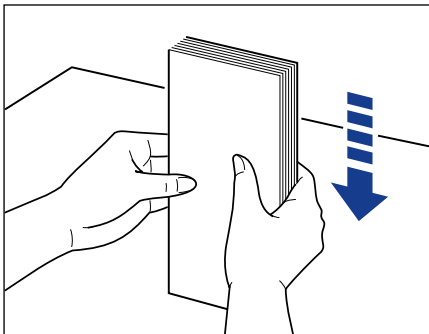
⚠ CAUTION

When loading paper, take care not to cut your hands with the edges of the paper.

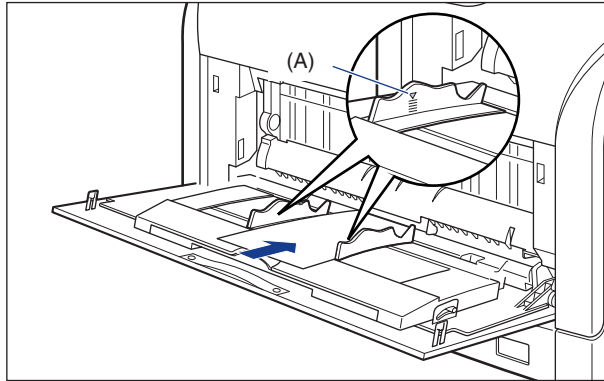
- 4** Loosen any stiff corners of the envelopes and flatten curls as shown in the figure.



- 5** Align the edges of the envelopes on a flat surface.

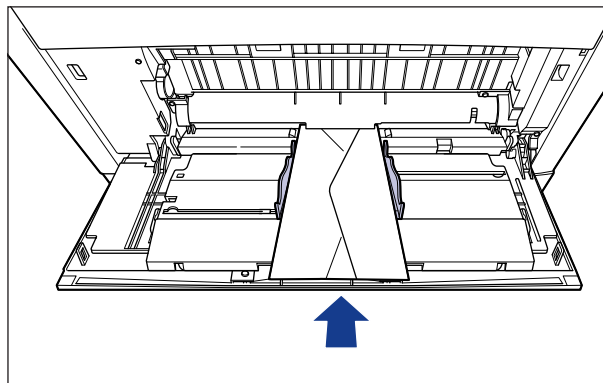


- 6** Gently load the stack of envelopes with the address side facing down and with the flaps closed and on the right side, until it touches the back of the multi-purpose tray as shown in the figure.

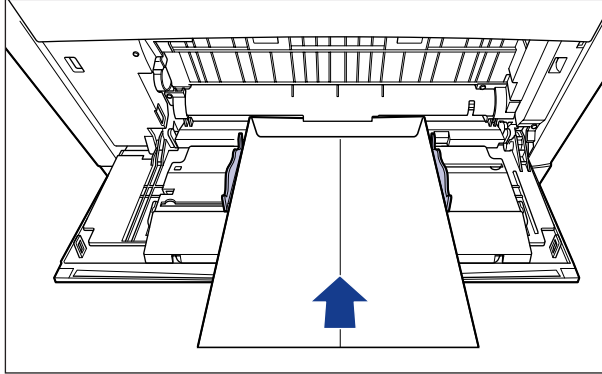


IMPORTANT

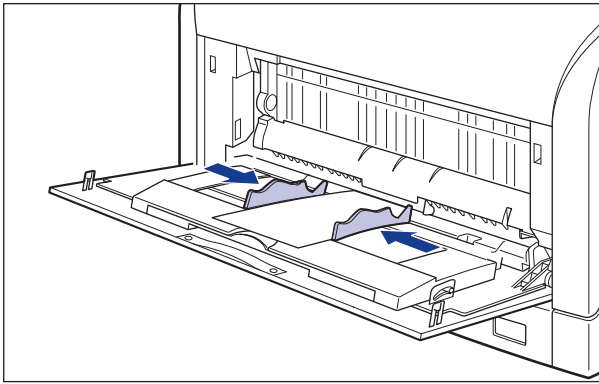
- Up to approximately 10 envelopes can be loaded in the multi-purpose tray. Make sure that the stack of envelopes does not exceed the load limit marks (A).
- You cannot print on the reverse side (glued side) of envelopes.
- When loading envelopes at a size of DL, COM10, C5, or Monarch, load them so that the flap is toward the right of the printer when viewed from the front.



- When printing envelopes of the Envelope B5 size, close the flaps and load them so that the envelopes are printed from the top (the edge with the flap).

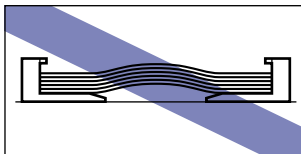
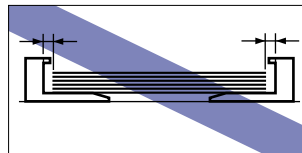
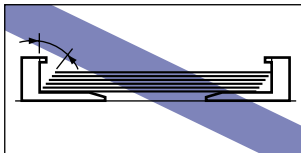


7 Align the paper guides with both sides of the stack.



IMPORTANT

Be sure to align the paper guides with the width of the envelopes. If the paper guides are too loose or too tight, this may result in misfeeds or paper jams.



Next, specify the paper size for the multi-purpose tray (See p. 3-59).

Specifying the Size of the Paper in the Multi-purpose Tray

When you loaded paper in the multi-purpose tray, specify the paper size for the multi-purpose tray using the control panel. When using paper or envelopes of standard size, specify its size. When loading non-standard size paper, specify CUSTOM SIZE or CUSTOM SIZER. The paper size setting for the multi-purpose tray is set to "A4" by default.

Specify the paper size setting for the multi-purpose tray using the following procedure.



IMPORTANT

- Match the paper size specified in the SETUP menu of the printer and that specified in the printer driver. If they do not match, the message <PC LOAD "size"> appears. In this case, the setting for TRAY PAPER SIZE is changed to that in the printer driver by pressing [Online], allowing you to continue printing.
- When non-standard size paper is loaded, specify the setting for TRAY PAPER SIZE in the control panel as follows.
 - When the paper is loaded in landscape orientation (Only when UFR II Printer Driver is used): CUSTOM SIZE
 - When the paper is loaded in portrait orientation: CUSTOM SIZER
- When you change the paper loaded in the multi-purpose tray frequently, it is convenient if TRAY PAPER SIZE in the control panel is set to MIXED SIZES. If TRAY PAPER SIZE is set to MIXED SIZES, you do not need to specify the setting for TRAY PAPER SIZE each time you load the different size paper. However, when specifying MIXED SIZES, make sure that the size of the paper loaded in the multi-purpose tray matches the paper size specified in the printer driver before printing. If they do not match, the printer may stop printing, displaying the message <41 CHK PAPER SIZE>, or a paper jam may occur. Be sure to check if the paper size specified in the printer driver matches the size of the paper loaded in the multi-purpose tray before using the printer.
- When printing custom size paper from UFR II Printer Driver, you can load the paper either in portrait or landscape orientation. However, if you want to print custom size paper of its long edges 297.0 mm or less when TRAY PAPER SIZE is set to MIXED SIZES, load the paper in landscape orientation. When you are not printing from UFR II Printer Driver, load the paper in portrait orientation.



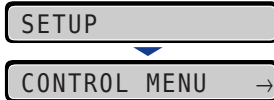
NOTE

The names of the following paper sizes are indicated by an abbreviation.

12 x 18: TxE, Ledger (11 x 17): LD, Legal: LG, Letter: LT, Executive: EX, Statement: ST, Envelope DL: DL, Envelope COM10: CO, Envelope C5: EC5, Envelope Monarch: MO, Envelope B5: EB5, Custom Size: 80 to 99, Custom SizeR/Long Size Paper: 80R to 99R, Free/Mixed Sizes: FR



1 Press [Settings].



2 Select FEEDER MENU using [◀] and [▶], then press [OK].



3 Select TRAY PAPER SIZE using [◀] and [▶], then press [OK].



4 Select the paper size using [◀] and [▶], then press [OK].



"=" is displayed on the left of the paper size, and the paper size for the multi-purpose tray is specified.

Next, specify the paper type for the multi-purpose tray (See the next item).

Specifying the Type of the Paper in the Multi-purpose Tray

When you loaded paper in the multi-purpose tray, specify the setting for TRAY PAPER TYPE according to the paper type using the control panel. The printer applies the appropriate print mode to the paper type. The default value is PLAIN PAPER.

| Paper Type | Common SETUP Menu Setting for TRAY PAPER TYPE |
|---|---|
| Plain paper (64 - 105 g/m ²) | PLAIN PAPER*1 |
| Heavy paper (106 - 169 g/m ²) | HEAVY PAPER 1 |
| Heavy paper (170 - 220 g/m ²) | HEAVY PAPER 2 |
| Coated paper | COATED PAPER*2 |
| Labels | LABEL |
| Envelopes | ENVELOPE |

*1 When any of the following problems occur on printing paper with PLAIN PAPER specified, specify PLAIN PAPER L.
-When the paper curls excessively on printing plain paper (64 g/m²)

-When the printing speed drops on printing paper of 279.4 mm wide (Letter size) or less continuously

*2 When using coated paper at a size other than sizes of 106 to 169 g/m², perform the following settings.

-When using paper of 105 g/m² or less: Set TRAY PAPER TYPE to PLAIN PAPER

-When using paper of 170 to 220 g/m²: Set TRAY PAPER TYPE to COATED PAPER and COATED PAPER in SP.PRINT MODE in the USER MAIN. options to ON.

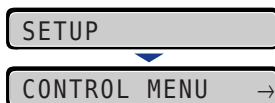


IMPORTANT

- Match the paper type specified in the SETUP menu of the printer and that specified in the printer driver. If they do not match, the message <PC LOAD "size"> appears. In this case, the setting for TRAY PAPER TYPE is changed to that in the printer driver by pressing [Online], allowing you to continue printing.
- If the type of the paper practically loaded in the multi-purpose tray and the setting for TRAY PAPER TYPE do not match, this may result in crucial damage to the engine. Be sure to match the paper type.
- If TRAY PAPER TYPE is set to MIXED SIZES, the printer does not check the type of the loaded paper against the paper type specified in the printer driver. Be sure to check if the paper type specified in the printer driver matches the type of the paper loaded in the multi-purpose tray before using the printer.

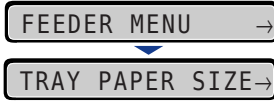


1 Press [Settings].

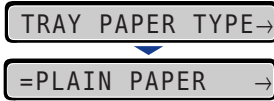




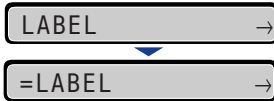
2 Select FEEDER MENU using [◀] and [▶], then press [OK].



3 Select TRAY PAPER TYPE using [◀] and [▶], then press [OK].



4 Select the paper type using [◀] and [▶], then press [OK].



"=" is displayed on the left of the paper type, and the paper type for the multi-purpose tray is specified.

When printing from the printer driver on Windows or Macintosh, configure the printer driver. (See Help of the printer driver)

When printing from DOS or UNIX, specify the settings for STD PAPER SIZE (See p. 5-31) and STD PAPER TYPE (See p. 5-33) using the control panel.

2-sided Printing

You can perform 2-sided printing with the standard equipment of this printer. Automatic 2-sided printing can be performed on plain paper at sizes of A3, B4, A4, B5, A5, Legal, Ledger (11 x 17), Statement, Letter, Executive, 8K, and 16K. The following custom paper sizes of plain paper can be used for automatic 2-sided printing.

- For Multi-purpose Tray
 - When loading paper in portrait orientation: Width 210.0 to 312.0 mm; Length 210.0 to 431.8 mm
 - When loading paper in landscape orientation (Only when UFR II Printer Driver is used): Width 210.0 to 297.0 mm; Length 148.0 to 297.0 mm
- For Cassette 2, 3, and 4
 - When loading paper in portrait orientation: Width 210.0 to 297.0 mm; Length 210.0 to 431.8 mm
 - When loading paper in landscape orientation (Only when UFR II Printer Driver is used): Width 210.0 to 297.0 mm; Length 148.0 to 297.0 mm



IMPORTANT

- You cannot perform automatic 2-sided printing on heavy paper, coated paper, labels, and envelopes.
- You can perform 2-sided printing on Statement size paper only from the multi-purpose tray.
- You cannot perform 2-sided printing on 8K and 16K size paper from the paper cassette (Cassette 1).
- When 2-sided printing is specified, and a job with odd number of pages is printed, the printing surface of the last page are as follows according to the setting for ALT.METHOD (See p. 5-42) or the paper source.
 - When printing from the paper cassette
 - If ALT.METHOD is set to ON, the printer prints on the upper side of the loaded paper.
 - If ALT.METHOD is set to OFF, the printer prints on the underside of the loaded paper.
 - When printing from the multi-purpose tray
 - If ALT.METHOD is set to ON, the printer prints on the underside of the loaded paper.
 - If ALT.METHOD is set to OFF, the printer prints on the upper side of the loaded paper.
- Set ALT.METHOD to OFF when you want to match the setting of the orientation or printing side for the last page with those for its previous page, such as when you want to print previously printed paper etc. whose printing orientation or printing side is fixed.
- During automatic 2-sided printing, do not touch the paper until it is output to the output tray completely. In automatic 2-sided printing, the paper is partially output once after printed on its surface and is fed again to be printed on its reverse side.

 NOTE

- Depending on the capacity of the RAM in the printer, the print quality may deteriorate, or the printer may not be able to print, displaying <SPL MEM.FULL> when performing automatic 2-sided printing on documents that make heavy use of lines or contain complicated diagrams, charts, or graphs. In this case, take the following measures.
 - Set GRADATION LEVEL to HIGH 1, then print again.
 - Install an expansion RAM module. (See Getting Started Guide)
- On automatic 2-sided printing, the reverse side of the paper is printed first, therefore the paper should be loaded in the opposite orientation to that for 1-sided printing. If printing on such paper with letterheads, in which faces and directional orientations are specified, see "Paper Loading Orientation" (p. 3-70) and load the paper in the proper orientation.

Switching Between Automatic 2-sided Printing and 1-sided Printing

Perform automatic 2-sided printing using the following procedure.

■ When printing from Windows

When performing automatic 2-sided printing, set [Print Style] in the [Finishing] sheet in the printer driver to [2-sided Printing]. For details on using the printer driver, see Help of the printer driver.

■ When printing from Macintosh

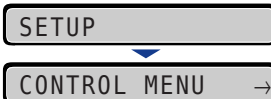
When performing automatic 2-sided printing, specify the settings in the printer driver. For details on using the printer driver, see Help of the printer driver.

■ When printing from DOS or UNIX

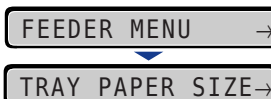
When you are printing from DOS, UNIX, or other operating system on which you cannot use the printer driver, specify the settings using the control panel. Switch between automatic 2-sided printing and 1-sided printing with the printer's control panel using the following procedure.



1 Press [Settings].



2 Select FEEDER MENU using [◀] and [▶], then press [OK].





3 Select **2-SIDED PRINT.** using [◀] and [▶], then press [OK].

2 - SIDED PRINT. →

=OFF →



4 Select **ON** using [◀] and [▶], then press [OK].

ON →

=ON →

"=" is displayed on the left of ON, and 2-sided printing is specified.

Manual 2-sided Printing

Since this printer can print on the other side of previously printed paper, you can perform 2-sided printing on paper to which automatic 2-sided printing cannot be applied. When printing the other side of previously printed paper, you need to specify the settings using the printer driver or control panel.



IMPORTANT

Be sure to set MANUAL 2-SIDED (See p. 5-37) to 2ND SIDE before printing the other side of previously printed paper with this printer.

■ When printing from Windows

When printing the other side of previously printed paper, select the [Print on the Other Side] check box in the [Paper Source] dialog box in the printer driver. For details on using the printer driver, see Help of the printer driver.

■ When printing from Macintosh

When printing the other side of previously printed paper, specify the settings using the printer driver. For details on using the printer driver, see Help of the printer driver.

■ When printing from DOS or UNIX

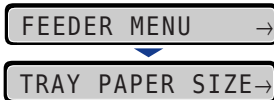
When you are printing from DOS, UNIX, or other operating system on which you cannot use the printer driver, set MANUAL 2-SIDED to 2ND SIDE from the control panel. Specify the settings for printing the other side of previously printed paper from the printer's control panel using the following procedure.



1 Press [Settings].



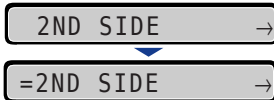
2 Select FEEDER MENU using [◀] and [▶], then press [OK].



3 Select MANUAL 2-SIDED using [◀] and [▶], then press [OK].



4 Select 2ND SIDE using [◀] and [▶], then press [OK].



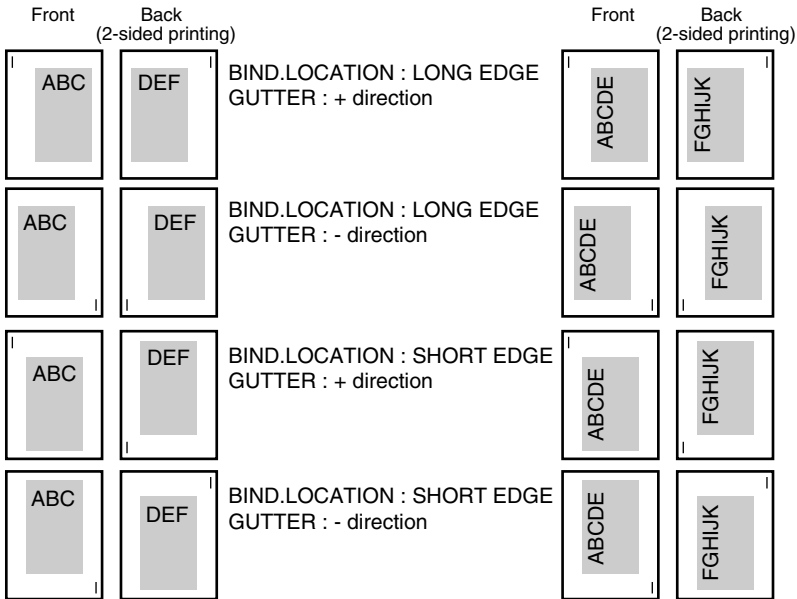
"=" is displayed on the left of 2ND SIDE, and the settings for printing the other side of previously printed paper are specified.

Printing with a Gutter

You can print with a margin for a gutter applied to an edge of paper. When applying a gutter, specify the location (long edge or short edge) and the width (maximum: 50 mm).

Binding location for when using paper in portrait orientation

Binding location for when using paper in landscape orientation



IMPORTANT

If any part of the print image lies outside the printable area after creating the gutter, the part will be missing.



NOTE

- In the printer driver, selecting the edge to be bound specifies the (+) or (-) direction.
- For automatic 2-sided printing, the edges to be bound on both sides of paper are automatically determined.
- The settings for OFFSET Y and OFFSET X are enabled regardless of the settings for a gutter. Because of this, gutters on both sides of paper may be skewed if the settings for OFFSET Y and OFFSET X are specified for 2-sided printing.

Specifying a Gutter

■ When printing from Windows

Specify the following settings in the printer driver. For details on using the printer driver, see Help of the printer driver.

1. Display the [Finishing] sheet in the printer driver.
2. Specify [Binding Location].
3. Click [Gutter] to specify the gutter width in the [Gutter Settings] dialog box.

■ When printing from Macintosh

Specify the settings in the printer driver. For details on using the printer driver, see Help of the printer driver.

■ When printing from DOS or UNIX

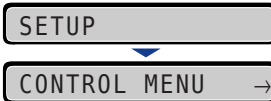
When you are printing from DOS, UNIX, or other operating system on which you cannot use the printer driver, perform the following procedure using the printer's control panel.

3

Paper Loading and Output Tray



1 Press [Settings].



2 Select LAYOUT MENU using [◀] and [▶], then press [OK].



3 Select BIND.LOCATION using [◀] and [▶], then press [OK].



The setting value for BIND.LOCATION is displayed.



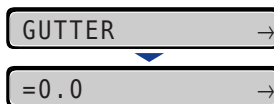
- 4** Select the target binding location using [◀] and [▶], then press [OK].



The selected binding location is specified.



- 5** Select GUTTER using [◀] and [▶], then press [OK].

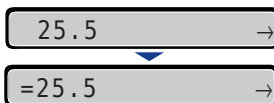


The setting value for GUTTER is displayed.



- 6** Select the target value using [◀] and [▶], then press [OK].

Each time you press [◀] or [▶], the value changes in 0.5 mm increments.



"=" is displayed on both sides of the value, and the gutter is specified.

Paper Loading Orientation

To print paper with letterheads or logos, load the paper in the proper orientation as follows. → in the table indicates the feeding directions.

| | Loading A4, B5, A5, Letter, or Executive size paper in landscape orientation | | Loading A3, B4, Ledger (11 x 17), or Legal size paper in portrait orientation | |
|---|--|------------------|---|------------------|
| | Portrait Layout | Landscape Layout | Portrait Layout | Landscape Layout |
| Paper Cassette 1 to 4 (1-sided Printing) | | | | |
| Paper Cassette 1 to 4 (Automatic 2-sided Printing) | | | | |
| Multi-purpose Tray (1-sided Printing) | | | | |
| Multi-purpose Tray (Automatic 2-sided Printing) | | | | |
| Multi-purpose Tray (Manual 2-sided Printing) | | | | |

NOTE

- For details on the loading orientation of envelopes, see "Loading Paper (Other than Envelopes)," on p. 3-49.

- If you want to print custom size paper of its long edges 297.0 mm or less when CASSETTE(n) SIZE (n = 2, 3, 4) or TRAY PAPER SIZE in the FEEDER MENU options in the SETUP menu is set to MIXED SIZES, specify the settings according to the printer driver you are using as follows.
 - When using the UFR II printer driver: Load the paper in landscape orientation
 - When not using the UFR II printer driver: Load the paper in portrait orientation

The Printing Environment

4

CHAPTER

This chapter describes the functions and categories of the menu displayed in the printer's control panel, how to use the operation keys, and how to view the display.

| | |
|--|------|
| Menu Functions | 4-2 |
| Menu Functions | 4-2 |
| Setting Priority | 4-3 |
| Menu Categories | 4-4 |
| Printer Status to Enter the Menu Operation | 4-4 |
| How to Use the Operation Keys | 4-5 |
| How to View the Display | 4-7 |
| Menu Structure | 4-7 |
| How to View the Display | 4-7 |
| Menu Functions and Menu Operation | 4-9 |
| SETUP Menu | 4-9 |
| UTILITY Menu | 4-11 |
| JOB Menu | 4-12 |
| RESET Menu | 4-13 |
| CANCEL JOB Menu | 4-14 |
| SELECT FEEDER Menu | 4-15 |
| Checking the Counter | 4-17 |
| Initializing the SETUP Menu | 4-18 |

Menu Functions

This section describes the menu functions and their categories.

Menu Functions

Before printing, specify the total print pages, paper size, etc. Generally, these settings are specified in an application or printer driver.

This printer, however, is equipped with many functions as well as the settings for the total print pages and paper size, enabling printing for a wide array of uses. Some settings for this printer cannot be specified by application or printer driver. You can specify these settings using the "menu functions".

You can specify the settings using the menu functions easily because in the menu functions a variety of settings are classified by purpose.

There are the following two kinds of procedures for specifying the menu functions.

■ Settings Using the Printer's Control Panel

Specify the settings by pressing the keys while checking the display on the printer.

■ Settings Using the Remote UI

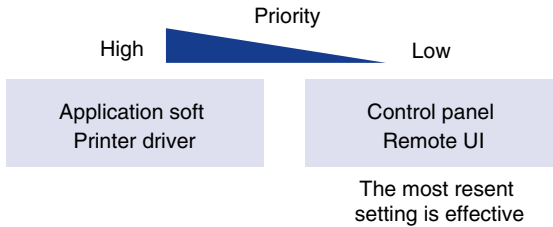
Some settings specified by the control panel can be specified by a web browser from your computer.

NOTE

- For this section, this manual describes only the procedures for specifying the menu functions using the control panel. For details on specifying the settings using the Remote UI, see "Remote UI Guide".
- The settings for the menu functions are registered to the memory (NVRAM) in which data is not deleted normally even if the printer is turned OFF. Therefore, even after cycling the power of the printer, it starts with its settings unchanged from when the printer was turned OFF last time.

Setting Priority

When the setting values for the same option are different between an application or the printer driver and the menu functions, the setting specified in the application or printer driver is effective. When specifying a setting only in the menu functions using the control panel or the Remote UI, the most recently specified setting is effective.

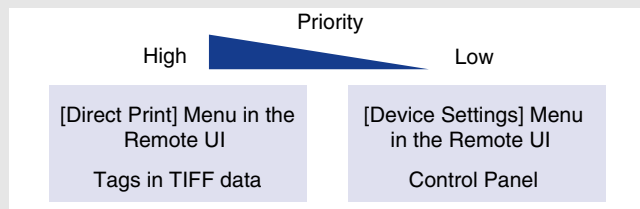


The printer driver and Remote UI are supplied with this printer. For details on using the printer driver or Remote UI, see Help of the printer driver, and "Remote UI Guide".

Depending on the settings, they become effective after cycling the power of the printer or performing a hard reset.

● Setting Priority of Direct Print

When specifying a setting only in the menu functions using the control panel or the [Device Settings] menu in the Remote UI, the most recently specified setting is effective. The direct print function gives priority to the contents specified using the [Direct Print] menu in the Remote UI or tags in IFD (Image file directory) that the header of TIFF data of image file has over those specified using the control panel or the [Device Settings] menu in the Remote UI.



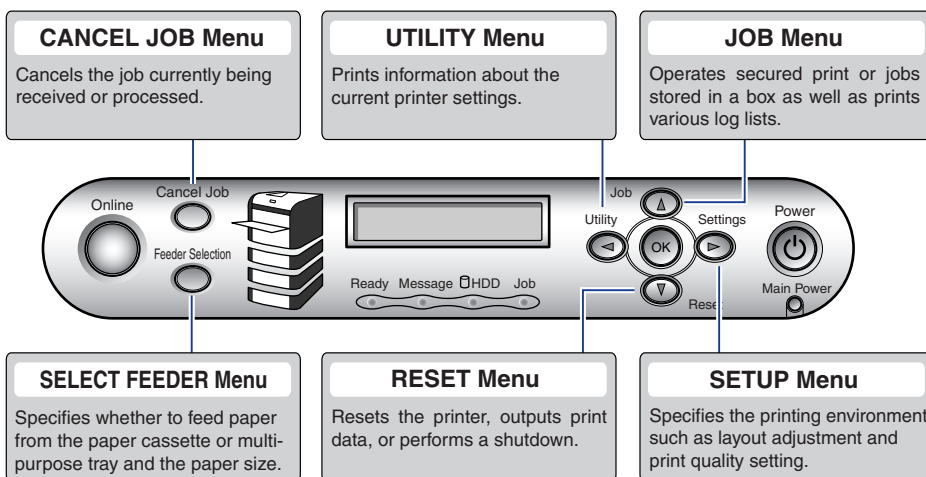
Some of the tag function that the header of TIFF data has may be disabled.

Menu Categories

There are the following six categories of the menu.

For the functions and operation procedures, see "Menu Functions and Menu Operation," on p. 4-9.

For details on each menu, see "Chapter 5 Printing Environment Settings".



Printer Status to Enter the Menu Operation

You can enter each menu when the printer is in the following status.

○: The status that you can enter the menu

-: The status that you cannot enter the menu

| | When the printer is ready to print ^{*1} | | When an error is occurring ^{*2} |
|--------------------|--|-----------------------------|--|
| | When the printer is online | When the printer is offline | |
| SETUP Menu | ○ ^{*3} | ○ | ○ |
| SELECT FEEDER Menu | ○ | ○ | ○ |
| RESET Menu | ○ | ○ | ○ ^{*4} |
| JOB Menu | ○ | - | - |
| UTILITY Menu | ○ | - | - |

^{*1} The printer is ready to print when the Ready indicator is on.

^{*2} An error is occurring in the printer when the Message indicator is on.

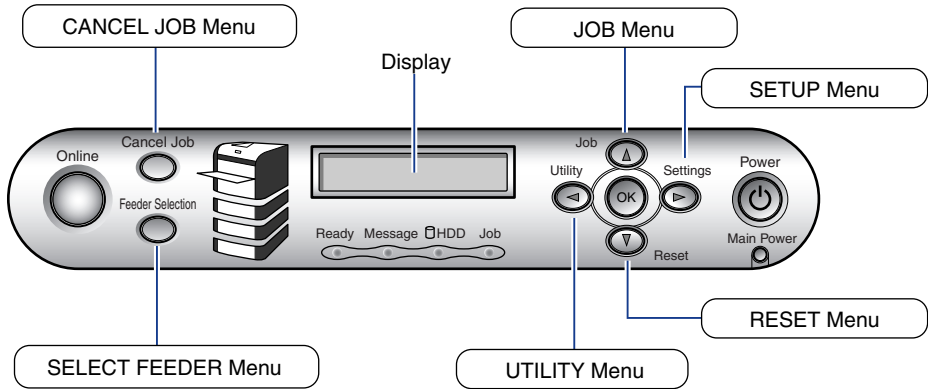
^{*3} You cannot specify the settings in the USER MAIN. options when the printer is in the online status.

^{*4} You cannot specify the settings for FORM FEED.




How to Use the Operation Keys







Use the following keys for the menu operation.

Among the keys, [Setting], [Utility], [Job], [Reset], [Cancel Job], and [Feeder Selection] have the function to display a menu.



■ The functions of each key are as follows.

| Key | Functions | | |
|---|--|---|-------------------------------------|
|  (Online) | Switches between online and offline. The printer is online when the indicator under the key is on and is offline when the indicator is off. Indicated as [Online] in the manuals. | | |
|  (Cancel Job) | When the printer is online | Immediately after placing the printer online | While the menu is displayed* |
| | If pressed when the Job indicator is on or blinking (When data is being processed or received), cancels the job currently being processed. Indicated as [Cancel Job] in the manuals. | | Does not function. |
|  (Feeder Selection) | Displays the SELECT FEEDER menu. Indicated as [Feeder Selection] in the manuals. | | Does not function. |

| Key | Functions | | |
|--|--|--|---|
| | When the printer is online | Immediately after placing the printer online | While the menu is displayed* |
|  (Utility) | Displays the UTILITY menu. Indicated as [Utility] in the manuals. | Does not function. | Displays the next left item in the same hierarchy. When the setting value is numeric, reduces the value. If you keep holding down the key, the speed of the value decreasing is increased depending on the setting value. Indicated as [◀] in the manuals. |
|  (Job) | Displays the JOB menu. Indicated as [Job] in the manuals. | Does not function. | Displays the item of the next upper hierarchy. Indicated as [▲] in the manuals. |
|  (Reset) | Displays the RESET menu. Indicated as [Reset] in the manuals. | | Executes the selected item. Otherwise, goes down the hierarchy. Indicated as [▼] in the manuals. Has the same function as [OK]. |
|  (Settings) | Displays the SETUP menu. Indicated as [Settings] in the manuals. However, the USER MAIN. options cannot be specified when the printer is online. | | Displays the next right item in the same hierarchy. When the setting value is numeric, increases the value. If you keep holding down the key, the speed of the value increasing is increased depending on the setting value. Indicated as [▶] in the manuals. |
|  (OK) | Does not function. | | Executes the selected item. Otherwise, goes down the hierarchy. Indicated as [OK] in the manuals. Has the same function as [▼]. |
|  (Control Panel Power Switch (Sub Power Supply)) | If POWER SAVE MODE is set to a setting other than OFF, the printer enters Power Save Mode (See p. 5-18). Hold down the switch for 4 seconds or more to execute SHUT DOWN (See p. 5-115). | | |

* Depending on the settings, the printer may operate differently from the description. For more details, see the instructions for each setting.

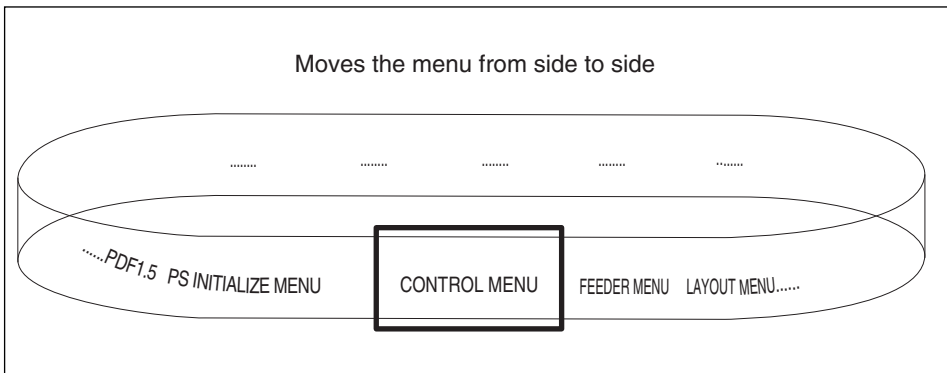
How to View the Display

This section describes the contents of the letters that appear in the display when specifying the menu functions.

Menu Structure

The menu structure looks like a chain (loop structure), and one of the menus on this chain is displayed in the display. Therefore, continuously pressing [◀] or [▶] displays the first menu again.

The menus consist of individual loop structures in each hierarchy.

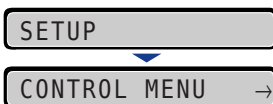


How to View the Display

Up to 16 characters appear in a line in the display.

After you display a menu by pressing a key, the item of the first hierarchy in the menu appears automatically.

If there is any selectable item in the same hierarchy, "→" appears on the right in the display.



If no action is taken after the lowest hierarchy in the menu is displayed, the item of the next upper hierarchy and that of the currently selected hierarchy are displayed alternately.



"=" is displayed on the left in the display for the currently selected setting.

Menu Functions and Menu Operation

This section describes the overview of the menus and operating procedures for them.

SETUP Menu

This section describes the function of the SETUP menu and the operating procedure for it.

SETUP Menu Functions

The SETUP menu allows you to configure a variety of printing environment such as printing position, type of character set, and the selection of the interface for connecting the printer to the computer.

Normally, you can configure a printing environment using an application or the printer driver in a computer connected to the printer. However, some settings such as interface configuration can be specified only in the SETUP menu of the printer. Also, you can print using an application in which you cannot specify the print settings or MS-DOS command directly. When you are printing using them, specify the printing environment using the SETUP menu in the printer.



NOTE

For more details on the settings, see "SETUP Menu Settings," on p. 5-18.

Operating Procedure for the SETUP Menu

The SETUP menu consists of three hierarchies: "Option", "Setting", and "Setting Value". Select the target options in each hierarchy.

As an example of the setting procedure, this section describes the procedure for setting TRAY PAPER SIZE in the FEEDER MENU options to B5. Start the key operation from Step 1.

Operation Procedure

1

Place the printer online.

Key Operation

Press [Online].

When the printer is online, the SETUP menu can be displayed, however, the USER MAIN. options cannot be specified.

2 Display the SETUP menu.

SETUP

CONTROL MENU →

Press [Settings].

The SETUP menu is displayed.

3 Select the option.

When the FEEDER MENU options are selected

FEEDER MENU →

Press [◀] or [▶].

The target option is displayed.

4 Display the item.

TRAY PAPER SIZE →

Press [OK].

The selected items are displayed.

5 Select the setting.

When TRAY PAPER SIZE is selected

TRAY PAPER SIZE →

Press [◀] or [▶].

The target item is displayed.

6 Determine the selected setting.

=A4 →

Press [OK].

The selected settings are displayed.

7 Select the setting.

When B5 is selected

B5 →

Press [◀] or [▶].

The target setting is displayed.

8 Determine the selected setting.

Press [OK].

9 Switch back to online state.

Press [Online].

 **NOTE**

- The printer can switch back to online when it is ready to print. The printer is ready to print when the Ready indicator is on.
- If you press [▲] during the setting, the display goes back up the hierarchy.
- If you press [Online] during the setting, the setting is canceled.
- In some options, the settings are divided into two different hierarchies.

UTILITY Menu

This section describes the function of the UTILITY menu and the operating procedure for it.

UTILITY Menu Functions

The UTILITY menu allows you to print the settings for the SETUP menu or perform cleaning.



NOTE

For more details on the settings, see "UTILITY Menu Settings," on p. 5-104.

Operating Procedure for the UTILITY Menu

The UTILITY menu consists of two hierarchies: "Common Utilities" and "Exclusive Utilities". Select the target options in each hierarchy.

Exclusive Utilities are displayed only when either one of PCL UTILITY and PS UTILITY is selected in the hierarchy of Common Utilities.

This section describes the procedure for printing FONTS LIST in PCL UTILITY as an example. Start the key operation from Step 1.

Operation Procedure

1 Make sure that the printer is online.

If the printer is not online, press [Online].

2 Display the UTILITY menu.

Press [Utility].

UTILITY MENU

CONFIG. PAGE →

The UTILITY menu is displayed.

3 Select the Common Utility.

When PCL UTILITY is selected

PCL UTILITY →

Press [◀] or [▶].

The target option is displayed.

4 Select Exclusive Utilities

FONTS LIST →

Press [OK].

The Exclusive Utilities are displayed.

JOB Menu

This section describes the function of the JOB menu and the operating procedure for it.

JOB Menu Functions

The JOB menu allows you to print secured print jobs, the jobs stored in a box, and various kinds of log lists.

NOTE

For more details on the settings, see "JOB Menu Settings," on p. 5-109.

Operating Procedure for the JOB Menu

This section describes the procedure for printing JOB LOG LIST. Start the key operation from Step 1.

Operation Procedure

1 Make sure that the printer is online.

2 Display the JOB menu.

JOB

▼

JOB LOG LIST →

Key Operation

If the printer is not online, press [Online].

Press [Job].

The JOB menu is displayed.

5 Select the Exclusive Utility.

When FONTS LIST is selected

FONTS LIST →

Press [◀] or [▶].

The target Exclusive Utility is displayed.

6 Determine the selected setting.

Press [OK].

A fonts list is printed.

NOTE

- If you did not select the Exclusive Utility (PCL UTILITY, PS UTILITY), Step 4 to 5 are omitted.
- If you press [▲] during the setting, the display goes back up the hierarchy.
- If you press [Online] during the setting, the setting is canceled.

3 Select the item that you want to print.

When JOB LOG LIST is selected



Press [◀] or [▶].

The target item is displayed.

4 Print JOB LOG LIST.

Press [OK].

JOB LOG LIST is printed.

NOTE

If you press [Online] during the setting, the setting is canceled.

RESET Menu

This section describes the function of the RESET menu and the operating procedure for it.

RESET Menu Functions

The RESET menu allows you to reset the printer (soft reset and hard reset), output any print data remaining in the printer memory, perform SHUT DOWN to turn the printer OFF when using the hard disk, and reset the counter of the toner cartridges.

NOTE

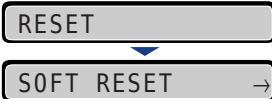
For more details on the settings, see "RESET Menu Settings," on p. 5-114.

Operating Procedure for the RESET Menu

This section describes the procedure for executing SOFT RESET as an example. Start the key operation from Step 1.

Operation Procedure

1 Display the RESET menu.



2 Select the item that you want to execute.

When SOFT RESET is selected



Key Operation

Press [Reset].

The RESET menu is displayed.

Press [◀] or [▶].

The target item is displayed.

3

Determine the selected item.

Press [OK].

A soft reset is performed.

 NOTE

HARD RESET is displayed after you keep holding down [OK] 3 seconds or more when SOFT RESET is displayed in the display.

CANCEL JOB Menu

This section describes the function of the CANCEL JOB menu and the operating procedure for it.

CANCEL JOB Menu Functions

The CANCEL JOB menu allows you to cancel only the job currently being received or processed.

Pressing [Cancel Job] and [OK] on the control panel while the job you want to cancel is being processed starts the cancel job process.

 IMPORTANT

- Cancel the job while the printer is processing the data (While the Job indicator is on or blinking). No job is canceled by pressing [Cancel Job] when the Job indicator is off.
- The data that has already been processed and is being printed (started to be fed) cannot be canceled. In this case, the next print data may be canceled.
- When there is any print data sent from a printer driver other than that for this printer, multiple data may be canceled.

 NOTE

When canceling a job, you may not be able to cancel the job even if <03 CANCELING JOB> is displayed. The secure print job before entering the password and the job to be stored in the box cannot be canceled. Delete the secure print job before entering the password and the job to be stored in the box with the Remote UI. (See Remote UI Guide)

Operating Procedure for the CANCEL JOB Menu

Pressing [Cancel Job] and [OK] on the control panel while the job you want to cancel is being processed displays <03 CANCELING JOB> starts the cancel job process. Start the key operation from Step 1.

Operation Procedure

1

Cancel the job while the job is being processed.

CANCEL?

Key Operation

Press [Cancel Job].

2 Execute the job cancel process.

03 CANCELING JOB

Press [OK].

Pressing [OK] starts the job cancel process. When not executing the cancel job process, press any key other than [OK]. After completing the job cancel, the printer is ready to print.

SELECT FEEDER Menu

This section describes the function of the SELECT FEEDER menu and the operating procedure for it.

SELECT FEEDER Menu Functions

The SELECT FEEDER menu allows you to select the paper source, paper size, etc. After a paper source is selected, the corresponding Paper Source indicator comes on.

NOTE

For more details on the settings, see "SELECT FEEDER Menu Settings," on p. 5-117.

Operating Procedure for the SELECT FEEDER Menu

The SELECT FEEDER menu consists of two hierarchies: "Setting" and "Setting Value". Select the target items in each hierarchy.

As an example of the setting procedure, this section describes the procedure for setting TRAY PAPER SIZE to B5. Start the key operation from Step 1.

Operation Procedure

1 Display the SELECT FEEDER menu.

PAPER SOURCE →

2 Select the item.

When TRAY PAPER SIZE is selected

TRAY PAPER SIZE →

3 Display the setting value.

=A4 →

Key Operation

Press [Feeder Selection].

The SELECT FEEDER menu is displayed.

Press [◀] or [▶].

The target item is displayed.

Press [OK].

The selected settings are displayed.

4 Select the setting.

When B5 is selected

Press [◀] or [▶].

The target setting is displayed.

5 Determine the selected setting.

Press [OK].

Checking the Counter

You can check the number of the printed pages using the control panel.




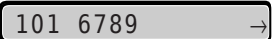
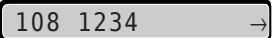
Check the counter by selecting COUNTER CHECK in the hierarchy of "Options" in the SETUP menu.

This section describes the procedure for checking the number of pages in color printing (large size) as an example. Start the key operation from Step 1.



NOTE

Depending on the printer you are using, this item is not displayed.

| Operation Procedure | Key Operation |
|---|---|
| <p>1 Display the SETUP menu.</p>   | <p>Press [Settings].</p> <p>The SETUP menu is displayed.</p> |
| <p>2 Select COUNTER CHECK</p>  | <p>Press [◀] or [▶].</p> |
| <p>3 Display the counter.</p>  | <p>Press [OK].</p> |
| <p>4 Select the item that you want to display.</p> <p>If displaying the number of pages in color printing (large size)</p>  | <p>Press [◀] or [▶].</p> <p>* The number on the left indicates the number of pages of the following.</p> <ul style="list-style-type: none">- 101: The total number of printed pages- 108: The number of pages in black and white printing- 114: The number of pages in 2-sided printing <p>* The number on the right indicates the number of pages.</p> |
| <p>5 Finish checking the counter.</p> | <p>Press [Online].</p> |

Initializing the SETUP Menu

Initialization of the SETUP menu resets the settings specified in the SETUP menu to the default settings.

Initialize the menu by selecting INITIALIZE MENU in the hierarchy of "Options" in the SETUP menu. Start the key operation from Step 1.

Operation Procedure

1 Display the SETUP menu.

SETUP

CONTROL MENU →

2 Select INITIALIZE MENU.

INITIALIZE MENU →

3 Initialize the SETUP menu.

OK?

4 Confirm the message, then initialize the SETUP menu.

Key Operation

Press [Settings].

The SETUP menu is displayed.

Press [◀] or [▶].

Press [OK].

A confirmation message is displayed.

Press [Enter].

<INITIALIZING> is displayed during the initialization. <DONE> is displayed after the initialization is completed.

IMPORTANT

- If the message <INITIALIZE FAIL> appears when the initialization of the SETUP menu is executed, the SETUP menu is not initialized.
- Do not turn the printer OFF during the initialization. The printer memory may be damaged.
- Some settings do not become effective unless you cycle the power of the printer or perform a hard reset.

 **NOTE**

- If you press [Online] during the setting, the setting is canceled. However, you cannot cancel the setting when <INITIALIZING> is displayed even if you press [Online].
- The following items in the common SETUP menu are not initialized.
 - ADJ.START POS., SPS-SIZE MODE1, and SPS-SIZE MODE2 in the USER MAIN. options
 - NETWORK MENU in the INTERFACE MENU options

Printing Environment Settings

5

CHAPTER

This chapter describes the options that you can specify on the printer's control panel.

| | |
|---------------------------------------|-------------|
| Setting Items | 5-2 |
| SETUP Menu | 5-2 |
| UTILITY Menu | 5-15 |
| JOB Menu | 5-16 |
| RESET Menu | 5-16 |
| SELECT FEEDER Menu | 5-17 |
| SETUP Menu Settings | 5-18 |
| CONTROL MENU Options | 5-18 |
| FEEDER MENU Options | 5-29 |
| LAYOUT MENU Options | 5-39 |
| QUALITY MENU Options | 5-43 |
| INTERFACE MENU Options | 5-55 |
| PRINT MODE Options | 5-66 |
| USER MAIN. Options | 5-69 |
| PCL SETUP Options | 5-75 |
| UFR II SETUP Options | 5-80 |
| IMAGING SETUP Options | 5-81 |
| PDF1.5 Options | 5-84 |
| PS Options | 5-95 |
| UTILITY Menu Settings | 5-104 |
| JOB Menu Settings | 5-109 |
| RESET Menu Settings | 5-114 |
| SELECT FEEDER Menu Settings | 5-117 |

Setting Items

SETUP Menu

■ CONTROL MENU Options

| Item | Settings | Applicable Page |
|------------------------|--|-----------------|
| POWER SAVE MODE | ON*, DEEP SLEEP, OFF, PANEL OFF | p. 5-18 |
| PWR SAVE IN ERR | ON*, OFF | p. 5-19 |
| POWER SAVE TIME | 10 minutes*, 15 minutes, 30 minutes, 60 minutes, 180 minutes, 5 minutes | p. 5-19 |
| WARNING STEP | CHECK TONER: CONT.PRINTING*, STOP PRINTING | p. 5-20 |
| AUTO ERROR SKIP | OFF*, ON | p. 5-20 |
| PANEL LANGUAGE | ENGLISH*, FRENCH, GERMAN, ITALIAN, SPANISH | p. 5-20 |
| SHOW WARNINGS | CHECK TONER: ON*, OFF CHECK FIX.UNIT: ON*, OFF CHK WST TNR CTN: ON*, OFF CHECK DRUM: ON*, OFF CASSETTE EMPTY: ON*, OFF E-MAIL TRAN.ERR* ¹ : ON*, OFF | p. 5-21 |
| DATE AND TIME | | |
| DATE SETTING | 01/01/2001 to 31/12/2089 | p. 5-22 |
| TIME SETTING | 00:00:00 to 23:59:59 | p. 5-22 |
| DAYLIGHT SAVING | DST SETTINGS: ON*, OFF START DATE: <MONTH>, <WEEK>, <DAY>, <TIME SETTING> END DATE: <MONTH>, <WEEK>, <DAY>, <TIME SETTING> | p. 5-22 |
| TIME ZONE | GMT-12 to GMT+12 | p. 5-23 |

5

Printing Environment Settings

| TIMER SETTINGS | | |
|-------------------------------------|--|---------|
| WAKE UP TIMER | OFF*, ON | p. 5-23 |
| WAKE UP TIME | 00:00 to 23:59 | p. 5-24 |
| POW. SAVE TIMER | OFF*, ON | p. 5-24 |
| POWER SAVE TIME | 00:00 to 23:59 | p. 5-25 |
| CALIBRATE TIMER | OFF*, ON | p. 5-25 |
| CALIBRATE TIME | 00:00 to 23:59 | p. 5-25 |
| HARD DISK*¹ | ON*, OFF | p. 5-25 |
| INTERRUPT PRINT*¹ | ON*, OFF | p. 5-26 |
| SECURING TIME*¹ | 1 hour*, 2 hours, 3 hours, 6 hours, 12 hours, 24 hours | p. 5-26 |
| SECURED TYPE*¹ | IMAGE*, PDL* ¹ | p. 5-27 |
| RIP ONCE*¹ | ON*, OFF | p. 5-27 |
| ASSURE JOB LOG*¹ | OFF*, ON | p. 5-28 |
| QUIET MODE | 0 to 10; 10* (sec.) | p. 5-28 |
| PDL SELECT(PnP) | UFR II*, PCL5C, PCL6, PS3 | p. 5-29 |

An asterisk (*) indicates the default setting.

*¹ May not be displayed depending on the availability of the optional accessories and other settings.

■ FEEDER MENU Options

| Item | Settings | Applicable Page |
|--|---|------------------------|
| TRAY PAPER SIZE | A4*, B4, A3, LTR, LGL, LDR, EXEC, 305 x 457 mm, MIXED SIZES, CUSTOM SIZE, CUSTOM SIZE R, ENV. ISO-C5, ENV. COM10, ENV. MONARCH, ENV. DL, ENV. ISO-B5, STMT, 8K, 16K, A5, B5 | p. 5-29 |
| CASSETTE2 SIZE*¹/ CASSETTE3 SIZE*¹/ CASSETTE4 SIZE*¹ | CUSTOM SIZE*, CUSTOM SIZE R, 8K, 16K, MIXED SIZES | p. 5-30 |
| STD PAPER SIZE | A4*, B4, A3, LTR, LGL, LDR, EXEC, 305 x 457 mm, ENV. ISO-C5, ENV. COM10, ENV. MONARCH, ENV. DL, ENV. ISO-B5, STMT, 8K, 16K, A5, B5 | p. 5-31 |
| TRAY PRIORITY | OFF*, ON | p. 5-31 |

| | | |
|--|---|---------|
| INVLDPAPER TRAY | OFF*, ON | p. 5-32 |
| AUTO SELECTION | TRAY: ON*, OFF CASSETTE 1: ON*, OFF CASSETTE 2* ¹ : ON*, OFF CASSETTE 3* ¹ : ON*, OFF CASSETTE 4* ¹ : ON*, OFF | p. 5-33 |
| STD PAPER TYPE | PLAIN PAPER*, PLAIN PAPER L, HEAVY PAPER 1, HEAVY PAPER 2, ENVELOPE, COATED PAPER, LABEL | p. 5-33 |
| TRAY PAPER TYPE | MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, HEAVY PAPER 1, HEAVY PAPER 2, ENVELOPE, COATED PAPER, LABEL | p. 5-34 |
| CASSETTE1 TYPE | MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, LABEL | p. 5-35 |
| CASSETTE2 TYPE*¹/ CASSETTE3 TYPE*¹/ CASSETTE4 TYPE*¹ | MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, LABEL | p. 5-36 |
| MANUAL 2-SIDED | 1ST SIDE*, 2ND SIDE | p. 5-37 |
| 2-SIDED PRINT. | OFF*, ON | p. 5-38 |

An asterisk (*) indicates the default setting.

*¹ May not be displayed depending on the availability of the optional accessories and other settings.

■ LAYOUT MENU Options

| Item | Settings | Applicable Page |
|----------------------|--------------------------|-----------------|
| COPIES | 1 to 9999; 1* | p. 5-39 |
| OFFSET Y | -50.0 to 50.0; 0.0* (mm) | p. 5-39 |
| OFFSET X | -50.0 to 50.0; 0.0* (mm) | p. 5-39 |
| BIND.LOCATION | LONG EDGE*, SHORT EDGE | p. 5-40 |
| GUTTER | -50.0 to 50.0; 0.0* (mm) | p. 5-41 |
| ALT.METHOD | ON*, OFF | p. 5-42 |

An asterisk (*) indicates the default setting.

■ QUALITY MENU Options

| Item | Settings | Applicable Page |
|----------------------------|--|-----------------|
| RESOLUTION | FINE*, SUPER FINE | p. 5-43 |
| GRADATION LEVEL | HIGH 1* *1, HIGH 2*1, STANDARD*1 | p. 5-44 |
| TONER SAVE | OFF*, ON | p. 5-44 |
| DENSITY: CYAN | 1 to 16; 9* | p. 5-45 |
| DENSITY: MAGENTA | 1 to 16; 9* | p. 5-46 |
| DENSITY: YELLOW | 1 to 16; 9* | p. 5-46 |
| DENSITY: BLACK | 1 to 16; 9* | p. 5-46 |
| COLOR MODE | AUTO*, COLOR, BLACK & WHITE | p. 5-47 |
| HALFTONES | | |
| B & W HALFTONES | TEXT: RESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL., ERR DIFFUSION*1 GRAPHICS: GRADATION*, COLOR TONE, HIGH RESOL., ERR DIFFUSION*1, RESOLUTION IMAGE: GRADATION*, COLOR TONE, HIGH RESOL., ERR DIFFUSION*1, RESOLUTION | p. 5-47 |
| COLOR HALFTONES | TEXT: RESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL., ERR DIFFUSION*1 GRAPHICS: COLOR TONE*, HIGH RESOL., ERR DIFFUSION*1, RESOLUTION, GRADATION IMAGE: COLOR TONE*, HIGH RESOL., ERR DIFFUSION*1, RESOLUTION, GRADATION | p. 5-48 |
| GRAY COMPENSATE | TEXT: ON*, OFF GRAPHICS: ON*, OFF IMAGE: ON*, OFF | p. 5-48 |
| CMS | | |
| CMS SELECTION | PRINTER*, HOST | p. 5-49 |
| CMS/GAMMA | TEXT: CMS*, GAMMA GRAPHICS: CMS*, GAMMA IMAGE: CMS*, GAMMA | p. 5-49 |

| | | |
|------------------------|--|---------|
| RGB SRCE PROF. | <p>TEXT: sRGB_v1.31*, HDTV_gamma_1.5, HDTV_gamma_1.8, HDTV_gamma_2.4, Download Profile*¹</p> <p>GRAPHICS: sRGB_v1.31*, HDTV_gamma_1.5, HDTV_gamma_1.8, HDTV_gamma_2.4, Download Profile*¹</p> <p>IMAGE: sRGB_v1.31*, HDTV_gamma_1.5, HDTV_gamma_1.8, HDTV_gamma_2.4, Download Profile*¹</p> | p. 5-50 |
| OUTPUT PROFILE | <p>TEXT: Normal*, Photo</p> <p>GRAPHICS: Normal*, Photo</p> <p>IMAGE: Photo*, Normal</p> | p. 5-51 |
| MATCHING METHOD | <p>TEXT: SATURATION*, COLORIMETRIC, PERCEPTUAL</p> <p>GRAPHICS: PERCEPTUAL*, SATURATION, COLORIMETRIC</p> <p>IMAGE: PERCEPTUAL*, SATURATION, COLORIMETRIC</p> | p. 5-51 |
| GAMMA | <p>TEXT: 1.4*, 1.8, 2.2, 1.0</p> <p>GRAPHICS: 1.4*, 1.8, 2.2, 1.0</p> <p>IMAGE: 1.4*, 1.8, 2.2, 1.0</p> | p. 5-52 |
| GRADATION SET. | <p>GRADATION: OFF*, SMOOTH 1, SMOOTH 2</p> <p>GRAPHICS*¹: ON*, OFF</p> <p>IMAGE*¹: ON*, OFF</p> | p. 5-53 |
| SMOOTHING (AST) | <p>SMOOTHING (AST): SMOOTH 1*, SMOOTH 2, OFF</p> <p>GRAPHICS*¹: OFF*, ON</p> <p>TEXT*¹: ON*, OFF</p> | p. 5-53 |
| TONER VOLUME | NORMAL*, GRADATION, TEXT | p. 5-54 |
| LINE CONTROL | RESOLUTION*, GRADATION | p. 5-54 |
| QUALITY CHANGE | CONT.PRINTING*, STOP PRINTING | p. 5-55 |

An asterisk (*) indicates the default setting.

*¹ May not be displayed depending on the availability of the optional accessories and other settings.

■ INTERFACE MENU Options

| Item | Settings | Applicable Page |
|-----------------------|------------------------------------|-----------------|
| I/F CONNECTION | USB: ON*, OFF NETWORK: ON*, OFF | p. 5-55 |
| MODE TIMEOUT | OFF, 5 to 300 seconds; 15 seconds* | p. 5-56 |

| NETWORK MENU*1 | | |
|-----------------|--|---------|
| TCP/IP SETTINGS | <p>IP V. 4 SETTING:</p> <p>IP MODE..... MANUAL*, AUTO PROTOCOL*1:</p> <p>DHCP OFF*, ON BOOTP OFF*, ON RARP OFF*, ON</p> <p>IP SETTINGS:</p> <p>IP ADDRESS.....0.0.0.0* SUBNET MASK.....0.0.0.0* GATEWAY ADDRESS.....0.0.0.0*</p> <p>IP ADD.RANGE:</p> <p>REJECT RX/PRT OFF*, ON REJECT ADD.SET.*1 REJ IP 1 to 8 PERMIT RX/PRT OFF*, ON PERMIT ADD.SET.*1 PER IP 1 to 8 REJ SET/BROWSE..... OFF*, ON REJECT ADD.SET.*1 REJ IP 1 to 8 PMT SET/BROWSE..... OFF*, ON PERMIT ADD.SET.*1 PER IP 1 to 8</p> <p>DNS:</p> <p>PRIMARY ADD.....0.0.0.0* SECONDARY ADD.....0.0.0.0*</p> <p>IP V. 6 SETTING:</p> <p>IP V. 6..... OFF*, ON</p> <p>WINS:</p> <p>OFF*, ON</p> <p>ARP/PING:</p> <p>ON*, OFF</p> <p>FTP:</p> <p>FTP PRINT OFF*, ON FTP SETTINGS ON*, OFF</p> <p>LPD PRINT:</p> <p>ON*, OFF</p> <p>RAW PRINT:</p> <p>ON*, OFF</p> <p>IPP PRINT:</p> <p>ON*, OFF</p> <p>WSD:</p> <p>WSD PRINT..... ON*, OFF WSD BROWSING*1 ON*, OFF MULTICAST DISC. ON*, OFF</p> <p>HTTP:</p> <p>ON*, OFF</p> <p>PROXY SETTINGS*1:</p> <p>PROXY..... OFF*, ON SERVER ADDRESS*1 PORT NUMBER*1 0 to 99999; 80* SAME DOMAIN*1 NO PROXY*, USE PROXY PROXY AUTH.*1 OFF*, ON USER NAME*1 PASSWORD*1</p> <p>SNTP:</p> <p>OFF*, ON</p> <p>RESPONSE:</p> <p>ON*, OFF</p> <p>MAC ADDRESS SET:</p> <p>PERMIT RECEIVE OFF*, ON PERMIT ADD.SET.*1 PER.MAC ADD.1 to 50</p> | p. 5-57 |

| | | |
|------------------|--|---------|
| NETWARE SETTING | NETWARE: OFF*, ON FRAME TYPE: AUTO DETECT*, ETHERNET 2, ETHERNET 802.2, ETHERNET 802.3, ETHERNET SNAP PRINT SERVICE: NDS PSERVER*, NPRINT, RPRINTER, BINDERYPSERVER, RPRINTER | p. 5-62 |
| APPLETALK | OFF*, ON | p. 5-62 |
| SMB | SMB SERVER: OFF*, ON SMB*1: OFF*, ON | p. 5-62 |
| SNMP V. 1 | ON*, OFF | p. 5-63 |
| SNMP V. 3 SET. | SNMP V. 3: OFF*, ON USER SETTING 1 to 5*1: AUTH .PASSWORD ENCRYPT.PASSWRD | p. 5-63 |
| SPOOLER*1 | OFF*, ON | p. 5-64 |
| START WAIT TIME | 0 to 300 seconds; 0 seconds* | p. 5-64 |
| REMOTE UI SET. | REMOTE UI: ON*, OFF SSL*1: OFF*, ON | p. 5-64 |
| ETHERNET DRIVER | AUTO DETECT: ON*, OFF COMM.MODE*1: HALF DUPLEX*, FULL DUPLEX ETHERNET TYPE*1: 10 BASE-T*, 100 BASE-TX MAC ADDRESS: (Display only) | p. 5-65 |
| E-MAIL PRT SET*1 | POP3 INTERVAL: 0 to 90 MINUTES; 0 MINUTES* POP3 RECEIVE: OFF*, ON SMTP RECEIVE: OFF*, ON | p. 5-65 |
| INIT.N/W SET. | - | p. 5-65 |

| | | |
|------------------------------------|----------|---------|
| EXTENSION CARD*¹ | - | p. 5-66 |
| CONNECT.RECOG. | ON*, OFF | p. 5-66 |
| EXT.RX BUFFER*¹ | OFF*, ON | p. 5-66 |

An asterisk (*) indicates the default setting.

*¹ May not be displayed depending on the availability of the optional accessories and other settings.

■ PRINT MODE Options

| Item | Settings | Applicable Page |
|-----------------------|--|-----------------|
| MODE SELECTION | AUTO SELECTION*, PCL, PS* ¹ , IMAGING, PDF1.5* ¹ | p. 5-66 |
| AUTO SWITCH | PCL: ON*, OFF PS* ¹ : ON*, OFF IMAGING: ON*, OFF PDF1.5* ¹ : ON*, OFF | p. 5-68 |
| MODE PRIORITY | NONE*, PCL, PS* ¹ , PDF1.5* ¹ | p. 5-68 |

An asterisk (*) indicates the default setting.

*¹ May not be displayed depending on the availability of the optional accessories and other settings.

■ USER MAIN. Options

| Item | Settings | Applicable Page |
|------------------------|---|-----------------|
| ADJ.START POS. | OFFSET Y: -5.0 to 5.0; 0.0* (mm) OFFSET X (TRAY): -10.0 to 10.0; 0.0* (mm) OFFSET X (CASS1): -10.0 to 10.0; 0.0* (mm) OFFSET X (CASS2)* ¹ : -10.0 to 10.0; 0.0* (mm) OFFSET X (CASS3)* ¹ : -10.0 to 10.0; 0.0* (mm) OFFSET X (CASS4)* ¹ : -10.0 to 10.0; 0.0* (mm) OFFSET X (DUP.): -10.0 to 10.0; 0.0* (mm) | p. 5-69 |
| RECVRY PRINTING | ON*, OFF | p. 5-70 |
| INIT.COUNTER | | |
| FIXING UNIT | - | p. 5-70 |
| CHK PAPER SIZE | OFF*, ON | p. 5-70 |
| SUBSTITUTE SIZE | OFF*, ON | p. 5-71 |
| SP.IMAGE MODE | OFF*, LEVEL1, LEVEL2 | p. 5-71 |
| SP.S-SIZE MODE1 | -2 to 2; 0* | p. 5-72 |

| | | |
|-------------------------------------|------------------------------|---------|
| SP.S-SIZE MODE2 | -2 to 2; 0* | p. 5-72 |
| CLEANING | - | p. 5-72 |
| HDD MAINTENANCE*¹ | | |
| HDD ALL ERASE | OFF*, ON | p. 5-73 |
| QUICK FORMAT* ¹ | - | p. 5-73 |
| STD FORMAT | - | p. 5-74 |
| SP.PRINT MODE | | |
| PLAIN PAPER | OFF*, MODE 1, MODE 2, MODE 3 | p. 5-74 |
| COATED PAPER | OFF*, ON | p. 5-74 |
| UPDATE FIRMWARE | | |
| USB | - | p. 5-75 |
| NETWORK | - | p. 5-75 |

An asterisk (*) indicates the default setting.

*¹ May not be displayed depending on the availability of the optional accessories and other settings.

■ PCL SETUP Options

| Item | Settings | Applicable Page |
|-------------------------------------|---|-----------------|
| PAPER SAVE | OFF*, ON | p. 5-75 |
| ORIENTATION | PORTRAIT*, LANDSCAPE | p. 5-75 |
| FONT NUMBER | 0 to 89; 0* | p. 5-76 |
| POINT SIZE*¹ | 4.00 to 999.75 point; 12.00 point* | p. 5-76 |
| PITCH*¹ | 0.44 to 99.99 cpi; 10.00 cpi* | p. 5-76 |
| FORM LINES | 5 to 128 lines; 64 lines* | p. 5-76 |
| SYMBOL SET | PC8*, ROMAN8, ROMAN9, ISOL1, ISOL2, ISOL5, ISOL6, ISOL9, PC775, PC8DN, PC850, PC852, PC858, PC8TK, PC1004, WINL1, WINL2, WINL5, WINBALT, DESKTOP, PSTEXT, LEGAL, ISO4, ISO6, ISO11, ISO15, ISO17, ISO21, ISO60, ISO69, WIN 30, MCTEXT | p. 5-77 |
| CUSTOM SIZE | DO NOT SET*, SET | p. 5-77 |
| UNIT OF MEASURE*¹ | Millimeters*, Inches | p. 5-77 |

| | | |
|---------------------------------|--|---------|
| X DIMENSION*¹ | 98.0 to 320.0 mm; 320.0 mm* (3.86 to 12.60 inches; 12.60 inches*) | p. 5-77 |
| Y DIMENSION*¹ | 139.7 to 1200.0 mm; 457.2 mm* (5.50 to 47.24 inches; 18.00 inches*) | p. 5-78 |
| APPEND CR TO LF | NO*, YES | p. 5-78 |
| ENLRG A4 WIDTH | OFF*, ON | p. 5-79 |
| BARDIMM*¹ | DISABLE*, ENABLE | p. 5-80 |
| FREESCAPE*¹ | ~*, ", #, \$, /, \, ?, {, }, , OFF | p. 5-80 |

An asterisk (*) indicates the default setting.

¹ May not be displayed depending on the availability of the optional accessories and other settings.

■ UFR II SETUP Options

| Item | Settings | Applicable Page |
|-------------------|----------|-----------------|
| PAPER SAVE | ON*, OFF | p. 5-80 |

An asterisk (*) indicates the default setting.

■ IMAGING SETUP Options

| Item | Settings | Applicable Page |
|-------------------------------------|-----------------------------|-----------------|
| ORIENTATION | AUTO*, VERTICAL, HORIZONTAL | p. 5-81 |
| ZOOM | OFF*, AUTO | p. 5-81 |
| PRINT POSITION | AUTO*, CENTER, TOP LEFT | p. 5-82 |
| PRINT GUARANTEE*¹ | OFF*, ON | p. 5-82 |
| SHOW WARNINGS | PRINT*, PANEL, OFF | p. 5-82 |
| PRINT EMAIL TXT*¹ | ON*, OFF | p. 5-83 |
| LIMIT EMAIL PRT*¹ | OFF*, ON | p. 5-83 |
| ENLRG PRT AREA | OFF*, ON | p. 5-83 |
| EXIF ADJUSTMENT | ON*, OFF | p. 5-84 |

An asterisk (*) indicates the default setting.

¹ May not be displayed depending on the availability of the optional accessories and other settings.

■ PDF1.5 Options



IMPORTANT

The PDF1.5 menu is displayed when all the following optional accessories are installed.

- Hard Disk
- PS ROM or PS/Barcode ROM
- RAM (ER-256A, ER-512A)

| Item | Settings | Applicable Page |
|-------------------------------------|--|-----------------|
| RENDER CL SPACE | AUTO*, CMYK | p. 5-84 |
| RGB SRCE PROF. | sRGB*, GAMMA 1.5, GAMMA 1.8, GAMMA 2.4, NONE | p. 5-84 |
| CMYK PROFILE | NONE*, JAPANCOLOR, US WEB COATED, EURO STANDARD | p. 5-85 |
| OUTPUT PROFILE | NORMAL*, PHOTO | p. 5-86 |
| GRAY PROFILE | OFF*, ON | p. 5-86 |
| MATCHING METHOD | PERCEPTUAL*, SATURATION, COLORIMETRIC | p. 5-86 |
| PURE BLACK TEXT | ON*, OFF | p. 5-87 |
| BLACK OVERPRINT*¹ | ON*, OFF | p. 5-88 |
| CMYK OVERPRINT | OFF*, ON | p. 5-89 |
| BRIGHTNESS | 85 to 115 %; 100 %* | p. 5-89 |
| GRAY COMPENSATE | ON*, OFF | p. 5-90 |
| FIT TO PAGE | OFF*, ON | p. 5-90 |
| ENLRG PRT AREA | OFF*, ON | p. 5-90 |
| N-UP PRINT | OFF*, 2 ON 1, 4 ON 1, 6 ON 1, 8 ON 1, 9 ON 1, 16 ON 1 | p. 5-91 |
| FINISHING | OFF*, COLLATE | p. 5-91 |
| B & W HALFTONES | TEXT: RESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL., ERR DIFFUSION* ¹ GRAPHICS: GRADATION*, COLOR TONE, HIGH RESOL., ERR DIFFUSION* ¹ , RESOLUTION IMAGE: GRADATION*, COLOR TONE, HIGH RESOL., ERR DIFFUSION* ¹ , RESOLUTION | p. 5-92 |

| | | |
|------------------------|--|---------|
| COLOR HALFTONES | TEXT: RESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL., ERR DIFFUSION* ¹ GRAPHICS: COLOR TONE*, HIGH RESOL., ERR DIFFUSION* ¹ , RESOLUTION, GRADATION IMAGE: COLOR TONE*, HIGH RESOL., ERR DIFFUSION* ¹ , RESOLUTION, GRADATION | p. 5-93 |
| COMMENT PRINT | AUTO*, ON, OFF | p. 5-94 |
| SMOOTHING (AST) | SMOOTHING (AST): SMOOTH ¹ *, SMOOTH 2, OFF GRAPHICS* ¹ : OFF*, ON TEXT* ¹ : ON*, OFF | p. 5-94 |

An asterisk (*) indicates the default setting.

*¹ May not be displayed depending on other settings.

■ PS Options

IMPORTANT

The PS menu is displayed when PS ROM or PS/Barcode ROM is installed.

| Item | Settings | Applicable Page |
|-------------------------------------|--|-----------------|
| JOB TIMEOUT | 0 to 3600 seconds; 0 seconds* | p. 5-95 |
| WAIT TIMEOUT | 0 to 3600 seconds; 300 seconds* | p. 5-95 |
| PRINT PS ERRORS | OFF*, ON | p. 5-95 |
| RGB SRCE PROF. | sRGB*, GAMMA 1.5, GAMMA 1.8, GAMMA 2.4, NONE | p. 5-95 |
| GRAY PROFILE | OFF*, ON | p. 5-96 |
| OUTPUT PROFILE | TR Normal*, TR Photo, NORMAL, PHOTO | p. 5-97 |
| MATCHING METHOD | PERCEPTUAL*, SATURATION, COLORIMETRIC | p. 5-97 |
| RGB PURE BLACK | ON*, OFF | p. 5-98 |
| PURE BLACK TEXT | ON*, OFF | p. 5-98 |
| BLACK OVERPRINT*¹ | ON*, OFF | p. 5-99 |
| BRIGHTNESS*¹ | 85 to 115 %; 100 %* | p. 5-100 |

| | | |
|----------------------------|---|----------|
| B & W HALFTONES | <p>TEXT: RESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL., ERR DIFFUSION*¹</p> <p>GRAPHICS: GRADATION*, COLOR TONE, HIGH RESOL., ERR DIFFUSION*¹, RESOLUTION</p> <p>IMAGE: GRADATION*, COLOR TONE, HIGH RESOL., ERR DIFFUSION*¹, RESOLUTION</p> | p. 5-100 |
| COLOR HALFTONES | <p>TEXT: RESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL., ERR DIFFUSION*¹</p> <p>GRAPHICS: COLOR TONE*, HIGH RESOL., ERR DIFFUSION*¹, RESOLUTION, GRADATION</p> <p>IMAGE: COLOR TONE*, HIGH RESOL., ERR DIFFUSION*¹, RESOLUTION, GRADATION</p> | p. 5-101 |
| CMYK OVERPRINT | OFF*, ON | p. 5-102 |
| SMOOTHING (AST) | <p>SMOOTHING (AST): SMOOTH 1*, SMOOTH 2, OFF</p> <p>GRAPHICS*¹: OFF*, ON</p> <p>TEXT*¹: ON*, OFF</p> | p. 5-103 |

An asterisk (*) indicates the default setting.

*¹ May not be displayed depending on other settings.

UTILITY Menu

| Item | Settings | Applicable Page |
|------------------------------------|------------------------------|-----------------|
| CONFIG.PAGE | - | p. 5-104 |
| PCL UTILITY | FONTS LIST | p. 5-104 |
| PS UTILITY*¹ | CONFIG.PAGE, FONTS LIST | p. 5-105 |
| NW STATUS PRINT | - | p. 5-105 |
| EXT. CARD LIST*¹ | - | p. 5-105 |
| E-MAIL UTILITY*¹ | RECEIVE E-MAILS, RX LOG LIST | p. 5-106 |
| CALIBRATION | - | p. 5-106 |
| PRNTPOSNPRINT | - | p. 5-107 |

| | | |
|-------------------------------------|---|----------|
| PAGE COUNT LIST*² | - | p. 5-107 |
| TEST CHART 1 | - | p. 5-107 |
| TEST CHART 2 | - | p. 5-108 |

*¹ May not be displayed depending on the availability of the optional accessories and other settings.

*² Not displayed depending on the printer you are using.

JOB Menu

| Item | Settings | Applicable Page |
|-------------------------------------|----------|-----------------|
| ENCRYPTED PRINT*¹ | - | p. 5-109 |
| SECURED PRINT*¹ | - | p. 5-110 |
| STOREJOB LIST*¹ | - | p. 5-111 |
| STOREJOB PRINT*¹ | - | p. 5-111 |
| JOB LOG LIST*¹ | - | p. 5-112 |
| STORE LOG LST*¹ | - | p. 5-112 |
| REPORTLOG LST*¹ | - | p. 5-112 |
| E-MAIL PRT LOG*¹ | - | p. 5-113 |

*¹ May not be displayed depending on the availability of the optional accessories and other settings.

RESET Menu

| Item | Settings | Applicable Page |
|------------------------------|------------------------------------|-----------------|
| SOFT RESET/HARD RESET | - | p. 5-114 |
| FORM FEED | - | p. 5-114 |
| SHUT DOWN | - | p. 5-115 |
| CHANGE TONER | K TONER, C TONER, M TONER, Y TONER | p. 5-116 |

SELECT FEEDER Menu

| Item | Settings | Applicable Page |
|--|---|-----------------|
| PAPER SOURCE | AUTO*, CASSETTE 1, CASSETTE 2* ¹ , CASSETTE 3* ¹ , CASSETTE 4* ¹ , TRAY | p. 5-117 |
| TRAY PAPER SIZE | A4*, B4, A3, LTR, LGL, LDR, EXEC, 305 x 457 mm, MIXED SIZES, CUSTOM SIZE, CUSTOM SIZE R, ENV. ISO-C5, ENV. COM10, ENV. MONARCH, ENV. DL, ENV. ISO-B5, STMT, 8K, 16K, A5, B5 | p. 5-117 |
| CASSETTE2 SIZE*¹/ CASSETTE3 SIZE*¹/ CASSETTE4 SIZE*¹ | CUSTOM SIZE*, CUSTOM SIZE R, 8K, 16K, MIXED SIZES | p. 5-118 |
| TRAY PAPER TYPE | MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, HEAVY PAPER 1, HEAVY PAPER 2, ENVELOPE, COATED PAPER, LABEL | p. 5-118 |
| CASSETTE1 TYPE | MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, LABEL | p. 5-118 |
| CASSETTE2 TYPE*¹/ CASSETTE3 TYPE*¹/ CASSETTE4 TYPE*¹ | MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, LABEL | p. 5-118 |
| 2-SIDED PRINT. | OFF*, ON | p. 5-118 |

An asterisk (*) indicates the default setting.

*¹ May not be displayed depending on the availability of the optional accessories and other settings.

SETUP Menu Settings

CONTROL MENU Options

POWER SAVE MODE

ON*, DEEP SLEEP, OFF, PANEL OFF

Specifies whether the printer should use Power Save Mode.

There are three types of Power Save Mode, and the type of the mode the printer enters depends on the setting for this item.

| Setting | Power Save Mode the Printer Can Enter |
|------------|--|
| DEEP SLEEP | Power Save Mode 1 (the Panel Off mode) Power Save Mode 2 (the Printer Power Save mode) Power Save Mode 3 (the Deep Sleep mode) |
| ON | Power Save Mode 1 (the Panel Off mode) Power Save Mode 2 (the Printer Power Save mode) |
| PANEL OFF | Power Save Mode 1 (the Panel Off mode) |
| OFF | The printer does not enter Power Save Mode. |

Power Save Mode consumes less power during the sleep state. While the printer is in Power Save Mode, the display on the control panel is off, and the following indicators are on.

| Printer Status | Indicator that Comes On |
|--|---|
| Power Save Mode 3 (the Deep Sleep mode) | The Main Power indicator |
| Power Save Mode 2 (the Printer Power Save mode) | Online: The Ready indicator and Main Power indicator Offline: The Message indicator and Main Power indicator |
| Power Save Mode 1 (the Panel Off mode) | Online: The Ready indicator and Main Power indicator Offline: The Message indicator and Main Power indicator |

 **NOTE**

- For details on Power Save Mode, see "Power Saving (Power Save Mode)," on p. 2-6.
- You can specify whether the printer should enter Power Save Mode when an error is occurring in the printer (when the Message indicator is on, or the number in the message blinks). (See "PWR SAVE IN ERR": the next item)

PWR SAVE IN ERR

ON*, OFF

Specifies whether the printer should enter Power Save Mode when an error is occurring in the printer (when the Message indicator is on, or the number in the message blinks).

If this item is set to ON, the printer enters Power Save Mode even when an error is occurring in the printer.

If this item is set to OFF, the printer does not enter Power Save Mode when an error is occurring in the printer.

POWER SAVE TIME

10 minutes*, 15 minutes, 30 minutes, 60 minutes, 180 minutes, 5 minutes

Specifies the time interval until the printer enters Power Save Mode 1 (the Panel Off mode).

 **NOTE**

- If the printer is in any of the following status, the printer does not enter Power Save Mode (the Panel Off mode) even when the specified time has elapsed.
 - An error is occurring in the printer (when the Message indicator is on, or the number in the message blinks), and PWR SAVE IN ERR is set to OFF.
 - During the printer's startup
 - During a shutdown (Only when the hard disk is installed)
 - While the hard disk is being initialized (Only when the hard disk is installed)

WARNING STEP

CHECK TONER CONT.PRINTING*, STOP PRINTING

Specifies whether the printer should continue or stop printing when the following message appears.

| Warning Message | Printer Status |
|---|--|
| <16 PREP."color" TNR> ("color" indicates K, Y, M, or C) | The toner cartridge is nearing the end of its life and needs to be replaced. |

If CONT.PRINTING is specified, the printer continues printing, displaying the above message. If STOP PRINTING is specified, the printer stops printing. Then, the printer resumes printing after you release the printer from the Warning status according to the displayed message.



NOTE

- If <16 CHG."color" TNR> appears, and the printer stops printing, replace the toner cartridge, and then print again.
- If STOP PRINTING is specified for this item, the message <16 PREP."color" TNR> changes to <16 CHG."color" TNR>, and the printer stops printing.

AUTO ERROR SKIP

OFF*, ON

Specifies whether the printer should automatically use the function that, when an error has occurred, releases the printer from the error temporarily (Error Skip) and continues the job.

If OFF is specified, you need to skip the error by pressing [Online].

If ON is specified, the printer skips the error automatically without you pressing [Online].



NOTE

- The Error Skip function is only for skipping an error temporarily. Therefore, the data may not be printed properly.
- For the types of error from which the printer can be released temporarily, see "Message List," on p. 7-23.
- If ON is specified for this item, the printer automatically skips all the errors it can skip automatically even when multiple errors are occurring.

PANEL LANGUAGE

ENGLISH*, FRENCH, GERMAN, ITALIAN, SPANISH

Confirm the language that is displayed in the display.

SHOW WARNINGS

CHECK TONER.....ON*, OFF
 CHECK FIX.UNITON*, OFF
 CHK WST TNR CTN.....ON*, OFF
 CHECK DRUM.....ON*, OFF
 CASSETTE EMPTYON*, OFF
 E-MAIL TRAN.ERR*¹.....ON*, OFF

*1 E-MAIL TRAN.ERR is displayed only when an optional hard disk is installed.

A Warning status is a status in which the printer requires some remedy although the job is not affected. When the printer is in this status, a message appears in the display, or an indicator blinks.

This item allows you to specify whether a message should appear or any indicator should blink when the printer is in any of the following Warning status.

| Setting | Status | Message/Indicator Blink |
|-----------------|--|---|
| CHECK TONER | When a toner cartridge needs to be replaced soon | <16 PREP."color" TNR> ("color" indicates K, Y, M, or C) |
| CHECK FIX.UNIT | When the fixing unit needs to be replaced soon. | <E5 PREP.FIX.UNIT> |
| CHK WST TNR CTN | When the waste toner container needs to be replaced soon | <E1 PRE.WST.T.CTN> |
| CHECK DRUM | When a drum cartridge needs to be replaced soon | <E0 PREP."color" DRM> ("color" indicates K, Y, M, or C) |
| CASSETTE EMPTY | When the paper cassette has run out of paper | The Paper Source indicator for the paper source that has run out of paper blinks. |
| E-MAIL TRAN.ERR | When a reception error has occurred on printing e-mails | <EM SERVER ERROR> <EM E-MAIL ERROR> |



NOTE

The printer prints when either ON or OFF is specified.

DATE AND TIME

■ DATE SETTING

01/01/2001 to 31/12/2089

This printer has a clock function. This clock is used for the printer maintenance and job history management. Specify date in this item when the clock is not keeping correct date.



NOTE

- Date is set before shipment.
- Enter date using the following keys on the control panel.
 - Increases/decreases number [▲] [▼]
 - Moves digits [◀] [▶]
 - Determines the entered date [OK]
- If you do not change the date, press [Online].

■ TIME SETTING

00:00:00 to 23:59:59

This printer has a clock function. This clock is used for the printer maintenance and job history management. Specify time in this item when the clock is not keeping correct time.



NOTE

- Time is set before shipment.
- The clock in the printer should be accurate within ± 60 seconds per month. Adjust the clock periodically in this item.
- Enter time using the following keys on the control panel.
 - Increases/decreases number [▲] [▼]
 - Moves digits [◀] [▶]
 - Determines the entered time [OK]
- If you do not change the time, press [Online].

■ DAYLIGHT SAVING

DST SETTINGS ON*, OFF
START DATE <MONTH>, <WEEK>, <DAY>, <TIME SETTING>
END DATE <MONTH>, <WEEK>, <DAY>, <TIME SETTING>

Specifies whether to set the daylight saving time in DST SETTINGS and its time duration in START DATE and END DATE.



IMPORTANT

After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.

 **NOTE**

In some countries and regions, time is advanced throughout the summer season. The period in which this is applied is called "Daylight Saving Time".

■ **TIME ZONE**

GMT-12 to GMT+12

Specifies the time zone according to the region where the printer is being used.

 **IMPORTANT**

After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.

 **NOTE**

The standard time zones of the world are expressed globally in terms of the difference in hours (\pm up to 12 hours) from GMT (\pm 0 hours). A time zone is a region throughout which this time difference is the same. An area which shares the same-time zone difference is called a time zone.

* The time at the Greenwich Observatory in England is called GMT (Greenwich Mean Time).

TIMER SETTINGS

■ **WAKE UP TIMER**

OFF*, ON

Specifies whether the printer should use the Wake Up function that releases Power Save Mode (the Panel Off mode, the Printer Power Save mode, and the Deep Sleep mode).

If ON is specified, Power Save Mode (the Panel Off mode, the Printer Power Save mode, and the Deep Sleep mode) is released when the time specified in WAKE UP TIME (See the next item) has elapsed.

If OFF is specified, the printer does not use the Wake Up function.

 **NOTE**

The Wake Up function is for releasing the printer from Power Save Mode (the Panel Off mode, the Printer Power Save mode, and the Deep Sleep mode). When the printer is OFF, the Wake Up function does not function.

■ WAKE UP TIME

00:00 to 23:59

If WAKE UP TIMER (See the previous item) is set to ON, Power Save Mode (the Panel Off mode, the Printer Power Save mode, and the Deep Sleep mode) is released when the time specified in this item has elapsed.

This item is convenient if you want to release the printer from Power Save Mode (the Panel Off mode, the Printer Power Save mode, and the Deep Sleep mode) on the same time every day.

■ POW. SAVE TIMER

OFF*, ON

Specifies whether the printer should enter Power Save Mode 1 (the Panel Off mode) when the time specified in POWER SAVE TIME (See the next item) has elapsed.

If ON is specified, the printer enters Power Save Mode 1 (the Panel Off mode) when the time specified in POWER SAVE TIME has elapsed.

If OFF is specified, the printer does not enter Power Save Mode 1 (the Panel Off mode) even when the time specified in POWER SAVE TIME has elapsed.

While the printer is in Power Save Mode 1 (the Panel Off mode), the display on the control panel is off, and the following indicators are on.

| Printer Status | Indicator that Comes On |
|-----------------------------|-------------------------|
| When the printer is online | Ready Indicator |
| When the printer is offline | Message Indicator |



NOTE

- The Job indicator is on while a job is being stored into a box even if the printer is in Power Save Mode (The printer can store jobs into the boxes only when a hard disk is installed in the printer).
- As well as Power Save Mode 1 (the Panel Off mode), this printer has Power Save Mode 2 (the Printer Power Save mode) and Power Save Mode 3 (the Deep Sleep mode). For details on Power Save Mode, see "Power Saving (Power Save Mode)," on p. 2-6.
- The printer does not enter Power Save Mode 1 (the Panel Off mode) during printing even when the time specified in POWER SAVE TIME has elapsed.
- You can specify whether the printer should enter Power Save Mode when an error is occurring in the printer (when the Message indicator is on, or the number in the message blinks). (See "PWR SAVE IN ERR," on p. 5-19)

■ POWER SAVE TIME

00:00 to 23:59

If POW. SAVE TIMER (See the previous item) is set to ON, the printer enters Power Save Mode 1 (the Panel Off mode) when the time specified in this item has elapsed.

This item is convenient if you want to set the printer to Power Save Mode 1 (the Panel Off mode) on the same time everyday.

■ CALIBRATE TIMER

OFF*, ON

Specifies whether the calibration of the printer should be started when the time specified in CALIBRATE TIME (See the next item) has elapsed.

If ON is specified, calibration of the printer is started when the time specified in CALIBRATE TIME has elapsed.

If OFF is specified, calibration of the printer is not started even when the time specified in CALIBRATE TIME has elapsed.

Calibration adjusts color hues for the printer.



NOTE

Calibration is not performed if the printer is receiving print data at the time specified in CALIBRATE TIME.

■ CALIBRATE TIME

00:00 to 23:59

If CALIBRATE TIMER (See the previous item) is set to ON, calibration of the printer is started when the time specified in this item has elapsed.

This item is convenient if you want to calibrate the printer on the same time everyday.

HARD DISK

ON*, OFF

Specifies whether to use the following functions that require a hard disk.

- Interrupt print
- Changing the order of print data
- Changing the attributions of print data (print copies, etc.)
- Pausing/Resuming print data processing
- Saving print data on the hard disk (boxes) (data can be printed again) (See p. 5-111)

- Secured print (See p. 5-110)
- Encrypted secured print (See p. 5-109)
- RIP Once (See p. 5-27)
- Spooler (See p. 5-64)
- SMB printing (See p. 5-62)
- Using SSL for communication by the Remote UI (See p. 5-64)
- E-mail print (See p. 5-65)
- Printing the PDF file using the direct print function (See p. 2-12)

Usually, leave the setting to ON. Specify OFF only when an error has occurred in a function that uses the hard disk.



IMPORTANT

- Initialize the SETUP menu after installing the optional hard disk, and then cycle the power of the printer or perform a hard reset. After initializing the SETUP menu, the functions of the hard disk become effective by cycling the power of the printer or performing a hard reset.
- After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.



NOTE

This item is displayed only when an optional hard disk is installed.

INTERRUPT PRINT

ON*, OFF

Specifies whether to use the interrupt print function.

When HARD DISK is set to OFF, the setting for this item is ignored, and the interrupt print is disabled.



NOTE

This item is displayed only when an optional hard disk is installed, and HARD DISK is set to ON.

SECURING TIME

1 hour*, 2 hours, 3 hours, 6 hours, 12 hours, 24 hours

On the computer, previously specify the time to delete data of "secured print" in which the file name, user name, and password are specified.

Secured print data is saved on the hard disk, and normally, the data cannot be deleted unless it is printed. However, the data is automatically deleted even if it has not been printed when the time specified in this item has elapsed.

 **NOTE**

- As well as secured print data, encrypted secured print data is also deleted when the time specified in this item has elapsed.
- Print secured print data using SECURED PRINT (See p. 5-110) in the UTILITY menu or the Remote UI.
- Secured print data is deleted by turning the printer OFF or performing a hard reset or soft reset even if the time specified in this item has not elapsed yet.
- Specify the file name, user name, and password in the printer driver.
- This item is displayed only when an optional hard disk is installed, and HARD DISK is set to ON. When HARD DISK is set to OFF, the setting for this item is ignored, and the secured print jobs cannot be deleted.

SECURED TYPE

IMAGE*, PDL*¹

¹ PDL is not displayed when the optional PS ROM or PS/Barcode ROM is installed.

Specifies the format to be used for when secured print data is saved in this printer.

If IMAGE is specified, the data sent from the computer is saved on the hard disk with the image opened.

If PDL is specified, the data sent from the computer is saved on the hard disk as it is.

 **NOTE**

- If IMAGE is specified, the process time after the password is entered for printing becomes shorter than when PDL is specified. However, you cannot interrupt the job that has already started to be printed or stop the operation.
- Encrypted secured print data is saved in PDL regardless of the setting for this item.
- This item is displayed only when an optional hard disk is installed, and HARD DISK is set to ON.

RIP ONCE

ON*, OFF

Specifies whether to use the function of "RIP Once" when an optional hard disk is installed. RIP Once is a function that saves the data of the first copy on the hard disk and prints the second and subsequent copies at a high speed when you print multiple copies.

This function is effective for printing a large amount of copies or multiple copies of complicated data, such as the one that contains many diagrams or images.

 **IMPORTANT**

After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.



NOTE

- This function may have little effect on printing relatively simple data such as the one that contains only text or small amount of copies.
- This item is displayed only when an optional hard disk is installed, and HARD DISK is set to ON. When HARD DISK is set to OFF, the setting for this item is ignored, and the function of "RIP Once" cannot be used.

ASSURE JOB LOG

OFF*, ON

If you turn the printer OFF during printing, the print log of the job being printed may not be saved, or the total number of printed pages (page counter) may not be counted.

If ON is specified for this item, the print log of the job being printed is saved, and the total number of printed pages (page counter) is counted even when you turn the printer OFF.



IMPORTANT

- If ON is specified, the printing speed drops.
- After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.



NOTE

This item is displayed only when an optional hard disk is installed, and HARD DISK is set to ON. When HARD DISK is set to OFF, the setting for this item is ignored, and the function of Assure Job Log cannot be used.

QUIET MODE

0 to 10; 10* (sec.)

If the specified time has elapsed from when the printer receives a job to when it starts to print the job, it stops preparing printing operation and enters the Quiet mode.



NOTE

If the printer has entered the Quiet mode, it may require time before it starts printing because it starts to prepare printing operation.

PDL SELECT(PnP)

UFR II*, PCL5C, PCL6, PS3*¹

*¹ PS3 is displayed only when the optional PS ROM or PS/Barcode ROM is installed.

● If you want to connect the printer and computer with a USB cable

The printer driver for this printer may be installed automatically when the USB cable is connected.

You can select the type of the printer driver ("UFR II", "PCL5c", "PCL6", or "PS3") to be installed in this item at the time.

● If you want to connect the printer and computer with a LAN cable

If you are using Windows Vista, you can detect the printer automatically using the WSD (Web Service on Devices) protocol.

You can select the type of the printer driver ("UFR II", "PCL5c", "PCL6", or "PS3") to be installed on the automatically detected printer in this item.



IMPORTANT

- When installing the printer driver manually, be sure to match the setting of this item and the type of the printer driver to be installed. You cannot use printer drivers of a different type.
- After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.

FEEDER MENU Options

TRAY PAPER SIZE

A4*, B4, A3, LTR, LGL, LDR, EXEC, 305 x 457 mm, MIXED SIZES, CUSTOM SIZE, CUSTOM SIZE R, ENV. ISO-C5, ENV. COM10, ENV. MONARCH, ENV. DL, ENV. ISO-B5, STMT, 8K, 16K, A5, B5

Specifies the size of the paper loaded in the multi-purpose tray.



IMPORTANT

- When you change the paper loaded in the multi-purpose tray frequently, it is convenient if TRAY PAPER SIZE in the control panel is set to MIXED SIZES. If TRAY PAPER SIZE is set to MIXED SIZES, you do not need to specify the setting for TRAY PAPER SIZE each time you load the different size paper. However, when specifying MIXED SIZES, make sure that the size of the paper loaded in the multi-purpose tray matches the paper size specified in the printer driver before printing. If they do not match, the printer may stop printing, displaying the message <41 CHK PAPER SIZE>, or a paper jam may occur. Be sure to check if the paper size specified in the printer driver matches the size of the paper loaded in the multi-purpose tray before using the printer.

- When printing custom size paper from UFR II Printer Driver, you can load the paper either in portrait or landscape orientation. However, if you want to print custom size paper of its long edges 297.0 mm or less when TRAY PAPER SIZE is set to MIXED SIZES, load the paper in landscape orientation. When you are not printing from UFR II Printer Driver, load the paper in portrait orientation.

**NOTE**

- Select CUSTOM SIZE or CUSTOM SIZE R when you want to specify custom size paper using application and print it. If a message that prompts you to change the size of the paper appears during printing, press [Online] to clear the error before printing again.
- You cannot print on any area within 10 mm (4 mm for the PS printer driver) of the edges of an envelope. (If you have selected the [Print with Upper Left of Sheet as Starting Point] check box in [Finishing Details] in the UFR II printer driver, you can extend the printable area to near the edges of the paper. For more details, see Help of the UFR II printer driver.)
- You can specify the same setting in TRAY PAPER SIZE in the SELECT FEEDER menu.

CASSETTE(n) SIZE (n = 2, 3, 4)

CUSTOM SIZE*, CUSTOM SIZE R, 8K, 16K, MIXED SIZES

Specifies the size of the paper loaded in the paper cassettes (Cassette 2 to Cassette 4) of the paper feeders.

**IMPORTANT**

- When paper at a size of 8K or 16K is loaded in Cassette 2, 3, or 4, be sure to set the setting for this item to 8K or 16K.
- When you change the orientation of the custom size paper loaded in a paper cassette frequently, it is convenient if you set CASSETTE(n) SIZE (n = 2, 3, 4) in the control panel to MIXED SIZES. When CASSETTE(n) SIZE (n = 2, 3, 4) is set to MIXED SIZES, you do not need to specify the setting for CASSETTE(n) SIZE (n = 2, 3, 4) each time you change the paper orientation. However, when specifying MIXED SIZES, make sure that the size of the loaded paper matches the paper size specified in the printer driver before printing. If they do not match, the printer may stop printing, displaying the message <41 CHK PAPER SIZE>, or a paper jam may occur. Be sure to check if the paper size specified in the printer driver matches the size of the paper loaded in the paper cassette before using the printer.
- When printing custom size paper from UFR II Printer Driver, you can load the paper either in portrait or landscape orientation. However, if you want to print custom size paper of its long edges 297.0 mm or less when CASSETTE(n) SIZE (n=2, 3, 4) is set to MIXED SIZES, load the paper in landscape orientation. When you are not printing from UFR II Printer Driver, load the paper in portrait orientation.

 **NOTE**

- Select CUSTOM SIZE or CUSTOM SIZE R when you want to specify custom size paper using application and print it. If a message that prompts you to change the size of the paper appears during printing, press [Online] to clear the error before printing again.
- You can specify the same setting in CASSETTE(n) SIZE (n = 2, 3, 4) in the SELECT FEEDER menu.
- This item is displayed only when the optional paper feeder is installed.

STD PAPER SIZE

A4*, B4, A3, LTR, LGL, LDR, EXEC, 305 x 457 mm, ENV. ISO-C5, ENV. COM10, ENV. MONARCH, ENV. DL, ENV. ISO-B5, STMT, 8K, 16K, A5, B5

Specifies a standard paper size for when the printer cannot determine the size of the paper to process, such as when using paper that you cannot specify its size in an application.

 **IMPORTANT**

When printing from Windows or Macintosh, specify the paper size in the printer driver. When you want to print from a computer in which an operating system such as MS-DOS and UNIX is used and cannot specify the paper size, specify the size in this item.

TRAY PRIORITY

OFF*, ON

Specifies whether the printer should detect the paper source in order starting with the multi-purpose tray when AUTO is specified in the SELECT FEEDER menu.

If OFF is specified, the printer detects if the size of the paper in a paper source matches the paper size of the received data in the following order.

Cassette 1 → Cassette 2 *1 → Cassette 3 *1 → Cassette 4 *1 → Multi-purpose Tray

If ON is specified, the printer detects if the size of the paper in a paper source matches the paper size of the received data in the following order starting with the multi-purpose tray.

Multi-purpose Tray → Cassette 1 → Cassette 2 *1 → Cassette 3 *1 → Cassette 4 *1

*1: Only when the optional paper feeders are installed

 **NOTE**

- If INVLPAPER TRAY (See the next item) is set to ON, the setting for this item is ignored, and the printer detects the paper source starting with the paper cassette. When paper that is the same size as the paper size of the received data is not loaded in the selected paper source, the printer feeds paper from the multi-purpose tray.

- Specify the setting for automatic paper selection in PAPER SOURCE (See p. 5-117) in the SELECT FEEDER menu.
- This item is effective only when PAPER SOURCE in the SELECT FEEDER menu is set to AUTO.
- Even if ON is specified for this item, the printer does not feed paper from the multi-purpose tray when the size of the paper in the multi-purpose tray is different from the paper size of the received data. However, if INVLPAPER TRAY (See the next item) is set to ON, a message that prompts you to replace the paper in the multi-purpose tray appears when the paper that is the same size as the paper size of the received data is not loaded in the selected paper source.
- Even if ON is specified for this item, depending on the received data, paper may be fed not from the multi-purpose tray but from the paper cassette when the Paper Source indicator for the paper cassette for the paper size of the received data is on.

INVLPAPER TRAY

OFF*, ON

Specifies what the printer does when paper that is the same size as the paper size of the received data is not loaded in the selected paper source.

If OFF is specified, a message that prompts you to replace the paper in the paper cassette appears, and the printer stops printing.

If ON is specified, the printer feeds paper from the multi-purpose tray. If the size of the paper loaded in the multi-purpose tray is different from the paper size of the received data, a message that prompts you to replace the paper in the multi-purpose tray appears, and the printer stops printing. When no paper is loaded in the multi-purpose tray, or the multi-purpose tray runs out of paper, a message that informs you of the tray's paper-out condition appears, and the printer stops printing.



NOTE

If ON is specified for this item, the settings for TRAY in AUTO SELECTION (See the next item) and TRAY PRIORITY (See the previous item) are ignored, and the printer feeds paper from the multi-purpose tray when paper that is the same size as the paper size of the received data is not loaded in the selected paper source.

AUTO SELECTION

| | |
|--------------------------------|----------|
| TRAY..... | ON*, OFF |
| CASSETTE 1..... | ON*, OFF |
| CASSETTE 2* ¹ | ON*, OFF |
| CASSETTE 3* ¹ | ON*, OFF |
| CASSETTE 4* ¹ | ON*, OFF |

*1 CASSETTE 2, CASSETTE 3, and CASSETTE 4 are displayed only when the optional paper feeders are installed.

Specifies the paper source to be automatically selected when the automatic paper selection is specified in the SELECT FEEDER menu. Specify the setting for the multi-purpose tray and paper cassettes individually.

If ON is specified, the printer selects the respective paper source as the paper source to be automatically selected. If OFF is specified, the printer does not select the respective paper source as the paper source to be automatically selected.

NOTE

- If INVLDPAPER TRAY (See the previous item) is set to ON, the setting for TRAY in this item is ignored, and the printer feeds paper from the multi-purpose tray when paper that is the same size as the paper size of the received data is not loaded in the selected paper source.
- Specify the setting for automatic paper selection in PAPER SOURCE (See p. 5-117) in the SELECT FEEDER menu.

STD PAPER TYPE

| |
|---|
| PLAIN PAPER*, PLAIN PAPER L, HEAVY PAPER 1, HEAVY PAPER 2, ENVELOPE, COATED PAPER, LABEL |
|---|

Specifies the default paper type. This printer internally applies the optimum print mode for the paper type specified in this item.

Each print mode supports the following paper types.

- PLAIN PAPER: Plain Paper (64 - 105 g/m²)
- PLAIN PAPER L: Specify when the paper curls excessively on printing plain paper (64 g/m²) with PLAIN PAPER specified or when the printing speed drops on printing paper of 279.4 mm wide (Letter size) or less continuously.
- HEAVY PAPER 1: Heavy Paper (106 - 169 g/m²)
- HEAVY PAPER 2: Heavy Paper (170 - 220 g/m²)
- ENVELOPE: Envelopes
- COATED PAPER: Coated Paper (106 - 169 g/m²)
- LABEL: Labels



IMPORTANT

- If an item other than PLAIN PAPER and PLAIN PAPER L is specified, you cannot perform 2-sided printing.
- When printing from Windows or Macintosh, specify the paper type in the printer driver. When you want to print from a computer in which an operating system such as MS-DOS and UNIX is used and cannot specify the paper type, specify the paper type in this item.
- When using coated paper at a size other than sizes of 106 to 169 g/m², perform the following settings.
 - When using paper of 105 g/m² or less: Set STD PAPER TYPE to PLAIN PAPER
 - When using paper of 170 to 220 g/m²: Set STD PAPER TYPE to COATED PAPER and COATED PAPER in SP.PRINT MODE in the USER MAIN. options to ON.

TRAY PAPER TYPE

MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, HEAVY PAPER 1, HEAVY PAPER 2, ENVELOPE, COATED PAPER, LABEL

Specifies the type of the paper to be loaded in the multi-purpose tray. This printer internally applies the optimum print mode for the paper type specified in this item.

Each print mode supports the following paper types.

- PLAIN PAPER: Plain Paper (64 - 105 g/m²)
- PLAIN PAPER L: Specify when the paper curls excessively on printing plain paper (64 g/m²) with PLAIN PAPER specified or when the printing speed drops on printing paper of 279.4 mm wide (Letter size) or less continuously.
- HEAVY PAPER 1: Heavy Paper (106 - 169 g/m²)
- HEAVY PAPER 2: Heavy Paper (170 - 220 g/m²)
- ENVELOPE: Envelopes
- COATED PAPER: Coated Paper (106 - 169 g/m²)
- LABEL: Labels

 **IMPORTANT**

- This printer applies the optimum print mode for the interior of the printer according to the type of the paper loaded in the multi-purpose tray. If the type of the paper loaded in the multi-purpose tray and the setting for the print mode do not match, this may result in crucial damage to the engine.
When printing from Windows or Macintosh using the multi-purpose tray, be sure to match the type of the paper loaded in the multi-purpose tray, the setting for TRAY PAPER TYPE, and the setting for [Paper Type] in the printer driver. If they do not match, the printer stops printing, displaying an error message.
When printing from DOS, UNIX, or other operating system on which the printer driver cannot be used, be sure to match the type of the paper loaded in the multi-purpose tray, the setting for TRAY PAPER TYPE, and the setting for STD PAPER TYPE.
- The default value is MIXED TYPES. If MIXED TYPES is specified, the printer does not check the type of the loaded paper against the paper type specified in the printer driver. Be sure to check if the paper type specified in the printer driver matches the type of the paper loaded in the multi-purpose tray before using the printer.
- If an item other than PLAIN PAPER and PLAIN PAPER L is specified, you cannot perform 2-sided printing.
- When using coated paper at a size other than sizes of 106 to 169 g/m², perform the following settings.
 - When using paper of 105 g/m² or less: Set STD PAPER TYPE to PLAIN PAPER
 - When using paper of 170 to 220 g/m²: Set STD PAPER TYPE to COATED PAPER and COATED PAPER in SP.PRINT MODE in the USER MAIN. options to ON.

 **NOTE**

You can specify the same setting in TRAY PAPER TYPE in the SELECT FEEDER menu.

CASSETTE1 TYPE

MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, LABEL

Specifies the type of the paper to be loaded in Cassette 1. This printer internally applies the optimum print mode for the paper type specified in this item.

Each print mode supports the following paper types.

- **PLAIN PAPER:** Plain Paper (64 - 105 g/m²)
- **PLAIN PAPER L:** Specify when the paper curls excessively on printing plain paper (64 g/m²) with PLAIN PAPER specified or when the printing speed drops on printing paper of 279.4 mm wide (Letter size) or less continuously.
- **LABEL:** Labels



IMPORTANT

- This printer applies the optimum print mode for the interior of the printer according to the type of the paper loaded in the paper cassette. If the type of the paper loaded in the paper cassette and the setting for the print mode do not match, this may result in crucial damage to the engine.

When printing from Windows or Macintosh using a paper cassette, be sure to match the type of the paper loaded in the paper cassette, the setting for CASSETTE1 TYPE, and the setting for [Paper Type] in the printer driver. If they do not match, the printer stops printing, displaying an error message.

When printing from DOS, UNIX, or other operating system on which the printer driver cannot be used, be sure to match the type of the paper loaded in the paper cassette, the setting for CASSETTE1 TYPE, and the setting for STD PAPER TYPE.

- The default value is MIXED TYPES. If MIXED TYPES is specified, the printer does not check the type of the loaded paper against the paper type specified in the printer driver. Be sure to check if the paper type specified in the printer driver matches the type of the paper loaded in the paper cassette before using the printer.



NOTE

You can specify the same setting in CASSETTE1 TYPE in the SELECT FEEDER menu.

CASSETTE(n) TYPE (n = 2, 3, 4)

MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, LABEL

Specifies the type of the paper to be loaded in Cassette N (N = 2, 3, 4). This printer internally applies the optimum print mode for the paper type specified in this item.

Each print mode supports the following paper types.

- PLAIN PAPER: Plain Paper (64 - 105 g/m²)
- PLAIN PAPER L: Specify when the paper curls excessively on printing plain paper (64 g/m²) with PLAIN PAPER specified or when the printing speed drops on printing paper of 279.4 mm wide (Letter size) or less continuously.
- LABEL: Labels

 **IMPORTANT**

- This printer applies the optimum print mode for the interior of the printer according to the type of the paper loaded in the paper cassette. If the type of the paper loaded in the paper cassette and the setting for the print mode do not match, this may result in crucial damage to the engine.

When printing from Windows or Macintosh using a paper cassette, be sure to match the type of the paper loaded in the paper cassette, the setting for CASSETTE(n) TYPE (n = 2, 3, 4), and the setting for [Paper Type] in the printer driver. If they do not match, the printer stops printing, displaying an error message. When printing from DOS, UNIX, or other operating system on which the printer driver cannot be used, be sure to match the type of the paper loaded in the paper cassette, the setting for CASSETTE(n) TYPE (n = 2, 3, 4), and the setting for STD PAPER TYPE.

- The default value is MIXED TYPES. If MIXED TYPES is specified, the printer does not check the type of the loaded paper against the paper type specified in the printer driver. Be sure to check if the paper type specified in the printer driver matches the type of the paper loaded in the paper cassette before using the printer.

 **NOTE**

- This item is displayed only when the optional paper feeder is installed.
- You can specify the same setting in CASSETTE(n) TYPE (n = 2, 3, 4) in the SELECT FEEDER menu.

MANUAL 2-SIDED

1ST SIDE*, 2ND SIDE

Specifies the printing side of the plain paper or heavy paper loaded in the multi-purpose tray when performing 2-sided printing.

When printing the front side (the side you print first) of the paper, specify 1ST SIDE.

When printing the reverse side of previously printed paper, specify 2ND SIDE.

 **IMPORTANT**

Be sure to specify 2ND SIDE before printing the other side of previously printed paper with this printer.

2-SIDED PRINT.

OFF*, ON

Specifies whether the printer should print on one side or both sides of the paper.

If ON is specified, the printer prints on both sides of the paper.



IMPORTANT

When printing from Windows or Macintosh, specify 2-sided printing in the printer driver. When you want to print from a computer in which an operating system such as MS-DOS and UNIX is used and cannot specify 2-sided printing, specify the setting in this item.



NOTE

- Automatic 2-sided printing can be performed only on plain paper at sizes of A3, B4, A4, B5, A5, Ledger (11 x 17), Legal, Statement, Letter, Executive, 8K, 16K, and of the following custom sizes. For more details, see "Usable Paper," on p. 3-2.

For Multi-purpose Tray

- When loading paper in portrait orientation: Width 210.0 to 312.0 mm; Length 210.0 to 431.8 mm

- When loading paper in landscape orientation (Only when UFR II Printer Driver is used): Width 210.0 to 297.0 mm; Length 148.0 to 297.0 mm

For Cassette 2, 3, and 4

- When loading paper in portrait orientation: Width 210.0 to 297.0 mm; Length 210.0 to 431.8 mm

- When loading paper in landscape orientation (Only when UFR II Printer Driver is used): Width 210.0 to 297.0 mm; Length 148.0 to 297.0 mm

- When performing automatic 2-sided printing on paper with a logo, load the paper as the following.
 - When printing from the paper cassette, load the paper with the printing side of the first page facing down.
 - When printing from the multi-purpose tray, load the paper with the printing side of the first page facing up.
- You can specify the same setting in 2-SIDED PRINT. in the SELECT FEEDER menu.

COPIES

1 to 9999; 1*

Specifies the number of copies to be printed.

The printer prints the specified number of copies.

OFFSET Y/OFFSET X

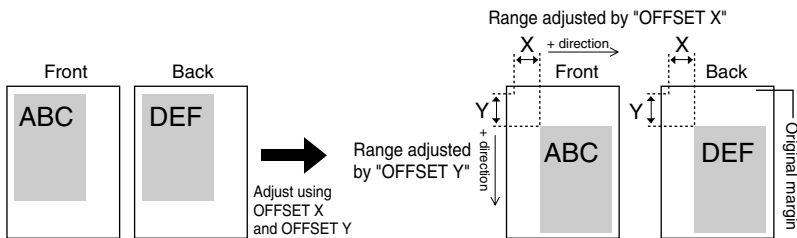
-50.0 to 50.0; 0.0* (mm)

Adjusts the printing position in the vertical direction (Y) or the horizontal direction (X) by the specified value.

The printing position changes as follows according to the increase and decrease of the specified value.

OFFSET Y: As the value increases, the gutter width in the Y direction increases.
As the value decreases, the gutter width in the Y direction decreases.

OFFSET X: As the value increases, the gutter width in the X direction increases.
As the value decreases, the gutter width in the X direction decreases.



IMPORTANT

If any part of the print image lies outside the printable area after adjusting the printing position, the part will be missing in the print result.



NOTE

Each time you press [▶], the value increases in 0.5 mm increments, and each time you press [◀], the value decreases in 0.5 mm increments. If you keep holding down [▶] or [◀], the speed of the value changing is increased.

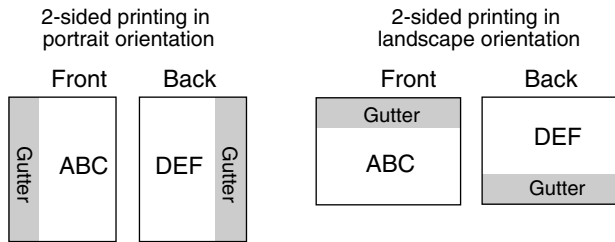
BIND.LOCATION

LONG EDGE*, SHORT EDGE

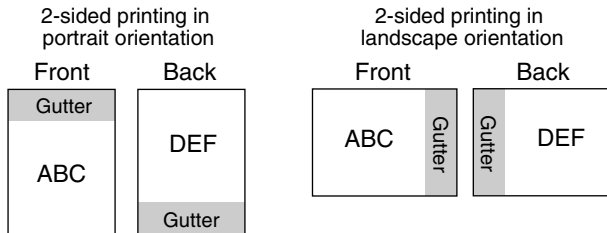
Specifies which edge of the paper, the long edge or short edge, is to be bound. When you want to bind paper on which 2-sided printing is performed, the printer adjusts the binding location automatically according to the paper surface.

Specify the binding location (top/bottom/left/right) and its width in GUTTER (See the next item).

If LONG EDGE is specified, the binding location is created on the long edge of the paper.



If SHORT EDGE is specified, the binding location is created on the short edge of the paper.



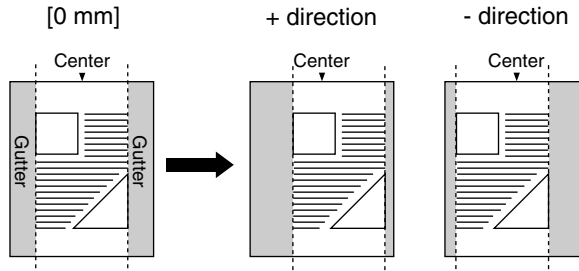
NOTE

You cannot create a gutter only by specifying this item. A gutter can be created only after specifying this item in combination with the setting for GUTTER.

GUTTER

-50.0 to 50.0; 0.0* (mm)

Specifies the gutter width for printing with the binding location created. A gutter is created with the image shifted by the specified value. You can shift the image in the "+" direction with a positive value and in the "-" direction with a negative value.



Specify on which edge of the paper, the long edge or short edge, the gutter is to be created in BIND.LOCATION (See the previous item). On which edge (top/bottom/left/right) of the paper the gutter is created depends on the setting for BIND.LOCATION and which value "+" or "-" is specified for this item.



IMPORTANT

If any part of the print image lies outside the printable area after creating a gutter, the part will be missing in the print result.



NOTE

- Each time you press [►], the value increases in 0.5 mm increments, and each time you press [◀], the value decreases in 0.5 mm increments. If you keep holding down [►] or [◀], the speed of the value changing is increased.
- If the settings for OFFSET Y and OFFSET X are specified at the same time as the setting for this item is specified, the settings for OFFSET Y and OFFSET X are processed first, and then the setting for this item is processed.

● Settings for BIND.LOCATION and GUTTER

Specify BIND.LOCATION and GUTTER referring to the following finishing image.

| Binding location for when using paper in portrait orientation | | | Binding location for when using paper in landscape orientation | |
|---|----------------------------|--|--|----------------------------|
| Front | Back (2-sided printing) | | Front | Back (2-sided printing) |
| | | BIND.LOCATION : LONG EDGE GUTTER : + direction | | |
| | | BIND.LOCATION : LONG EDGE GUTTER : - direction | | |
| | | BIND.LOCATION : SHORT EDGE GUTTER : + direction | | |
| | | BIND.LOCATION : SHORT EDGE GUTTER : - direction | | |

Specify whether you print in portrait orientation or landscape orientation in an application.

ALT.METHOD

ON*, OFF

Specifies the printing side of the last page on a job with odd number of pages when 2-SIDED PRINT. (See p. 5-38) is set to ON.

The printing side of the last page varies depending on the setting for this item or paper source as the following.

- When printing from the paper cassette
 - If ON is specified, the printer prints on the upper side of the loaded paper.
 - If OFF is specified, the printer prints on the underside of the loaded paper.
- When printing from the multi-purpose tray
 - If ON is specified, the printer prints on the underside of the loaded paper.
 - If OFF is specified, the printer prints on the upper side of the loaded paper.

Specify OFF for this item when you want to match the setting of the orientation or printing side for the last page with those for its previous page, such as when you want to print previously printed paper etc. whose printing orientation or printing side is fixed.



NOTE

The setting is effective only when 2-SIDED PRINT. is set to ON.

QUALITY MENU Options

RESOLUTION

FINE*, SUPER FINE

Specifies the resolution for when processing print data.

Resolution is indicated in "dpi" that indicates the number of dots per inch, and the larger the value is, the higher precision you can print at.

If FINE is specified, the printer prints in the Fine mode at 600dpi. This mode is appropriate for printing general text or charts at a high speed.

If SUPER FINE is specified, the printer prints in the Super Fine mode at 1200dpi. This mode reproduces text and outlines of diagrams clearly with a fine resolution. This mode is appropriate especially for printing data that contain many small letters.



IMPORTANT

If TEXT, GRAPHICS, or IMAGE in the following items is set to ERR DIFFUSION, and this item is set to SUPER FINE, ERR DIFFUSION changes to HIGH RESOL..

- B & W HALFTONES and COLOR HALFTONES in HALFTONES in the QUALITY MENU options in the SETUP menu
- B & W HALFTONES and COLOR HALFTONES in the PDF1.5 menu
- B & W HALFTONES and COLOR HALFTONES in the PS menu

● About memory amount required for using the Super Fine mode

Printing in the Super Fine mode requires a large amount of memory for data process. Therefore, depending on the amount or type of data, the message <39 SPL MEM.FULL> may appear, disabling printing. In this case, print with RESOLUTION set to FINE and GRADATION LEVEL to HIGH 1, or install an optional expansion RAM module as needed. For details on the optional expansion RAM modules, see Getting Started Guide.

GRADATION LEVEL

HIGH 1* *1, HIGH 2*1, STANDARD*2

*1 HIGH 1 and HIGH 2 are displayed only when RESOLUTION is set to FINE.

*2 STANDARD is displayed only when RESOLUTION is set to SUPER FINE.

Specifies the gradation level for data.

This item is fixed at STANDARD when RESOLUTION (See the previous item) is set to SUPER FINE. When RESOLUTION is set to FINE, you can select HIGH 1 or HIGH 2.

Specify HIGH 1 when printing pictures or other data in general quality and specify HIGH 2 when printing in higher quality.

● About memory amount required for using the HIGH 2 mode

Printing in the HIGH 2 mode requires a large amount of memory for data process. Therefore, when the HIGH 2 mode is specified, the message <39 SPL MEM.FULL> may appear depending on the amount or type of data, disabling printing. In this case, print with GRADATION LEVEL set to HIGH 1, or install an optional expansion RAM module as needed. For details on the optional expansion RAM modules, see Getting Started Guide.

TONER SAVE

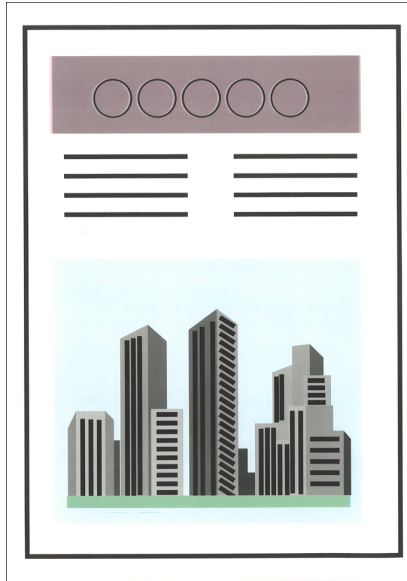
OFF*, ON

Specifies whether to use the toner save mode that is suitable for when printing a proof sheet.

 **NOTE**

If ON is specified for this item, you can save toner, but print result may be faint and unclear. Parts to which gradation is applied in very light gray may appear denser in color.

- When printing without using the toner save mode



- When printing using the toner save mode



DENSITY: CYAN

1 to 16; 9*

Adjusts the print density of cyan for the print data. As the value increases, the print density becomes denser.

 **NOTE**

- Normally, you do not need to adjust the print density with this item.
- When this printer is connected to a network on which two or more printers are being used at the same time, make a fine adjustment on the gap of the print density among the printers.

DENSITY: MAGENTA

1 to 16; 9*

Adjusts the print density of magenta for the print data. As the value increases, the print density becomes denser.



NOTE

- Normally, you do not need to adjust the print density with this item.
- When this printer is connected to a network on which two or more printers are being used at the same time, make a fine adjustment on the gap of the print density among the printers.

DENSITY: YELLOW

1 to 16; 9*

Adjusts the print density of yellow for the print data. As the value increases, the print density becomes denser.



NOTE

- Normally, you do not need to adjust the print density with this item.
- When this printer is connected to a network on which two or more printers are being used at the same time, make a fine adjustment on the gap of the print density among the printers.

DENSITY: BLACK

1 to 16; 9*

Adjusts the print density of black for the print data. As the value increases, the print density becomes denser.



NOTE

- Normally, you do not need to adjust the print density with this item.
- When this printer is connected to a network on which two or more printers are being used at the same time, make a fine adjustment on the gap of the print density among the printers.

COLOR MODE

AUTO*, COLOR, BLACK & WHITE

Specifies whether to print in color or in black and white.

If AUTO is specified, the printer automatically switches between color printing and black-and-white printing according to the document type.

If COLOR is specified, the printer prints using the four colors of KYMC (Black, Yellow, Magenta, and Cyan).

If BLACK & WHITE is specified, the printer prints in black and white even when printing a color document.

HALFTONES

■ B & W HALFTONES

| | |
|---------------|--|
| TEXT | RESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL., ERR DIFFUSION* ¹ |
| GRAPHICS | GRADATION*, COLOR TONE, HIGH RESOL., ERR DIFFUSION* ¹ , RESOLUTION |
| IMAGE | GRADATION*, COLOR TONE, HIGH RESOL., ERR DIFFUSION* ¹ , RESOLUTION |

*¹ ERR DIFFUSION is displayed only when RESOLUTION is set to FINE.

Specifies the display pattern of subtle gradation (medium gradation) for black-and-white data for each text part, graphics part such as diagrams and graphs, and image part such as picture images.

RESOLUTION prints precisely so that the lines of text data appear clearly. This setting is appropriate for printing data that contains text or thin lines.

GRADATION prints with a smooth gradation and fine outline quality combined. This setting is appropriate for printing diagrams or graphs in which gradation is used.

COLOR TONE prints with a stable texture and distinct gradation, by enhancing the contrast of tone. This setting is appropriate for printing image data such as photographic images.

Although HIGH RESOL. prints in higher resolution than RESOLUTION does, the stability of the texture is lower in quality. This setting is appropriate for printing a document so that the outlines of text, thin lines, or CAD appear clearly.

ERR DIFFUSION uses an error diffusion method that gives priority to printing fine lines or text. This setting is appropriate for printing images with small text or very fine lines.

■ COLOR HALFTONES

| | |
|---------------|--|
| TEXT | RESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL., ERR DIFFUSION* ¹ |
| GRAPHICS | COLOR TONE*, HIGH RESOL., ERR DIFFUSION* ¹ , RESOLUTION, GRADATION |
| IMAGE | COLOR TONE*, HIGH RESOL., ERR DIFFUSION* ¹ , RESOLUTION, GRADATION |

*¹ ERR DIFFUSION is displayed only when RESOLUTION is set to FINE.

Specifies the display pattern of subtle gradation (medium gradation) for color data for each text part, graphics part such as diagrams and graphs, and image part such as picture images.

RESOLUTION prints precisely so that the lines of text data appear clearly. This setting is appropriate for printing data that contains text or thin lines.

GRADATION prints with a stable texture and color hue, and a smooth gradation combined. This setting is appropriate for printing image data such as photographic images, because it reduces a phenomenon of "Out-of-Register Colors".

Although COLOR TONE prints precisely with the phenomenon of "Out-of-Register Colors" reduced than GRADATION does, the stability of the texture is lower in quality. This setting is appropriate for printing diagrams, graphs, etc.

Although HIGH RESOL. prints in higher resolution than RESOLUTION does, the stability of the texture is lower in quality. This setting is appropriate for printing a document so that the outlines of text, thin lines, or CAD appear clearly.

ERR DIFFUSION uses an error diffusion method that gives priority to printing fine lines or text. This setting is appropriate for printing images with small text or very fine lines.

GRAY COMPENSATE

| | |
|----------------|----------|
| TEXT | ON*, OFF |
| GRAPHICS | ON*, OFF |
| IMAGE | ON*, OFF |

Specifies whether to print gray color data with the black toner (Bk) only.

If ON is specified, the printer prints gray color data with the black toner (Bk) only. You can prevent a phenomenon of "Out-of-Register Colors".

If OFF is specified, the printer prints the gray color of gray color data using the four colors of CMYK. The ability to reproduce the tone of the dark parts is more improved than when ON is specified.

CMS

■ CMS SELECTION

PRINTER*, HOST

Specifies which device the printer or host (the printer driver) is to be used for color processing.

If PRINTER is specified, the color processing is performed on the printer.

If HOST is specified, the color processing is not performed on the printer.



IMPORTANT

- If the setting for CMS (Matching) on the host (the printer driver) is set to [Driver Matching Mode], the setting for this item is ignored even if PRINTER is specified, the host performs the color correction process.
- If HOST is specified for this item, the host that is not connected via the printer driver does not perform the color correction process.

■ CMS/GAMMA

TEXT.....CMS*, GAMMA

GRAPHICS.....CMS*, GAMMA

IMAGE.....CMS*, GAMMA

Specifies whether to perform color matching or correct color specifying the gamma value.

You can specify the settings by data type of TEXT, GRAPHICS, and IMAGE.

If you change the setting for this item, availabilities of the following settings switch.

| | CMS | GAMMA |
|------------------------------------|-----------------------|-----------------------|
| RGB SRCE PROF. (See the next item) | <input type="radio"/> | X |
| MATCHING METHOD (See p. 5-51) | <input type="radio"/> | X |
| OUTPUT PROFILE (See p. 5-51) | <input type="radio"/> | X |
| GAMMA (See p. 5-52) | X | <input type="radio"/> |

○: Enabled X: Disabled

■ RGB SRCE PROF.

| | |
|----------------|---|
| TEXT | sRGB_v1.31*, HDTV_gamma_1.5, HDTV_gamma_1.8, HDTV_gamma_2.4, Download Profile* ¹ |
| GRAPHICS | sRGB_v1.31*, HDTV_gamma_1.5, HDTV_gamma_1.8, HDTV_gamma_2.4, Download Profile* ¹ |
| IMAGE..... | sRGB_v1.31*, HDTV_gamma_1.5, HDTV_gamma_1.8, HDTV_gamma_2.4, Download Profile* ¹ |

*¹ "Download Profile" appears only when a profile is downloaded.

Selects the profile appropriate for RGB data according to the monitor you are using.

You can specify the settings by data type of TEXT, GRAPHICS, and IMAGE.

sRGB_v1.31

Industry-standard image quality of the general Windows (PC) monitor is applied. If you are using a monitor that supports sRGB, the printer performs matching for the colors displayed on the monitor and those printed by the printer to print in colors close to those displayed on the monitor. The default value is "sRGB_v1.31".

HDTV_gamma_X.X: HDTV_gamma_1.5, HDTV_gamma_1.8, and HDTV_gamma_2.4

Adjusts the brightness of the printout results without spoiling the lightest parts and darkest parts of the data. Specify the setting for this item when you want to adjust the brightness such as when the colors in the printout result are lighter than those displayed on the monitor. The greater the gamma value is, the darker in color the data is printed.

Download Profile

Specify the setting value when using a profile downloaded onto this printer.



NOTE

- Download profiles using NetSpot Resource Downloader. For details on the download procedure, see "NetSpot Resource Downloader User's Guide". Obtain NetSpot Resource Downloader and "NetSpot Resource Downloader User's Guide" from the Canon website.
- The settings in the control panel and those in the printer driver correspond to each other as follows.

| Printer Driver Setting | Control Panel Setting |
|------------------------|-----------------------|
| sRGB v1.31 (Canon) | sRGB_v1.31 |

| Printer Driver Setting | Control Panel Setting |
|------------------------------|-----------------------|
| Canon HDTV gamma 1.5 Monitor | HDTV_gamma_1.5 |
| Canon HDTV gamma 1.8 Monitor | HDTV_gamma_1.8 |
| Canon HDTV gamma 2.4 Monitor | HDTV_gamma_2.4 |

- Set CMS/GAMMA (See p. 5-49) to CMS to enable this item.

■ OUTPUT PROFILE

TEXT.....Normal*, Photo
 GRAPHICS.....Normal*, Photo
 IMAGE.....Photo*, Normal

Specify the output profile. The output profile is applied to all the print data.

You can specify the settings by data type of TEXT, GRAPHICS, and IMAGE.

Normally, leave the settings for text data and graphics data to Normal, and image data to Photo.

■ MATCHING METHOD

TEXT.....SATURATION*, COLORIMETRIC, PERCEPTUAL
 GRAPHICS.....PERCEPTUAL*, SATURATION, COLORIMETRIC
 IMAGE.....PERCEPTUAL*, SATURATION, COLORIMETRIC

Performs color adjustment because the colors displayed on the monitor of the computer are different from those reproduced by the printer. Select the adjustment method from among the followings according to your use or preference.

You can specify the settings by data type of TEXT, GRAPHICS, and IMAGE.

If PERCEPTUAL is specified, the printer performs matching giving priority to color hue.

If SATURATION is specified, the printer performs matching giving priority to color intensity.

If COLORIMETRIC is specified, the printer performs matching so that the difference in color of a logo, etc. between the original print data on screen and the printed paper is minimized.



NOTE

- The settings in the control panel and those in the printer driver correspond to each other as follows.

| Printer Driver Setting | Control Panel Setting |
|--|---|
| Perceptual [Monitor Color Matched] | Specify PERCEPTUAL for this item, and set OUTPUT PROFILE to Normal. |
| Perceptual [Photographic] | Specify PERCEPTUAL for this item, and set OUTPUT PROFILE to Photo. |
| Saturation | Specify SATURATION for this item. |
| Colorimetric | Specify COLORIMETRIC for this item. |
| Colorimetric [No White-Point Correction]*1 | Cannot be specified from the control panel. |

*1 [Colorimetric [No White-Point Correction]] can be specified only on Windows 2000/XP/Server 2003/Vista.

- Set CMS/GAMMA (See p. 5-49) to CMS to enable this item.

■ GAMMA

| | |
|----------------|---------------------|
| TEXT | 1.4*, 1.8, 2.2, 1.0 |
| GRAPHICS | 1.4*, 1.8, 2.2, 1.0 |
| IMAGE | 1.4*, 1.8, 2.2, 1.0 |

Adjusts the brightness of the printout results without spoiling the lightest parts and darkest parts of the data. Apply this option when printed colors in the printed paper are lighter than those in the original image (such as photographs that have not yet been scanned or graphics created on the monitor) or when you want to change the brightness of colors. The greater the setting value is, the darker in color the data is printed. 1.4 is the value without correction.

You can specify the settings by data type of TEXT, GRAPHICS, and IMAGE.



NOTE

- Set CMS/GAMMA (See p. 5-49) to CMS to enable this item.

GRADATION SET.

GRADATIONOFF*, SMOOTH 1, SMOOTH 2
GRAPHICS*¹ON*, OFF
IMAGE*¹ON*, OFF

*¹ Displayed only when GRADATION is set to SMOOTH 1 or SMOOTH 2.

Specify this item if gradation of image data such as graphics (illustrations created by an application) or images (bitmap data) cannot be printed smoothly (if the color changes stand out).

SMOOTH 2 performs a smoother gradation than SMOOTH 1. If gradation is not printed smoothly by specifying SMOOTH 1, specify SMOOTH 2.

You can also select a target for the smoothing process by switching ON/OFF for GRAPHICS and IMAGE.



IMPORTANT

If COLOR HALFTONES or B & W HALFTONES is set to ERR DIFFUSION, the setting for this item is disabled.



NOTE

The smoothing process can be specified only for graphics data in the printer driver. For image data, the smoothing process can be specified only from the printer's control panel.

SMOOTHING (AST)

SMOOTHING (AST)SMOOTH 1*, SMOOTH 2, OFF
GRAPHICS*¹OFF*, ON
IMAGE*¹ON*, OFF

*¹ Displayed only when SMOOTHING (AST) is set to SMOOTH 1 or SMOOTH 2.

Specifies whether to use the smoothing process which can print the outlines of graphics (illustrations created by an application) and text smoothly.

SMOOTH 2 performs a smoother process than SMOOTH 1. If data is not printed smoothly by specifying SMOOTH 1, specify SMOOTH 2.

You can also select a target for the smoothing process by switching ON/OFF for GRAPHICS and IMAGE.



NOTE

The effect of the advanced smoothing process varies depending on the pattern of text or graphics.

TONER VOLUME

NORMAL*, GRADATION, TEXT

The toner volume may exceed this printer's restricted value when the parts dense in color are printed. In this case, this printer processes so that the toner volume falls within the restricted values. You can specify the setting for the process in this item.

If NORMAL is specified, text and line data is printed so that the resolution for text and lines is maintained. Other types of data are printed so that the color is maintained.

If GRADATION is specified, color maintenance is applied to all the data.

If TEXT is specified, resolution maintenance is applied to all the data.



NOTE

- This item can be applied only to jobs for printing PDF files using the direct print function.
- If GRADATION is specified, text and lines may blot.
- If TEXT is specified, the colors may not match.

LINE CONTROL

RESOLUTION*, GRADATION

This setting enables you to specify the image processing for lines. Usually, leave the setting to RESOLUTION.

If RESOLUTION is specified, image processing that maintains the same resolution as text for lines is performed.

If GRADATION is specified, image processing that maintains the same color and gradation as graphics for lines is performed.



NOTE

This item can be applied only to jobs of the UFR II printer driver and jobs for printing PDF files using the direct print function.

QUALITY CHANGE

CONT.PRINTING*, STOP PRINTING

Specifies whether the printer should continue printing with the resolution of the data being lowered or stop printing displaying the following error message when it cannot print with the specified value of resolution.

| Error Message | Setting |
|--------------------|---|
| <38 LOW IMGE QLTY> | When the printer receives a large amount of data or complicated data, the memory required for the process may run out, and the printer may print with its resolution level being lowered automatically. Specify whether the printer should display an error message when the printer is in this status. |

If CONT.PRINTING is specified, the printer prints with the resolution of the data being lowered automatically without displaying a message.

If STOP PRINTING is specified, the printer stops printing, displaying a message. In this case, the printer resumes printing with the resolution of the data being lowered by pressing [Online].



NOTE

When the message <38 LOW IMGE QLTY> appears frequently by specifying STOP PRINTING for this item, perform the following procedure.

1. If GRADATION LEVEL is set to HIGH 2, set it to HIGH 1. If you do so, however, the printer prints with the gradation level of the data being lowered.
2. When the message still appears after applying the Remedy 1, or when you want to print with the gradation level of the data as it is, install an optional expansion memory module (RAM).

INTERFACE MENU Options

I/F CONNECTION

USB ON*, OFF
NETWORK ON*, OFF

Specifies the settings for the interfaces used for communication with the computer, etc.

You can specify ON or OFF for each interface.

Even if multiple interfaces are set to ON, the printer automatically switches to the one that received the data first. Therefore, you do not need to change the setting in the printer each time you connect the printer to different types of interfaces at the same time.



IMPORTANT

After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.

MODE TIMEOUT

OFF, 5 to 300 seconds; 15 seconds*

Specifies the function to finish a job automatically.

If you specify the time the printer times out in this item, the printer can finish a job automatically when the specified time has elapsed since no data is entered.

If this item is specified, the printer can output paper automatically when data is remaining in the printer because of an application not sending the command to output paper.

When OFF is specified, the printer does not use the function to finish a job automatically.



IMPORTANT

- If the function to finish a job automatically is specified, the job may be finished in the middle of the process when the computer takes a long time to process the data. In this case, adjust the time the printer times out.
- When you are using an optional hard disk, specify the setting other than OFF for this item. It is recommended that you should leave this item at the default setting, 15 seconds, if possible.



NOTE

- The Job indicator on the control panel is on or blinking during a job.
- When the printer is offline, the printer does not use the function to finish a job automatically.

NETWORK MENU

■ TCP/IP SETTINGS

IP V. 4 SETTING
IP MODE.....MANUAL*, AUTO
PROTOCOL*¹
DHCP.....OFF*, ON
BOOTPOFF*, ON
RARP.....OFF*, ON
IP SETTINGS
IP ADDRESS.....0.0.0.0*
SUBNET MASK0.0.0.0*
GATEWAY ADDRESS0.0.0.0*
IP ADD.RANGE
REJECT RX/PRT.....OFF*, ON
REJECT ADD.SET.*²REJ IP 1 to 8
PERMIT RX/PRTOFF*, ON
PERMIT ADD.SET.*²PER IP 1 to 8
REJ SET/BROWSEOFF*, ON
REJECT ADD.SET.*²REJ IP 1 to 8
PMT SET/BROWSEOFF*, ON
PERMIT ADD.SET.*²PER IP 1 to 8
DNS
PRIMARY ADD.0.0.0.0*
SECONDARY ADD.0.0.0.0*
IP V. 6 SETTING
IP V. 6.....OFF*, ON
WINS
OFF*, ON
ARP/PING
ON*, OFF
FTP
FTP PRINTOFF*, ON
FTP SETTINGSON*, OFF
LPD PRINT
ON*, OFF
RAW PRINT
ON*, OFF
IPP PRINT
ON*, OFF
WSD
WSD PRINT.....ON*, OFF
WSD BROWSING*³ON*, OFF
MULTICAST DISC.ON*, OFF
HTTP

- ON*, OFF
- PROXY SETTINGS*4
 - PROXY..... OFF*, ON
 - SERVER ADDRESS*5
 - PORT NUMBER*5..... 0 to 99999; 80*
 - SAME DOMAIN*5..... NO PROXY*, USE PROXY
 - PROXY AUTH.*5..... OFF*, ON
 - USER NAME*5
 - PASSWORD*5
- SNTP
 - OFF*, ON
- RESPONSE
 - ON*, OFF
- MAC ADDRESS SET
 - PERMIT RECEIVE..... OFF*, ON
 - PERMIT ADD.SET.*2..... PER.MAC ADD.1 to 50

*1 PROTOCOL is displayed only when IP MODE is set to AUTO.

*2 REJECT ADD.SET. and PERMIT ADD.SET. are displayed only when REJECT RX/PRT, PERMIT RX/PRT, REJ SET/BROWSE, PMT SET/BROWSE, or PERMIT RECEIVE is set to ON.

*3 WSD BROWSING is displayed only when WSD PRINT is set to OFF.

*4 PROXY SETTINGS is not displayed depending on the printer you are using or availability of the optional accessories.

*5 SERVER ADDRESS, PORT NUMBER, SAME DOMAIN, and PROXY AUTH. are displayed only when PROXY is set to ON.

Specifies the TCP/IP setting for the print server equipped with this printer.

| Item | Setting |
|--------------------|---|
| IP MODE | Select the method for setting the IP address. - When specifying the IP address using any one of DHCP, BOOTP, or RARP, select AUTO . - When specifying the IP address to the printer directly, select MANUAL . |
| PROTOCOL | If you have set IP MODE to AUTO, select which protocol you want to use. Set each of DHCP , BOOTP , and RARP to ON (use) or OFF (do not use). |
| IP SETTINGS | Specify the settings for IP ADDRESS , SUBNET MASK , and GATEWAY ADDRESS . For the method for entering the addresses, see "Method for entering addresses" below the table. |

| Item | Setting |
|----------------------------|--|
| IP ADD.RANGE | <p>Restrict the users who can print or perform the printer settings using IP addresses.</p> <ul style="list-style-type: none"> - To reject specific users from printing, set REJECT RX/PRT to ON, and then specify the addresses to be rejected in REJECT ADD.SET. - To permit specific users to print, set PERMIT RX/PRT to ON, and then specify the addresses to be permitted in PERMIT ADD.SET. - To reject specific users from changing the settings, set REJECT ADD.SET. to ON, and then specify the addresses to be rejected in REJECT ADD.SET. - To permit specific users to change the settings, set PERMIT ADD.SET. to ON, and then specify the addresses to be permitted in PERMIT ADD.SET. <p>Enter addresses in REJECT ADD.SET. and PERMIT ADD.SET. using the following procedure. (This section describes the setting procedure taking REJECT ADD.SET as an example. You can also apply this procedure to the setting for PERMIT ADD.SET.)</p> <ol style="list-style-type: none"> ① Select REJECT ADD.SET., then press [OK]. ② Select REJ IP 1 START, then press [OK]. ③ Enter the IP address to be rejected, then press [OK]. For the method for entering the addresses, see "Method for entering addresses" below the table. ④ If you enter an IP address in REJ IP 1 END, the IP addresses between REJ IP 1 START and REJ IP 1 END are rejected. For example, if you specify addresses as follows, 12 addresses between "192.168.0.200" and "192.168.0.211" are rejected. <ul style="list-style-type: none"> - Entering "192.168.0.200" for REJ IP 1 START - Entering "192.168.0.211" for REJ IP 1 END ⑤ If you want to enter other IP addresses to be rejected, enter them starting from REJ IP 2 START. You can enter up to eight addresses. |
| DNS | <p>Specify the settings for PRIMARY ADD. and SECONDARY ADD. for DNS. For the method for entering the addresses, see "Method for entering addresses" below the table.</p> <p>* Specify the settings for [DNS Host Name], [DNS Domain Name], and [DNS Dynamic Update] from the Remote UI. (See Network Guide)</p> |
| IP V. 6 SETTING | <p>If you want to use IP v. 6, specify ON.</p> |

| Item | Setting |
|------------------|---|
| WINS | If you want to use WINS Resolution, specify ON . * Specify the settings for [WINS Server Address] and [Scope ID] from the Remote UI. (See Network Guide) |
| ARP/PING | If you want to use the ARP/PING function, specify ON . |
| FTP | If you want to use FTP Print, set FTP PRINT to ON . * Specify the settings for [FTP Print User Name] and [FTP Print Password] from the Remote UI. (See Network Guide) If you want to perform the settings using FTP Client, set FTP SETTINGS to ON . |
| LPD PRINT | If you want to use LPD Print, specify ON . * Specify the setting for [Print LPD Banner Page] from the Remote UI. (See Network Guide) |
| RAW PRINT | If you want to use RAW Print, specify ON . * Specify the setting for [Bidirectional Communication] from the Remote UI. (See Network Guide) |
| IPP PRINT | If you want to use IPP Print, specify ON . * Specify the settings for [IPP Authentication], [IPP User Name], and [IPP Password] from the Remote UI. (See Network Guide) |
| WSD | If you want to use WSD Print, set WSD PRINT to ON , and then specify the following settings. - If you want to obtain printer information using WSD, set WSD BROWSING to ON . If you set WSD PRINT to ON, WSD BROWSING is not displayed. (WSD BROWSING is fixed at ON.) - If you want to set the printer to respond to requests from multicast discovery, set MULTICAST DISC. to ON . |
| HTTP | If you want to use the HTTP function, specify ON . Specifying OFF disables the Remote UI and IPP Print. |

| Item | Setting |
|------------------------|---|
| PROXY SETTINGS | <p>If you want to use the proxy function, set PROXY to ON, and then specify the following settings.</p> <ul style="list-style-type: none"> - Enter the proxy server address to be used for the proxy function in SERVER ADDRESS. - Enter the port number of the proxy server to be used for the proxy function in PORT NUMBER. - If you want to use the proxy function also for the same domain, set SAME DOMAIN to USE PROXY. - If you want to use the proxy authentication function, set PROXY AUTH. to ON, and then specify the following items. <ul style="list-style-type: none"> - USER NAME: Enter the user name to be used for the proxy authentication. - PASSWORD: Enter the password to be used for the proxy authentication. |
| SNTP | <p>When obtaining time using the SNTP Client function, specify ON.</p> <p>* Specify the settings for [NTP Server Name] and [Polling Interval] from the Remote UI. (See Network Guide)</p> |
| RESPONSE | <p>If you want to set the printer so that it responds to searches that used the multicast discovery function, specify ON.</p> <p>* Specify the setting for [Scope Name] from the Remote UI. (See Network Guide)</p> |
| MAC ADDRESS SET | <p>Permits access only from users with a specific MAC address. Set PERMIT RECEIVE to ON, and then specify the addresses to be permitted in PERMIT ADD.SET.</p> <p>Enter addresses in PERMIT ADD.SET. using the following procedure.</p> <ol style="list-style-type: none"> ① Select PERMIT ADD.SET., then press [OK]. ② Select PER.MAC ADD.1 then press [OK]. ③ Enter the MAC address to be permitted, then press [OK]. ④ If you want to enter other MAC addresses to be permitted, enter them starting from PER.MAC ADD.2. <p>You can enter up to 50 addresses.</p> |

"Method for entering addresses"

1. Move the cursor to each field (an area separated by periods to enter three-digit numbers) in which you want to enter the address, by pressing [◀] or [▶] (The number in the field blinks, allowing you to enter a value.).
2. Enter the numbers ([▲] increases the value and [▼] decreases the value.).
3. After entering values in all the fields, press [OK] to confirm the settings.



IMPORTANT

After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.



NOTE

This item is displayed only when all the following conditions are fulfilled.

- NETWORK in the I/F CONNECTION options is set to ON.
- [Primary Network Setting] is set to [Standard Network].

Specify the setting for [Primary Network Setting] in the [Extension Card] page in the Remote UI or in EXTENSION CARD (See p. 5-66) in the control panel.

■ NETWORK SETTING

| | |
|--------------------|--|
| NETWORK | OFF*, ON |
| FRAME TYPE | AUTO DETECT*, ETHERNET 2, ETHERNET 802.2, ETHERNET 802.3, ETHERNET SNAP |
| PRINT SERVICE..... | NDS PSERVER*, NPRINTER, BINDERYPSERVER, RPRINTER |

Configures the NetWare network settings.



NOTE

For more details on NetWare, see "Chapter 4 Using the Printer on a NetWare Network (Windows)" in Network Guide.

■ APPLE TALK

OFF*, ON

Specifies whether the printer should use AppleTalk.



NOTE

- For more details on AppleTalk, see "Chapter 6 Using the Printer on an AppleTalk Network (Macintosh)" in Network Guide.
- This item is displayed only when NETWORK in the I/F CONNECTION options is set to ON.

■ SMB

| | |
|-----------------|----------|
| SMB SERVER..... | OFF*, ON |
| SMB*1 | OFF*, ON |

*1 SMB is displayed only when an optional hard disk is installed, HARD DISK is set to ON, and SMB SERVER is set to ON.

Specifies whether the printer should use the SMB protocol.



NOTE

This item is displayed only when NETWORK in the I/F CONNECTION options is set to ON.

■ SNMP V. 1

ON*, OFF

Specifies whether the printer should use the SNMP v. 1 protocol.



IMPORTANT

After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.



NOTE

- For more details on SNMP v. 1, see "Chapter 2 Common Network Settings" in Network Guide.
- This item is displayed only when NETWORK in the I/F CONNECTION options is set to ON.

■ SNMP V. 3 SET.

SNMP V. 3.....OFF*, ON
USER SETTING 1 to 5*¹
AUTH .PASSWORD
ENCRYPT.PASSWRD

*¹ USER SETTING 1 to 5 is displayed only when SNMP V. 3 is set to ON.

Specify the settings related to SNMP v. 3 protocol.

If you want to specify or change user information (authentication password and encryption password) to be used in the SNMP v. 3 protocol, perform the following procedure.

1. Select USER SETTING N (N = 1 to 5) using [◀] and [▶], then press [OK].
2. Confirm the user name*, then press [OK].
* "initial" (the default value) or the user name specified in the Remote UI is displayed.
3. Select AUTH .PASSWORD or ENCRYPT.PASSWRD using [◀] and [▶], then press [OK].
4. Enter the password, then press [OK].
Input Method:
 - Enter the password of 6 to 16 characters by pressing [▲] and [▼].
 - Move the cursor to each field in which you want to enter a value by pressing [◀] and [▶] (The cursor blinks, allowing you to enter a value.)
 - If you press [Feeder Selection], a space for entering a character is created at the cursor position.
 - If you press [Cancel Job], the character at the cursor position is deleted.



IMPORTANT

After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.



NOTE

- For more details on SNMP v. 3, see "Chapter 3 Using the Printer on a TCP/IP Network (Windows/UNIX)" in Network Guide.
- This item is displayed only when NETWORK in the I/F CONNECTION options is set to ON.

■ **SPOOLER**

OFF*, ON

Specifies whether the printer should use the Spooler function.



NOTE

- For more details on the Spooler function, see "Chapter 2 Common Network Settings" in Network Guide.
- This item is displayed only when all the following conditions are fulfilled.
 - NETWORK in the I/F CONNECTION options is set to ON.
 - An optional hard disk is installed, and HARD DISK is set to ON.
 - [Primary Network Setting] is set to [Standard Network].
 Specify the setting for [Primary Network Setting] in the [Extension Card] page in the Remote UI or in EXTENSION CARD (See p. 5-66) in the control panel.

■ **START WAIT TIME**

0 to 300 seconds; 0 seconds*

Specifies the time interval from when the printer is turned ON to when the protocol starts.



NOTE

- For more details on startup waiting time, see "Chapter 2 Common Network Settings" in Network Guide.
- This item is displayed only when NETWORK in the I/F CONNECTION options is set to ON.

■ **REMOTE UI SET.**

REMOTE UI ON*, OFF
 SSL*¹ OFF*, ON

*¹ SSL is displayed only when an optional hard disk is installed, and HARD DISK is set to ON.
 Specifies whether the printer should use the Remote UI.



NOTE

- For more details on SSL, see "Chapter 2 Common Network Settings" in Network Guide.
- This item is displayed only when NETWORK in the I/F CONNECTION options is set to ON.

■ ETHERNET DRIVER

AUTO DETECT.....ON*, OFF
 COMM.MODE*¹.....HALF DUPLEX*, FULL DUPLEX
 ETHERNET TYPE*¹.....10 BASE-T*, 100 BASE-TX
 MAC ADDRESS.....(Display only)

*¹ COMM.MODE and ETHERNET TYPE are displayed only when AUTO DETECT is set to OFF.
 Configures the Ethernet driver.

NOTE

- For more details on configuring the Ethernet driver, see "Chapter 2 Common Network Settings" in Network Guide.
- This item is displayed only when NETWORK in the I/F CONNECTION options is set to ON.

■ E-MAIL PRT SET

POP3 INTERVAL0 to 90 MINUTES; 0 MINUTES*
 POP3 RECEIVEOFF*, ON
 SMTP RECEIVEOFF*, ON

Specifies the settings for e-mail print.

NOTE

- For more details on e-mail print, see "Chapter 3 Using the Printer on a TCP/IP Network (Windows/UNIX)" in Network Guide.
- This item is displayed only when all the following conditions are fulfilled.
 - NETWORK in the I/F CONNECTION options is set to ON.
 - An optional hard disk is installed, and HARD DISK is set to ON.

■ INIT.N/W SET.

-

By the initialization in this item, you can reset the network settings to the default settings.

The network settings can be initialized using the following procedure.

1. Press [Settings].
2. Select INTERFACE MENU using [◀] and [▶], then press [OK].
3. Select NETWORK MENU using [◀] and [▶], then press [OK].
4. Select INIT.N/W SET. using [◀] and [▶], then press [OK].
5. <OK?> is displayed. The initialization starts by pressing [OK].

* If you press [Online] without pressing [OK], the printer does not initialize the settings but becomes ready to print.

NOTE

This item is displayed only when NETWORK in the I/F CONNECTION options is set to ON.

EXTENSION CARD

This is the setting for the interface board installed in the expansion slot of the printer. This item is displayed only when the interface board is installed. For more details, see the instruction manual supplied with the interface board.

CONNECT.RECOG.

ON*, OFF

When you print using a network, you may not obtain proper printout results (Unreadable characters are printed, etc.). In this case, specify OFF for this item.



IMPORTANT

After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.

EXT.RX BUFFER

OFF*, ON

If this item is set to ON, the memory capacity of the printer's receive buffer that receives the data is increased. You can speed up the time the computer exits when you send a large amount of data or complicated data from the computer.



IMPORTANT

After changing the settings for this item, cycle the power of the printer to make the settings effective.



NOTE

This item is displayed only when an optional RAM module is installed.

PRINT MODE Options

MODE SELECTION

AUTO SELECTION*, PCL, PS*¹, IMAGING, PDF1.5*²

*¹ PS is displayed only when the optional PS ROM or PS/Barcode ROM is installed.

*² PDF1.5 is displayed when all the following optional accessories are installed.

- Hard Disk
- PS ROM or PS/Barcode ROM
- RAM (ER-256A, ER-512A)

Specifies the mode in which this printer operates when you print without using the printer driver for this printer.

You can specify whether the printer automatically switches the print mode according to the data sent from the computer or you use the printer with the print mode fixed at the PCL mode, the PS mode, the IMAGING mode, or the PDF1.5 mode.

AUTO SELECTION: (Auto-Switch Mode)

Automatically detects which command is used for the data sent from the computer and switches the print mode. If you want to print from an application, normally use this mode.

The default value is AUTO SELECTION.

NOTE

Any of the modes can be automatically switched to by default, however, you can restrict the mode to be automatically switched to. For more details, see "AUTO SWITCH," on p. 5-68.

PS: (PS Mode)

Fixes the print mode at the PS mode.

Select this mode if the printer is in the auto-switch mode and does not switch to the PS mode successfully (if such a printing problem as unreadable characters being printed occurs) on printing from the PS printer driver or printing PS/EPS files using the direct print function.

PCL: (PCL Mode)

Fixes the print mode at the PCL mode.

Select this mode if the printer is in the auto-switch mode and does not switch to the PCL mode successfully (if such a printing problem as unreadable characters being printed occurs) on printing from the PCL printer driver.

IMAGING: (IMAGING Mode)

Fixes the print mode at the IMAGING mode.

Select this mode if the printer is in the auto-switch mode and does not switch to the IMAGING mode successfully (if such a printing problem as unreadable characters being printed occurs) on printing image data (TIFF/JPEG) using the direct print function or printing image data attached to an e-mail.

PDF1.5: (PDF Mode)

Fixes the print mode at the PDF mode.

Select this mode if the printer is in the auto-switch mode and does not switch to the PDF mode successfully (if such a printing problem as unreadable characters being printed occurs) on printing PDF data using the direct print function.

AUTO SWITCH

PCL.....ON*, OFF
 PS*¹ON*, OFF
 IMAGING.....ON*, OFF
 PDF1.5*²ON*, OFF

*¹ PS is displayed only when the optional PS ROM or PS/Barcode ROM is installed.

*² PDF1.5 is displayed when all the following optional accessories are installed.

- Hard Disk
- PS ROM or PS/Barcode ROM
- RAM (ER-256A, ER-512A)

Specifies the print mode to be automatically switched to if the auto-switch mode is specified.

If ON is specified, the mode is to be automatically switched to.



NOTE

- Specify the auto-switch print mode in MODE SELECTION (See p. 5-66).
- If no mode is specified as the mode to be automatically switched to in this item, and if the auto-switch mode is specified, the printer operates in the mode specified in MODE PRIORITY (See p. 5-68).

MODE PRIORITY

NONE*, PCL, PS*¹, PDF1.5*²

*¹ PS is displayed only when the optional PS ROM or PS/Barcode ROM is installed.

*² PDF1.5 is displayed when all the following optional accessories are installed.

- Hard Disk
- PS ROM or PS/Barcode ROM
- RAM (ER-256A, ER-512A)

Specifies "Mode Priority" to be switched to by priority for when the auto-switch mode is specified and this printer cannot identify the control command of the data.

If NONE is specified, the printer does not specify "Mode Priority". If the printer cannot identify the control command of the data, it determines the print mode automatically.

ADJ.START POS.

| | |
|--------------------------------------|--------------------------|
| OFFSET Y..... | -5.0 to 5.0; 0.0* (mm) |
| OFFSET X (TRAY)..... | -10.0 to 10.0; 0.0* (mm) |
| OFFSET X (CASS1)..... | -10.0 to 10.0; 0.0* (mm) |
| OFFSET X (CASS2)* ¹ | -10.0 to 10.0; 0.0* (mm) |
| OFFSET X (CASS3)* ¹ | -10.0 to 10.0; 0.0* (mm) |
| OFFSET X (CASS4)* ¹ | -10.0 to 10.0; 0.0* (mm) |
| OFFSET X (DUP.)..... | -10.0 to 10.0; 0.0* (mm) |

*¹ OFFSET X (CASS2), OFFSET X (CASS3), and OFFSET X (CASS4) are displayed only when the optional paper feeders are installed.

Specifies the printing position of the paper in the specified paper source. Adjusts the position in the vertical direction (Y) or the horizontal direction (X) by the specified value.

The setting values are indicated in millimeters (mm), and you can adjust the position in 0.1 mm increments using [▶] and [◀].

Adjust the printing position in the vertical direction using OFFSET Y.

Adjust the printing position in the horizontal direction using OFFSET X for each paper source.

You can also adjust the printing position for 2-sided printing using OFFSET Y as well as OFFSET X for each paper source.

Additionally, if you want to make the printing position adjustment only for the surface of paper which is output to the output tray facing down, use OFFSET X (DUP.).



IMPORTANT

If any part of the print image lies outside the printable area after adjusting the printing position, the part will be missing in the print result.



NOTE

- You can check the adjusted printing position in PRNTPOSNPRINT (See p. 5-107) in the UTILITY menu.
- For adjusting the printing position, see "Adjusting the Printing Position," on p. 6-62.
- Be aware that, when adjusting the printing position for 2-sided printing, the orientation of the images on the reverse pages varies depending on the printing orientation or setting for BIND.LOCATION (See p. 5-40).

RECVRY PRINTING

ON*, OFF

Specifies whether to print the partially printed page when the printer stops printing due to a paper jam or an error occurring.

If ON is specified for this item, the printer prints from the page in which a paper jam or error occurred.

If OFF is specified for this item, the printer does not print from the partially printed page but prints from the next page when a paper jam or error has occurred.

When the printer is performing 2-sided printing, it does not print the reverse page of the partially printed page. The printing starts from the front side of the next sheet.

INIT.COUNTER

■ FIXING UNIT

-

Resets the counter in this item after replacing the fixing unit.

By initializing the counter of the fixing unit, you can clear the fixing unit replacement message <E5 PREP.FIX.UNIT> displayed on the control panel.

If FIXING UNIT is selected, a confirmation message <OK?> is displayed.

Pressing [OK] at this point starts the initialization. The printer does not initialize the counter if you press [Online] without pressing [OK].



IMPORTANT

Perform this operation only after replacing the fixing unit. If you reset the counter without replacing the fixing unit, the counter does not operate properly, resulting in damage to the printer.

CHK PAPER SIZE

OFF*, ON

Specifies whether the printer should stop printing, displaying the message <41 CHK PAPER SIZE> or continue printing when TRAY PAPER SIZE, CASSETTE2 SIZE, CASSETTE3 SIZE, or CASSETTE4 SIZE is set to MIXED SIZES.

If ON is specified, the printer may stop printing, displaying <41 CHK PAPER SIZE>, when the paper size specified in the application is different from the size of the paper loaded in the multi-purpose tray or paper cassette. The paper on which the error occurred is output automatically. You can also continue printing by pressing [Online]. However, the data may not be printed properly, or a paper jam may occur.

If OFF is specified, the printer prints without performing a print check even when the paper size specified in the application is different from the size of the paper loaded in the multi-purpose tray or paper cassette. However, the printing speed may drop. Also, because the paper is printed at the paper size specified in the application, blank areas may appear on the printed paper or part of the images may be missing when the size of the paper loaded in the multi-purpose tray or paper cassette is different from the paper size specified in the application.



IMPORTANT

For automatic 2-sided printing, <41 CHK PAPER SIZE> always appears and the printer stops printing regardless of the setting for this item.

SUBSTITUTE SIZE

OFF*, ON

When the paper cassette for the paper size to be used is not set in the printer, the printer switches the paper source to the following paper cassettes and prints.

| Printer Driver Setting | | Size of the Paper to Be Printed |
|------------------------|---|---------------------------------|
| A4 | → | Letter |
| Letter | → | A4 |
| A3 | → | Ledger (11 x 17) |
| Ledger (11 x 17) | → | A3 |

If ON is specified, the printer switches the paper size.

If OFF is specified, the printer does not switch the paper size but stops printing, displaying an error message.



NOTE

Even if ON is specified, the printer does not switch the paper size when the paper source for the paper size is empty.

SP.IMAGE MODE

OFF*, LEVEL1, LEVEL2

Toner on the parts dense in color may not fix onto the paper and not printed properly. In this case, specify LEVEL1 for this item. If the problem is not solved by specifying LEVEL1, specify LEVEL2.



IMPORTANT

- If this solves the problem, reset the setting to the default value, OFF.
- If LEVEL1 or LEVEL2 is specified, the print density may be lighter than when OFF is specified because the printer prints with the toner consumption adjusted.

SP.S-SIZE MODE1

-2 to 2; 0*

When printing after the paper is changed from narrower one (A5 size etc.) to wider one (A4 size etc.), the printer may stop printing temporarily and cool down the fixing unit so that the print quality is maintained. You can specify the waiting time before the print operation begins for this case.

The smaller the setting value is, the more the printer gives priority to the image quality when printing. However, the waiting time before the print operation begins may be lengthened.

The greater the setting value is, the shorter the printer makes the waiting time when printing. However, residual images of the previously printed text or images may appear on both sides of the paper.

SP.S-SIZE MODE2

-2 to 2; 0*

When printing narrow paper (A5 size etc.) continuously, the printer may stop printing temporarily and cool down the fixing unit so that the print quality is maintained. You can specify the waiting time before the print operation begins for this case.

The smaller the setting value is, the more the printer gives priority to the image quality when printing. However, the waiting time before the print operation begins may be lengthened.

The greater the setting value is, the shorter the printer makes the waiting time when printing. However, residual images of the previously printed text or images may appear on both sides of the paper when wider paper is printed after the continuous printing.

CLEANING

-

If you touch the transfer belt of the ITB unit, this may result in deterioration in print quality. In this case, clean the transfer belt of the ITB unit.



NOTE

- Cleaning takes approximately 180 seconds.
- The cleaning process cannot be canceled. Please wait until it is completed.

HDD MAINTENANCE

■ HDD ALL ERASE

OFF*, ON

Specifies whether to completely erase the printed or deleted data from the hard disk. By erasing data completely, readout of the data by special software is prevented.

If ON is specified, the printer performs the process for completely erasing the data when deleting the data in the hard disk.

If OFF is specified, the printer does not perform the process for completely erasing the data.



IMPORTANT

The HDD All Erase function is effective only for the jobs received after you specify ON for this setting. The jobs received before you specify ON for this setting are not completely erased. In this case, cycle the power of the printer or perform a hard reset.



NOTE

- If ON is specified, the printer may take time to process the data in order to perform the process for completely erasing the data.
- This item is displayed only when an optional hard disk is installed.

■ QUICK FORMAT

-

Erases the contents of the hard disk.

QUICK FORMAT performs a quick format of the hard disk. Perform this operation when a problem has occurred to the hard disk.

If the problem is not solved by executing QUICK FORMAT, perform STD FORMAT.



IMPORTANT

- If the message <CANNOT EXECUTE> appears when QUICK FORMAT is executed, the hard disk is not formatted.
- When performing QUICK FORMAT, remove all the interface cables (the LAN cable, USB cable, and printer cable) connected to this printer.



NOTE

This item is displayed only when an optional hard disk is installed, and HDD ALL ERASE is set to OFF.

■ STD FORMAT

-

Erases the contents of the hard disk.

STD FORMAT performs a standard format of the hard disk. Perform this operation when the problem is not solved by executing QUICK FORMAT.



IMPORTANT

- If the message <CANNOT EXECUTE> appears when STD FORMAT is executed, the hard disk is not formatted.
- When performing STD FORMAT, remove all the interface cables (the LAN cable and USB cable) connected to this printer.
- While STD FORMAT is being executed, <FORMATTING> is displayed in the display. Wait for a moment until the format is completed.



NOTE

This item is displayed only when an optional hard disk is installed.

5

SP.PRINT MODE

■ PLAIN PAPER

OFF*, MODE 1, MODE 2, MODE 3

When printing plain paper, the paper may curl or the toner does not fix well. In this case, specify the setting for this item.

- OFF: Does not apply Special Print Mode.
- MODE 1: Specify when the printing speed drops on printing plain paper of 279.4 mm wide (Letter size) or less continuously.
- MODE 2: Specify when the toner does not fix well by specifying OFF.
- MODE 3: Specify when the toner still does not fix well by specifying MODE 2.

■ COATED PAPER

OFF*, ON

Specify the setting for this item according to the type of the coated paper to be used.

- OFF: Specify when printing coated paper of 106 to 169 g/m².
- ON: Specify when printing coated paper of 170 to 220 g/m².

UPDATE FIRMWARE

■ USB

-

This item is to be executed only when the firmware of the printer needs to be updated.

■ NETWORK

-

This item is to be executed only when the firmware of the printer needs to be updated.

PCL SETUP Options

PAPER SAVE

OFF*, ON

Specifies whether the printer outputs the blank page that can be created due to no data existing between two Form Feed codes sent from an application.

If ON is specified, the printer does not output the blank page. If OFF is specified, the printer outputs the blank page.

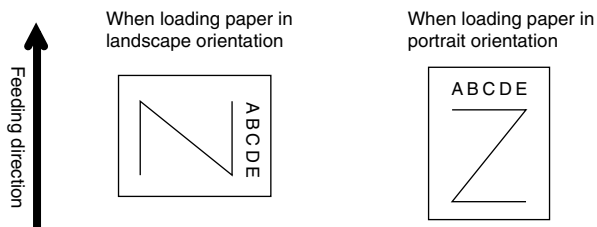
If you use this function, you can save paper because the blank pages are not output.

ORIENTATION

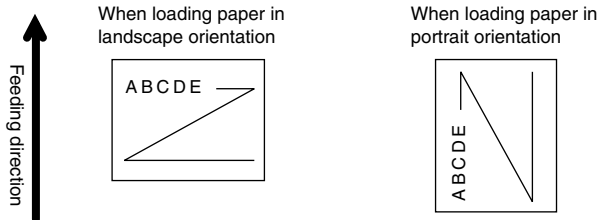
PORTRAIT*, LANDSCAPE

Enables you to set the paper orientation.

If PORTRAIT is selected, the print image is printed in portrait orientation regardless of the orientation of the paper in the paper cassette.



If LANDSCAPE is selected, the print image is printed in landscape orientation regardless of the orientation of the paper in the paper cassette.



FONT NUMBER

0 to 89; 0*

Enables you to set the default font typeface for this printer function using the corresponding font numbers. Valid font numbers are from 0 to 89.

5

POINT SIZE

4.00 to 999.75 point; 12.00 point*

If the number selected in FONT NUMBER is that of a proportionally spaced scalable font, this option appears in the PCL SETUP options. It enables you to specify a point size for the default font. The point size can be adjusted in increments of 0.25 pts.

PITCH

0.44 to 99.99 cpi; 10.00 cpi*

If the number selected in FONT NUMBER is that of a fixed pitch scalable font, Pitch appears in the PCL SETUP options. It enables you to specify the pitch for the default font. The pitch can be adjusted in increments of 0.01 cpi (characters per inch).

FORM LINES

5 to 128 lines; 64 lines*

Enables you to specify the number of lines to be printed on a page. You can specify from 5 to 128 lines.

SYMBOL SET

PC8*, ROMAN8, ROMAN9, ISOL1, ISOL2, ISOL5, ISOL6, ISOL9, PC775, PC8DN, PC850, PC852, PC858, PC8TK, PC1004, WINL1, WINL2, WINL5, WINBALT, DESKTOP, PSTEXT, LEGAL, ISO4, ISO6, ISO11, ISO15, ISO17, ISO21, ISO60, ISO69, WIN 30, MCTEXT

Enables you to select the symbol set most suited to the needs of the host computer.

CUSTOM SIZE

DO NOT SET*, SET

Enables you to specify a custom paper size. If SET is selected, you can enter a custom size.



NOTE

You can only select the custom paper size entered with settings from the printer driver.

UNIT OF MEASURE

Millimeters*, Inches

Enables you to specify the unit of measurement you would like to use to specify your custom paper size.



NOTE

This item is displayed only when CUSTOM SIZE is set to SET.

X DIMENSION

98.0 to 320.0 mm; 320.0 mm* (3.86 to 12.60 inches; 12.60 inches*)

Enables you to specify the X dimension of the custom paper. The X dimension can be adjusted between 98.0 mm (3.86") and 320.0 mm (12.60") in increments of 0.1 mm (0.01").

This function can be very useful when part of the printed image is cut off. Increasing this dimension may allow some of the missing text to be correctly printed. Make sure you do not increase the X dimension beyond the actual size of the paper you are using for printing.



NOTE

This item is displayed only when CUSTOM SIZE is set to SET.

Y DIMENSION

139.7 to 1200.0 mm; 457.2 mm* (5.50 to 47.24 inches; 18.00 inches*)

Enables you to specify the Y dimension of the custom paper. The Y dimension can be adjusted between 139.7 mm (5.50") and 1200.0 mm (47.24") in increments of 0.1 mm (0.01").

This function can be very useful when part of the printed image is cut off. Increasing this dimension may allow some of the missing text to be correctly printed. Make sure you do not increase the Y dimension beyond the actual size of the paper you are using for printing.



NOTE

This item is displayed only when CUSTOM SIZE is set to SET.

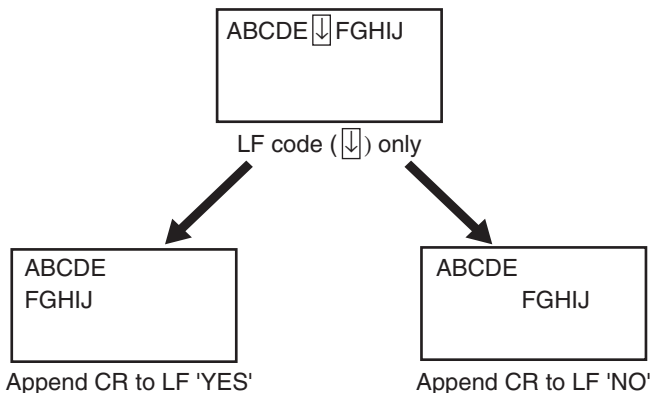
APPEND CR TO LF

NO*, YES

Enables you to specify whether to append a carriage return (CR) when line feed code (LF) is received.

If YES is selected, the print head moves to the beginning of the next line when line feed code is received.

If NO is selected, the print head moves down to the next line when line feed code is received, and the margin does not change (such as to the beginning of the next line).



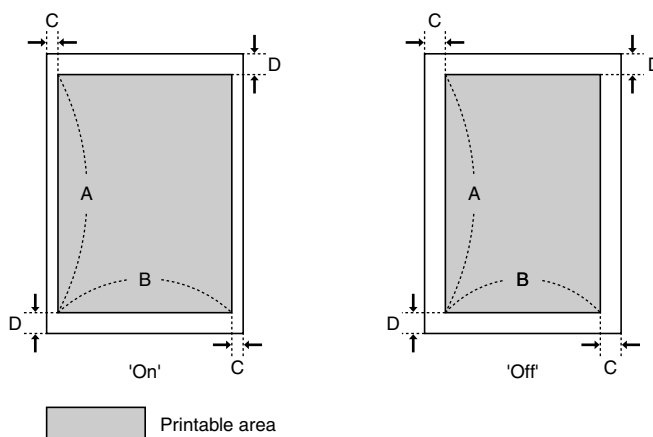
ENLRG A4 WIDTH

OFF*, ON

Determines whether to expand the printable area of A4 size paper to that of Letter size in width.

If ON is selected, all the area on a page 4.23 mm (1/6") from the top and bottom edges and 3.39 mm (1/8") from the left and right edges is available for printing on A4 paper. Only the width increases.

If OFF is selected, all the area on a page 4.23 mm (1/6") from the top, bottom, left, and right edges is available for printing on A4 paper.



| Settings | ON | OFF |
|-------------------------|---------------------|--------------------|
| A: Length | 288.54 mm (11 1/3") | |
| B: Width | 203.22 mm (8") | 201.54 mm (7 7/8") |
| C: Left and right edges | 3.39 mm (1/8") | 4.23 mm (1/6") |
| D: Top and bottom edges | 4.23 mm (1/6") | |

NOTE

- This setting is applicable for A4 paper only.
- This setting is applicable for portrait orientation only.

BARDIMM

DISABLE*, ENABLE

You can enable or disable the Bar Code Printing function of the printer.

If ENABLE is selected, the printer will generate bar codes when it receives bar code commands from the host computer.

If DISABLE is selected, bar codes will not be generated, even if bar code commands are sent from the host computer.



IMPORTANT

If you are not printing the bar codes, make sure that DISABLE is specified for this item.

Otherwise, the processing speed of regular print jobs may be reduced.



NOTE

This item is displayed only when an optional PS/Barcode ROM is installed.

FREESCAPE

~*, ", #, \$, /, \, ?, {, }, |, OFF

You can specify the AEC (Alternate Escape Code) to be used for bar code commands when the host computer does not support the standard Escape Code.



NOTE

This item is displayed only when an optional PS/Barcode ROM is installed.

UFR II SETUP Options

PAPER SAVE

ON*, OFF

Specifies whether the printer outputs the blank page that can be created due to no data existing in the page data sent from an application.

If ON is specified, the printer does not output the blank page. If OFF is specified, the printer outputs the blank page.

If you use this function, you can save paper because the blank pages are not output.

ORIENTATION

AUTO*, VERTICAL, HORIZONTAL

Specifies whether the printer should print an image in portrait (vertical) orientation or in landscape (horizontal) orientation.

If AUTO is specified, the printer compares the width and height of the image in TIFF format or JPEG format. If the width is larger, the image is printed in landscape orientation. If the height is larger, the image is printed in portrait orientation.

If VERTICAL is specified, the image is printed in portrait orientation regardless of the ratio of width to height of the image.

If HORIZONTAL is specified, the image is printed in landscape orientation regardless of the ratio of width to height of the image.

ZOOM

OFF*, AUTO

Specifies whether the printer should print with scaling outputs according to the printable area.

If AUTO is specified, the printer prints the image with its size reduced to fit within the printable area when the image size is larger than the printable area. Also, when the image size is smaller than the printable area, the printer prints the image with its size expanded to the margins of the printable area.



IMPORTANT

- Even if OFF is specified, the printer automatically reduces the image size to make it fit within the printable area of the paper size when the image size is larger than the output size.
- If AUTO is specified, printing positions specified by tags in TIFF data are ignored.



NOTE

This item scales an image size with the ratio of height to width fixed.

PRINT POSITION

AUTO*, CENTER, TOP LEFT

Specifies the printing position for an image.

If AUTO is specified, and if the data to be printed is in TIFF format in which the printing position is specified, the image is printed on the specified position. If a printing position is not specified, the image is printed in the center of the paper.

If CENTER is specified, the image is printed in the center of the paper even if the data to be printed is in TIFF format in which the printing position is specified.

If TOP LEFT is specified, the image is printed on the upper-left of the paper even if the data to be printed is in TIFF format in which the printing position is specified.



IMPORTANT

You cannot specify a printing position for data in JPEG format. If AUTO is specified, the image is printed in the center of the paper.

PRINT GUARANTEE

OFF*, ON

Specifies a process method for the received TIFF data.

If OFF is specified, processing time is shortened by processing the received TIFF data in order. However, <D9 IMG.REFER.ERR> may occur. In this case, specify ON for this item.

If ON is specified, <D9 IMG.REFER.ERR> can be prevented from occurring because the printer processes the TIFF data after receiving all of it.



NOTE

- Depending on the setting for SHOW WARNINGS (See the next item), the display setting for the error message varies.
- This item is displayed only when an optional hard disk is installed.

SHOW WARNINGS

PRINT*, PANEL, OFF

Specifies the display setting for the error message in case of an error occurring.

If PRINT is specified, the printer prints the content of the error and exits the job.

If PANEL is specified, the error message appears in the display, and the printer stops printing.

If OFF is specified, the printer exits the job without displaying anything even if an error occurs.

 **NOTE**

The error messages of which the display settings can be changed with this item are <D9 IMG.DATA ERR> and <D9 IMG.REFER.ERR>.

PRINT EMAIL TXT

ON*, OFF

Specifies whether the printer should print the text on printing e-mails.

 **NOTE**

This item is displayed only when an optional hard disk is installed.

LIMIT EMAIL PRT

OFF*, ON

Specifies whether to limit the number of the print pages of e-mail text when PRINT EMAIL TXT (See the previous item) is set to ON.

If ON is specified, the print pages of e-mail text are restricted to 5 pages. The sixth and subsequent pages are not printed.

If OFF is specified, the print pages of e-mail text are not restricted.

 **IMPORTANT**

If text data of an e-mail exceeds 25 MB, the text is not printed regardless of the setting for this item.

 **NOTE**

This item is displayed only when an optional hard disk is installed, and if PRINT EMAIL TXT is set to ON.

ENLRG PRT AREA

OFF*, ON

Specifies whether the printer should print a document with its printable area expanded.

If ON is specified, the margins of 0 mm are applied to all sides of the paper, making the printable area expanded to the edges of the paper.

If OFF is specified, data cannot be printed within 5 mm margins on all sides of the paper.

 **IMPORTANT**

If ON is specified, the edge of paper may be missing partly during printing or may blot during color printing.

PDF1.5 Options

RENDER CL SPACE

AUTO*, CMYK

Specifies the method for rendering a PDF file.

If AUTO is specified, color space is switched to RGB or CMYK for each page.

If CMYK is specified, CMYK is fixed for all the color spaces. This setting is used for when color difference occurs among the pages on printing a job of multiple pages.



NOTE

To enable this item, set COLOR MODE in the common SETUP menu to AUTO or COLOR.

RGB SRCE PROF.

sRGB*, GAMMA 1.5, GAMMA 1.8, GAMMA 2.4, NONE

Selects the profile appropriate for RGB data according to the monitor you are using.

This item is specified when data which includes images or diagrams painted in RGB is printed.

EXIF ADJUSTMENT

ON*, OFF

Image data shot by a digital camera which supports Exif (Exchangeable Image File Format) includes shooting information such as conditions and scenes. This item allows you to print the data with an appropriate process for the shot, based on the shooting information.

If ON is specified, the printer adjusts the values for the exposure mode and the brightness in the shooting information included in the Exif data, which affect the printout results, and performs printing.

If OFF is specified, the printer performs printing without adjusting the Exif data.



NOTE

This item is applied only to image data which supports ExifPrint (Exif Ver2.2 or later).

sRGB

Industry-standard image quality of the general Windows (PC) monitor is applied. If you are using a monitor that supports sRGB, the printer performs matching for the colors displayed on the monitor and those printed by the printer to print in colors close to those displayed on the monitor. The default value is "sRGB".

GAMMA 1.5, GAMMA 1.8, GAMMA 2.4

Adjusts the brightness of the printout results without spoiling the lightest parts and darkest parts of the data. Specify the setting for this item when you want to adjust the brightness such as when the colors in the printout result are lighter than those displayed on the monitor. The greater the gamma value is, the darker in color the data is printed.

NONE

RGB data is converted into CMYK without applying the RGB source profile.



IMPORTANT

If the printer receives data with a device independent (CIE based) color space definition, its color is processed with the specified settings. Therefore, RGB SRCE PROF. is not applied by the printer.



NOTE

Device independent colors are not dependent on any particular device, such as a monitor, and are meant to be true representations of colors as perceived by the human eye. These color representations, called device independent color spaces, result from work carried out by Commission Internationale d'Eclairage (CIE) and for that reason are also called CIE based color spaces.

CMYK PROFILE

NONE*, JAPANCOLOR, US WEB COATED, EURO STANDARD

Specifies the setting for simulating the ink properties on printing CMYK data.

NONE

Prints data using the device dependent CMYK colors without applying CMYK Simulation Profile.

JAPANCOLOR

This is for obtaining a printout closely matching the printing standard in Japan.

US WEB COATED

This is for obtaining a printout closely matching the printing standard in the United States.

EURO STANDARD

This is for obtaining a printout closely matching the printing standard in Europe.



IMPORTANT

If the printer receives data with a device independent (CIE based) color space definition, its color is processed with the specified settings. Therefore, CMYK PROFILE is not applied by the printer.



NOTE

When NONE is selected for this item, dark colors may not gradate depending on the data.

OUTPUT PROFILE

NORMAL*, PHOTO

Specify the output profile. The output profile is applied to all the print data.

Normally, NORMAL is specified for when text or graphics data is printed, while PHOTO is specified for when image data is printed.



NOTE

If RGB SRCE PROF. (See p. 5-50) or CMYK PROFILE (See p. 5-85) is set to NONE, or if GRAY PROFILE (See p. 5-86) is set to OFF, the setting for this item is ignored.

GRAY PROFILE

OFF*, ON

Specifies how gray color data should be processed.

If OFF is specified, the printer reproduces gray color data with the black (Bk) toner only.

If ON is specified, gray color data is converted into CMYK data by a profile of this printer. However, gray color data may be reproduced with the black (Bk) toner only depending on the settings for OUTPUT PROFILE and PURE BLACK TEXT.

MATCHING METHOD

PERCEPTUAL*, SATURATION, COLORIMETRIC

Specifies the color adjusting method for when RGB SRCE PROF. is applied.

Select the adjustment method from among the followings according to your use or preference.

If PERCEPTUAL is specified, the printer performs matching giving priority to color hue.

If SATURATION is specified, the printer performs matching giving priority to color intensity.

If COLORIMETRIC is specified, the printer performs matching so that the difference in color of a logo, etc. between the original print data on screen and the printed paper is minimized.



NOTE

If RGB SRCE PROF. (See p. 5-50) is set to NONE, and if the printer receives a device dependent color space definition that was color-processed by the host computer, the setting for this item is not applied.

PURE BLACK TEXT

ON*, OFF

Specifies the printing method for text in black (R=G=B=0%, C=M=Y=100%/Bk=N%, or C=M=Y=0%/Bk=100%). Usually, it is recommended to leave this item set to ON.

If ON is specified, you can print black color created by an application, using only the black (Bk) toner. Since only the black (Bk) toner is used to print black text, the color (CMY) toner will not be misaligned around the text.

Test

PURE BLACK TEXT: ON

If OFF is specified, the black text is printed based on the selected setting for OUTPUT PROFILE (See p. 5-86). Depending on the jobs to be printed, it may be preferable to specify OFF for this item.

Test

PURE BLACK TEXT: OFF



NOTE

If RENDER CL SPACE (See p. 5-84) is set to AUTO, this item may be applied also to gray text.

BLACK OVERPRINT

ON*, OFF

Specifies the printing method for when the printer prints black text over a color background or graphics.

If ON is specified, the printer prints black text over a color background. If this option is used with PURE BLACK TEXT, the printer prints all the background first, and then prints the text over the color background using only the black (Bk) toner. This alleviates the phenomenon in which the outlines of the printed black text are rimmed with white.



BLACK OVERPRINT: ON

If OFF is specified, black text is printed without being overlaid on a color background. The printer first prints the color background with the text areas "knocked out" (no color is printed in the text areas). The text is then printed in the knocked out area, filling in the areas not printed in color. However, this may result in the black text appearing lighter compared to when ON is specified or the phenomenon in which the outlines of the printed black text are rimmed with white.



BLACK OVERPRINT: OFF



NOTE

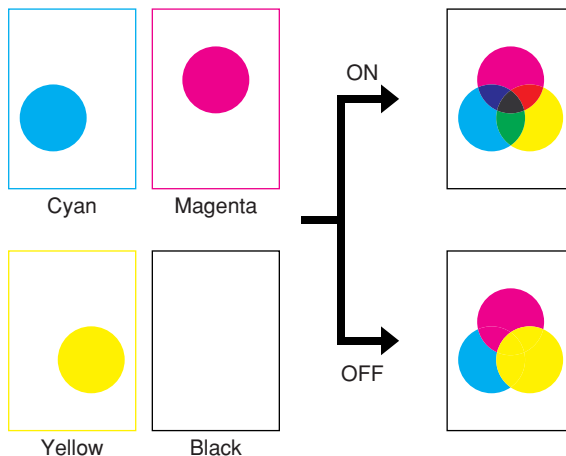
- The setting for this item is applied only when PURE BLACK TEXT (See p. 5-87) is set to ON and is effective only for black text (100 %).
- If RENDER CL SPACE (See p. 5-84) is set to AUTO, this item may not be applied.

CMYK OVERPRINT

OFF*, ON

You can overprint CMYK data in the composite output.

All colors used for data are overlaid and printed on one plate so you can check the finishing result without separating the colors.



NOTE

- This item is only available for data having the overprint attribute set.
- This item does not apply overprinting to spot colors.
- If a setting value other than NONE is selected for CMYK PROFILE (See p. 5-85), overprinting is not applied even when ON is specified.
- If ON is specified for this item, overall color hues may be changed, compared to when OFF is specified. In this case, set RENDER CL SPACE (See p. 5-84) to CMYK to match the color hues.

BRIGHTNESS

85 to 115 %; 100 %*

Adjusts the brightness of the whole image (in 5 % increments). The smaller the specified value is, the brighter the color is, and the larger, the darker it is.



NOTE

If TONER SAVE (See p. 5-44) in the common SETUP menu is set to ON, this item cannot be used.

GRAY COMPENSATE

ON*, OFF

Specifies whether to print gray color data with the black (Bk) toner only.

If ON is specified, the printer prints gray color data with the black (Bk) toner only. You can prevent the phenomenon of "Out-of-Register Colors".

If OFF is specified, the printer prints the gray color of gray color data using the four colors of CMYK. The ability to reproduce the tone of the dark parts is more improved than when ON is specified.

FIT TO PAGE

OFF*, ON

Specifies whether the printer should print with scaling outputs according to the printable area.

If ON is specified, the printer prints with the page size of a PDF file reduced to fit within the printable area when the page size is larger than the printable area. Also, when the page size of a PDF file is smaller than the printable area, the printer prints with the page size expanded to the margins of the printable area.



NOTE

This item scales a page size with the ratio of height to width fixed.

ENLRG PRT AREA

OFF*, ON

Specifies whether the printer should print a document with its printable area expanded.

If ON is specified, the margins of 0 mm are applied to all sides of the paper, making the printable area expanded to the edges of the paper.

If OFF is specified, data cannot be printed within 4 mm margins on all sides of the paper (some data cannot be printed within 5 mm margins on all sides of the paper).



IMPORTANT

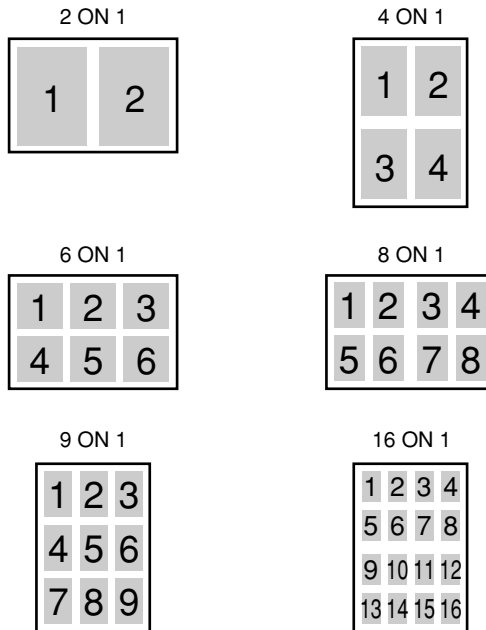
If ON is specified, the edge of paper may be missing partly during printing or may blot during color printing.

N-UP PRINT

OFF*, 2 ON 1, 4 ON 1, 6 ON 1, 8 ON 1, 9 ON 1, 16 ON 1

Prints multiple pages with them arranged on one sheet of paper starting from the upper left.

Example: If "Vertical" is specified for the Page Setup setting in the PDF file.



FINISHING

OFF*, COLLATE

If OFF is specified, printouts of a complete job are grouped.

If COLLATE is specified, printouts of a complete job are collated.

B & W HALFTONES

TEXTRESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL.,
ERR DIFFUSION*¹

GRAPHICSGRADATION*, COLOR TONE, HIGH RESOL., ERR
DIFFUSION*¹, RESOLUTION

IMAGE.....GRADATION*, COLOR TONE, HIGH RESOL., ERR
DIFFUSION*¹, RESOLUTION

*¹ ERR DIFFUSION is displayed only when RESOLUTION is set to FINE.

Specifies the display pattern of subtle gradation (medium gradation) of black-and-white data for each of the following parts in one document.

- Text parts
- Graphics parts such as graphics and graphs
- Image parts such as picture images

| Setting Value | Contents |
|---------------|---|
| RESOLUTION | Prints precisely so that the outlines of text data appear clearly. This setting is appropriate for printing data that contains text or thin lines. |
| GRADATION | Prints with a smooth gradation and fine outline quality combined. This setting is appropriate for printing diagrams or graphs in which gradation is used. |
| COLOR TONE | Prints with a stable texture and distinct gradation, by enhancing the contrast of tone. This setting is appropriate for printing image data such as photographic images. |
| HIGH RESOL | Although prints in higher resolution than RESOLUTION does, the stability of the texture is lower in quality. This setting is appropriate for printing a document so that the outlines of text, thin lines, or CAD appear clearly. |
| ERR DIFFUSION | Uses an error diffusion method that gives priority to printing fine lines or text. This setting is appropriate for printing images with small text or very fine lines. |

COLOR HALFTONES

| | |
|---------------|--|
| TEXT..... | RESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL., ERR DIFFUSION* ¹ |
| GRAPHICS | COLOR TONE*, HIGH RESOL., ERR DIFFUSION* ¹ , RESOLUTION, GRADATION |
| IMAGE | COLOR TONE*, HIGH RESOL., ERR DIFFUSION* ¹ , RESOLUTION, GRADATION |

*¹ ERR DIFFUSION is displayed only when RESOLUTION is set to FINE.

Specifies the display pattern of subtle gradation (medium gradation) for color data for each of the following parts in one document.

- Text parts
- Graphics parts such as graphics and graphs
- Image parts such as picture images

| Setting Value | Contents |
|---------------|---|
| RESOLUTION | Prints precisely so that the outlines of text data appear clearly. This setting is appropriate for printing data that contains text or thin lines. |
| GRADATION | Prints with a stable texture and color hue, and a smooth gradation combined. This setting is appropriate for printing image data such as photographic images, because it reduces a phenomenon of "Out-of-Register Colors". |
| COLOR TONE | Although prints precisely with the phenomenon of "Out-of-Register Colors" reduced than GRADATION does, the stability of the texture is lower in quality. This setting is appropriate for printing diagrams, graphs, etc. |
| HIGH RESOL | Although prints in higher resolution than RESOLUTION does, the stability of the texture is lower in quality. This setting is appropriate for printing a document so that the outlines of text, thin lines, or CAD appear clearly. |
| ERR DIFFUSION | Uses an error diffusion method that gives priority to printing fine lines or text. This setting is appropriate for printing images with small text or very fine lines. |

COMMENT PRINT

AUTO*, ON, OFF

Specifies whether the printer should print comments.

If ON is specified, all comments are printed.

If OFF is specified, no comment is printed.

If AUTO is specified, only the comments specified to be printed in the PDF file are printed.

SMOOTHING (AST)

SMOOTHING (AST)..... SMOOTH 1*, SMOOTH 2, OFF

GRAPHICS*¹ OFF*, ON

TEXT*¹ ON*, OFF

*¹ Displayed only when SMOOTHING (AST) is set to SMOOTH 1 or SMOOTH 2.

Specifies whether to use the smoothing process which can print the outlines of graphics (illustrations created by an application) and text smoothly.

SMOOTH 2 performs a smoother process than SMOOTH 1. Even if data is not printed smoothly by specifying SMOOTH 1, specify SMOOTH 2.

You can also select a target for the smoothing process by switching ON/OFF in GRAPHICS and TEXT.



NOTE

The effect of the advanced smoothing process varies depending on the pattern of text or graphics.

JOB TIMEOUT

0 to 3600 seconds; 0 seconds*

If the time specified in this item has elapsed since a job process was started, the printer automatically finishes the job and receives the next job.

If you do not want to specify the timeout, specify "0 seconds".

WAIT TIMEOUT

0 to 3600 seconds; 300 seconds*

If the time specified in this item has elapsed since data from a computer was not entered, the printer automatically finishes the job and receives the next job.



NOTE

If problems occur in a network, the job may finish in the time shorter than that specified in this item.

PRINT PS ERRORS

OFF*, ON

Specifies whether an error page should be printed when a PostScript error has occurred.

If ON is specified, parts processed before a PostScript error occurs and information about the PostScript error are printed.

If OFF is specified, printing is canceled when a PostScript error occurs.

RGB SRCE PROF.

sRGB*, GAMMA 1.5, GAMMA 1.8, GAMMA 2.4, NONE

Selects the profile appropriate for RGB data according to the monitor you are using.

This item is specified when data which includes images or diagrams painted in RGB is printed.

sRGB

Industry-standard image quality of the general Windows (PC) monitor is applied. If you are using a monitor that supports sRGB, the printer performs matching for the colors displayed on the monitor and those printed by the printer to print in colors close to those displayed on the monitor. The default value is "sRGB".

GAMMA 1.5, GAMMA 1.8, GAMMA 2.4

Adjusts the brightness of the printout results without spoiling the lightest parts and darkest parts of the data. Specify the setting for this item when you want to adjust the brightness such as when the colors in the printout result are lighter than those displayed on the monitor. The greater the gamma value is, the darker in color the data is printed.

NONE

RGB data is converted into CMYK without applying the RGB source profile.



IMPORTANT

- If the printer receives data with a device independent (CIE based) color space definition, its color is processed with the specified settings. Therefore, RGB SRCE PROF. is not applied by the printer.
- If a setting value other than NONE is specified for this item, and if the printer receives a device dependent color space definition that was color-processed by the host computer, RGB SRCE PROF. is also applied by the printer.



NOTE

Device independent colors are not dependent on any particular device, such as a monitor, and are meant to be true representations of colors as perceived by the human eye. These color representations, called device independent color spaces, result from work carried out by Commission Internationale d'Eclairage (CIE) and for that reason are also called CIE based color spaces.

GRAY PROFILE

OFF*, ON

Specifies how gray color data should be processed.

If OFF is specified, the printer reproduces gray color data with the black (Bk) toner only.

If ON is specified, gray color data is converted into CMYK data by a profile of this printer. However, gray color data may be reproduced with the black (Bk) toner only depending on the settings for OUTPUT PROFILE and PURE BLACK TEXT.

OUTPUT PROFILE

TR Normal*, TR Photo, NORMAL, PHOTO

Specify the output profile. The output profile is applied to all the print data.

If TR Normal is specified, the printer prints the colors closely matching the ones displayed on your monitor, and also reduces toner blotting of text and fine lines.

If TR Photo is specified, the printer prints colors close to photographic prints, and also reduces toner blotting of text and fine lines.

If NORMAL is specified, the printer prints the colors closely matching the ones displayed on your monitor.

If PHOTO is specified, the printer prints colors close to photographic prints.



NOTE

If RGB SRCE PROF. (See p. 5-95) or CMYK PROFILE (See p. 5-85) is set to NONE, or if GRAY PROFILE (See p. 5-96) is set to OFF, the setting for this item is ignored.

MATCHING METHOD

PERCEPTUAL*, SATURATION, COLORIMETRIC

Specifies the color adjusting method for when RGB SRCE PROF. is applied. Select the adjustment method from among the followings according to your use or preference.

If PERCEPTUAL is specified, the printer performs matching giving priority to color hue.

If SATURATION is specified, the printer performs matching giving priority to color intensity.

If COLORIMETRIC is specified, the printer performs matching so that the difference in color of a logo, etc. between the original print data on screen and the printed paper is minimized.



NOTE

If RGB SRCE PROF. (See p. 5-95) is set to NONE, and if the printer receives a device dependent color space definition that was color-processed by the host computer, the setting for this item is not applied.

RGB PURE BLACK

ON*, OFF

Enables you to specify how black and gray data with the equivalent ratio of R to G to B should be processed when device dependent RGB data is converted into device dependent CMYK data using "RGB Source Profile" of the printer.

If ON is specified, black and gray data with the equivalent ratio of R to G to B is printed using the black (Bk) toner only, regardless of the selected setting for OUTPUT PROFILE.

If OFF is specified, black and gray data with the equivalent ratio of R to G to B is printed according to the selected setting for OUTPUT PROFILE.



IMPORTANT

If black or gray data is printed, and if unsmoothed gradation or graininess appears on the printout results, specify OFF for this item and set OUTPUT PROFILE (See p. 5-97) to NORMAL.



NOTE

- In combination with certain settings, black and gray data with the equivalent ratio of R to G to B may be printed using the black (Bk) toner only, even if OFF is specified for this item.

The following are examples.

- When PURE BLACK TEXT (See p. 5-98) is set to ON
- When RGB SRCE PROF. (See p. 5-95) is set to NONE
- When OUTPUT PROFILE (See p. 5-97) is set to TR Normal or TR Photo

- If OUTPUT PROFILE (See p. 5-97) is set to NONE, the setting for this item is ignored.

PURE BLACK TEXT

ON*, OFF

Specifies the printing method for text in black (R=G=B=0%, C=M=Y=100%/Bk=N%, or C=M=Y=0%/Bk=100%). Usually, it is recommended to leave this item set to ON.

If ON is specified, you can print black color created by an application, using only the black (Bk) toner. Since only the black (Bk) toner is used to print black text, the color (CMY) toner will not be misaligned around the text.

Test

PURE BLACK TEXT: ON

If OFF is specified, the black text is printed based on the selected setting for OUTPUT PROFILE (See p. 5-97). Depending on the jobs to be printed, it may be preferable to specify OFF for this item.

Test

PURE BLACK TEXT: OFF

BLACK OVERPRINT

ON*, OFF

Specifies the printing method for when the printer prints black text over a color background or graphics.

If ON is specified, the printer prints black text over a color background. If this option is used with PURE BLACK TEXT, the printer prints all the background first, and then prints the text over the color background using only the black (Bk) toner. This alleviates the phenomenon in which the outlines of the printed black text are rimmed with white.

Test

BLACK OVERPRINT: ON

If OFF is specified, black text is printed without being overlaid on a color background. The printer first prints the color background with the text areas "knocked out" (no color is printed in the text areas). The text is then printed in the knocked out area, filling in the areas not printed in color. However, this may result in the black text appearing lighter compared to when ON is specified or the phenomenon in which the outlines of the printed black text are rimmed with white.

Test

BLACK OVERPRINT: OFF

NOTE

- The setting for this item is applied only when PURE BLACK TEXT (See p. 5-98) is set to ON and is effective only for black text (100 %).
- This item is displayed only when PURE BLACK TEXT is set to ON.

BRIGHTNESS

85 to 115 %; 100 %*

Adjusts the brightness of the whole image (in 5 % increments). The smaller the specified value is, the brighter the color is, and the larger, the darker it is.



NOTE

If TONER SAVE (See p. 5-44) in the common SETUP menu is set to ON, this item cannot be used.

B & W HALFTONES

TEXTRESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL.,
ERR DIFFUSION*¹

GRAPHICSGRADATION*, COLOR TONE, HIGH RESOL., ERR
DIFFUSION*¹, RESOLUTION

IMAGE.....GRADATION*, COLOR TONE, HIGH RESOL., ERR
DIFFUSION*¹, RESOLUTION

*¹ ERR DIFFUSION is displayed only when RESOLUTION is set to FINE.

Specifies the display pattern of subtle gradation (medium gradation) of black-and-white data for each of the following parts in one document.

- Text parts
- Graphics parts such as graphics and graphs
- Image parts such as picture images

| Setting Value | Contents |
|---------------|---|
| RESOLUTION | Prints precisely so that the outlines of text data appear clearly. This setting is appropriate for printing data that contains text or thin lines. |
| GRADATION | Prints with a smooth gradation and fine outline quality combined. This setting is appropriate for printing diagrams or graphs in which gradation is used. |
| COLOR TONE | Prints with a stable texture and distinct gradation, by enhancing the contrast of tone. This setting is appropriate for printing image data such as photographic images. |
| HIGH RESOL | Although prints in higher resolution than RESOLUTION does, the stability of the texture is lower in quality. This setting is appropriate for printing a document so that the outlines of text, thin lines, or CAD appear clearly. |

| Setting Value | Contents |
|---------------|--|
| ERR DIFFUSION | Uses an error diffusion method that gives priority to printing fine lines or text. This setting is appropriate for printing images with small text or very fine lines. |

COLOR HALFTONES

TEXT RESOLUTION*, GRADATION, COLOR TONE, HIGH RESOL.,
ERR DIFFUSION*¹

GRAPHICS COLOR TONE*, HIGH RESOL., ERR DIFFUSION*¹,
RESOLUTION, GRADATION

IMAGE COLOR TONE*, HIGH RESOL., ERR DIFFUSION*¹,
RESOLUTION, GRADATION

*¹ ERR DIFFUSION is displayed only when RESOLUTION is set to FINE.

Specifies the display pattern of subtle gradation (medium gradation) for color data for each of the following parts in one document.

- Text parts
- Graphics parts such as graphics and graphs
- Image parts such as picture images

| Setting Value | Contents |
|---------------|---|
| RESOLUTION | Prints precisely so that the outlines of text data appear clearly. This setting is appropriate for printing data that contains text or thin lines. |
| GRADATION | Prints with a stable texture and color hue, and a smooth gradation combined. This setting is appropriate for printing image data such as photographic images, because it reduces a phenomenon of "Out-of-Register Colors". |
| COLOR TONE | Although prints precisely with the phenomenon of "Out-of-Register Colors" reduced than GRADATION does, the stability of the texture is lower in quality. This setting is appropriate for printing diagrams, graphs, etc. |
| HIGH RESOL | Although prints in higher resolution than RESOLUTION does, the stability of the texture is lower in quality. This setting is appropriate for printing a document so that the outlines of text, thin lines, or CAD appear clearly. |

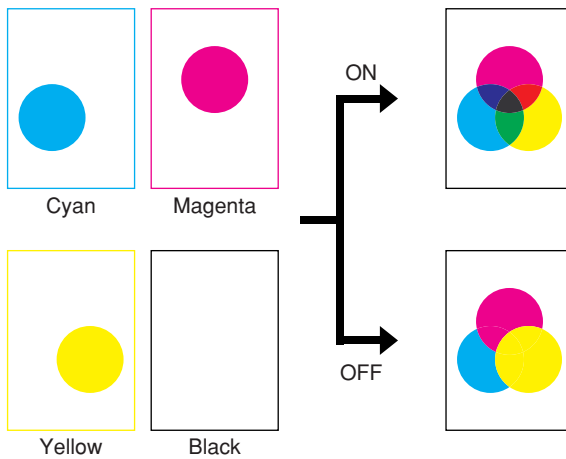
| Setting Value | Contents |
|---------------|--|
| ERR DIFFUSION | Uses an error diffusion method that gives priority to printing fine lines or text. This setting is appropriate for printing images with small text or very fine lines. |

CMYK OVERPRINT

OFF*, ON

You can overprint CMYK data in the composite output.

All colors used for data are overlaid and printed on one plate so you can check the finishing result without separating the colors.



NOTE

- This item does not apply overprinting to spot colors.
- This item is only available for data having the overprint attribute set.

SMOOTHING (AST)

| | |
|------------------------------|--------------------------|
| SMOOTHING (AST) | SMOOTH 1*, SMOOTH 2, OFF |
| GRAPHICS* ¹ | OFF*, ON |
| TEXT* ¹ | ON*, OFF |

*¹ Displayed only when SMOOTHING (AST) is set to SMOOTH 1 or SMOOTH 2.

Specifies whether to use the smoothing process which can print the outlines of graphics (illustrations created by an application) and text smoothly.

SMOOTH 2 performs a smoother process than SMOOTH 1. Even if data is not printed smoothly by specifying SMOOTH 1, specify SMOOTH 2.

You can also select a target for the smoothing process by switching ON/OFF in GRAPHICS and TEXT.



NOTE

The effect of the advanced smoothing process varies depending on the pattern of text or graphics.

UTILITY Menu Settings

NOTE

For the output samples of CONFIG.PAGE, NW STATUS PRINT, and PRNTPOSNPRINT, see "The Lists Common to All the Settings in the Print Mode," on p. 8-2. For the output sample of the PCL fonts list, PS fonts list, and PS configuration page, see "The Lists Common to Certain Settings in the Print Mode," on p. 8-5.

CONFIG.PAGE

-

Prints the capacity of the built-in memory (RAM) or the contents specified in the SETUP menu. You can select this item regardless of the setting for the print mode.

NOTE

CONFIG.PAGE is designed to be printed on A4 size paper. Load a sheet of A4 size paper in the paper cassette or multi-purpose tray.

PCL UTILITY

FONTS LIST

Prints information about the printer settings in the PCL mode.

FONTS LIST

A list of the fonts that can be used in the PCL mode is printed.

NOTE

FONTS LIST is designed to be printed on A4 size paper. Load a sheet of A4 size paper in the paper cassette or multi-purpose tray.

PS UTILITY

CONFIG.PAGE, FONTS LIST

Prints information about the printer settings in the PS mode.

CONFIG.PAGE

Prints the content specified in the PS SETUP menu.

FONTS LIST

A list of the fonts that can be used in the PS mode is printed.



NOTE

- Each list is to be printed on A4 size paper. Load A4 size paper in the paper cassette or multi-purpose tray.
- This item is displayed when PS ROM or PS/Barcode ROM is installed.

NW STATUS PRINT

-

Prints the version number and the settings of the print server equipped with this printer.



NOTE

NW STATUS PRINT is designed to be printed on A4 size paper. Load a sheet of A4 size paper in the paper cassette or multi-purpose tray.

EXT. CARD LIST

-

Prints the version, settings, etc. of the expansion interface board installed in the expansion slot of the printer.



NOTE

This item is displayed only when the interface board is installed.

E-MAIL UTILITY

RECEIVE E-MAILS, RX LOG LIST

This printer can receive and print e-mails. This item allows you to receive e-mails manually as well as print the e-mail receive log list.

RECEIVE E-MAILS

Performs manual receiving of e-mails. If there are any e-mails addressed to the printer in the server, the printer receives the e-mails and print the text and attached files.

RX LOG LIST

Prints the e-mail receive log list.

Information such as "Subject" and "From" of the e-mails is printed in the e-mail receive log list.



NOTE

- For more details on e-mail print, see "E-mail Print (Only When the Hard Disk Is Installed)," on p. 2-34.
- E-mail text is printed with its mail header information.
- You can also specify the setting to receive e-mails automatically and periodically. (See "E-MAIL PRT SET," on p. 5-65)
- The settings to receive e-mails, such as the setting for POP3 server name, are to be specified in the Remote UI. (See Network Guide)
- The e-mail receive log list is to be printed on A4 size paper. Load A4 size paper in the paper cassette or multi-purpose tray.
- This item is displayed only when an optional hard disk is installed, and HARD DISK is set to ON.

CALIBRATION

-

Calibration is a function that adjusts the color hue and phenomenon of "Out-of-Register Colors" for each toner color in color printing.

Perform this operation when the printed colors are different compared to earlier printing, or a phenomenon of "Out-of-Register Colors" occurs.



NOTE

Calibration takes approximately 50 seconds.

PRNTPOSNPRINT

-

The printing position adjusted in ADJ.START POS. (See p. 5-69) is printed. Check the printout results to confirm the setting for ADJ.START POS.



NOTE

For adjusting the printing position, see "Adjusting the Printing Position," on p. 6-62.

PAGE COUNT LIST

-

The number of [Print Total]* is printed on a departmental basis.

* [Print Total] indicates the number of printed surfaces. If you perform 2-sided printing on a sheet of paper, the number of the printed surfaces is two.



NOTE

Depending on the printer you are using, this item is not displayed.

TEST CHART 1

-

Print Test Chart 1 when checking if the poor print quality is due to any problem in the drum cartridges.



NOTE

- Test Chart 1 is printed on 8 sheets of A4 size paper. Load A4 size paper.
- For how to view Test Chart 1, see "Printing Test Chart 1," on p. 7-87.

TEST CHART 2

Print Test Chart 2 when checking if the poor print quality is due to any problem in the fixing unit.



NOTE

- Test Chart 2 is printed on a sheet of A4 size paper. Load A4 size paper.
- For how to view Test Chart 2, see "Printing Test Chart 2," on p. 7-89.

JOB Menu Settings

ENCRYPTED PRINT

Prints encrypted secured print data.

Encrypted secured print is different from secured print in that the data security is reinforced on communication between the computer and printer and when the data is saved on a hard disk.

Perform an encrypted secured print job using the following procedure.

1. Select ENCRYPTED PRINT in the JOB menu, then press [OK].
2. If the user names appear, select the target user name, then press [OK].
When the user of all the saved print jobs is the same (or when there is only one job), the user name is not displayed. Proceed to Step 3.
3. If the file names appear, select the target file name, then press [OK].
When only one print job is saved, the file name is not displayed. Proceed to Step 4.
4. Enter the password.
The specified file is printed.



NOTE

- For the character restriction for the password for an encrypted secured print, see Online Help of the encrypted secured print driver.
You can display the Online Help from the encrypted secured print driver after installing it.
- Only numbers can be entered from the control panel. Enter them using the following keys.
 - Increases/decreases number[▲] [▼]
 - Moves digits[◀] [▶]
 - Determines the entered password[OK]
- Depending on the version of the encrypted secured print driver, you can specify alphabetic characters and marks for passwords. Print an encrypted secured print job from the Remote UI if the password contains any alphabetic characters or marks (See Remote UI Guide).
- Specify the file name, user name, and password in the printer driver.
- The encrypted secured print data is deleted automatically after being printed. Alternatively, encrypted secured print data is deleted by turning the printer OFF or performing a hard reset or soft reset.

- You can automatically delete the unprinted encrypted secured print data when a fixed period of time has elapsed. Specify the setting for the time when the printer delete data in SECURING TIME (See p. 5-26) in the CONTROL MENU options in the SETUP menu.
- Up to 8 encrypted secured print jobs can be saved.
- This item is displayed only when an optional hard disk is installed, HARD DISK is set to ON, and there is any encrypted secured print job.

SECURED PRINT

-

Prints secured print data.

Secured print is a function that prints data with the file name, user name, and password previously specified for the data on the computer using the printer's control panel. Because you cannot print without specifying the file name, user name, and password in this item, this function is convenient when you print data that you do not want others to read.

Perform a secured print job using the following procedure.

1. Select SECURED PRINT in the JOB menu, then press [OK].
2. If the user names appear, select the target user name, then press [OK].
When the user of all the saved print jobs is the same (or when there is only one job), the user name is not displayed. Proceed to Step 3.
3. If the file names appear, select the target file name, then press [OK].
When only one print job is saved, the file name is not displayed. Proceed to Step 4.
4. Enter the password.
The specified file is printed.



NOTE

- The password is to be specified only with numbers of 1 to 7 digits. Enter the password using the following keys on the control panel.
 - Increases/decreases number [▲] [▼]
 - Moves digits [◀] [▶]
 - Determines the entered password [OK]
- Specify the file name, user name, and password in the printer driver.
- The secured print data is deleted automatically after being printed. Alternatively, the encrypted secured print data is deleted by turning the printer OFF or performing a hard reset or soft reset.
- You can automatically delete the unprinted secured print data when a fixed period of time has elapsed. Specify the setting for the time when the printer delete data in SECURING TIME (See p. 5-26) in the CONTROL MENU options in the SETUP menu.
- Up to 8 secured print jobs can be saved.
- This item is displayed only when an optional hard disk is installed, HARD DISK is set to ON, and there is any secured print job.

STOREJOB LIST

-

Prints a list of the jobs stored in a box (the jobs saved on the hard disk).

The store job list prints the box name, box number, file name, and others.



NOTE

- If a password is specified for the box, the jobs in the box are not printed on the store job list.
- This item is displayed only when an optional hard disk is installed, HARD DISK is set to ON, and there is any saved job.

STOREJOB PRINT

-

Prints a job stored in a box.

To store a job in a box, select [Store] in the printer driver, and then specify the box. Because the jobs in a box are not deleted even after turning the printer OFF, it is convenient if you store the documents that you want to print repeatedly in a box.

Perform a store job print using the following procedure.

1. Select STOREJOB PRINT in the JOB menu, then press [OK].
2. The box numbers are displayed. Select the number for the box in which the job is stored, then press [OK].
3. If <PASSWORD> appears in the display, press [OK], and then enter the password.
If a password is not specified only for the box, the entry screen for entering a password does not appear. Proceed to Step 4.
4. Select the name of the target file, then press [OK].
The specified file is printed.



NOTE

- The password is to be specified only with numbers of 1 to 7 digits. Enter the password using the following keys on the control panel.
 - Increases/decreases number[▲] [▼]
 - Moves digits[◀] [▶]
 - Determines the entered password[OK]
- The saved jobs remains in the hard disk even after being printed. When you want to delete the saved jobs, use the Remote UI. (See Remote UI Guide)
- Up to the total of 100 jobs in all the boxes can be saved.
- This item is displayed only when an optional hard disk is installed, HARD DISK is set to ON, and there is any saved job.

JOB LOG LIST

Prints the job logs printed from the computer.

File names, print dates, and other information are printed on the job log list.



NOTE

- If the printer has no job log, nothing is printed.
- Up to 60 jobs when an optional hard disk installed and up to 48 jobs without the hard disk can be printed in the job log list.
- This item is displayed only when it is specified, in the [Job Log Display] page in the Remote UI, so that job logs are to be displayed.

STORE LOG LST

Prints the job logs printed from a box.

File names, print dates, and other information are printed on the store log list.



NOTE

- If the printer has no job log, nothing is printed.
- Up to 60 job logs are printed on the stored log list.
- This item is displayed only when an optional hard disk is installed, and HARD DISK is set to ON.

REPORTLOG LST

Prints the job logs of the printed CONFIG.PAGE or NW STATUS PRINT.

Print dates, etc are printed on the report log list.



NOTE

- If the printer has no job log, nothing is printed.
- Up to 60 jobs when an optional hard disk installed and up to 16 jobs without the hard disk can be printed in the report log list.

E-MAIL PRT LOG

Prints e-mail print logs.

File names, print dates, and other information are printed on the e-mail print log list.



NOTE

- If the printer has no job log, nothing is printed.
- Up to 60 job logs are printed on the e-mail print log list.
- This item is displayed only when an optional hard disk is installed, and HARD DISK is set to ON.

RESET Menu Settings

SOFT RESET/HARD RESET

Resets the printer when a problem has occurred or you want to cancel printing.

If you perform a soft reset, the printer stops the current process and deletes the jobs in the printer memory, received print data, and the job being processed. If you perform a hard reset, the printer cancels all the process and deletes the jobs.

To perform a soft reset, select SOFT RESET in the RESET menu, and then press [OK].

To perform a hard reset, select SOFT RESET in the RESET menu, hold down [OK] for 3 seconds or more to display HARD RESET, and then release the button.



NOTE

- Be sure to cancel printing from the computer before performing a soft reset.
- When the soft reset or hard reset is performed, the data being printed and the data being received by all the interfaces is deleted. Therefore, perform printing from the computer again as needed.
- If you perform a soft reset or hard reset, the data that has been already sent to the memory are all deleted even if it is the data of other interface. If you are using the printer on a network, be careful so that this operation does not affect the data from other computers when resetting the printer.
- If you perform a hard reset while the printer is receiving data, the data that has not yet been sent to the memory will be sent after the reset. However, the data may not be printed properly.

FORM FEED

When a job is canceled from the computer or the data is less than one page, the data may remain in the printer memory, and the job may not be completed properly. As long as the printer remains in this state, you cannot print the next job because the printer cannot receive the next data. In this case, force the printer to output the print data using the procedure for this item.

IMPORTANT

- Data from PCL/PS/UFR II Printer Driver cannot be output.
- If you have output data, the data being printed is deleted. Print the data from the computer again.
- When you are using an optional hard disk, set MODE TIMEOUT in the SETUP menu to a setting other than OFF. It is recommended that you should specify the default setting, 15 seconds if possible.

NOTE

- The Job indicator is on when any print data remains in the printer memory or when no print data remains in the printer but a job has not yet been completed.
- If MODE TIMEOUT for a job is specified, data less than one page is also output automatically when the specified time has elapsed (Data from PCL/PS/UFR II Printer Driver is not output.). MODE TIMEOUT for a job is set to 15 seconds in the default settings.
- If the Job indicator does not go off even after outputting the data, perform a soft reset. (See the previous item)

SHUT DOWN

-

Shuts down the functions of the hard disk.

If a hard disk is installed, the printer may be turned OFF during access to the hard disk when you turn the printer OFF. To prevent this accident, shut down the functions of the hard disk before turning the printer OFF.

If you select SHUT DOWN in the RESET menu, the message that asks you if you execute a shut down appears. Pressing [OK] at this point executes the shut down.

After executing a shut down, the printer cannot receive data, and panel operation is disabled. Cycle the power of the printer if you want to print the data again.

IMPORTANT

If you perform a shutdown when any job of which you stopped the operation or of secured print is in the hard disk, the message <CANNOT EXECUTE> is displayed. If you want to execute a shutdown, perform a soft reset to delete the job, and then perform a shutdown again.
If you do not want to execute a shutdown, press [Online].

NOTE

- You can also execute a shutdown by holding down the control panel power switch (sub power supply) on the printer's control panel for 4 seconds or more.
- Even if you are not using a hard disk, it is recommended that you shut down the printer using the following procedure when you want to turn the printer OFF. If you are using WSD, the shutdown notifies the computer that the printer is turned OFF.

CHANGE TONER

K TONER, C TONER, M TONER, Y TONER

If you replaced a toner cartridge when the message <1G CHG."color" TNR> was not being displayed, reset the counter in this item.

After K TONER, C TONER, M TONER, or Y TONER is selected, a confirmation message <OK?> is displayed. Pressing [OK] at this point starts the initialization. The printer does not initialize the counter if you press [Online] without pressing [OK].



IMPORTANT

- Perform this operation only after replacing a toner cartridge. If you reset the counter without replacing a toner cartridge, the counter does not operate properly, resulting in damage to the printer.
- If you replaced a toner cartridge when the message <1G CHG."color" TNR> was being displayed, you do not need to initialize the counter in this item because the printer initializes the counter automatically.

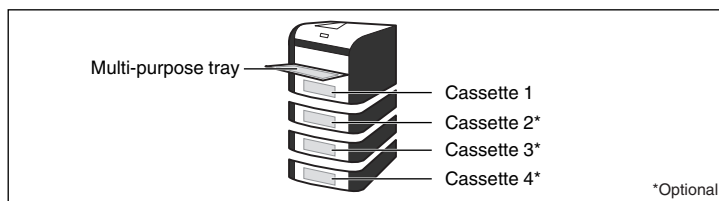
SELECT FEEDER Menu Settings

PAPER SOURCE

AUTO*, CASSETTE 1, CASSETTE 2*¹, CASSETTE 3*¹, CASSETTE 4*¹, TRAY

*¹ CASSETTE 2, CASSETTE 3, and CASSETTE 4 are displayed only when the optional paper feeders are installed.

Selects the paper cassette or multi-purpose tray from which the printer feed paper. After a paper source is selected, the corresponding Paper Source indicator comes on.



NOTE

- If AUTO is specified, you can specify the paper source to be automatically selected. (See "AUTO SELECTION," on p. 5-33)
- If paper of the same size is loaded in two or more paper sources when the paper source setting is specified to be selected automatically, paper is fed from the upper paper source regardless of the status of the paper source indicators. When the paper source runs out of paper, the paper source automatically switches to other one in which paper of the same size is loaded.
- If INVLPAPER TRAY (See p. 5-32) is set to ON, the setting for this item is ignored, and the printer feeds paper from the multi-purpose tray when paper that is the same size as the paper size of the received data is not loaded in the selected paper source.

TRAY PAPER SIZE

A4*, B4, A3, LTR, LGL, LDR, EXEC, 305 x 457 mm, MIXED SIZES, CUSTOM SIZE, CUSTOM SIZE R, ENV. ISO-C5, ENV. COM10, ENV. MONARCH, ENV. DL, ENV. ISO-B5, STMT, 8K, 16K, A5, B5

Specifies the size of the paper loaded in the multi-purpose tray.

You can specify the same setting in TRAY PAPER SIZE in the FEEDER MENU options in the SETUP menu. For more details, see "TRAY PAPER SIZE," on p. 5-29.

CASSETTE(n) SIZE (n = 2, 3, 4)

CUSTOM SIZE*, CUSTOM SIZE R, 8K, 16K, MIXED SIZES

Specifies the size of the paper loaded in the paper cassettes (Cassette 2 to Cassette 4) of the paper feeders.

You can specify the same setting in CASSETTE(n) SIZE (n = 2, 3, 4) in the FEEDER MENU options in the SETUP menu. For more details, see "CASSETTE(n) SIZE (n = 2, 3, 4)," on p. 5-30.

TRAY PAPER TYPE

MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, HEAVY PAPER 1, HEAVY PAPER 2, ENVELOPE, COATED PAPER, LABEL

Specifies the type of the paper to be loaded in the multi-purpose tray.

You can specify the same setting in TRAY PAPER TYPE in the FEEDER MENU options in the SETUP menu. For more details, see "TRAY PAPER TYPE," on p. 5-34.

CASSETTE1 TYPE

MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, LABEL

Specifies the type of the paper to be loaded in Cassette 1.

You can specify the same setting in CASSETTE1 TYPE in the FEEDER MENU options in the SETUP menu. For more details, see "CASSETTE1 TYPE," on p. 5-35.

CASSETTE(n) TYPE (n = 2, 3, 4)

MIXED TYPES*, PLAIN PAPER, PLAIN PAPER L, LABEL

Specifies the type of the paper to be loaded in Cassette N (N = 2, 3, 4).

You can specify the same setting in CASSETTE(n) TYPE (n = 2, 3, 4) in the FEEDER MENU options in the SETUP menu. For more details, see "CASSETTE(n) TYPE (n = 2, 3, 4)," on p. 5-36.

2-SIDED PRINT.

OFF*, ON

Specifies whether the printer should print on one side or both sides of the paper.

You can specify the same setting in 2-SIDED PRINT. in the FEEDER MENU options in the SETUP menu. For more details, see "2-SIDED PRINT.," on p. 5-38.

Routine Maintenance

6

CHAPTER

This chapter describes the procedures for maintaining the printer such as replacing the cartridges and cleaning the printer.

| | |
|--|------|
| Replacing Toner Cartridges | 6-2 |
| When <PREP."color" TNR>/<CHG."color" TNR> Appears | 6-2 |
| Precautions on Replacing a Toner Cartridge | 6-3 |
| Replacing a Toner Cartridge | 6-4 |
| Resetting the Counter of a Toner Cartridge | 6-10 |
| Precautions for Handling Toner Cartridges | 6-12 |
| Storing Toner Cartridges | 6-14 |
| Replacing Drum Cartridges | 6-15 |
| When <PREP."color" DRM>/<CHG."color" DRUM> Appears | 6-15 |
| Precautions on Replacing a Drum Cartridge | 6-16 |
| Replacing a Drum Cartridge | 6-20 |
| Precautions for Handling Drum Cartridges | 6-40 |
| Storing Drum Cartridges | 6-42 |
| Replacing the Fixing Unit | 6-43 |
| When the Message <PREP.FIX.UNIT> Appears | 6-43 |
| Precautions on Replacing the Fixing Unit | 6-43 |
| Replacing the Fixing Unit | 6-45 |
| Resetting the Counter of the Fixing Unit | 6-52 |
| Replacing the Waste Toner Container | 6-54 |
| When the Message <PRE.WST.T.CTN>/<CHG.WST.T.CTN> Appears | 6-54 |
| Precautions on Replacing the Waste Toner Container | 6-55 |
| Replacing the Waste Toner Container | 6-56 |
| Cleaning the Transfer Belt of the ITB Unit | 6-60 |
| Adjusting the Printing Position | 6-62 |
| Checking the Printing Position | 6-62 |
| Adjusting the Printing Position | 6-64 |
| Cleaning the Outside of the Printer | 6-68 |
| Moving the Printer | 6-71 |
| Handling the Printer | 6-79 |

Replacing Toner Cartridges

This section describes how to replace or handle the toner cartridges and precautions on storing them.

Contact your local authorized Canon dealer to obtain replacement toner cartridges.

When <PREP."color" TNR>/<CHG."color" TNR> Appears

Toner cartridges are consumable products. If the toner is running out during printing, a message appears in the display.

| Message | When it is Displayed | Contents and Remedies |
|--|---|--|
| <div style="border: 1px solid gray; padding: 2px; display: inline-block;">16 PREP.X TNR</div> (X indicates K, Y, M, or C) | When a toner cartridge needs to be replaced soon | <ul style="list-style-type: none"> - You can continue to print. - Have ready a new toner cartridge of the indicated color. - It is recommended that you replace the toner cartridge before printing a large amount of data. |
| <div style="border: 1px solid gray; padding: 2px; display: inline-block;">16 CHG.X TNR</div> (X indicates K, Y, M, or C) | When a toner cartridge needs to be replaced soon | <ul style="list-style-type: none"> - The printer stops printing. - Pressing [Online] continues the job. - Have ready a new toner cartridge of the indicated color. - It is recommended that you replace the toner cartridge before printing a large amount of data. |
| <div style="border: 1px solid gray; padding: 2px; display: inline-block;">1G CHG.X TNR</div> (X indicates K, Y, M, or C) | When a toner cartridge has reached the end of its life. | <ul style="list-style-type: none"> - When <1G CHG.K TNR> appears, the printer stops printing, and you cannot continue the job. - When <1G CHG.X TNR> (X = Y, M, C) appears, you can print only in black and white. - Replace the toner cartridge of the indicated color with a new one. |

* Whether <16 PREP."color" TNR> or <16 CHG."color" TNR> appears when lifetime of a toner cartridge has reached depends on the setting for WARNING STEP (See p. 5-20) in the SETUP menu. The printer is set to display <16 PREP."color" TNR> in the default settings.

* "K", "Y", "C", and "M" in a message indicate Black, Yellow, Cyan, and Magenta respectively.



IMPORTANT

If you replaced a toner cartridge when <1 G CHG."color" TNR> was not being displayed, be sure to reset the counter of the toner cartridge (See p. 6-10).



NOTE

The lifetime of the toner cartridges (Canon Genuine Cartridges) used in this printer are as follows. The numbers of the pages are estimated when printing in the following conditions.

Printing ratio: 5 %; Print density: the default; Paper size: A4; Paper type: plain paper

The level of toner consumption varies depending on the type of documents printed. If your average document contains a lot of graphics, tables, or charts, the life of the toner cartridge will be shorter as they consume more toner.

- Black: Approx. 10,000 pages
- Yellow: Approx. 6,000 pages
- Magenta: Approx. 6,000 pages
- Cyan: Approx. 6,000 pages

Precautions on Replacing a Toner Cartridge



WARNING

Do not throw a used toner cartridge into open flames, as this may cause the toner remaining inside the cartridge to ignite, resulting in burns or a fire.



CAUTION

Take care not to allow the toner to come into contact with your hands or clothing, as this will dirty your hands or clothing. If they become dirty, wash them immediately with cold water. Washing with warm water will set the toner and make it impossible to remove the toner stains.



IMPORTANT

- Dispose of the packing materials according to local regulations.
- Be sure to use only the toner cartridges designed for this printer.



NOTE

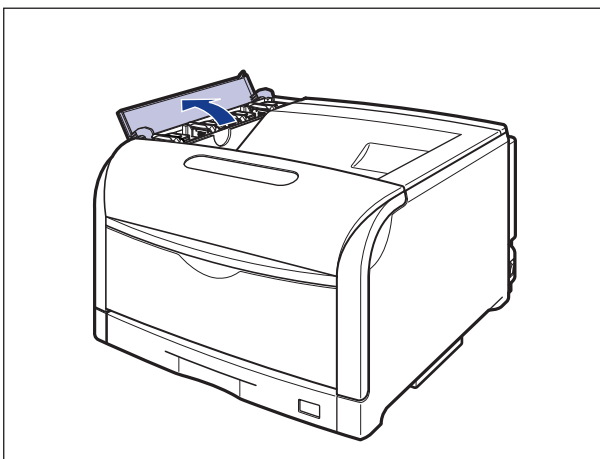
- For details on handling toner cartridges, see "Precautions for Handling Toner Cartridges," on p. 6-12.
- The packing materials may be changed in form or position to be placed, or may be added or removed without notice.

Replacing a Toner Cartridge

If any of the following messages appears, replace the toner cartridge of the indicated color with a new one.

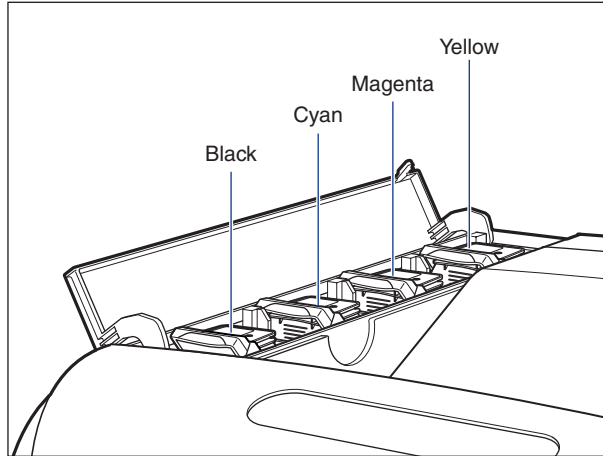
- <1G CHG.K TNR>...Replace the black toner cartridge.
- <1G CHG.Y TNR>...Replace the yellow toner cartridge.
- <1G CHG.M TNR>...Replace the magenta toner cartridge.
- <1G CHG.C TNR>...Replace the cyan toner cartridge.

1 Open the toner cover.

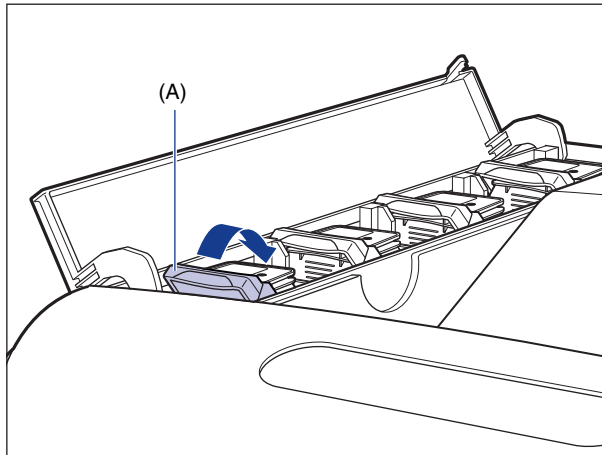


 **IMPORTANT**

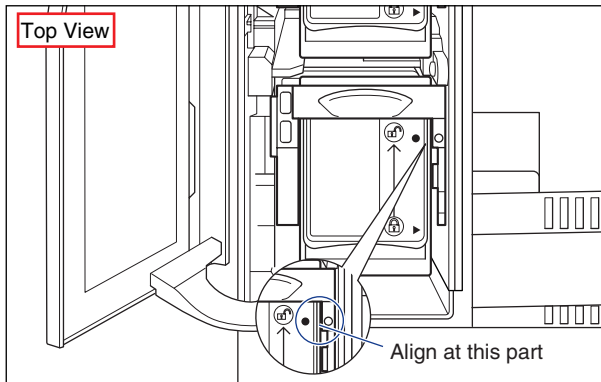
The toner cartridges are installed from the bottom in order of Yellow, Magenta, Cyan, and Black.



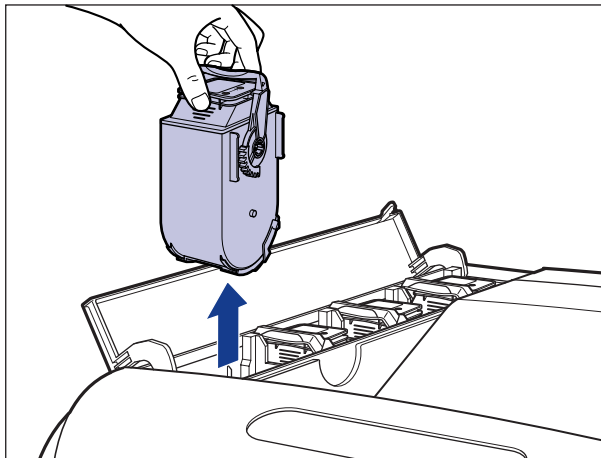
- 2** Tilt the lock release lever (A) of the toner cartridge to be replaced to the position of "⬆" to lock the toner cartridge.



Align the circle mark on the lock release lever with that on the toner cartridge.



3 Remove the toner cartridge from the printer.

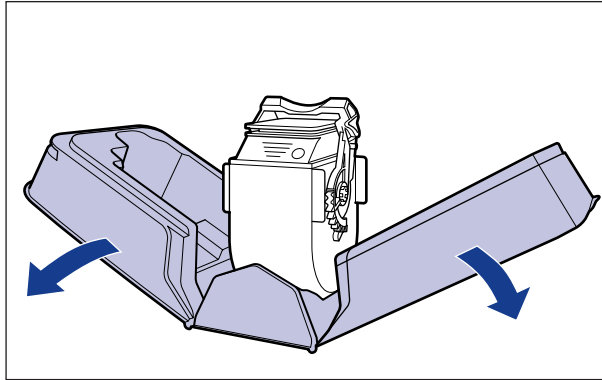


IMPORTANT

If the toner cartridge cannot be removed, check if the circle mark on the lock release lever is aligned with that on the toner cartridge. If you try to remove the toner cartridge forcefully, this may result in damage to the printer.

4 Take the toner cartridge out of the box, and then take it out of the protective bag.

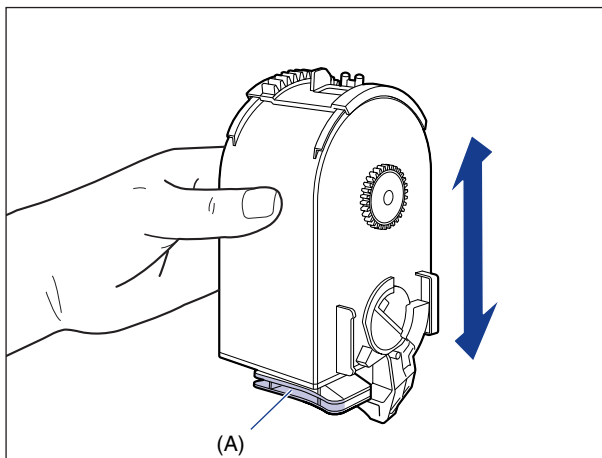
While holding the center portion on the top of the protective pack, open it to left and right.



IMPORTANT

Keep the protective pack for the toner cartridge. It may be required after taking out the toner cartridge for printer maintenance.

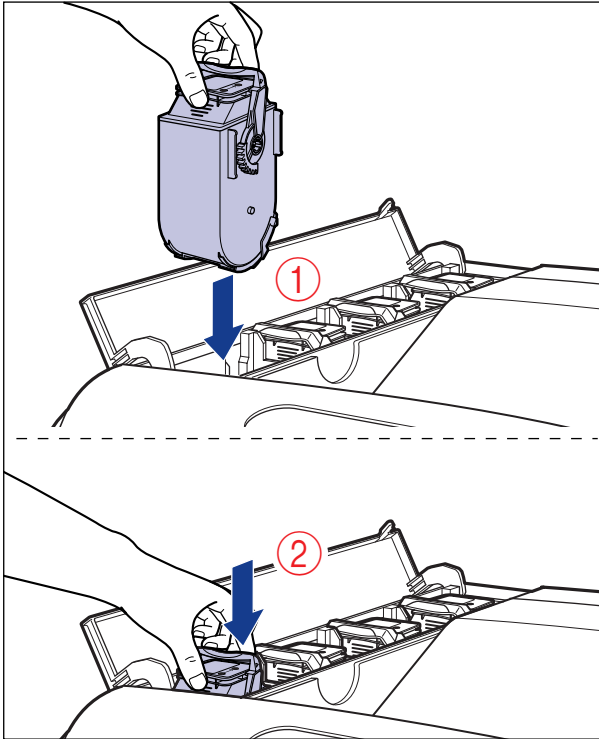
5 Hold the toner cartridge so that the tab (A) is at the bottom, and then shake it up and down 10 times each as shown in the figure to evenly distribute the toner inside the cartridge.



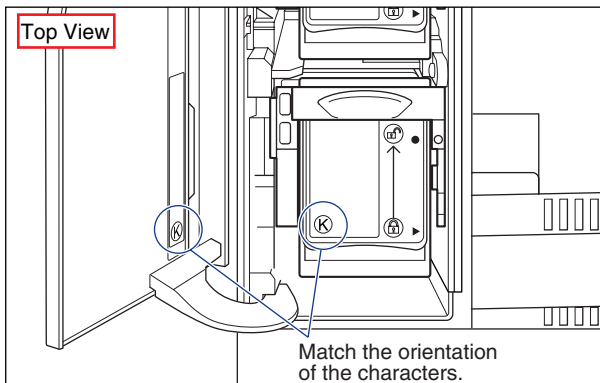
IMPORTANT

If toner is not distributed evenly, this may result in deterioration in print quality. Be sure to carry out this procedure properly.

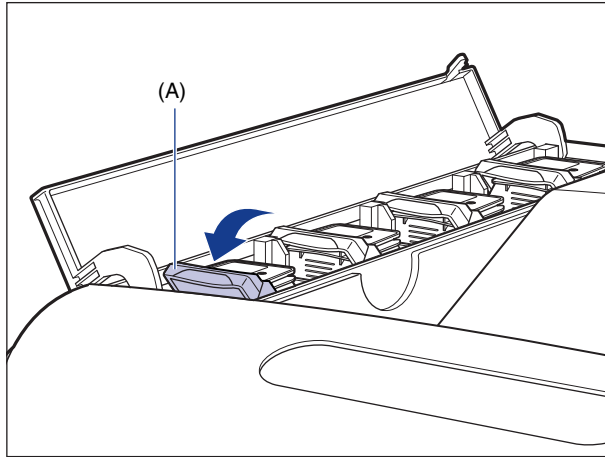
- 6** While holding the tab, insert the toner cartridge into the printer ①, and then push it gently until it stops ② as shown in the figures.



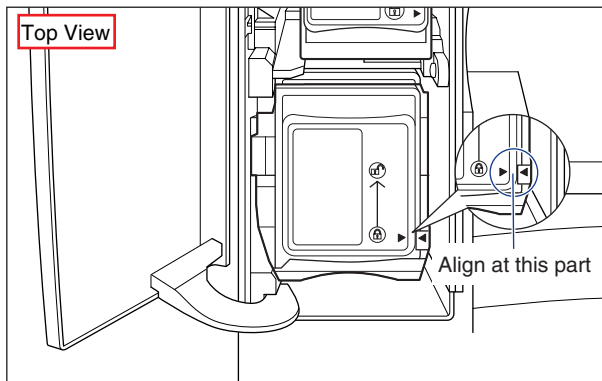
Insert the toner cartridge so that the orientation of the character on the toner cartridge and that on the toner cover match.



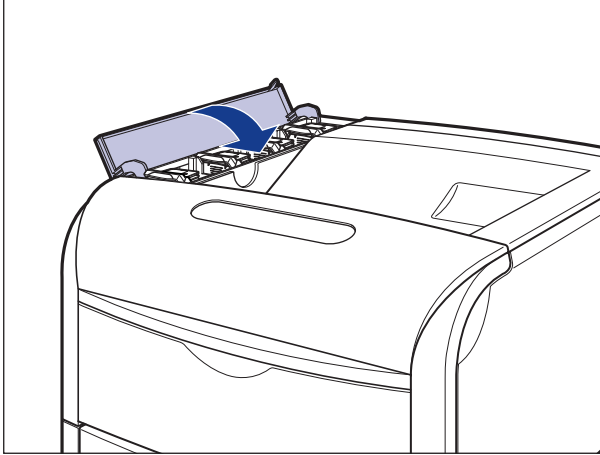
- 7** Tilt the lock release lever (A) to the position of "Ⓜ" to lock the toner cartridge.



Align the triangular mark on the lock release lever with that on the toner cartridge.



8 Close the toner cover.



IMPORTANT

- If you cannot close the toner cover, check if the toner cartridges are installed properly. If you try to close the toner cover forcefully, this may result in damage to the printer or toner cartridges.
- Do not leave the toner cover open for a long time after installing the toner cartridge.

NOTE

The message <1G CHG."color" TNR> takes several seconds to disappear after the toner cartridge is installed. If the message <1G CHG."color" TNR> does not disappear, remove the replaced toner cartridge, hold the toner cartridge so that its tab is at the bottom, shake the cartridge up and down forcefully again to evenly distribute the toner inside the cartridge, and then install the toner cartridge.

If you replaced a toner cartridge when <1G CHG."color" TNR> was not being displayed, reset the counter using the procedure "Resetting the Counter of a Toner Cartridge" (p. 6-10).

Resetting the Counter of a Toner Cartridge

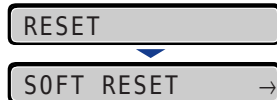
If you replaced a toner cartridge when <1G CHG."color" TNR> was not being displayed, reset the counter using the following procedure. If you do not reset the counter, lifetime of the toner cartridge cannot be detected properly.

IMPORTANT

Perform this procedure only after you replaced a toner cartridge when <1G CHG."color" TNR> was not being displayed.



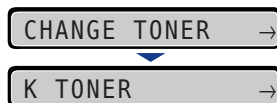
1 Press [Reset].



The RESET menu is displayed.



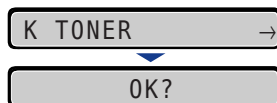
2 Select CHANGE TONER using [◀] and [▶], then press [OK].



The color of the toner cartridge is displayed.



3 Select the toner cartridge of which you want to reset the counter using [◀] and [▶], then press [OK].



A confirmation message is displayed.



4 Press [OK].

The printer does not initialize the counter if you press [Online] without pressing [OK].



NOTE

If the message <1G CHG."color" TNR> appears after resetting the counter of the toner cartridge, remove the replaced toner cartridge, hold the toner cartridge so that its tab is at the bottom, shake the cartridge up and down forcefully again to evenly distribute the toner inside the cartridge, and then install the toner cartridge.

Precautions for Handling Toner Cartridges

A toner cartridge consists of intricate mechanical components. Handling the toner cartridge without due care may lead to damage to the toner cartridge or deterioration in print quality. Be careful of the following points when removing or installing the toner cartridge.

WARNING

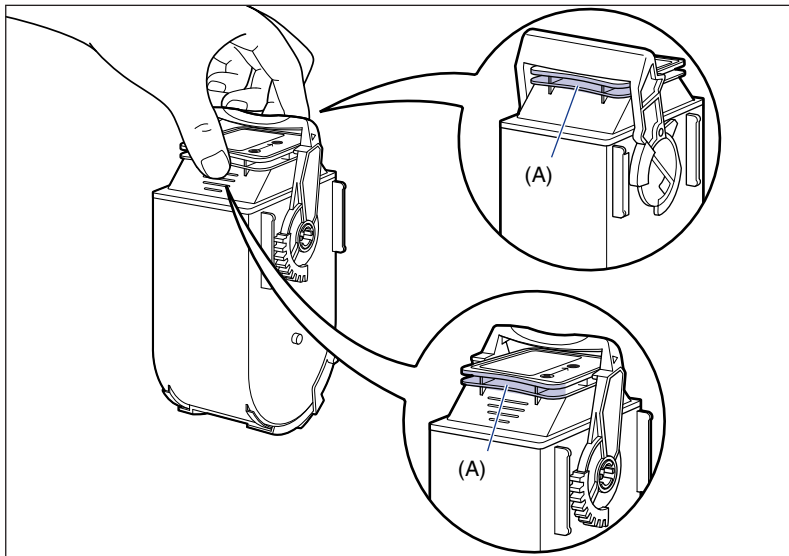
Do not throw a used toner cartridge into open flames, as this may cause the toner remaining inside the cartridge to ignite, resulting in burns or a fire.

CAUTION

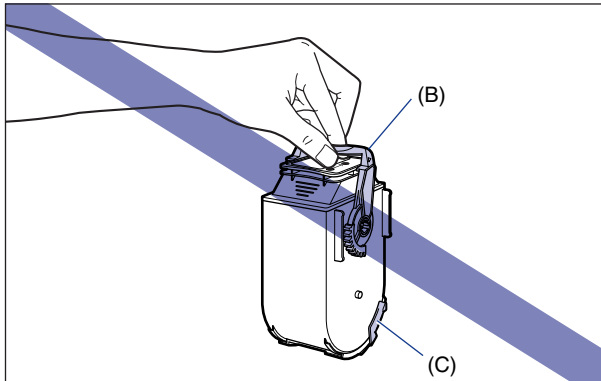
Take care not to allow the toner to come into contact with your hands or clothing, as this will dirty your hands or clothing. If they become dirty, wash them immediately with cold water. Washing with warm water will set the toner and make it impossible to remove the toner stains.

IMPORTANT

- When you take the toner cartridge out of the printer for servicing the printer, place the toner cartridge into the original protective pack, or wrap it with a thick cloth immediately.
- When replacing a toner cartridge, be sure to replace the toner cartridge of the same color.
- When handling a toner cartridge, hold the tabs (A) as shown in the figure.



- Do not hold the lock release lever (B) or shutter (C) of the toner cartridge as shown in the figure. Be careful not to hold or touch areas that are not specified in this procedure. This may result in damage to the cartridge.



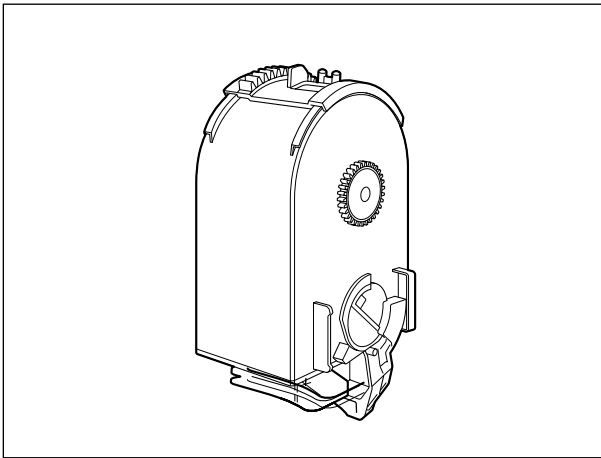
- Do not attempt to disassemble or modify the toner cartridge.
- Condensation may form in and on a toner cartridge if it is brought into an environment that exposes it to sudden changes in temperature and/or humidity. If you move the toner cartridge to a location that is warmer or has higher humidity, leave the cartridge in the new location for 2 hours or longer without opening the protective pack to allow it to adjust to the new temperature.

Storing Toner Cartridges

Be careful of the following points when storing a new toner cartridge or handling a toner cartridge that has been taken out of the printer for maintenance or moving the printer.

IMPORTANT

- Do not take a new toner cartridge out of the protective pack until it is ready to be used.
- When you take the toner cartridge out of the printer for servicing the printer or other purposes, place the toner cartridge into the original protective pack or wrap it with a thick cloth immediately, and store it in the following conditions.



- Do not store the toner cartridge in a place exposed to direct sunlight.
- Do not store cartridges in a hot or humid place, or a place where the temperature and humidity can change significantly.
 - Storing environment temperature: 0 to 35 °C (32 to 95 °F)
 - Storing humidity range: 35 to 85 % RH (no condensation)
- Do not store the toner cartridge in a place where corrosive gases, such as ammonia, are generated, or where a considerable amount of salt is contained in the air, or where there is a lot of dust.
- Keep the toner cartridge out of the reach of small children.

■ Condensation

Even within the storable humidity range, water droplets may develop both inside and outside of the toner cartridge due to the difference in temperature. The development of water droplets is called condensation. Condensation will adversely affect the quality of the toner cartridge.

Replacing Drum Cartridges

This section describes how to replace or handle the drum cartridges and precautions on storing them.

Contact your local authorized Canon dealer to obtain replacement drum cartridges.

When <PREP."color" DRM>/<CHG."color" DRUM> Appears

Drum cartridges are consumable products. When any drum cartridge is nearing the end of its life, any of the following messages appears in the display. Follow the directions in the message.

| Message | When it is Displayed | Contents and Remedies |
|---|---|---|
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">E0 PREP.X DRM</div> (X indicates K, Y, M, or C) | When a drum cartridge needs to be replaced soon | <ul style="list-style-type: none"> - You can continue to print. - Have ready a new drum cartridge of the indicated color. - It is recommended that you replace the drum cartridge before printing a large amount of data. |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">EF CHG.X DRUM</div> (X indicates K, Y, M, or C) | The drum cartridge has reached the end of its life. | <ul style="list-style-type: none"> - The printer stops printing. - You can continue to print by pressing [Online], however, this may result in deterioration in print quality. - Replace the drum cartridge of the indicated color with a new one. |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">98 CHG.X DRUM</div> (X indicates K, Y, M, or C) | When the drum cartridge cannot be used. | <ul style="list-style-type: none"> - The printer stops printing, and you cannot continue the job. - Replace the drum cartridge of the indicated color with a new one. |

* "K", "Y", "C", and "M" in a message indicate each Black, Yellow, Cyan, and Magenta drum cartridge respectively.

 NOTE

- The lifetime of the drum cartridges (Canon Genuine Drum Cartridges) used by this printer is as follows.
The numbers of the pages are estimated when printing in the following conditions.
Paper size: A4; Paper type: Plain paper; Printing ratio: 5 %; Print density: the default; Continuous/1-sided Printing
 - Black: Approx. 50,000 pages
 - Yellow: Approx. 50,000 pages
 - Magenta: Approx. 50,000 pages
 - Cyan: Approx. 50,000 pages
- When printing at interval of 2 sheets (2-sheet intermittent printing), the lifetime of the drum cartridges (Canon Genuine Drum Cartridges) for this printer is approximately 45,000 pages for the black toner and approximately 40,000 pages for each color toner. These values are the number of pages that you can print when performing only color printing.
Even when printing in black and white, each of the color drum cartridges is consumed. Therefore, when printing in black and white a lot, the lifetime of each of the color drum cartridges may be half the number of pages you can print.
- Depending on the printing preferences or printing environment such as the intermittent printing, paper type, paper size, and 1-sided / 2-sided printing, the number of pages you can print may be half the number.

Precautions on Replacing a Drum Cartridge

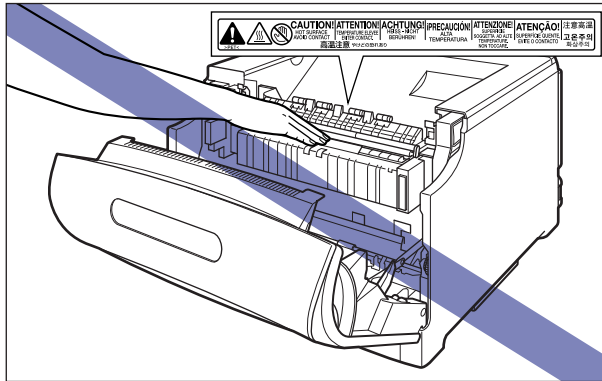
 **WARNING**

- **Do not throw a used drum cartridge into open flames, as this may cause the toner remaining inside the cartridge to ignite, resulting in burns or a fire.**
- **There are some areas inside the printer which are subject to high-voltages. When removing jammed paper or when inspecting the inside of the printer, do not allow necklaces, bracelets, or other metal objects to touch the inside of the printer, as this may result in burns or electrical shock.**
- **The drum cartridge generates a low level magnetic field. If you use a cardiac pacemaker and feel abnormalities, please move away from the drum cartridge and consult your physician immediately.**

 **CAUTION**

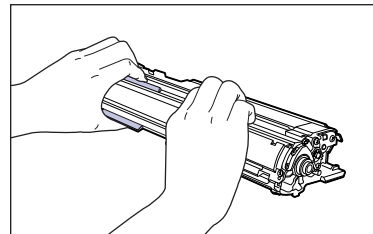
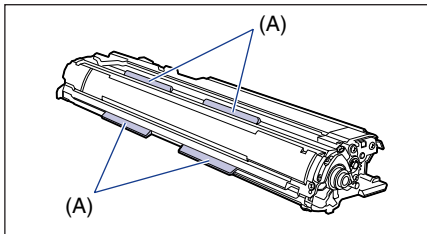
- **Take care not to allow the toner to come into contact with your hands or clothing, as this will dirty your hands or clothing. If they become dirty, wash them immediately with cold water. Washing with warm water will set the toner and make it impossible to remove the toner stains.**

- The fixing unit and its surroundings inside the printer are hot during use. Do not touch the fixing unit and its surroundings, as doing so may result in burns.



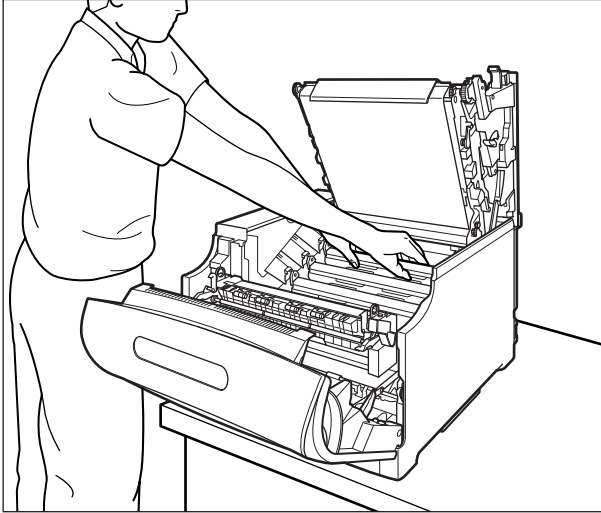
IMPORTANT

- Be sure to use a drum cartridge designed for this printer.
- Do not install a used drum cartridge in the printer again. This may result in the life time of the drum cartridge not being detected properly, or damage to the cartridge.
- When handling a drum cartridge, hold the blue tabs (A) properly as shown in the figure. Do not place it vertically or upside-down.

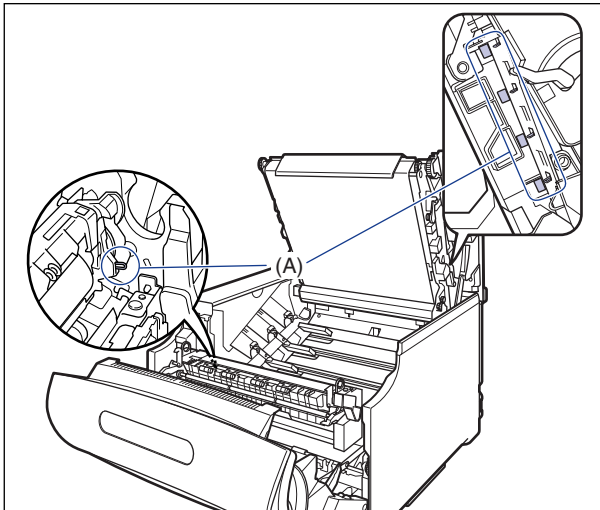


- A drum cartridge comes in a protective bag. Do not take the drum cartridge out of the protective bag until the drum cartridge is ready to be set.

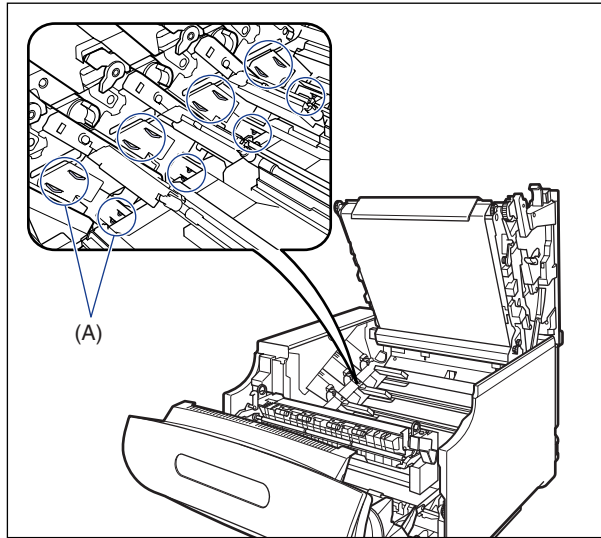
- When removing or installing the drum cartridges, work from the left side of the printer as shown in the figure.



- Be sure not to touch the high-voltage contacts (A) shown in the following figures, as this may result in damage to the printer.
 - Right side of the ITB unit; Inside of the printer



- Drum cartridge guides



- Dispose of the packing materials according to local regulations.

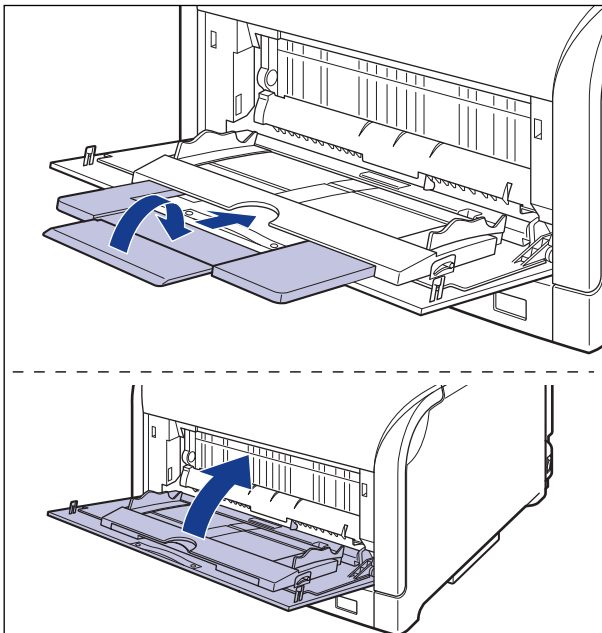
 **NOTE**

- For details on handling drum cartridges, see "Precautions for Handling Drum Cartridges," on p. 6-40.
- The packing materials may be changed in form or position to be placed, or may be added or removed without notice.

Replacing a Drum Cartridge

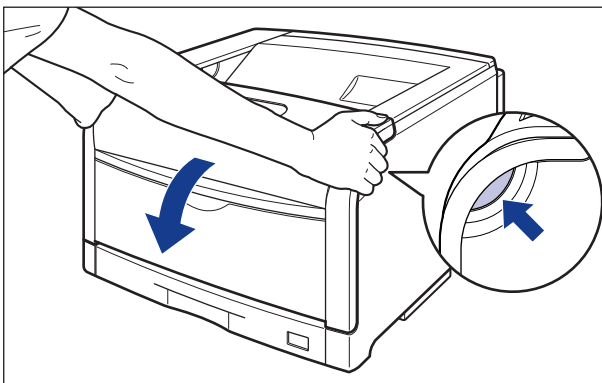
Removing the Drum Cartridge to Be Replaced

- 1** If you are using the multi-purpose tray, close it.



- 2** Open the front cover.

While pressing the lever on the right side of the front cover, open the front cover toward you.

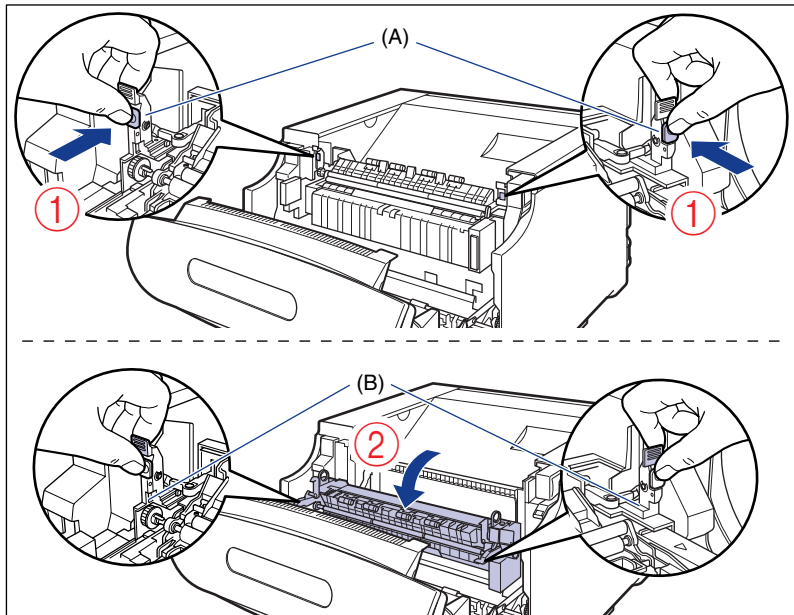


IMPORTANT

Before opening the front cover, make sure that the multi-purpose tray and the paper cassette of the printer are closed.

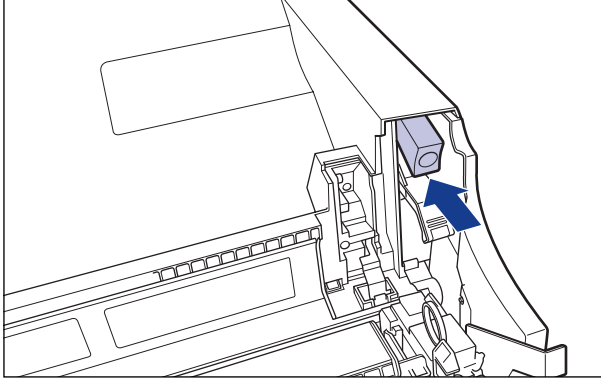
3 Tilt the fixing unit toward you.

While pressing the green lock release buttons (A) on the left and right side of the fixing unit ①, hold the tabs (B) and tilt the fixing unit toward you ② as shown in the figure.

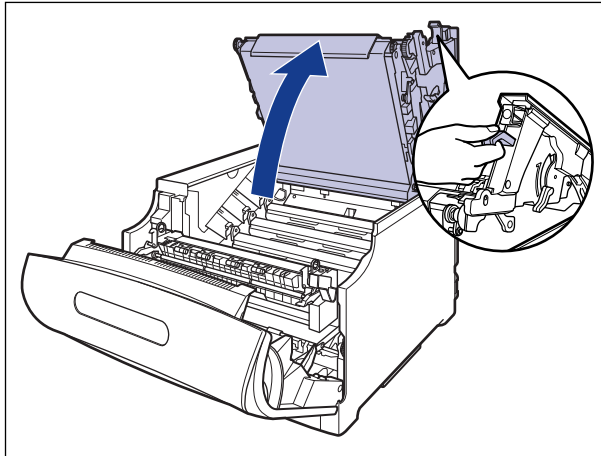


4 Open the top cover.

Press the blue lock release button of the top cover.

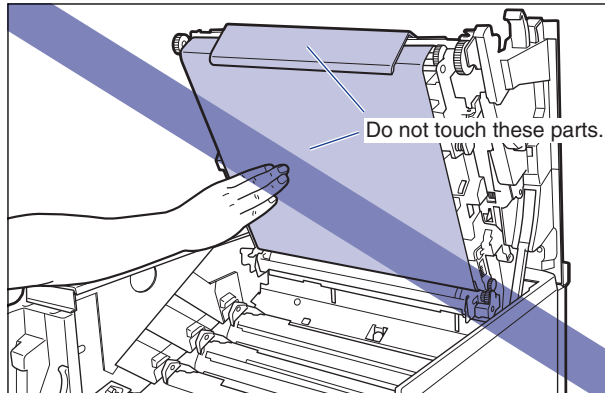


While holding the lever of the top cover, open the top cover.

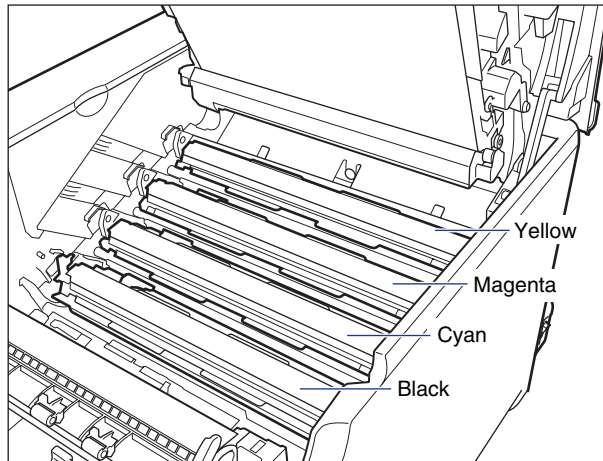


 **IMPORTANT**

- Do not touch the transfer belt of the ITB unit and the ITB unit cover. If the transfer belt is damaged, this may result in misfeeds or deterioration in print quality. If the print quality deteriorates due to the transfer belt of the ITB unit being touched, see "Cleaning the Transfer Belt of the ITB Unit" (p. 6-60) and clean the transfer belt of the ITB unit. The transfer belt of the ITB unit is supplied with a function that cleans itself, therefore, you do not need to clean the belt even when toner is on it.

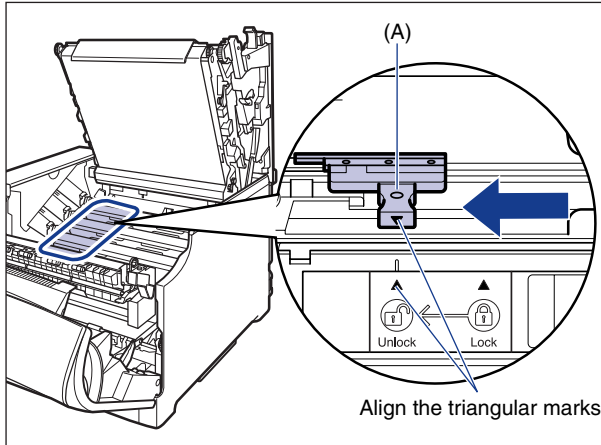


- The drum cartridges are installed from the bottom in order of Yellow, Magenta, Cyan, and Black.

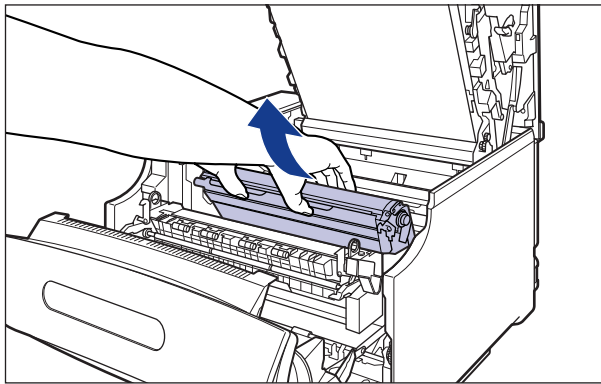


5 Slide the blue lock release lever (A) of the drum cartridge to be replaced to the position of "🔓" to release the lock of the drum cartridge.

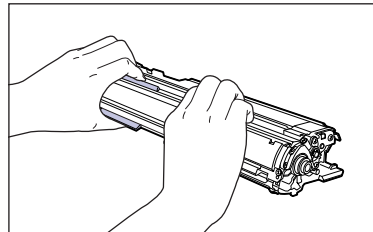
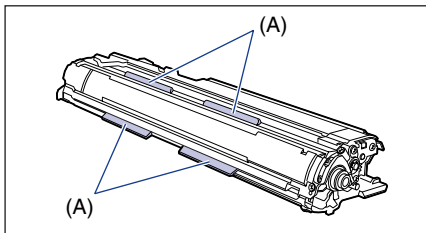
Slide the lock release lever until the triangular mark on the lock release lever aligns with the triangular mark on the label.



6 Remove the drum cartridge.



Remove the drum cartridge by holding the blue tab (A) as shown in the figure.



Installing a New Drum Cartridge

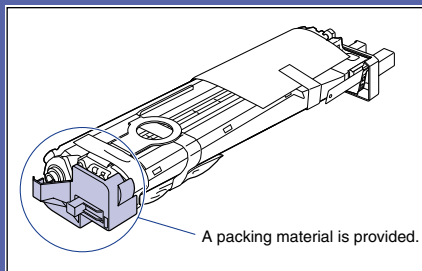
- 1** Take the new drum cartridge out of the box.
- 2** Take the drum cartridge out of the protective bag.

 **IMPORTANT**

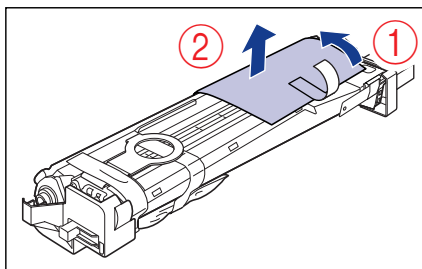
Keep the protective bag for the drum cartridge. It may be required after taking out the drum cartridge for printer maintenance.

- 3** There are two types of replacement drum cartridges. Since the procedure varies depending on the packing condition, check the condition.

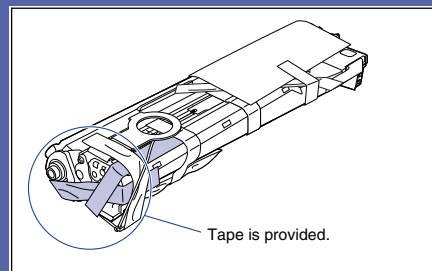
- If a packing material is provided in the following area



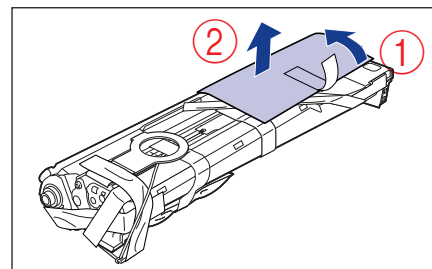
- a** Remove the caution sheet from the drum cartridge, and read the contents thoroughly.
After removing the tape ①, remove the sheet ②.



- If tape is provided in the following area

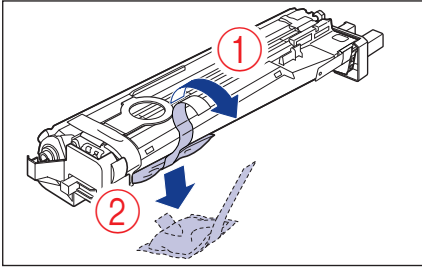


- a** Remove the caution sheet from the drum cartridge, and read the contents thoroughly.
After removing the tape ①, remove the sheet ②.



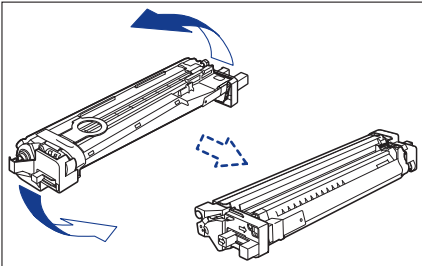
Continuation of "If a packing material is provided"

- b** Remove the drying agent attached with tape (1 piece) shown in the figure.
Remove the tape ①, and then remove the drying agent ②.



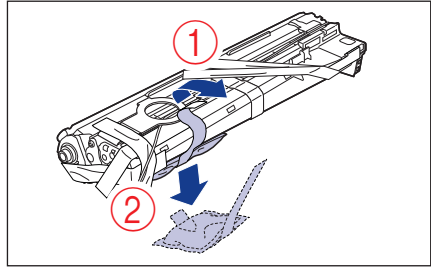
- IMPORTANT**
Dispose of the removed drying agent according to local regulations.

- c** Turn over the drum cartridge in the direction of the arrow gently.



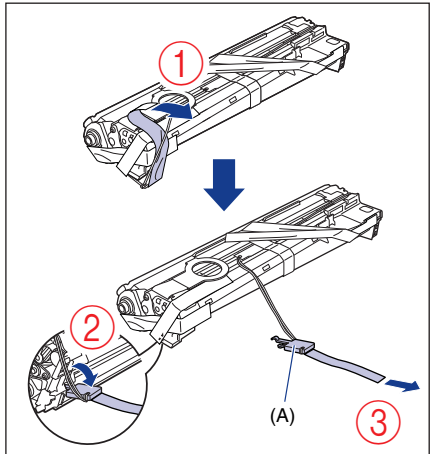
Continuation of "If tape is provided"

- b** Remove the drying agent attached with tape (1 piece) shown in the figure.
Remove the tape ①, and then remove the drying agent ②.



- IMPORTANT**
Dispose of the removed drying agent according to local regulations.

- c** Remove the packing material attached with tape (A) (1 piece) shown in the figure.
Remove the tape ① and packing material at the same time. If the packing material cannot be removed, tilt the packing material ②, and then remove it ③.

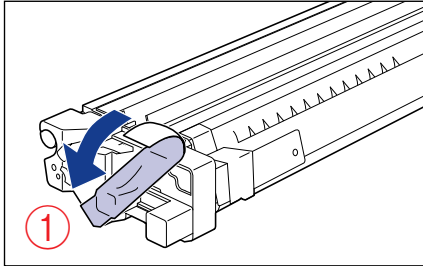


Continuation of "If a packing material is provided"

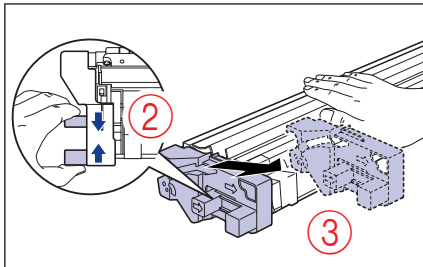
d Remove the packing materials (2 pieces) on the both sides.

- Left side

Remove the tape (1 piece) shown in the figure ①.

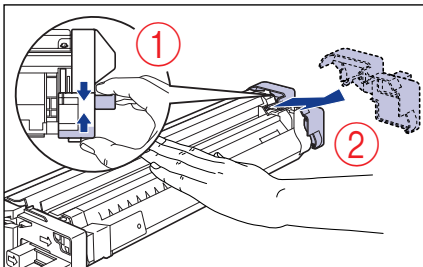


While pinching the tabs of the packing material ②, remove it diagonally upward ③.



- Right side

While pinching the tabs of the packing material ①, remove it diagonally upward ②.



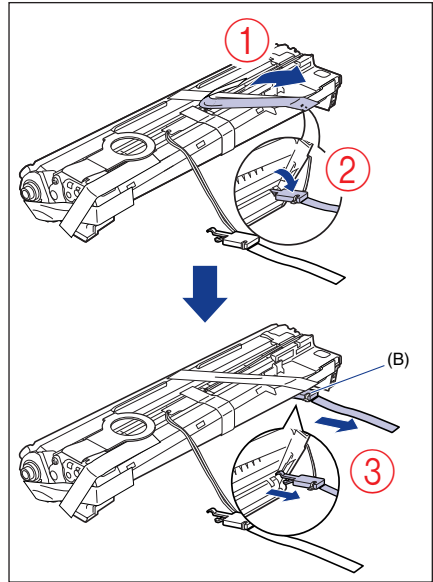
IMPORTANT

Dispose of the packing materials according to local regulations.

Continuation of "If tape is provided"

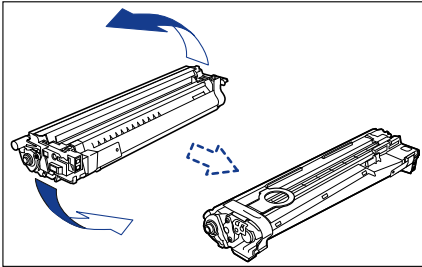
d Remove the packing material attached with tape (B) (1 piece) shown in the figure.

Remove the tape ① and packing material at the same time. If the packing material cannot be removed, tilt the packing material ②, and then remove it ③.

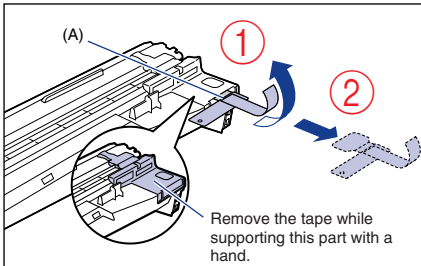


Continuation of "If a packing material is provided"

- e Turn the drum cartridge over gently to the original side.



- f Remove the packing material attached with tape (A) (1 piece) shown in the figure. Remove the tape ①, and then pull the packing material out ②. Remove the tape gently while supporting the blue shutter with a hand.

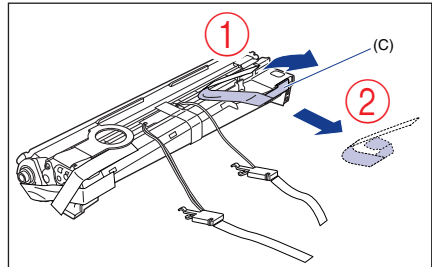


IMPORTANT

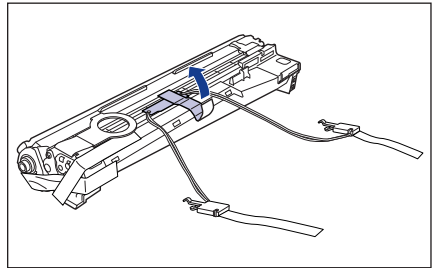
Dispose of the packing materials according to local regulations.

Continuation of "If tape is provided"

- e Remove the packing material attached with tape (C) (1 piece) shown in the figure. Remove the tape ①, and then pull the packing material out ②.



- f Remove the tape (1 piece) and tags (2 pieces) shown in the figure.

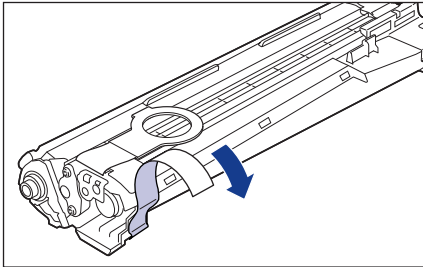


IMPORTANT

Dispose of the packing materials according to local regulations.

Continuation of "If a packing material is provided"

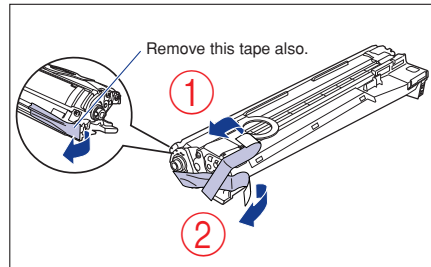
g Remove the tape (1 piece) shown in the figure.



h Proceed to Step 4.

Continuation of "If tape is provided"

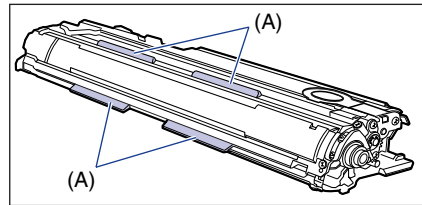
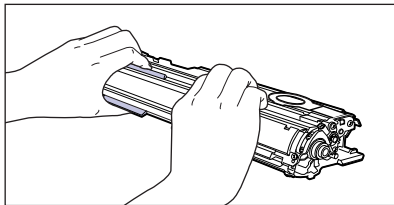
g Remove the tape (3 pieces) shown in the figure in order of ① and ②.



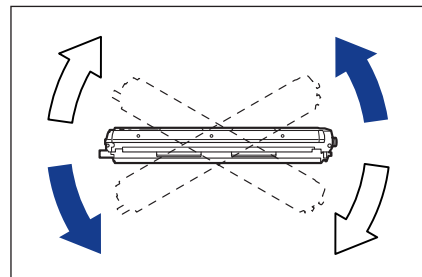
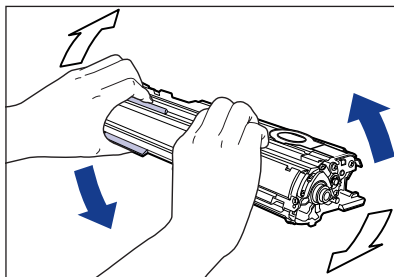
h Proceed to Step 4.

4 Hold the blue tabs (A) of the drum cartridge and shake it up and down 10 to 12 times each as shown in the figure to evenly distribute the developer inside the cartridge.

Hold the blue tabs of the drum cartridge.



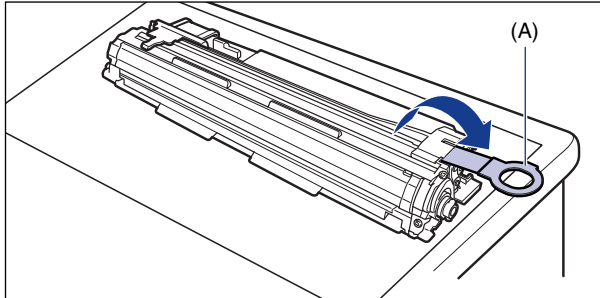
Shake the drum cartridge up and down 10 to 12 times each as shown in the figure.



IMPORTANT

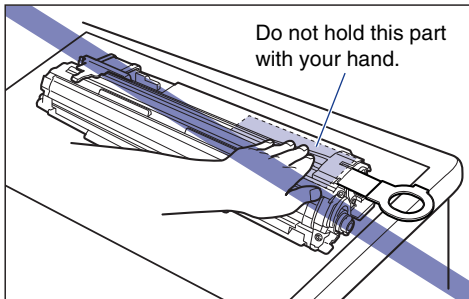
If the developer is not distributed evenly, this may result in deterioration in print quality. Be sure to carry out this procedure properly.

- 5** Place paper on a flat surface, place the drum cartridge on it, and then fold back the tab (A) of the sealing tape as shown in the figure.

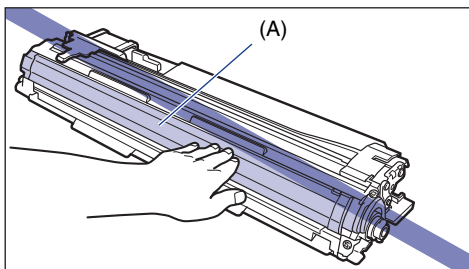


IMPORTANT

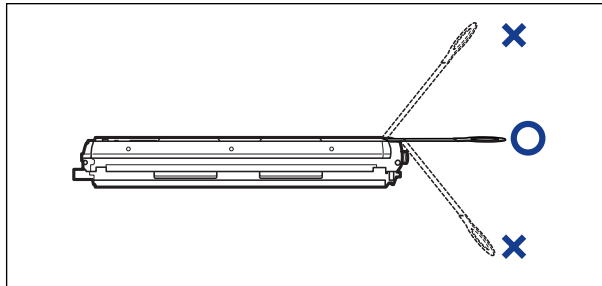
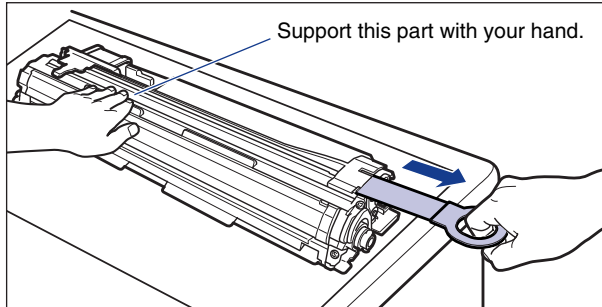
- When placing the drum cartridge, be sure to place paper under the drum cartridge to prevent a desk or others from being damaged by the bottom of the drum cartridge.
- When pulling the sealing tape out, do not hold the area near the mouth of the sealing tape with your hand. If the tape is severed, it may become difficult to pull out completely.



- When pulling the sealing tape out, be careful not to hold the drum protective shutter (A) with your hands.

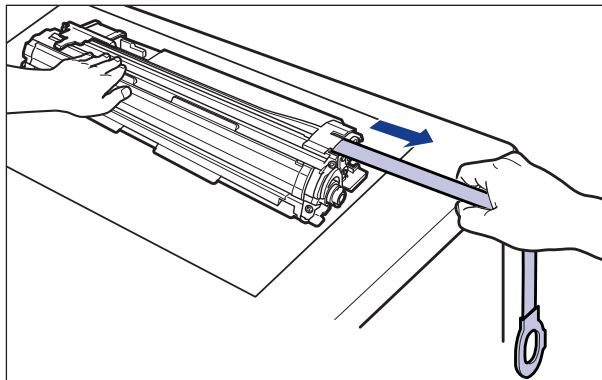


- 6** Pull the sealing tape (approx. 70 cm long) out gently and horizontally while supporting the drum cartridge. When pulling the sealing tape out, you may feel it to be heavy. However, because this is not printer malfunction, pull the sealing tape out completely.



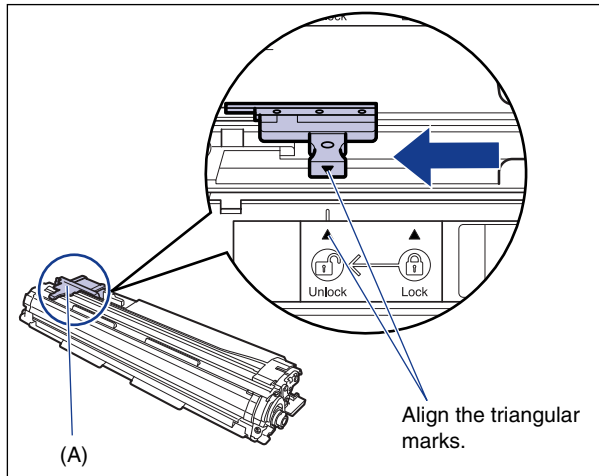
IMPORTANT

- If it is difficult to pull the sealing tape out by the tab, hold the tape and pull it out as shown in the figure. However, your hands may become dirty as toner is on the sealing tape.

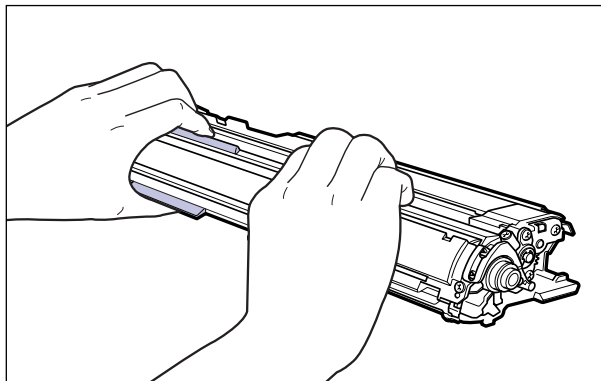


- Do not pull the sealing tape diagonally, upwards, or downwards. If the tape is severed, it may become difficult to pull out completely.
- Pull out the sealing tape completely from the drum cartridge. If any tape remains in the drum cartridge, this may result in poor print quality.
- Dispose of the removed sealing tape according to local regulations.

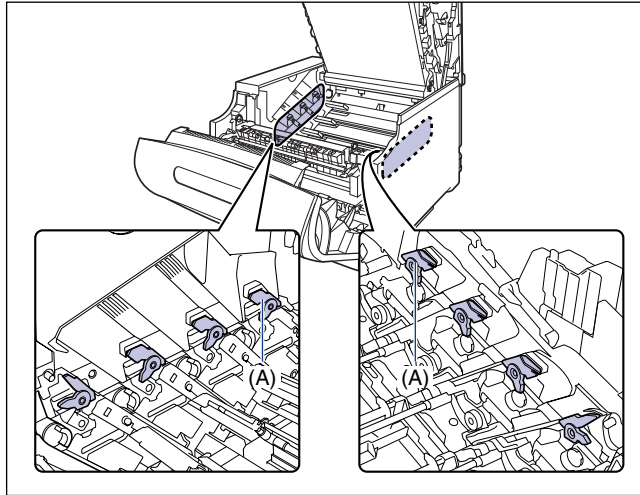
7 Before installing the drum cartridge, align the triangular mark on the lock release lever (A) with the triangular mark of "Ⓜ" on the label as shown in the figure.



When installing the drum cartridge, hold the blue tabs as shown in the figure.

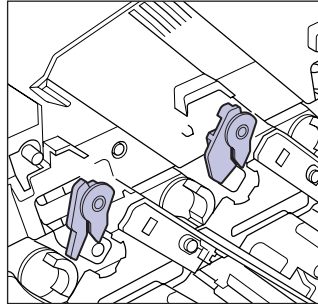


- 8** Make sure that the levers (A) near the drum cartridge guides on the both sides are in the proper position as shown in the figure.

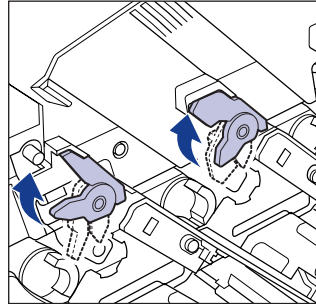


If the levers are not in the proper position, the drum cartridges cannot be installed. Raise the levers to the proper position as shown in the figure.

- Incorrect position

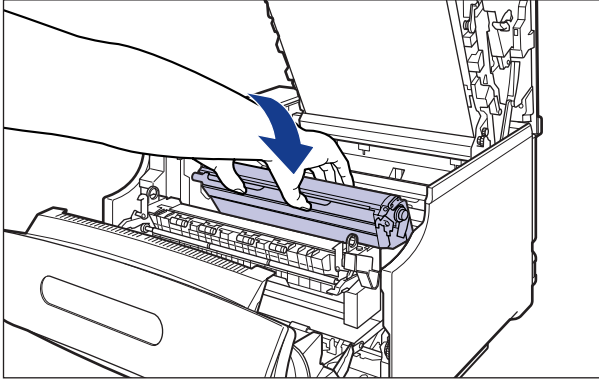


- Correct position



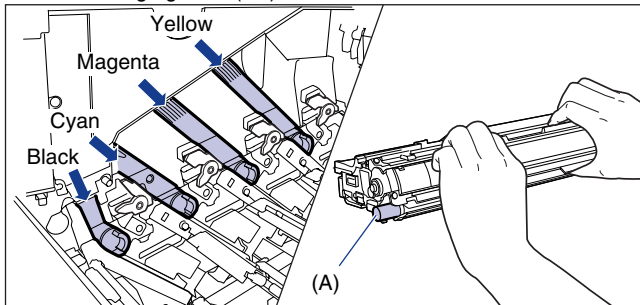
9 Install the drum cartridge in the printer.

Insert the drum cartridge firmly until it touches the back of the printer.

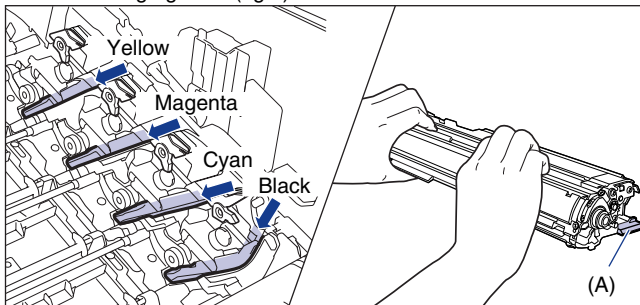


Insert the projections (A) on each side of the drum cartridge into the drum cartridge guides as shown in the figure.

- Drum cartridge guides (left)



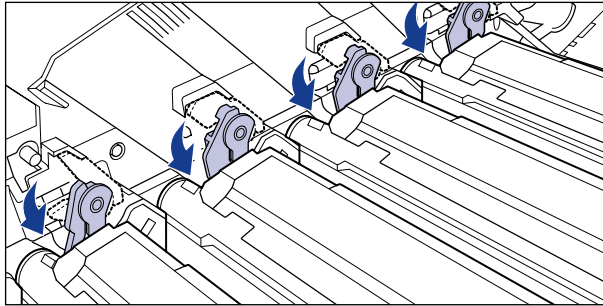
- Drum cartridge guides (right)



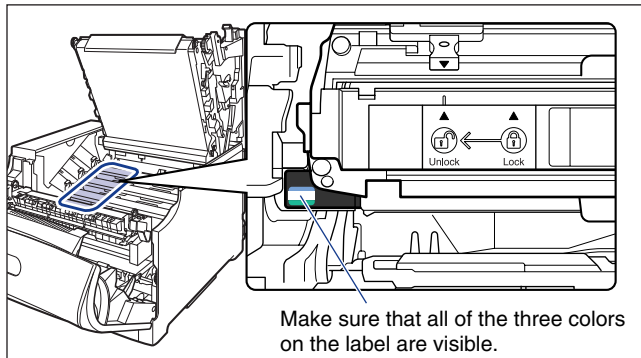
IMPORTANT

Insert the drum cartridges firmly until they touch the back of the printer. If the drum cartridges are not installed firmly, this may result in poor print quality.

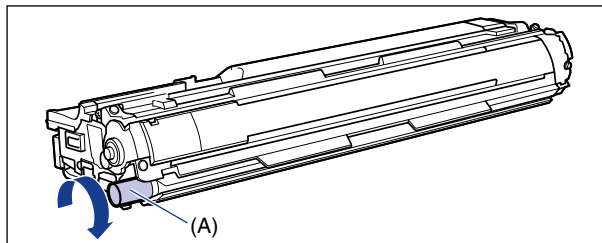
- 10** Make sure that the levers near the drum cartridge guides on the both sides are in the proper position as shown in the figure.



- 11** Make sure that the labels on the projections of the drum cartridge are visible.

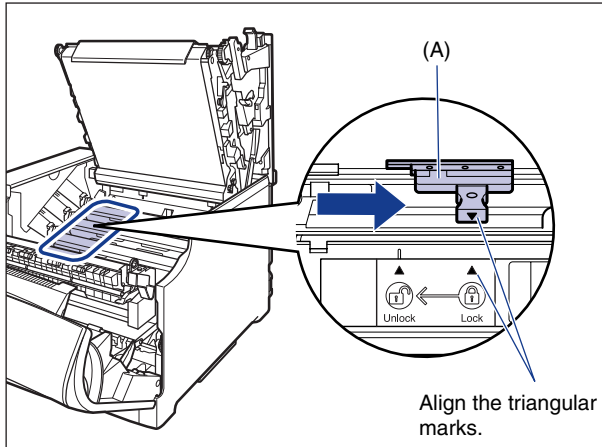


If you cannot see any of the three colors on the label from the front, take out the drum cartridge once, turn the projection (A) in the direction of the arrow until it clicks and stops, and then reinstall the cartridge.



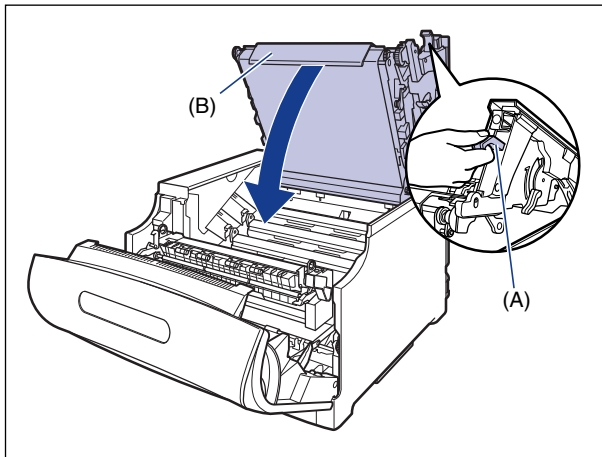
12 Slide the blue lock release lever (A) to the position of "🔒" to lock the drum cartridge.

Slide the lock release lever until the triangular mark on the lock release lever aligns with the triangular mark on the label.

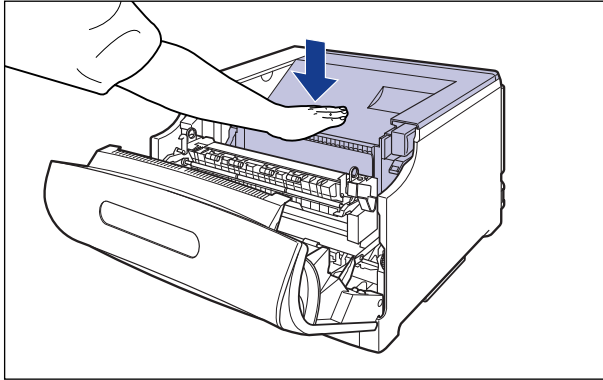


13 Close the top cover.

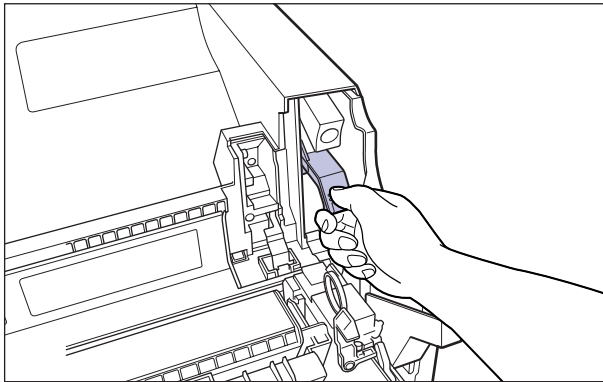
Close the top cover of the printer while holding it by the lever (A) gently. If you close the top cover forcefully, the ITB unit cover (B) may not move back to the original position, and this may result in damage to the printer.



By pressing the portion indicated "PUSH", close the top cover firmly until it cannot be pressed down any further as shown in the figure.



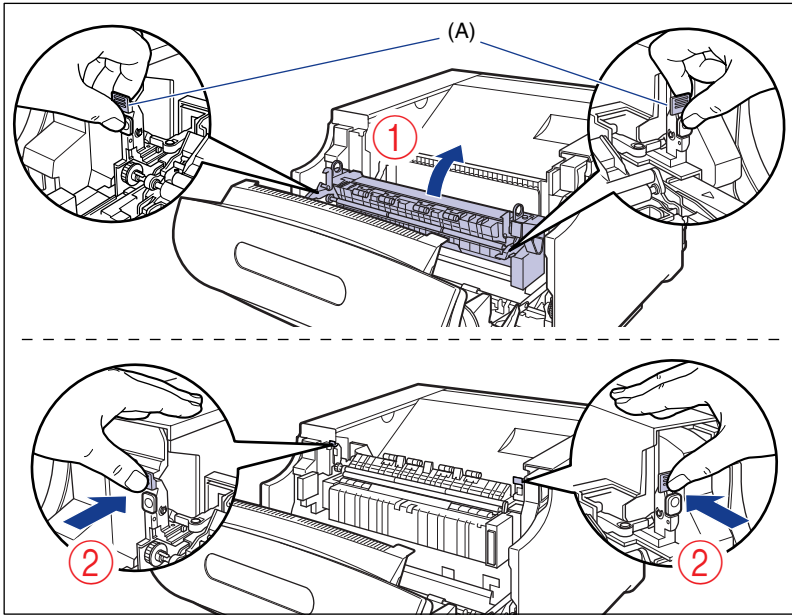
- 14** By holding the lever as shown in the figure, make sure that the top cover does not open.



IMPORTANT

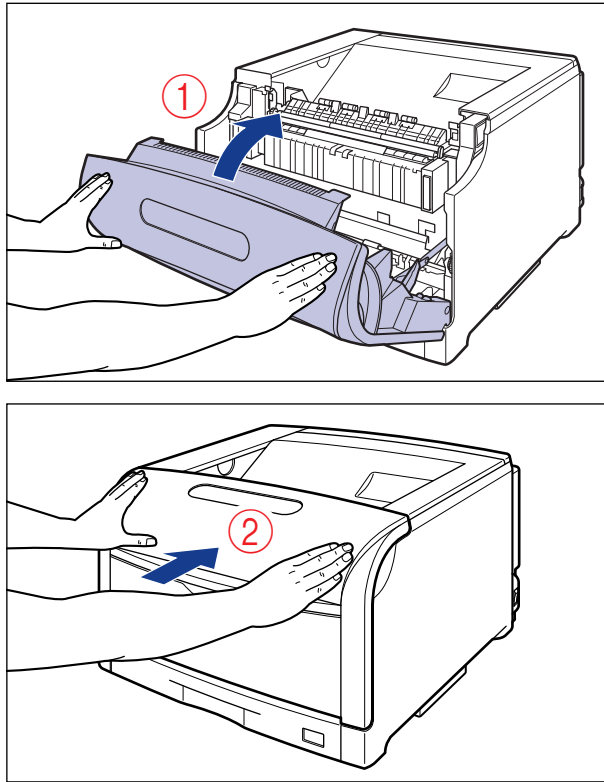
Close the top cover firmly until it cannot be pressed down any further. If the top cover is not closed firmly, this may result in poor print quality.

- 15** While holding the tabs (A), move the fixing unit back to its original position ①, and then press the tabs on the both sides as shown in the figure ②.



16 Close the front cover.

While supporting the front cover ①, push and close the front cover with both hands as shown in the figure ②.



CAUTION

Push the front portion of the front cover to close it as shown in the figure. If closing the front cover by the levers on the both sides, you may catch your fingers, resulting in personal injury.

Precautions for Handling Drum Cartridges

A drum cartridge consists of light-sensitive components and intricate mechanical components. Handling the drum cartridge without due care may lead to damage to the drum cartridge or deterioration in print quality. Be careful of the following points when removing or installing the drum cartridge.

WARNING

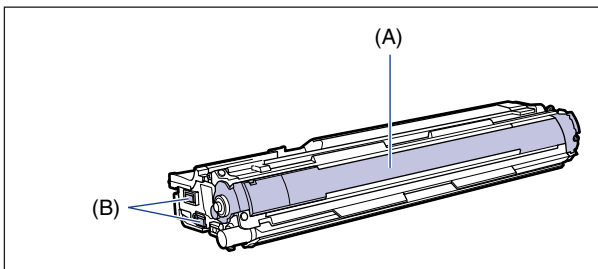
- Do not throw a used drum cartridge into open flames, as this may cause the toner remaining inside the cartridge to ignite, resulting in burns or a fire.
- The drum cartridge generates a low level magnetic field. If you use a cardiac pacemaker and feel abnormalities, please move away from the drum cartridge and consult your physician immediately.

CAUTION

Take care not to allow the toner to come into contact with your hands or clothing, as this will dirty your hands or clothing. If they become dirty, wash them immediately with cold water. Washing with warm water will set the toner and make it impossible to remove the toner stains.

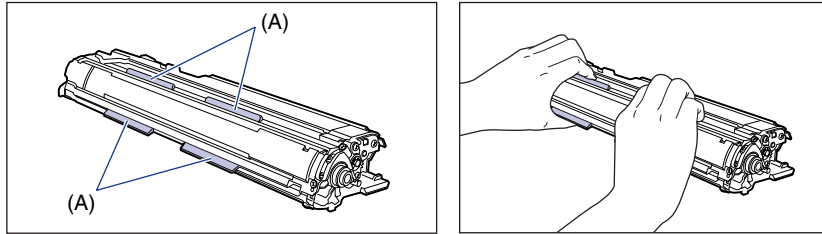
IMPORTANT

- Print quality may deteriorate if you touch or damage the photosensitive drum inside the drum cartridge. Be sure not to touch or open the drum protective shutter (A). Be careful not to hold or touch areas that are not specified in this procedure, such as the electrical contacts (B). This may result in damage to the cartridge.

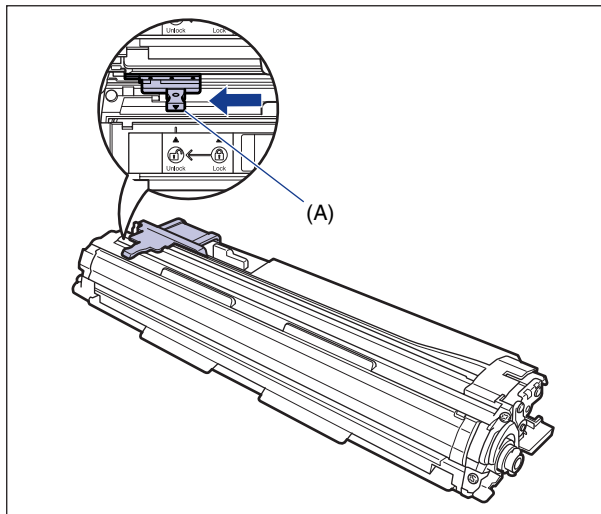


- Do not expose the drum cartridge to direct sunlight or strong light.
- Keep the drum cartridge away from products that generate magnetic waves, such as a display or computer.
- A drum cartridge is a magnetic product. Keep the drum cartridges away from products that may be damaged by magnetic waves, such as a floppy disk or disk drive. This may lead to damage to data.
- When you take the drum cartridge out of the printer for servicing the printer, place the drum cartridge into the original protective bag immediately.

- When handling a drum cartridge, hold the blue tabs (A) properly as shown in the figure. Do not place it vertically or upside-down.



- When handling a drum cartridge, make sure that the blue lock release lever (A) is at the position of "Ⓐ".



- Do not attempt to disassemble or modify the drum cartridge.
- Condensation may form in and on a drum cartridge if it is brought into an environment that exposes it to sudden changes in temperature and/or humidity. If you move the drum cartridge to a location that is warmer or has higher humidity, leave the cartridge in the new location for 2 hours or longer without opening the protective bag to allow it to adjust to the new temperature.

Storing Drum Cartridges

Be careful of the following points when storing a new drum cartridge or handling a drum cartridge that has been taken out of the printer for maintenance or moving the printer.

IMPORTANT

- Do not take a new drum cartridge out of the protective bag until it is ready to be used.
- When you take the drum cartridge out of the printer for servicing the printer or other purposes, place the drum cartridge into the original protective bag, or wrap it with a thick cloth immediately.
- Do not store the drum cartridge in a place exposed to direct sunlight.
- Do not store cartridges in a hot or humid place, or a place where the temperature and humidity can change significantly.
Storing environment temperature: 0 to 35 °C (32 to 95 °F)
Storing humidity range: 35 to 85 % RH (no condensation)
- Do not store the drum cartridge in a place where corrosive gases, such as ammonia, are generated, or where a considerable amount of salt is contained in the air, or where there is a lot of dust.
- Keep the drum cartridge out of the reach of small children.

■ Condensation

Even within the storable humidity range, water droplets may develop both inside and outside of the drum cartridge due to the difference in temperature. The development of water droplets is called condensation. Condensation will adversely affect the quality of the drum cartridge.

Replacing the Fixing Unit

This section describes how to replace the fixing unit.

Contact your local authorized Canon dealer to obtain replacement fixing unit.

When the Message <PREP.FIX.UNIT> Appears

When the counter of the fixing unit reaches the stipulated value, the message <E5 PREP.FIX.UNIT> appears. You can continue printing, however, the print quality will deteriorate. When <E5 PREP.FIX.UNIT> appears and the print quality deteriorates, it is recommended that you replace the fixing unit with a new one. Although the fixing unit is a periodical replacement part, you can replace it as needed.

NOTE

The lifetime of the fixing unit (Canon Genuine Fixing Unit) designed for this printer is approximately 150,000 pages when performing 1-sided printing on A4 size paper.

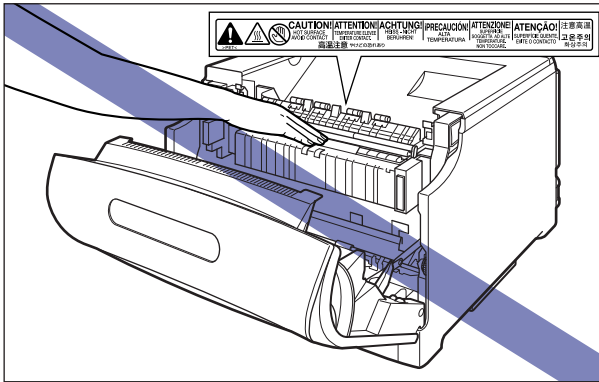
Precautions on Replacing the Fixing Unit

WARNING

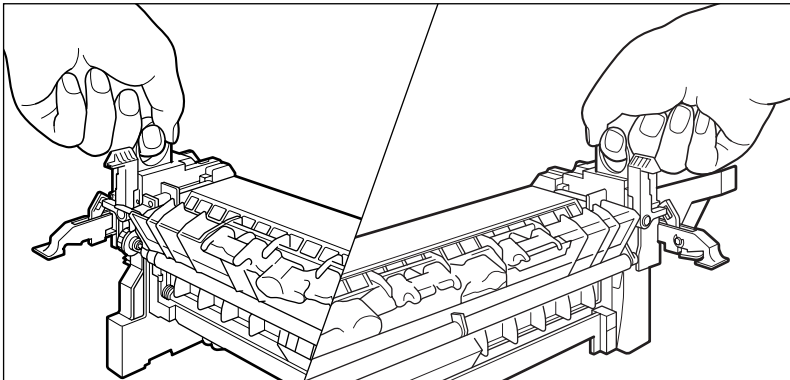
There are some areas inside the printer which are subject to high-voltages. When removing jammed paper or when inspecting the inside of the printer, do not allow necklaces, bracelets, or other metal objects to touch the inside of the printer, as this may result in burns or electrical shock.

⚠ CAUTION

- The fixing unit and its surroundings inside the printer are hot during use. Make sure the fixing unit is completely cool before replacing it. Touching the fixing unit when it is still hot may result in burns.



- The fixing unit weighs approximately 2.9 kg. When carrying the fixing unit, hold the tabs on both sides with both hands securely. If you drop the fixing unit on your feet, this may result in personal injury.



🖐 IMPORTANT

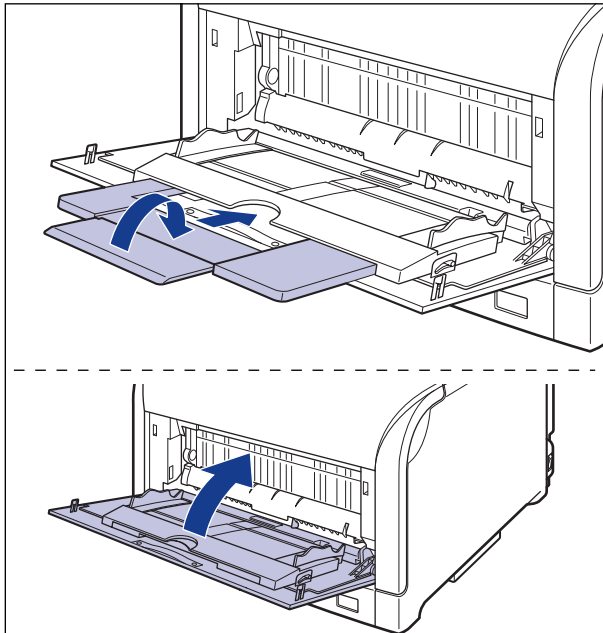
- Reset the counter after replacing the fixing unit.
 - "Resetting the Counter of the Fixing Unit" (See p. 6-52)
- Be careful not to hold or touch areas that are not specified in this procedure, such as the roller in the fixing unit. This may result in deterioration in print quality or damage to the fixing unit.
- Dispose of the packing materials according to local regulations.

📝 NOTE

The packing materials may be changed in form or position to be placed, or may be added or removed without notice.

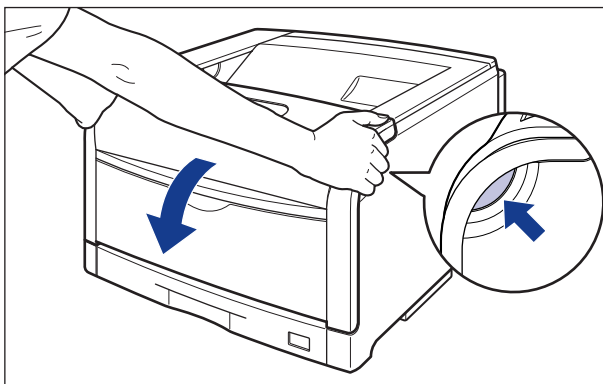
Replacing the Fixing Unit

- 1** If you are using the multi-purpose tray, close it.



- 2** Open the front cover.

While pressing the lever on the right side of the front cover, open the front cover toward you.

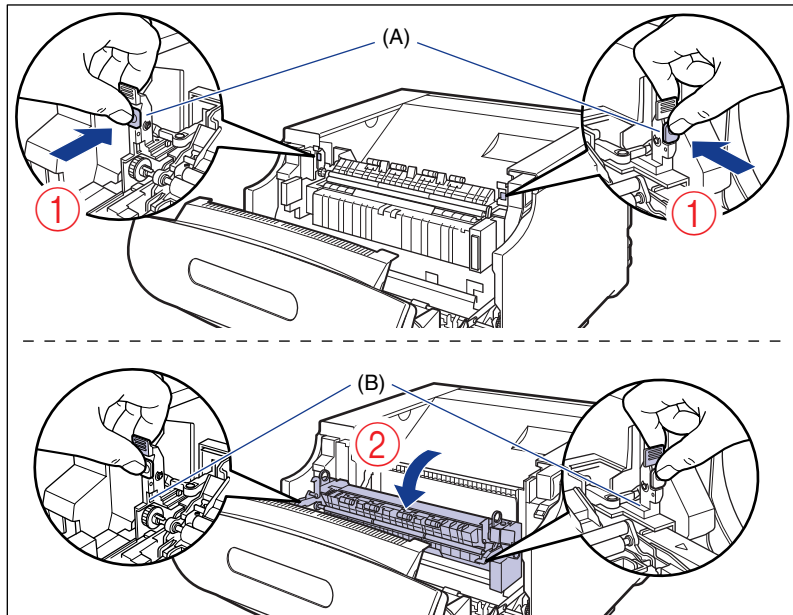


IMPORTANT

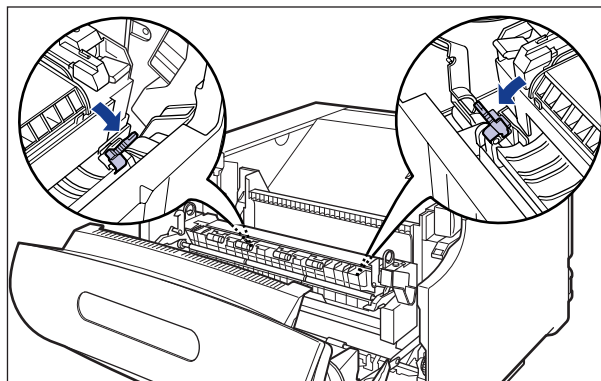
Before opening the front cover, make sure that the multi-purpose tray and the paper cassette of the printer are closed.

3 Tilt the fixing unit toward you.

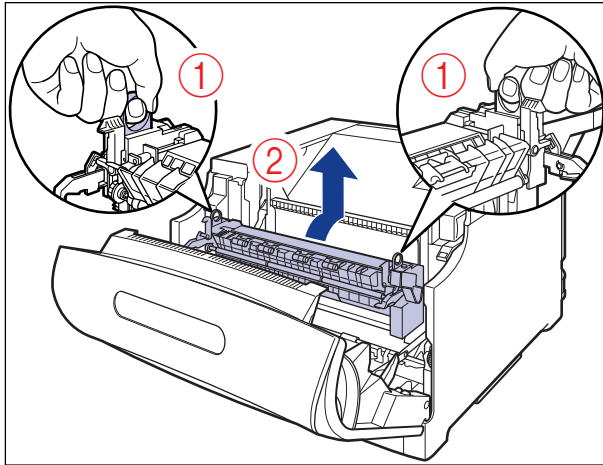
While pressing the green lock release buttons (A) on the left and right side of the fixing unit ①, hold the tabs (B) and tilt the fixing unit toward you ② as shown in the figure.



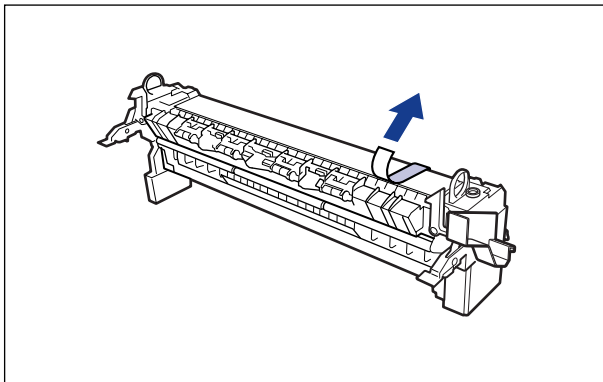
4 Tilt the lock release levers located on both sides of the back of the fixing unit in the direction of the arrows to release the lock.



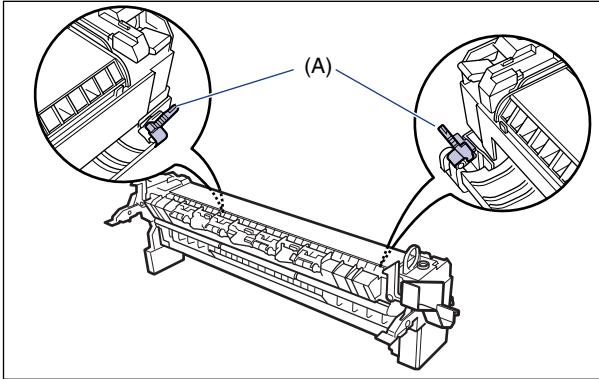
- 5** Hook your fingers into the tabs on both sides of the fixing unit
①, tilt them backward a little, and then remove the fixing unit
②.



- 6** Take the new fixing unit out of the protective bag.
- 7** Remove the tape attached to the fixing unit.

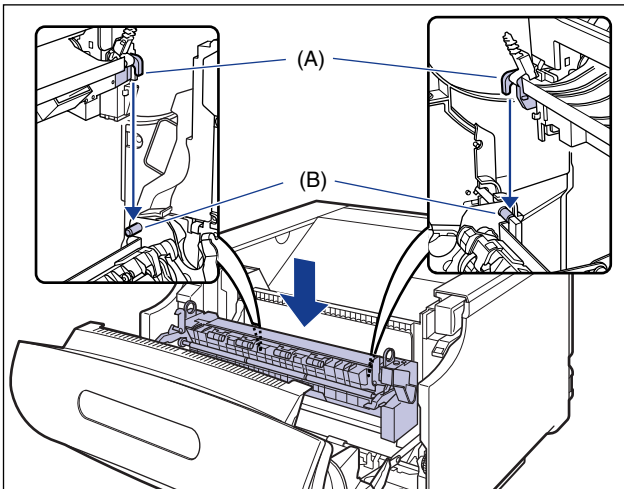


Make sure that the lock release levers (A) located on both sides of the back of the fixing unit are tilted.

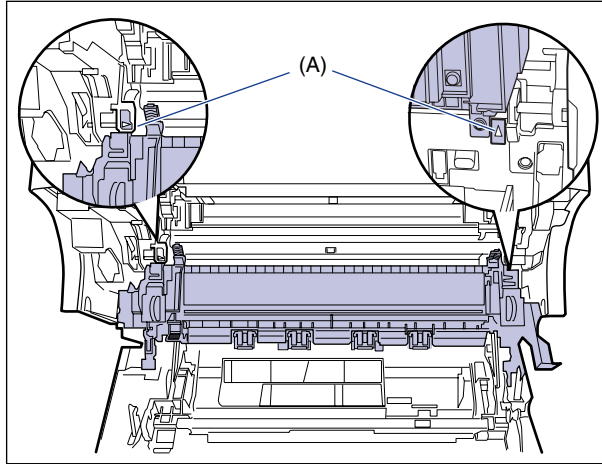


8 Install the fixing unit in the printer.

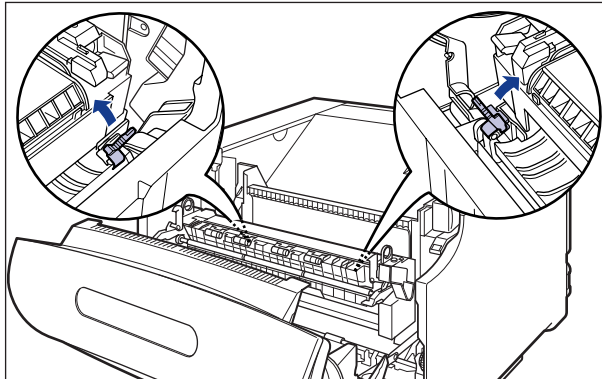
Hang the hooks of the fixing unit (A) on the projections on the printer (B) as shown in the figure.



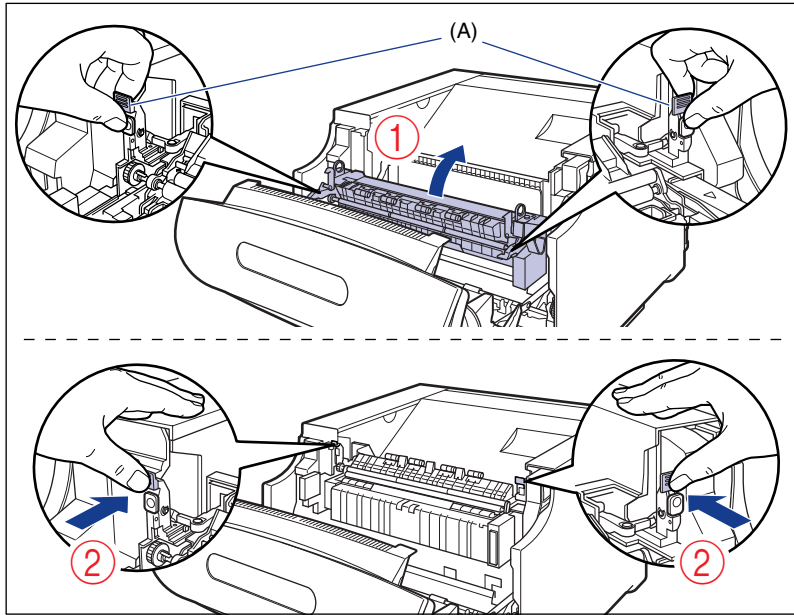
Hang the hooks on the projections at the inner side of the triangular marks (A).
Make sure that they are hooked properly.



- 9** Tilt the lock release levers located on both sides of the back of the fixing unit in the direction of the arrows to lock the fixing unit.

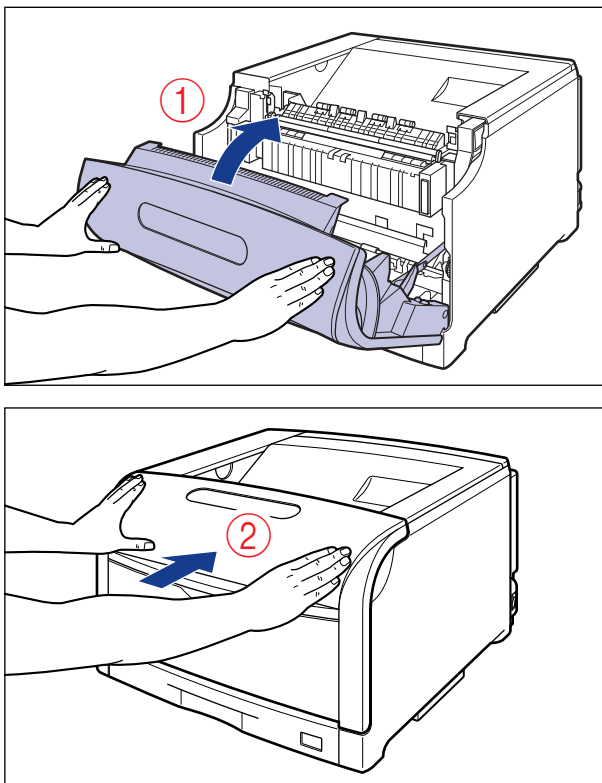


- 10** While holding the tabs (A), move the fixing unit back to its original position ①, and then press the tabs on the both sides as shown in the figure ②.



11 Close the front cover.

While supporting the front cover ①, push and close the front cover with both hands as shown in the figure ②.



CAUTION

Push the front portion of the front cover to close it as shown in the figure. If closing the front cover by the levers on the both sides, you may catch your fingers, resulting in personal injury.

After replacing the fixing unit, reset the counter of the fixing unit following the procedure in "Resetting the Counter of the Fixing Unit" (See p. 6-52).

Resetting the Counter of the Fixing Unit

After replacing the fixing unit, reset the counter using the following procedure in order to clear the message <E5 PREP.FIX.UNIT> displayed in the control panel.

IMPORTANT

Perform this operation only after replacing the fixing unit. If you reset the counter without replacing the fixing unit, the counter does not operate properly, resulting in damage to the printer.

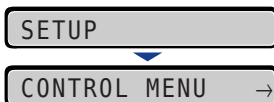


1 Press [Online].

The Online indicator goes off, allowing you to specify the settings on the control panel.



2 Press [Settings].



3 Select USER MAIN. using [◀] and [▶], then press [OK].



The options for USER MAIN. are displayed.



4 Select INIT.COUNTER using [◀] and [▶], then press [OK].



The settings for initializing the counter are displayed.



5 Press [OK].

FIXING UNIT

OK?

A confirmation message is displayed.



6 Press [OK].

The printer does not initialize the counter if you press [Online] without pressing [OK].

INITIALIZING

DONE



7 Press [Online].

The Online indicator comes on, and the message <E5 PREP.FIX.UNIT> displayed in the display disappears.

Replacing the Waste Toner Container

This section describes the procedure for replacing the waste toner container.

Contact your local authorized Canon dealer to obtain replacement waste toner container.

When the Message <PRE.WST.T.CTN>/<CHG.WST.T.CTN> Appears

When the waste toner container is filled to capacity, a message appears on the display. Follow the directions in the message.

| Message | When it is Displayed | Contents and Remedies |
|------------------|--|---|
| E1 PRE.WST.T.CTN | When the waste toner container needs to be replaced soon | <ul style="list-style-type: none">- You can continue to print.- Have ready a new waste toner container. |
| E1 CHG.EST.T.CTN | When the waste toner container is full | <ul style="list-style-type: none">- The printer stops printing.- Replace the waste toner container with a new one. |



IMPORTANT

You cannot reinstall a waste toner container for which the message <E1 PRE.WST.T.CTN> or <E1 CHG.WST.T.CTN> has appeared after you remove it from the printer. If you do so, the toner inside the container may spill out. Be sure to replace the waste toner container with a new one.



NOTE

- The waste toner container (Canon Genuine Waste Toner Container) for this printer will be filled to capacity after printing approximately 6,200 pages. The numbers of the pages are estimated when printing in the following conditions. Paper size: A4; Paper type: Plain paper; Printing ratio: 5 %; Print density: the default; 2-sheet intermittent/1-sided Printing
- Depending on the printing preferences or printing environment such as the intermittent printing, paper type, paper size, and 1-sided / 2-sided printing, the number of pages you can print may be half the number.

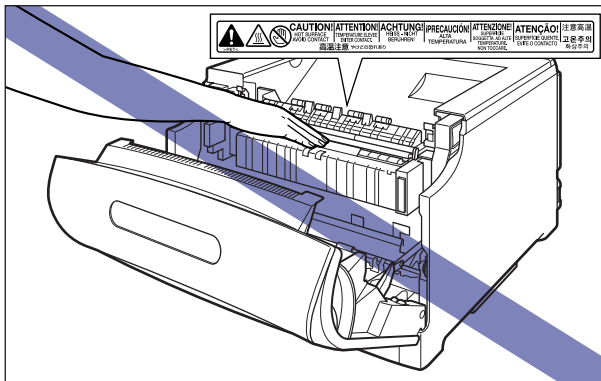
Precautions on Replacing the Waste Toner Container

WARNING

- Do not throw a used waste toner container into open flames, as this may cause the toner remaining inside the waste toner container to ignite, resulting in burns or a fire.
- There are some areas inside the printer which are subject to high-voltages. When removing jammed paper or when inspecting the inside of the printer, do not allow necklaces, bracelets, or other metal objects to touch the inside of the printer, as this may result in burns or electrical shock.

CAUTION

- Take care not to allow the toner to come into contact with your hands or clothing, as this will dirty your hands or clothing. If they become dirty, wash them immediately with cold water. Washing with warm water will set the toner and make it impossible to remove the toner stains.
- The fixing unit and its surroundings inside the printer are hot during use. Do not touch the fixing unit and its surroundings, as doing so may result in burns.



IMPORTANT

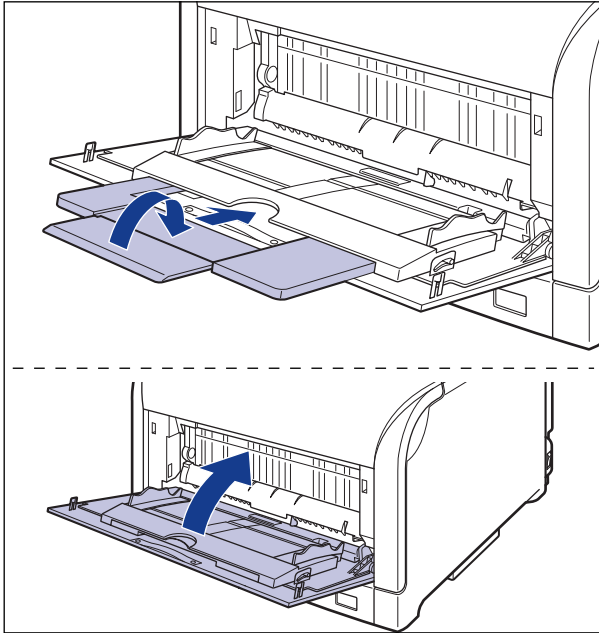
- Be sure to use the waste toner container designed for this printer.
- You cannot reinstall a waste toner container for which the message <E1 PRE.WST.T.CTN> or <E1 CHG.WST.T.CTN> has appeared after you remove it from the printer. If you do so, the toner inside the container may spill out. Be sure to replace the waste toner container with a new one.
- Waste toner cannot be reused. Do not mix the waste toner with new one.

NOTE

The packing materials may be changed in form or position to be placed, or may be added or removed without notice.

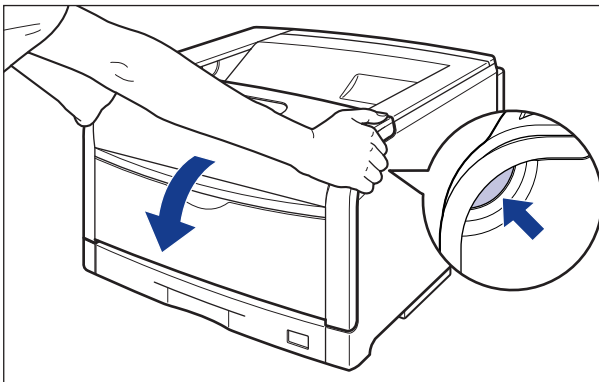
Replacing the Waste Toner Container

- 1** If you are using the multi-purpose tray, close it.



- 2** Open the front cover.

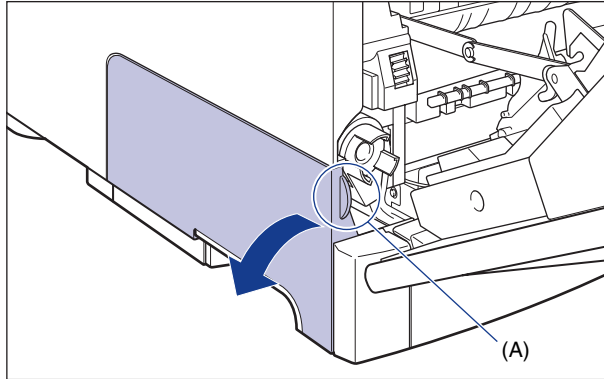
While pressing the lever on the right side of the front cover, open the front cover toward you.



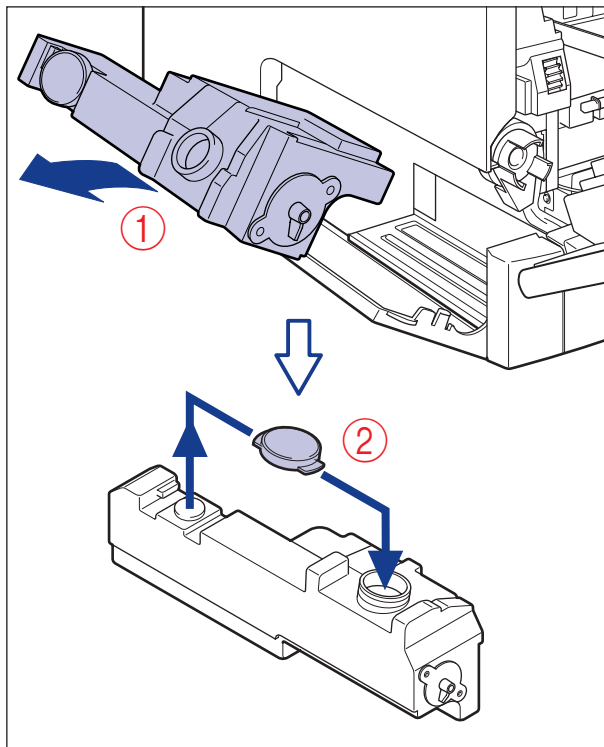
IMPORTANT

Before opening the front cover, make sure that the multi-purpose tray and the paper cassette of the printer are closed.

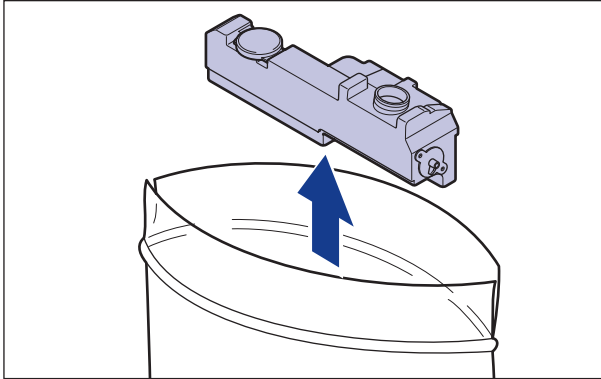
3 Open the waste toner cover while holding it by the tab (A).



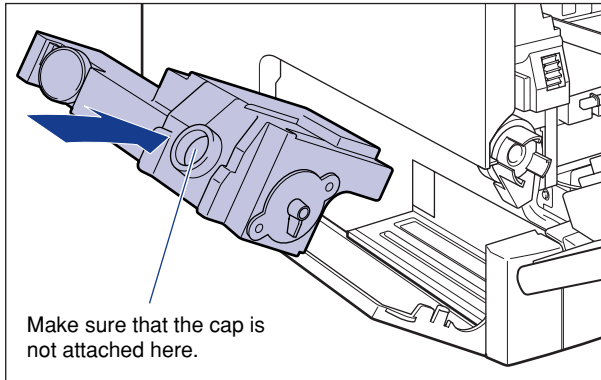
4 Remove the used waste toner container ①, then attach the supplied cap ②.



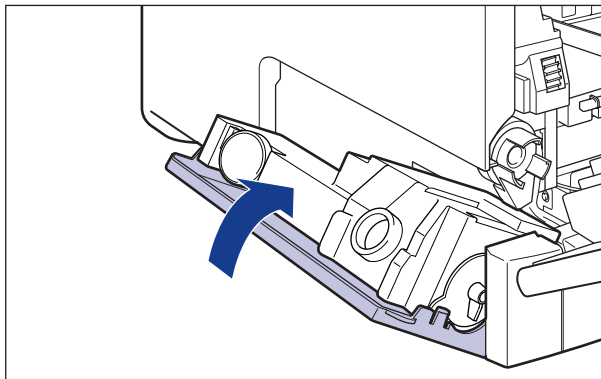
5 Take the new waste toner container out of the protective bag.



6 Install the waste toner container in the printer.

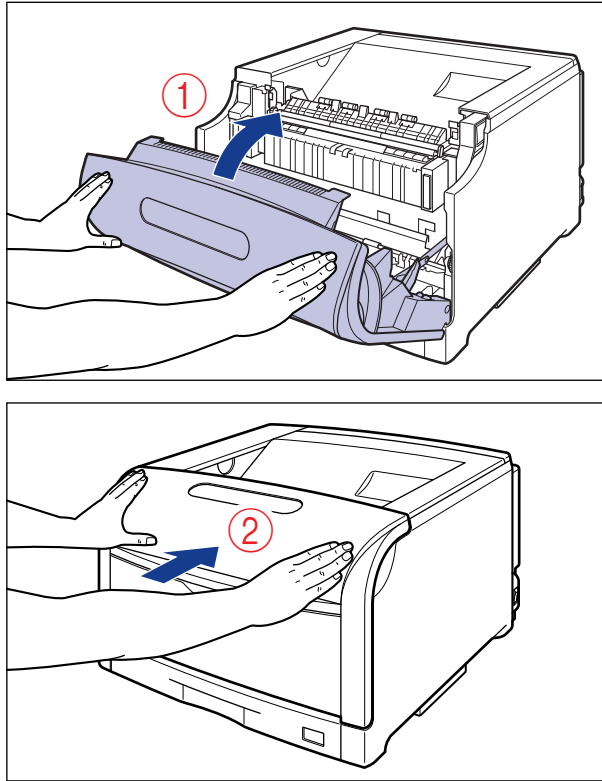


7 Close the waste toner cover.



8 Close the front cover.

While supporting the front cover ①, push and close the front cover with both hands as shown in the figure ②.



CAUTION

Push the front portion of the front cover to close it as shown in the figure. If closing the front cover by the levers on the both sides, you may catch your fingers, resulting in personal injury.

● Used Waste Toner Container

Place the used waste toner container into the protective bag in which the new one was contained, and then seal the bag.

Cleaning the Transfer Belt of the ITB Unit

If the print quality deteriorates due to the transfer belt of the ITB unit being touched, clean the transfer belt of the ITB unit using the following procedure.

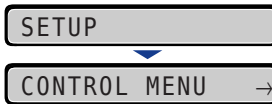


1 Press [Online].

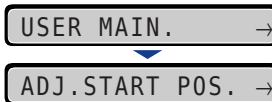
The Online indicator goes off, allowing you to specify the settings on the control panel.



2 Press [Settings].



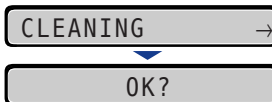
3 Select USER MAIN. using [◀] and [▶], then press [OK].



The options for USER MAIN. are displayed.



4 Select CLEANING using [◀] and [▶], then press [OK].



A confirmation message is displayed.

The message <01 CLEANING> is displayed, and the printer starts cleaning the transfer belt of the ITB unit.

NOTE

- Cleaning takes approximately 180 seconds.
- The cleaning process cannot be canceled. Please wait until it is completed.



5 Press [OK].

01 CLEANING

Adjusting the Printing Position

If the printing position is skewed when printing from a certain paper source, you can adjust the position from the control panel.

IMPORTANT

If any part of the print image lies outside the printable area after adjusting the printing position, the part will be missing in the print result.

NOTE

Be aware that, when adjusting the printing position for 2-sided printing, the orientation of the images on the reverse pages varies depending on the printing orientation or setting for BIND.LOCATION.

Checking the Printing Position

Perform the Printing Position Adjustment Print and check the position and direction to be adjusted.

IMPORTANT

When adjusting the printing position for 2-sided printing, set 2-SIDED PRINT. (See p. 5-38) to ON previously.

6

Routine Maintenance



1 Press [Feeder Selection].

When adjusting the printing position for 2-sided printing, select the desired paper source.



2 Select PAPER SOURCE using [◀] and [▶], then press [OK].

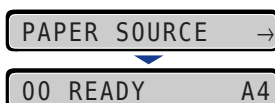




- 3** Select the paper source that you want to check the printing position using [◀] and [▶], then press [OK].



- 4** Press [Online].



- 5** Make sure that the printer is online.

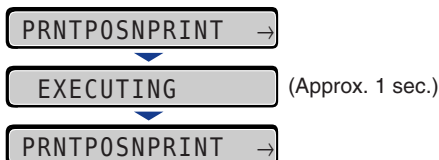
If the printer is not online, press [Online].



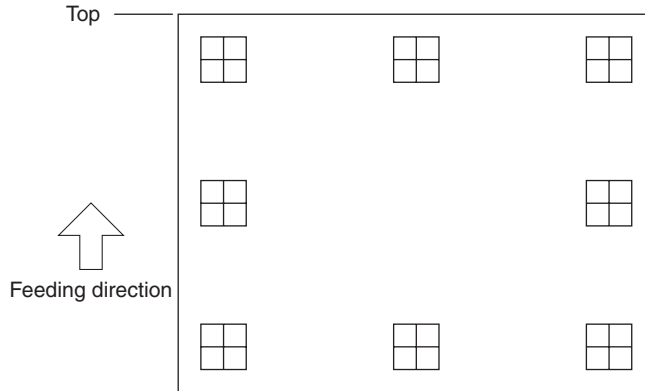
- 6** Press [Utility].



- 7** Select PRNTPOSNPRINT using [◀] and [▶], then press [OK].



The Printing Position Adjustment Print is printed as shown in the following. The top of the output paper is the top of the Printing Position Adjustment Print.



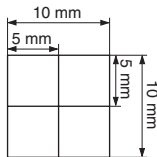
Next, check the printout results and specify the direction and position to be adjusted in "Adjusting the Printing Position" (See the next item).

6

Adjusting the Printing Position

Next, check the printout results of the Printing Position Adjustment Print and specify the direction and position to be adjusted.

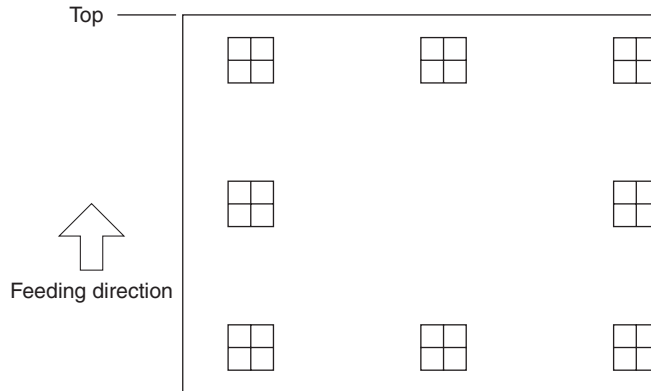
The measurements of "田" printed on paper are as the following:



*5 mm from each edge of paper

This section describes the setting procedure for the following Printing Position Adjustment Print printed with Cassette 1 specified, as an example.

In this case, adjust the printing position by -5.0 mm to the left.



IMPORTANT

Adjust the printing position in the vertical direction using OFFSET Y.

Adjust the printing position in the horizontal direction using OFFSET X for each paper source.

You can also adjust the printing position for 2-sided printing using OFFSET Y as well as OFFSET X for each paper source.

Additionally, if you want to adjust the printing position of only the surface of paper which is output to the output tray with the side facing down, use OFFSET X (DUP).

NOTE

The printing position can be adjusted within a range from -5.0 to +5.0 mm in the vertical direction and from -10.0 to +10.0 mm in the horizontal direction.

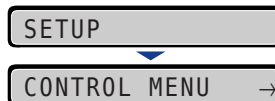


1 Press [Online].

The Online indicator goes off, allowing you to specify the settings on the control panel.



2 Press [Settings].





- 3** Select **USER MAIN.** using [◀] and [▶], then press [OK].



The options for USER MAIN. are displayed.



- 4** Select **ADJ. START POS.** using [◀] and [▶], then press [OK].



The settings for the printing position are displayed.



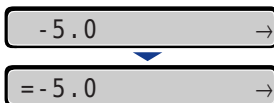
- 5** Select the paper source that you want to check the printing position using [◀] and [▶], then press [OK].



- 6** Specify the target numeric value using [◀] and [▶], then press [OK].

Next, check the printout results of the Printing Position Adjustment Print and select the numerical value to adjust the position.

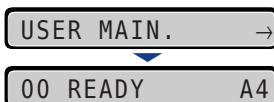
Each time you press [▶], the value increases in + 0.1 mm increments, and each time you press [◀], the value decreases in - 0.1 mm increments. If you keep holding down [▶] or [◀], the speed of the value changing is increased.



"=" is displayed on the left of the value, and the printing position is specified.



- 7** Press [Online].





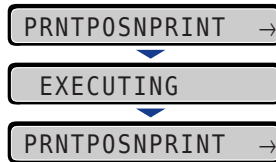
8 Press [Online] to place the printer online.



9 Press [Utility].



10 Select PRNTPOSNPRINT using [◀] and [▶], then press [OK].



(Approx. 1 sec.)

The printing position adjustment print in which the setting is changed is printed. Check the printout results to confirm the printing position.

To make further adjustment, repeat Step 1 to 10.

Cleaning the Outside of the Printer

Periodically clean the outer surfaces and ventilation slots of the printer to maintain the optimal printing quality. When cleaning the printer, be careful of the following points in order to prevent an electrical shock or printer malfunctions.

WARNING

- **When cleaning the printer, turn OFF the main power switch, and then unplug the power plug. Failure to observe these steps may result in a fire or electrical shock.**
- **Do not use alcohol, benzene, paint thinner, or other flammable substances. If flammable substances come into contact with electrical parts inside the printer, it may result in a fire or electrical shock.**

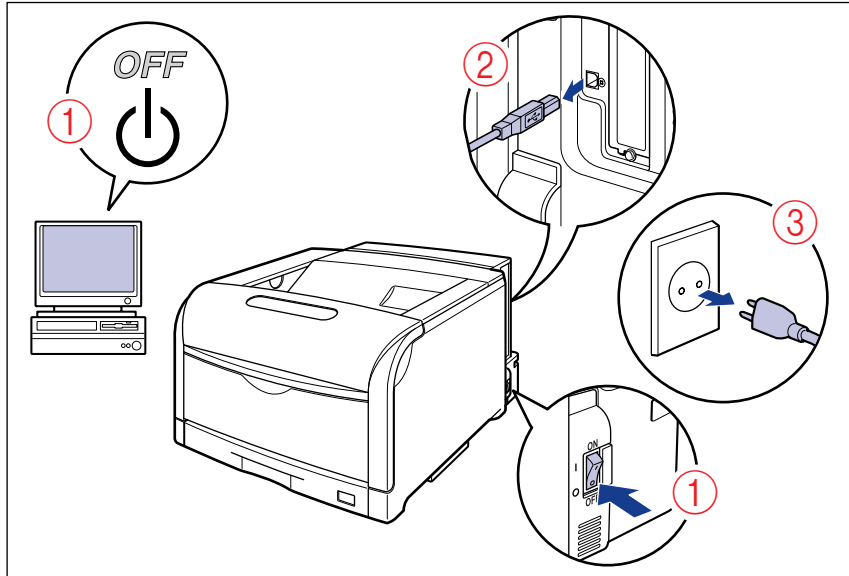
IMPORTANT

- Be careful not to use a cleaning agent other than water or a mild detergent diluted with water, as this may deform or crack the plastic materials in the printer.
- When using a mild detergent, be sure to dilute it with water.
- Grease or oil does not have to be applied to this printer. Be sure not to apply grease or oil.

1 Turn the printer and computer OFF ①, remove the USB cable ②, and then disconnect the power plug from the AC power outlet ③.

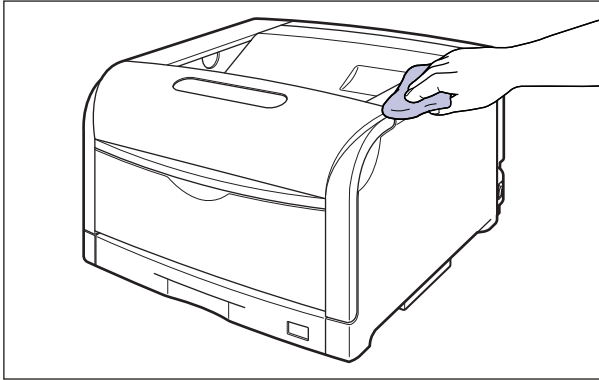
If you are using a hard disk, turn the printer OFF after performing a shutdown using the RESET menu.

If you are not using a hard disk, make sure that the Job indicator is off and that the printer is not printing by checking the display.



2 Firmly wring a soft cloth dampened with water or a mild detergent diluted with water, and wipe off the dirt.

If you use a mild detergent for cleaning, be sure to wipe away the detergent with a soft cloth dampened with water.



3 After wiping off the dirt, wipe the printer with a dry cloth.

4 When the printer is completely dry, plug the power plug into the AC power outlet, and then connect the USB cable.

Moving the Printer

When changing the location of the printer or moving the printer for maintenance, be sure to perform the following procedure.



IMPORTANT

Make sure that the front cover and multi-purpose tray are closed before carrying the printer.



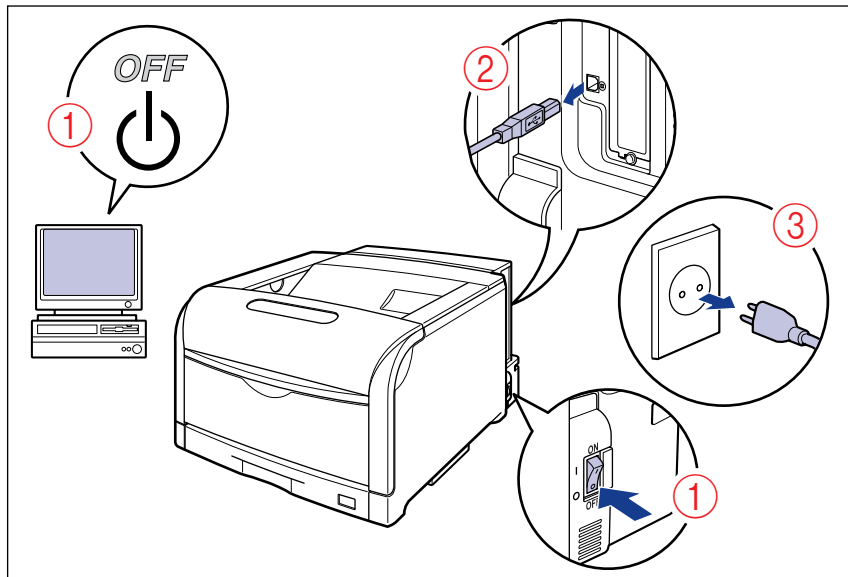
NOTE

For details on the installation site, see "Getting Started Guide".

- 1 Turn the printer and computer OFF ①, remove the USB cable ②, and then disconnect the power plug from the AC power outlet ③.**

If you are using a hard disk, turn the printer OFF after performing a shutdown using the RESET menu.

If you are not using a hard disk, make sure that the Job indicator is off and that the printer is not printing by checking the display.



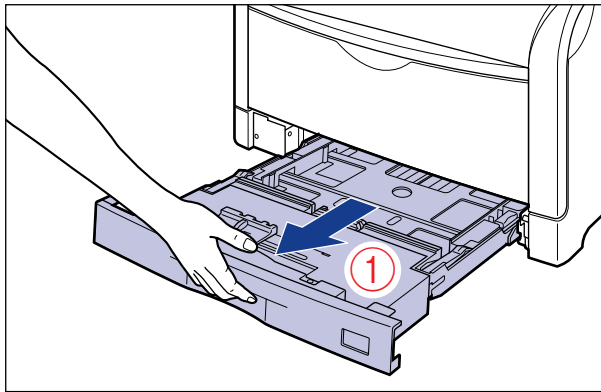
⚠ WARNING

Be sure to turn the printer and computer OFF, unplug the power plug, and then disconnect all the interface cables from the printer before moving the printer. Otherwise, the power cord or interface cables may be damaged, resulting in a fire or electrical shock.

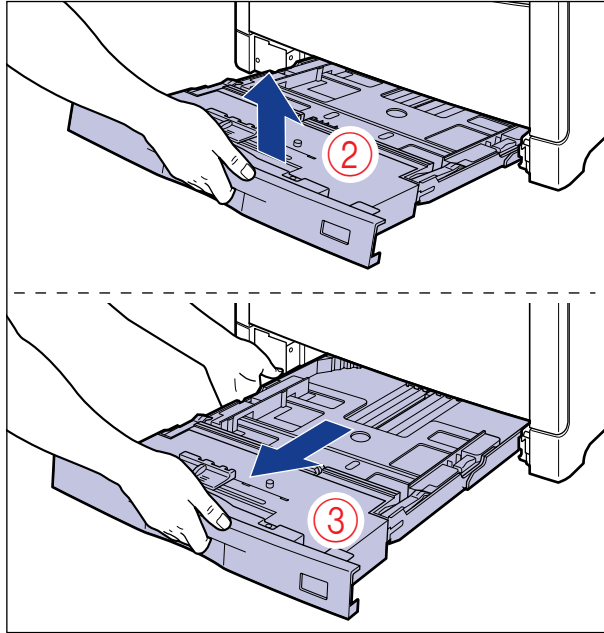
2 Remove all the interface cables and the power cord from the printer.

3 Pull out the paper cassette.

Pull the paper cassette out until it stops ①.



After lifting the paper cassette up a little ②, pull it out while supporting it with the other hand ③ as shown in the figures.

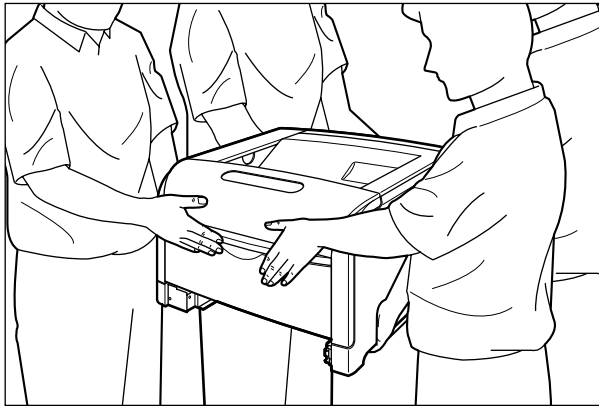
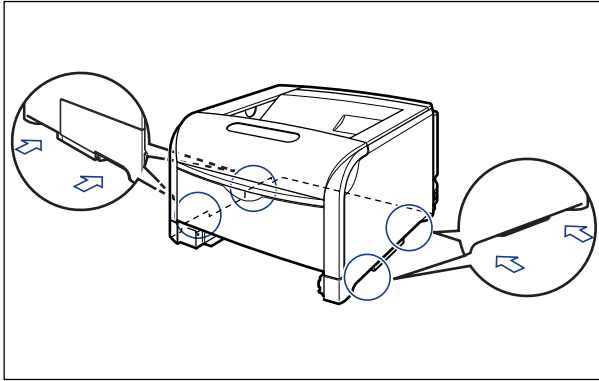


IMPORTANT

The paper cassette cannot be pulled out horizontally. If you try to pull it out forcefully, this may result in damage to the paper cassette.

4 Move the printer unit from the installation site.

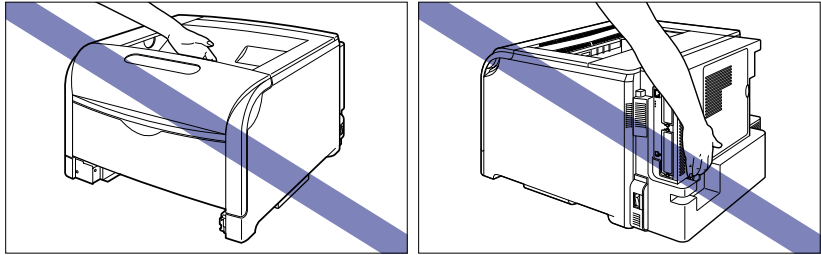
Carry the printer with 4 or more people by holding the lift handles on the lower portion of the printer and lifting it up at the same time.



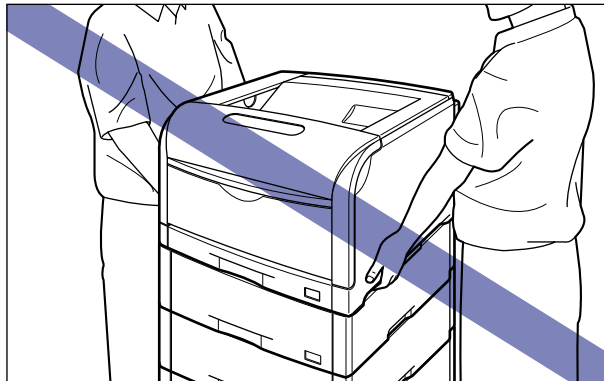
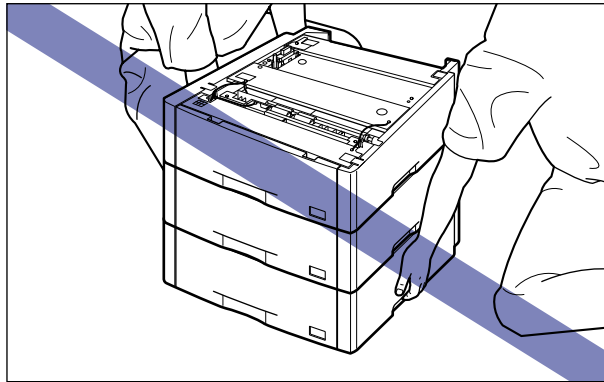
CAUTION

- The printer weight is approximately 55.7 kg without the paper cassette installed. The printer must be carried by 4 or more people, and care must be taken to avoid hurting your back or other portions of your body when carrying the printer.

- Be sure not to hold the printer by the front cover, multi-purpose tray, or any portions other than the lift handles. If you do so, you may drop the printer, resulting in personal injury.



- Do not carry the printer with the paper cassette attached. If you do so, the paper cassette may drop resulting in personal injury.
- Do not carry the printer with the paper feeders installed. If you do so, the paper feeders may drop resulting in personal injury.



 **NOTE**

If the optional paper feeder was previously installed in the printer, place the paper feeder on the new installation site before carrying the printer to the site. For details on the procedure for installing the paper feeder, see "Getting Started Guide".

5 Put the printer down carefully at the new installation site.

CAUTION

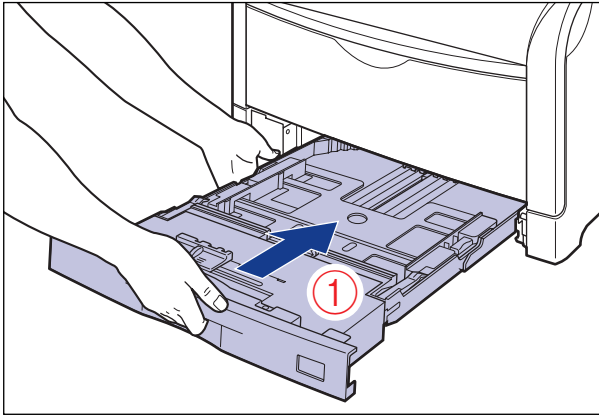
Put the printer down slowly and carefully. Be careful not to hurt your hands.

IMPORTANT

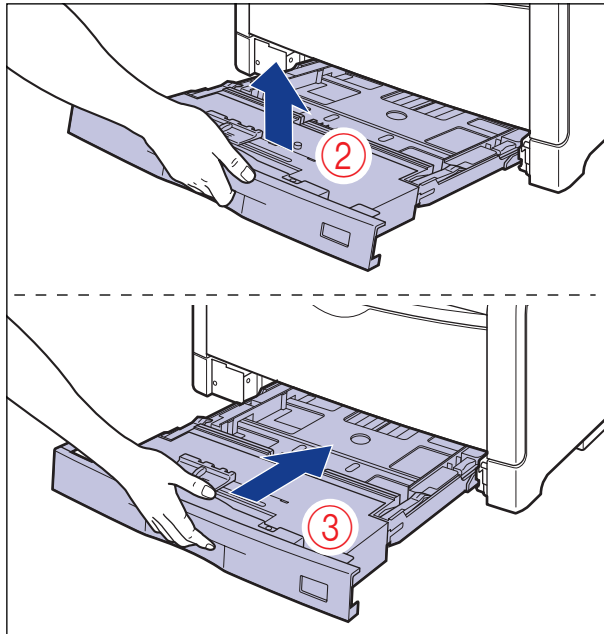
Secure sufficient space around the printer at the installation site so that you can install the optional accessories and connect cables.

6 Set the paper cassette in the printer.

While holding the paper cassette with both hands, insert it until it stops ① as shown in the figure.



After lifting the front of the paper cassette up a little ②, push the paper cassette into the printer firmly until the front side of the paper cassette is flush with the front surface of the printer ③.



⚠ CAUTION

When setting the paper cassette in the paper feeder, be careful not to catch your fingers.

7 Connect the interface cables except for the USB cable, and connect the power cord.

8 Plug the power plug into the AC power outlet.

9 Connect the USB cable.

● Transporting the Printer

When transporting the printer for reasons such as relocating, remove the toner cartridges and drum cartridges and store the printer and the parts in the package that they came in with the packing materials attached in order to prevent them from being damaged while being transported.

If the original package and packing materials are not available, find an appropriate box and packing materials and pack the printer and the parts appropriately.

Handling the Printer

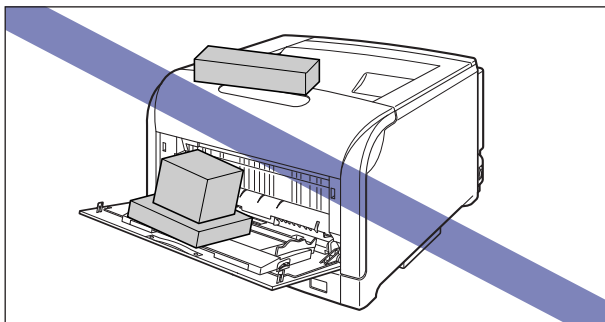
This printer consists of various electronic and precise optical parts. Read the following section so that you can handle the printer properly.

CAUTION

If an error should occurred to the hard disk in the printer unit, the received, recorded, and saved data may be deleted. It is recommended not to record or save important data on the hard disk. Canon assumes no responsibility whatsoever for any damages or losses arising from data loss by the customers.

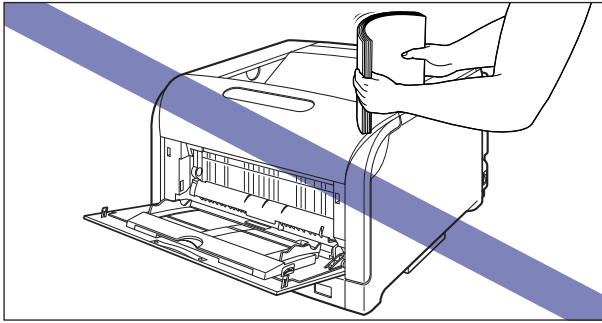
IMPORTANT

- For details on how to handle the printer, also read "Important Safety Instructions" (See p. xvii).
- Make sure that the multi-purpose tray is closed before opening the front cover. If you open the front cover with the multi-purpose tray opened, this may result in damage to the printer.
- Do not place any heavy objects on the printer, trays, or covers. This may result in damage to the printer.

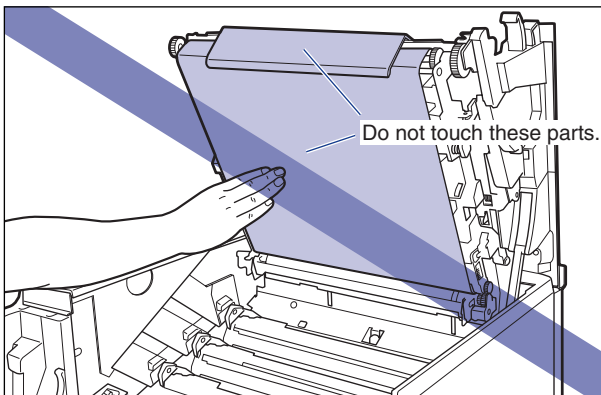


- Do not leave any cover open longer than required. Exposing the printer to direct sunlight or strong light may result in deterioration in print quality.

- Avoid vibration while the printer is printing. This may result in deterioration in print quality.



- Be sure not to open the covers on the printer during printing. This may result in damage to the printer.
- Handle each cover of the printer such as the front cover and multi-purpose tray gently when opening or closing it. Failure to do so may result in damage to the printer.
- If you want to spread a blanket on the printer to prevent dust from entering the printer, turn the power OFF and allow the printer to cool down sufficiently before covering the printer.
- If you do not plan to use the printer for a long period of time, unplug the power plug from the AC power outlet.
- Do not use or store the printer in a room where chemicals are used.
- Do not touch the transfer belt of the ITB unit and the ITB unit cover. If the transfer belt is damaged, this may result in misfeeds or deterioration in print quality. If the print quality deteriorates due to the transfer belt of the ITB unit being touched, see "Cleaning the Transfer Belt of the ITB Unit" (p. 6-60) and clean the transfer belt of the ITB unit. The transfer belt of the ITB unit is supplied with a function that cleans itself, therefore, you do not need to clean the belt even when toner is on it.



Troubleshooting

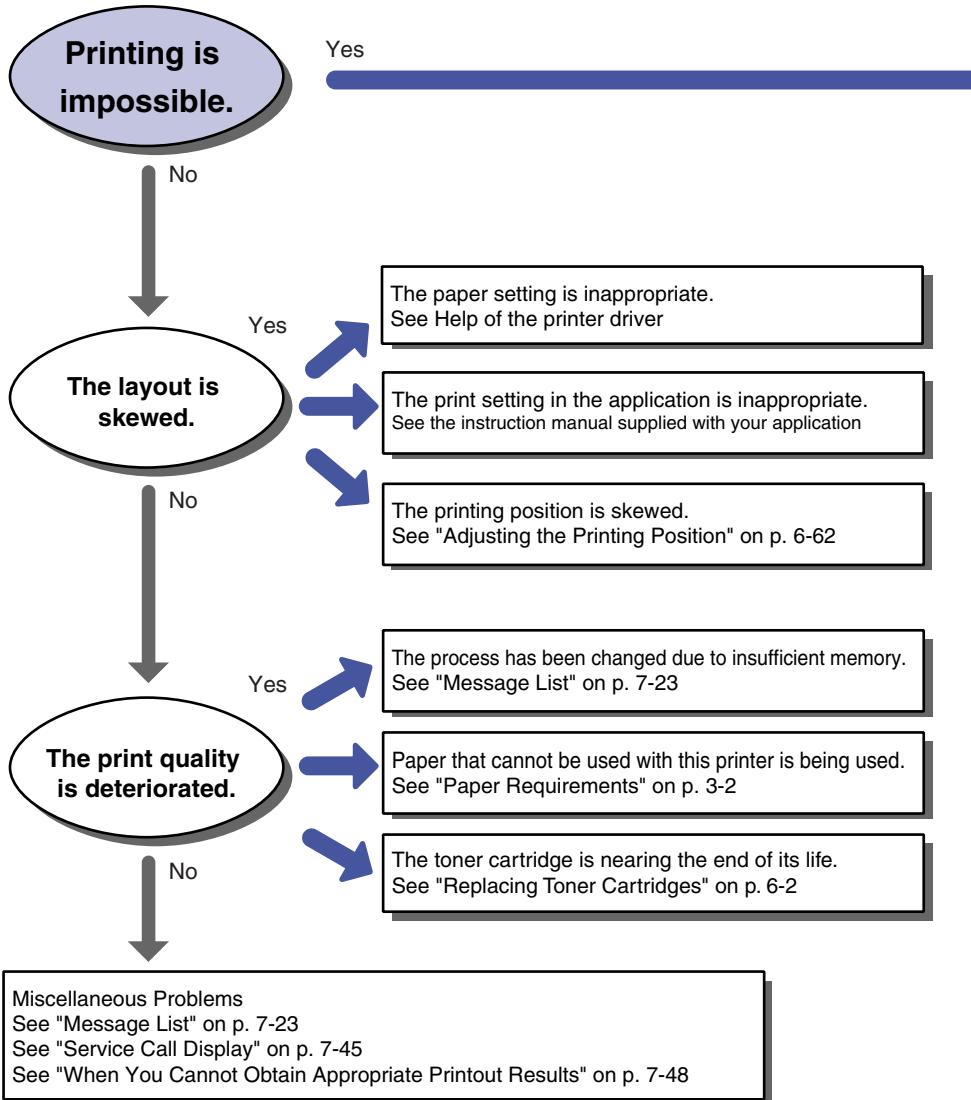
7

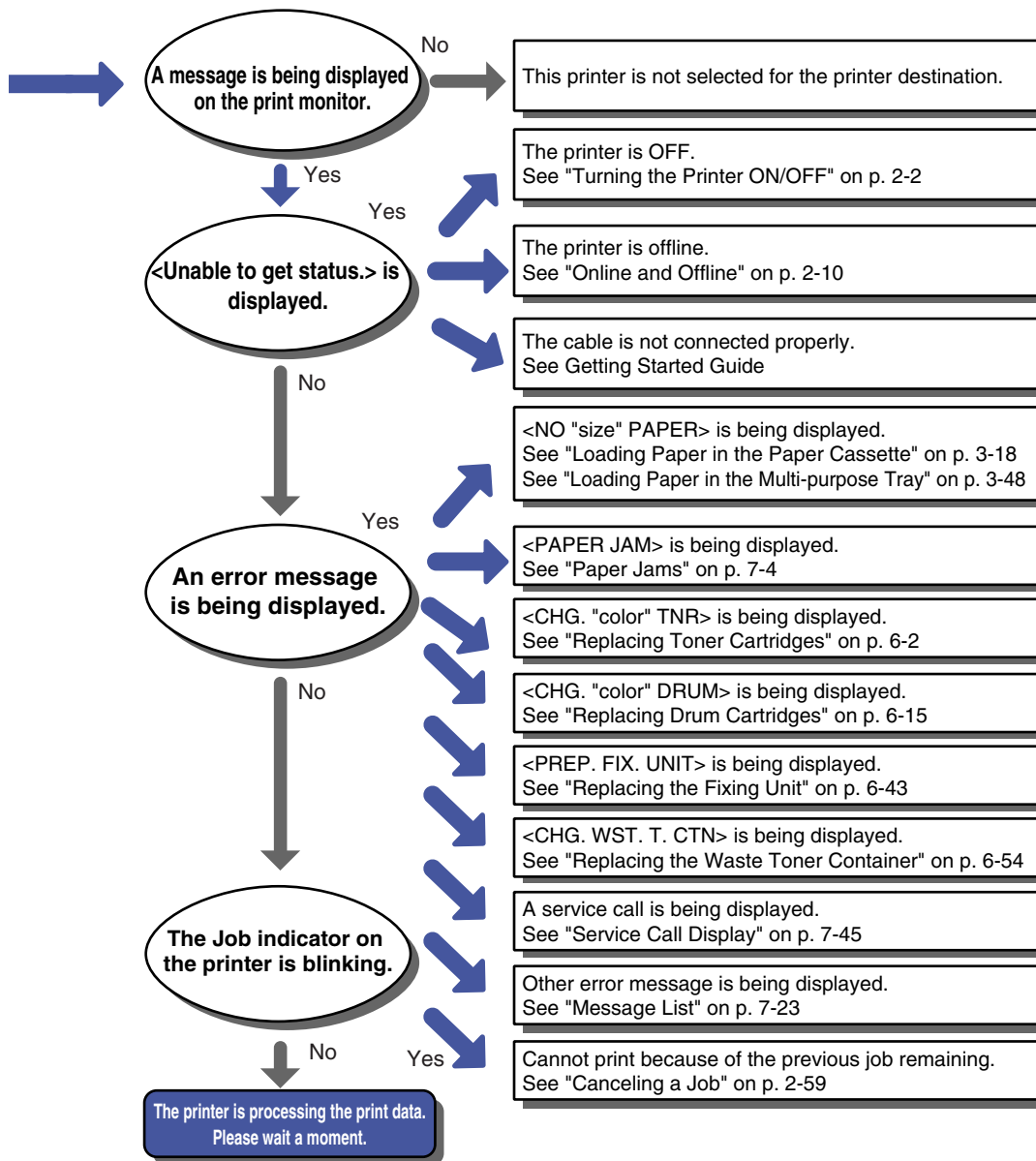
CHAPTER

This chapter describes the remedies for problems such as a paper jam or an error message appearing.

| | |
|---|------|
| Troubleshooting Flowchart | 7-2 |
| Paper Jams | 7-4 |
| Precautions on Clearing Paper Jams | 7-4 |
| Paper Jam Area | 7-6 |
| Procedure for Clearing Paper Jams | 7-7 |
| Message List | 7-23 |
| Service Call Display | 7-45 |
| When You Cannot Obtain Appropriate Printout Results | 7-48 |
| Problems with the Power or Printer Operation | 7-48 |
| Problems with the Printout Results | 7-52 |
| Print Quality Problems | 7-56 |
| When Any Print Defect Appears | 7-69 |
| Cleaning the Inside of the Printer | 7-69 |
| Printing Test Chart 1 | 7-87 |
| Printing Test Chart 2 | 7-89 |
| Print Defect Samples | 7-91 |
| Adjusting the Color Balance | 7-95 |

Troubleshooting Flowchart





Paper Jams

When a paper jam occurs during printing for some reason, the printer beeps, displaying the message <13 PAPER JAM> in the display. When a paper jam occurs, remove the jammed paper using the following procedure, and then resume the job. If the message that indicates the paper jam does not disappear even after removing the jammed paper following the procedure, there is a possibility that torn pieces of paper are still left inside the printer. Inspect each part of the printer again, and completely remove all pieces of jammed paper.

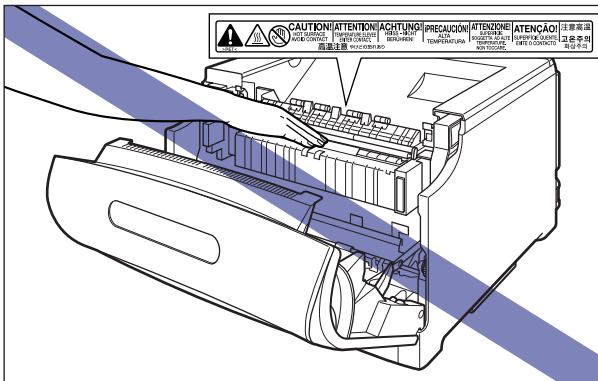
Precautions on Clearing Paper Jams

WARNING

There are some areas inside the printer which are subject to high-voltages. When removing jammed paper or when inspecting the inside of the printer, do not allow necklaces, bracelets, or other metal objects to touch the inside of the printer, as this may result in burns or electrical shock.

CAUTION

- The fixing unit and its surroundings inside the printer are hot during use. Make sure the fixing unit is completely cool before removing the jammed paper. Touching the fixing unit when it is still hot may result in burns.



- When removing jammed paper, take care not to allow the toner to come into contact with your hands or clothing, as this will dirty your hands or clothing. If they become dirty, wash them immediately with cold water. Washing with warm water will set the toner and make it impossible to remove the toner stains.

- **When removing paper jammed inside the printer, remove the jammed paper gently to prevent the toner on the paper from scattering and getting into your eyes or mouth. If the toner gets into your eyes or mouth, wash them immediately with cold water and immediately consult a physician.**
- **When removing jammed paper, take care not to cut your hands with the edges of the paper.**
- **Keep your hands or clothing away from the roller in the output area after removing jammed paper completely. Even if the printer is not printing, sudden rotation of the roller may catch your hands or clothing, resulting in personal injury.**

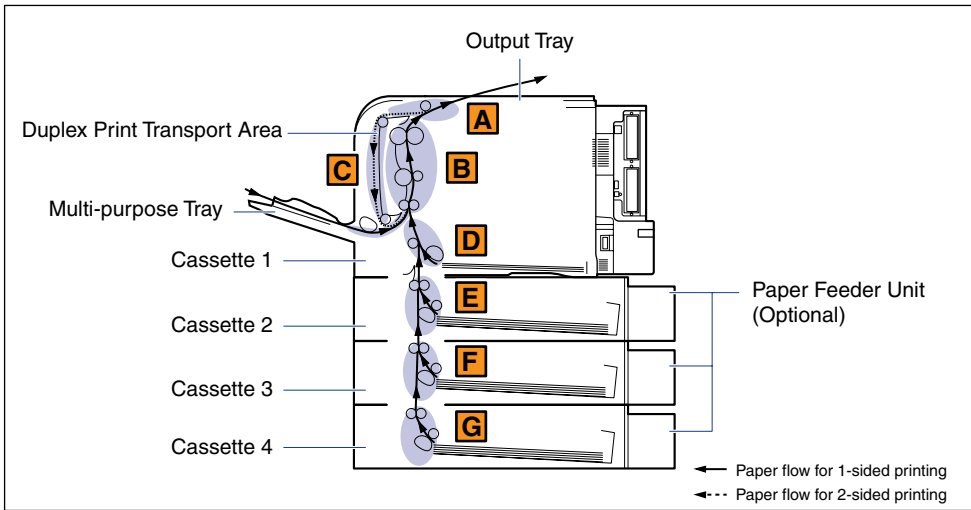


IMPORTANT

- Remove jammed paper while the power of the printer is ON. If the power is turned OFF, the data being printed will be deleted.
- Applying excess force may result in tearing paper or damaging the parts in the printer. When removing jammed paper, pull out the paper in the most appropriate direction, judging from the position of the paper.
- If paper is torn, be sure to find and remove any remaining pieces of paper.

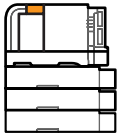

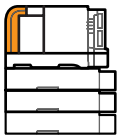
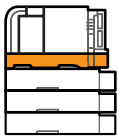
Paper Jam Area

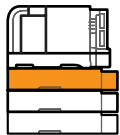
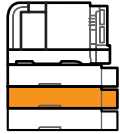
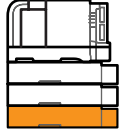
The message that appears in the display shows the location where the paper jam occurred.



7

Troubleshooting

| Paper Jam Area | | Paper Jam Area Mark* | Message |
|----------------|--|---|---------------|
| A | Output Area |  | <OUTPUT AREA> |
| B | Inside the front cover |  | <FRONT COVER> |
| C | Inside the front cover (Duplex print transport area) |  | <DUPLEX UNIT> |
| D | Cassette 1 |  | <CASS.1 AREA> |

| Paper Jam Area | | Paper Jam Area Mark* | Message |
|----------------|--|---|---------------|
| E | Cassette 2 (Only when the paper feeder is installed) |  | <CASS.2 AREA> |
| F | Cassette 3 (Only when the paper feeder is installed) |  | <CASS.3 AREA> |
| G | Cassette 4 (Only when the paper feeder is installed) |  | <CASS.4 AREA> |

* In "Procedure for Clearing Paper Jams" (See p. 7-7), this mark is attached to the left of each step, indicating the paper jam area where the operation described in the step is required.

Procedure for Clearing Paper Jams

Remove the jammed paper using the following procedure.

IMPORTANT

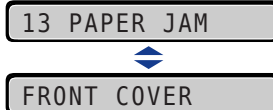
The error message may remain if jammed paper is removed without opening the front cover. In this case, open and close the front cover once.

NOTE

The illustrations of the printer on the left of each step indicate paper jam areas where the operation described in the step is required.

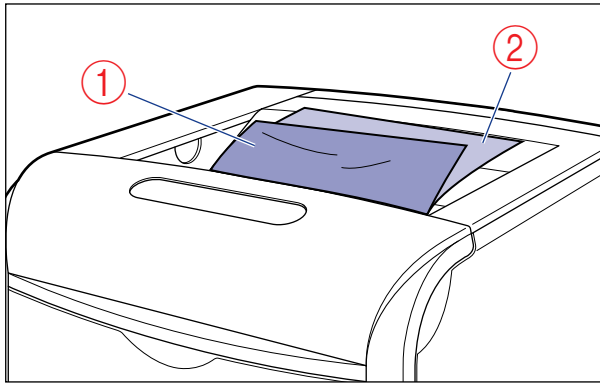
1 Confirm all the messages that appear in the display.

Messages appear one at a time. Confirm all of them.
As the messages disappear when the cover is open, take a note of them if required.





2 Check the output tray, then remove all the jammed paper ① and output paper ②.



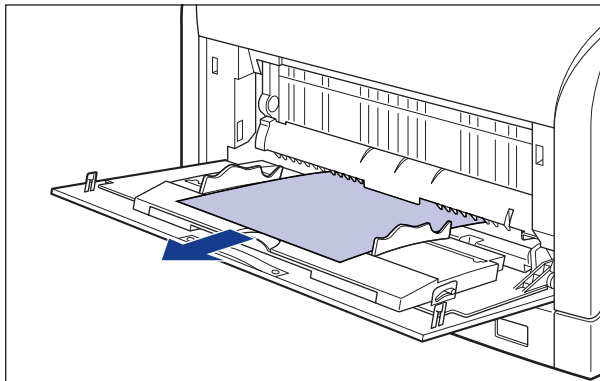
ⓘ IMPORTANT

- If the jammed paper cannot be removed easily, do not try to remove it forcefully but proceed to Step 3.
- Do not place any paper or object on the output tray during printing, as this may result in paper jams.

✎ NOTE

If no toner is on the removed paper, it may adhere to the paper to be printed next.

3 If you are using the multi-purpose tray, remove any paper jammed in the multi-purpose tray.

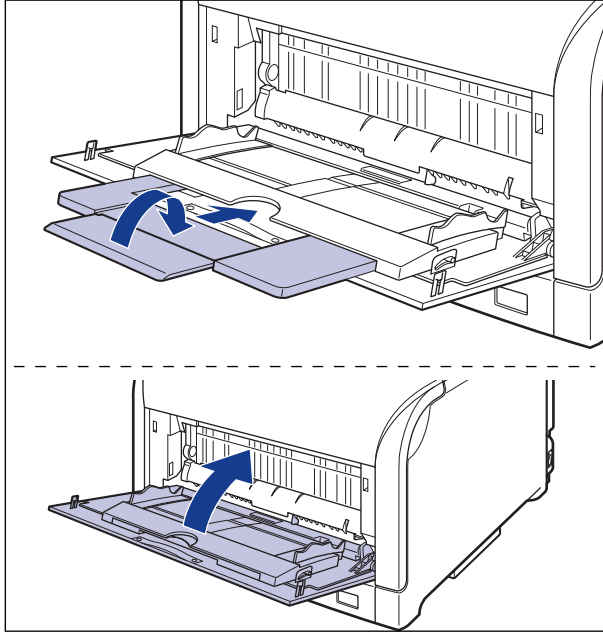


ⓘ IMPORTANT

If the jammed paper cannot be removed easily, do not try to remove it forcefully but proceed to Step 4.

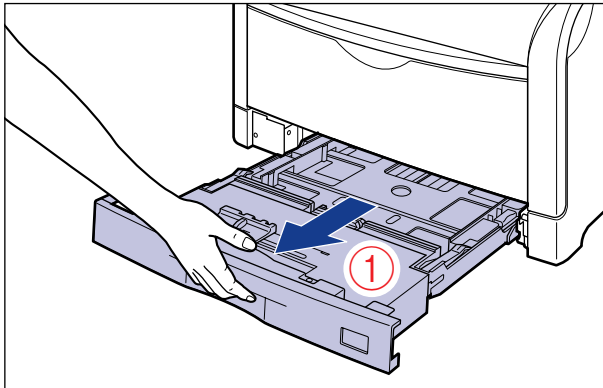


4 If you are using the multi-purpose tray, close it.

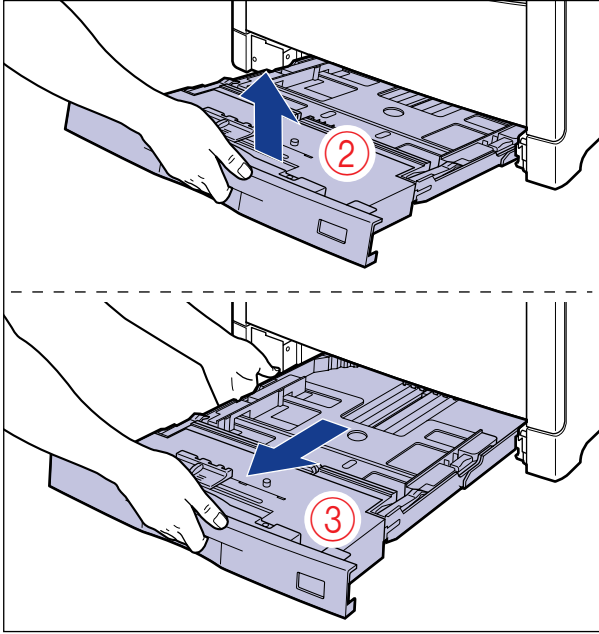


5 Pull out the paper cassette.

Pull the paper cassette out until it stops ①.



After lifting the paper cassette up a little ②, pull it out while supporting it with the other hand ③ as shown in the figures.



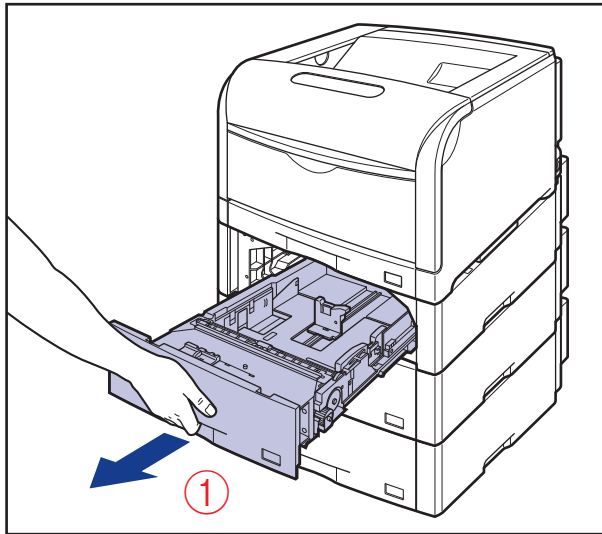
IMPORTANT

The paper cassette cannot be pulled out horizontally. If you try to pull it out forcefully, this may result in damage to the paper cassette.

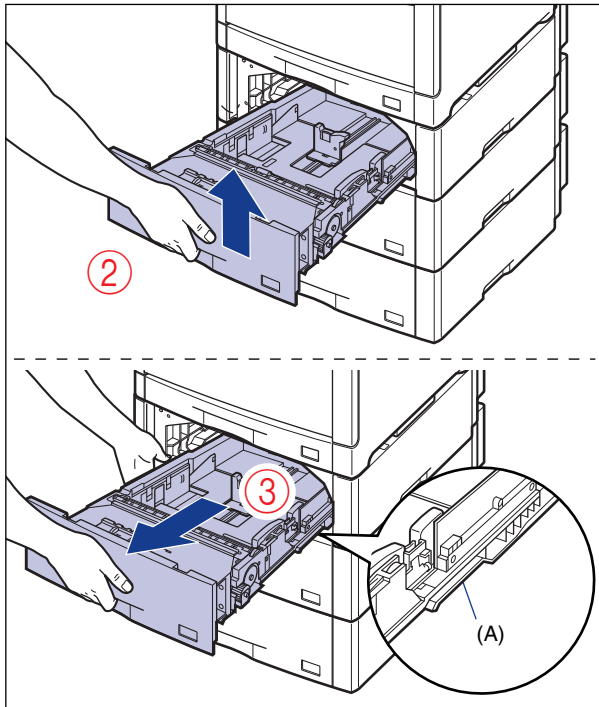


6 If the paper feeders are installed, pull all the paper cassettes out from the top.

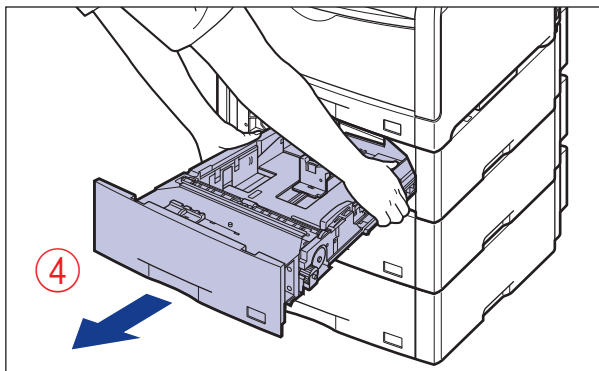
Pull the paper cassette out until it stops ①.



After lifting the front of the paper cassette up a little ②, pull it out while supporting the cassette with your left hand until the handle (A) on the right side of the paper cassette appears completely ③.



While holding the paper cassette with both hands, pull it out completely ④ as shown in the figure.



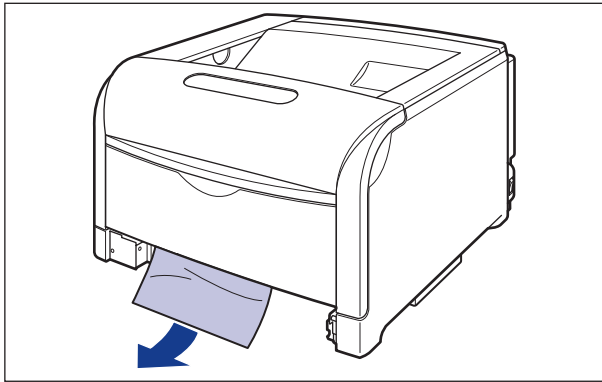
 **IMPORTANT**

- Because the paper cassette is heavy, hold it with your both hands securely.
- Place the removed paper cassette on an even and stable surface.

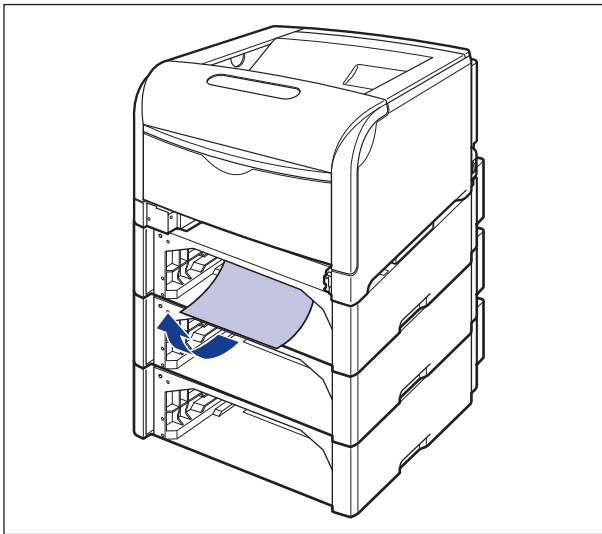


7 Remove any jammed paper while pushing it downward to some extent.

In case of the printer



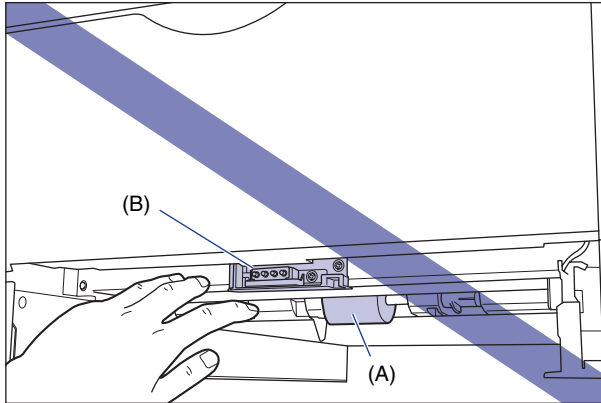
In case of the paper feeder



IMPORTANT

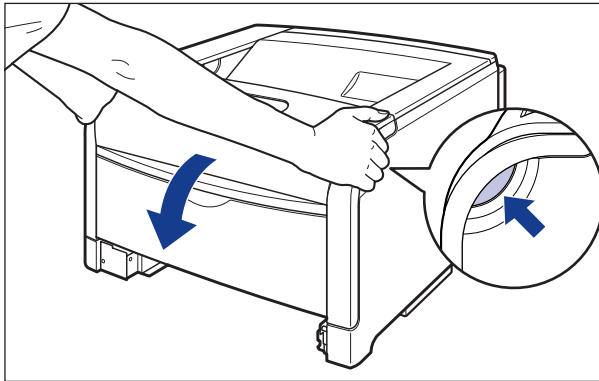
- If the jammed paper cannot be removed easily, do not try to remove it forcefully but proceed to Step 8.

- Do not touch the paper feed roller (A) or switch (B) on the lower portion of the printer. This may result in damage to the printer or printer error.



8 Open the front cover.

While pressing the lever on the right side of the front cover, open the front cover toward you.



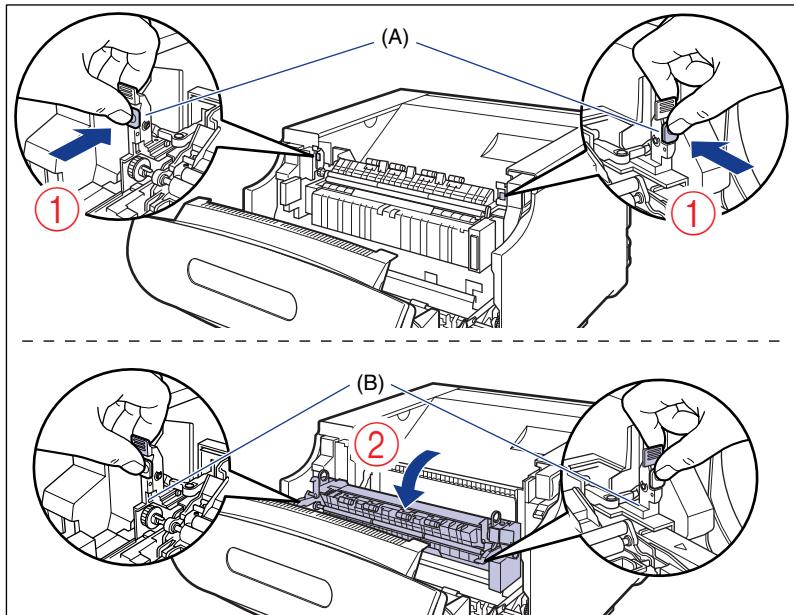
IMPORTANT

Before opening the front cover, make sure that the multi-purpose tray is closed.

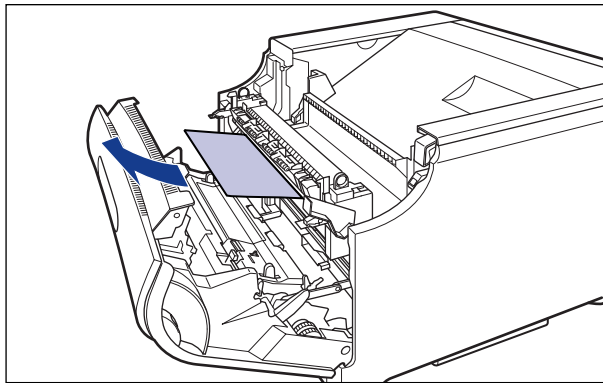


9 Tilt the fixing unit toward you.

While pressing the green lock release buttons (A) on the left and right side of the fixing unit ①, hold the tabs (B) and tilt the fixing unit toward you ② as shown in the figure.



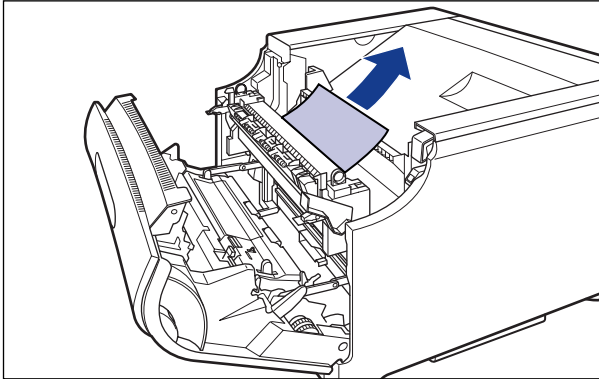
10 Remove any jammed paper from the front of the fixing unit.



IMPORTANT

If the jammed paper cannot be removed easily, pull the jammed paper out slowly and forcefully to remove it. If the jammed paper still cannot be removed, do not try to remove it forcefully but proceed to Step 11.

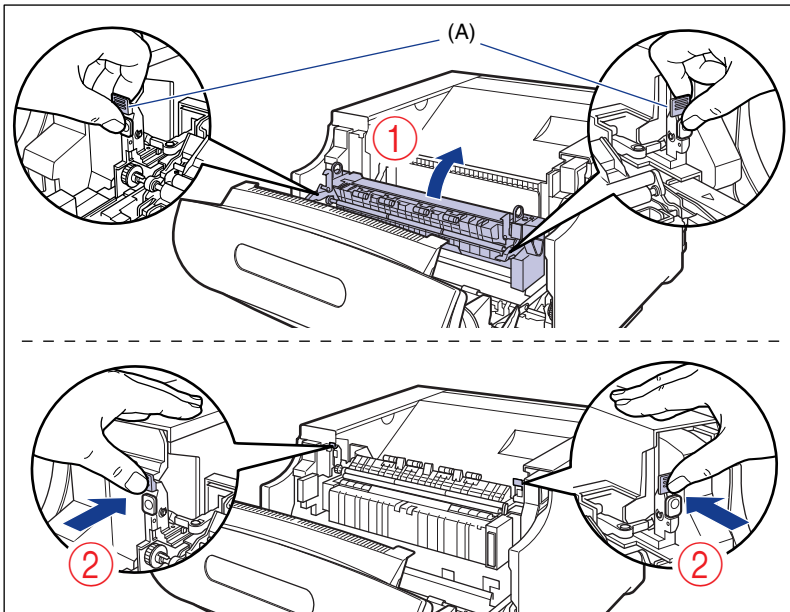
11 Remove any jammed paper from the rear of the fixing unit.



IMPORTANT

Remove the jammed paper slowly and forcefully to prevent the unfixed toner from scattering.

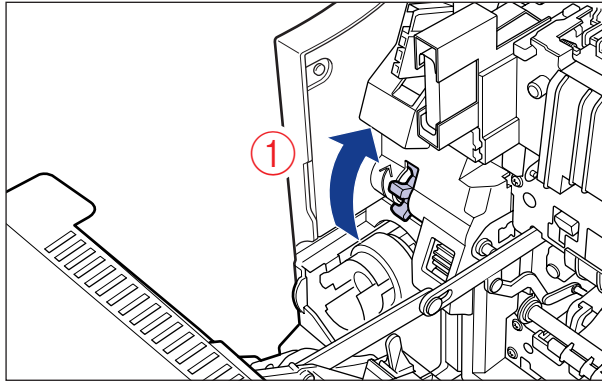
12 While holding the tabs (A), move the fixing unit back to its original position ①, and then press the tabs on the both sides as shown in the figure ②.



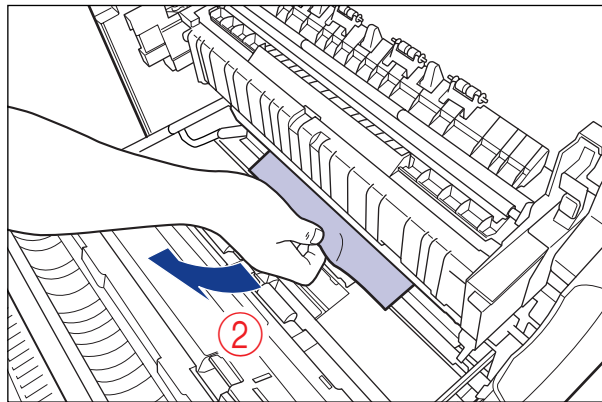


13 Remove any paper jammed under the fixing unit.

Turn the dial on the left of the fixing unit in the direction of the arrow to send any jammed paper ① as shown in the figure.



Remove any jammed paper as shown in the figure ②.

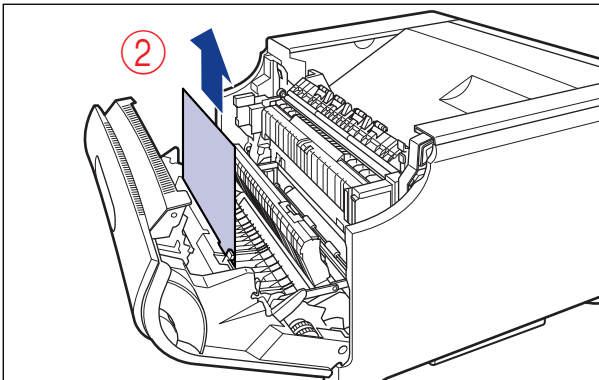
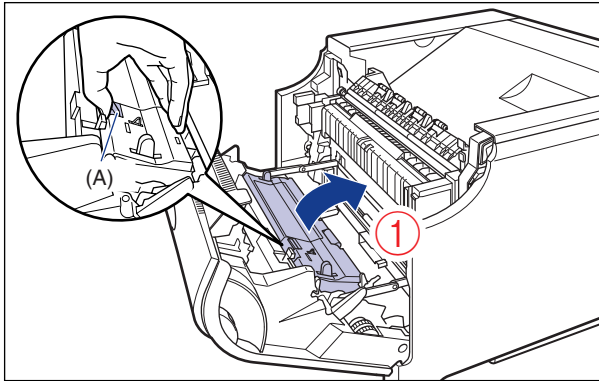


IMPORTANT

As the paper may be jammed in the back of the printer, turn the dial sufficiently to send the paper.



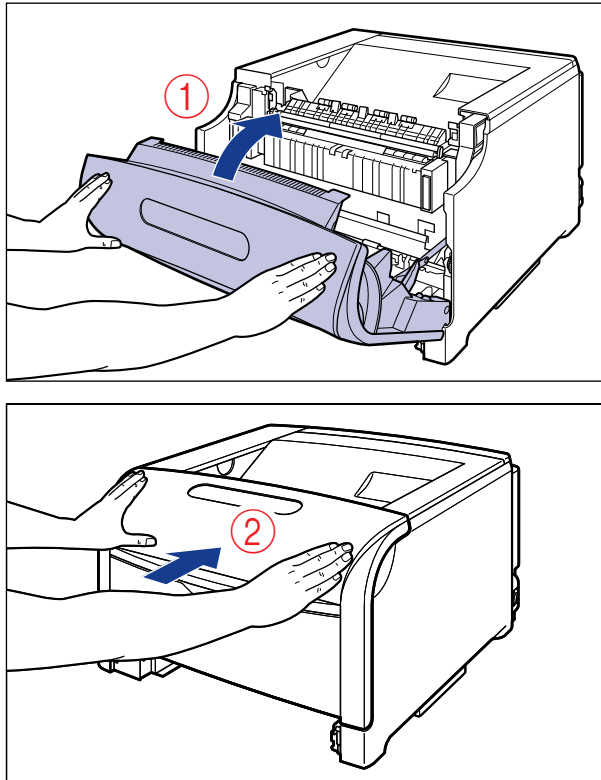
- 14** If the paper jam occurred when performing 2-sided printing, open the cover of the duplex print transport area while holding it by the tab (A) inside the front cover as shown in the figure ①, and then remove any jammed paper ②.





15 Close the front cover.

While supporting the front cover ①, push and close the front cover with both hands as shown in the figure ②.



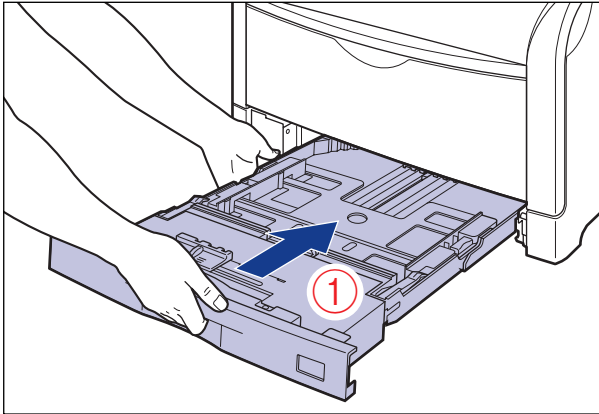
CAUTION

Push the front portion of the front cover to close it as shown in the figure. If closing the front cover by the levers on the both sides, you may catch your fingers, resulting in personal injury.

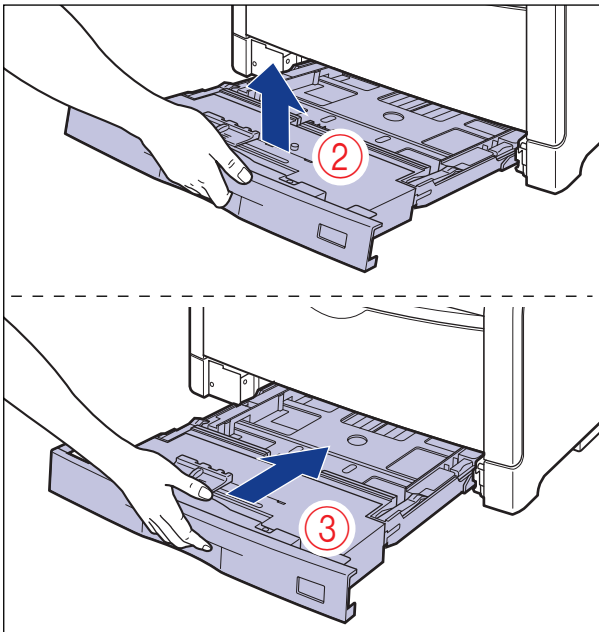


16 Set the paper cassette in the printer.

While holding the paper cassette with both hands, insert it until it stops ① as shown in the figure.



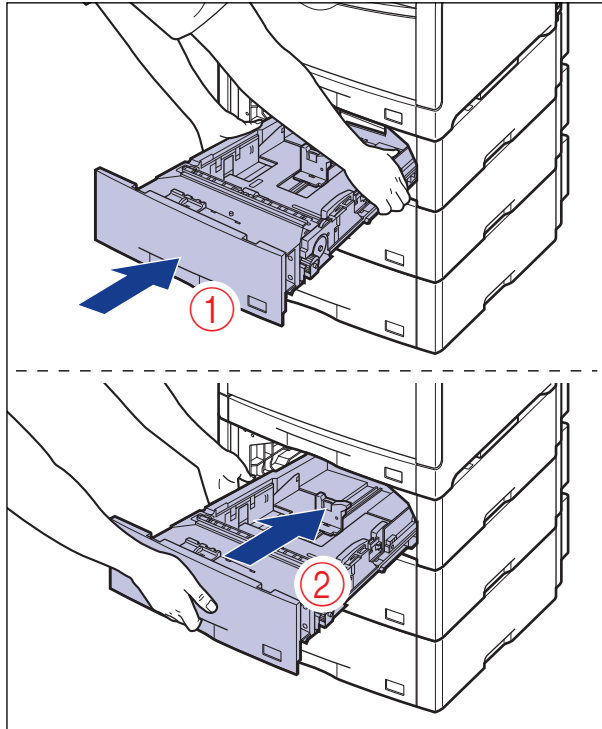
After lifting the front of the paper cassette up a little ②, push the paper cassette into the printer firmly until the front side of the paper cassette is flush with the front surface of the printer ③.



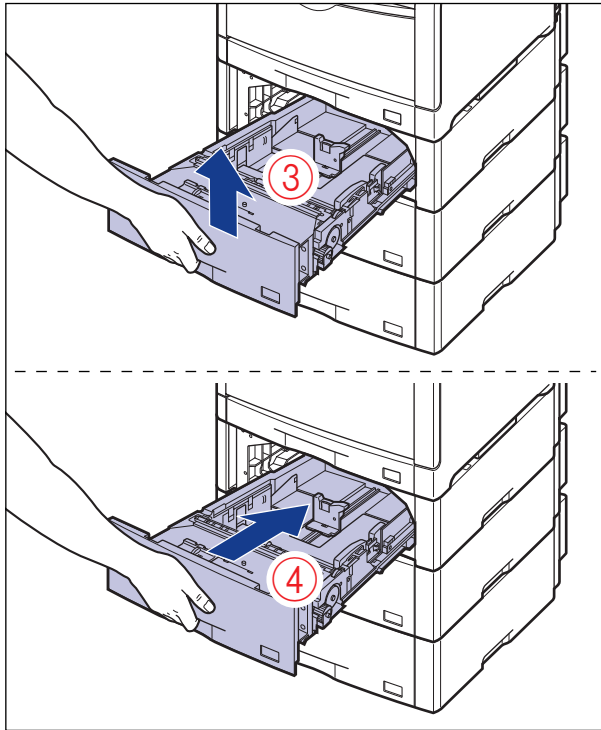


17 If the paper feeders are installed, set all the paper cassettes in the paper feeders from the top.

While holding the paper cassette with both hands, push it to the position shown in the figure ①. Then, hold the front of the paper cassette with your right hand and push it until it stops ②.



After lifting the front of the paper cassette up a little ③, push the paper cassette into the printer firmly until the front side of the paper cassette is flush with the front surface of the paper feeder ④.



⚠ CAUTION

When setting the paper cassette in the paper feeder, be careful not to catch your fingers.

If the message that indicates the paper jam inside the front cover does not disappear even after removing the jammed paper following the procedure, there is a possibility that some paper still remains under the fixing unit. Following Step 14, turn the dial sufficiently to send the paper and remove it.

Message List

When the printer cannot continue printing for some reason (an error status), the printer beeps, the Message indicator comes on, and an error message that indicates the description of the error appears in the display. A Warning message appears in the display when the printer requires some remedy (a warning status) although the job is not affected.

If either of these messages appears, perform the following procedures according to the message.

NOTE

- When multiple warnings are occurring at the same time, the Warning messages appear by rotation.
- When the printer is in error status and warning status at the same time, the Warning message does not appear.
- If WARNING STEP in the SETUP menu is set to OFF, a message with (Warning Message) does not appear even when the printer is in a warning status.
- For a message with the <Auto Error Skip> mark, you can skip the error by pressing [Online] and continue printing. However, part of the print data may be missing or it may not be printed properly. When you want to stop the process, perform a soft reset to eliminate the cause of the error, press [Online], and then print again. Also, you can automatically skip the errors to which this mark is attached by setting AUTO ERROR SKIP in the SETUP menu to ON.

<E nnn-nnnn> ("n" represents a number)

Cause A problem has occurred inside the printer.

Remedy Solve the problem following the instructions in "Service Call Display" (See p. 7-45).

<OF OPT.CONN.ERR.>

Cause 1 Any optional paper feeder is not installed properly.

Remedy Turn the power OFF, install the paper feeder properly, and then turn it ON again. (See Getting Started Guide)

Cause 2 Any optional paper feeder is installed or removed when the printer is ON.

Remedy Turn the power OFF, install or remove the paper feeder, then turn the printer ON again. (See Getting Started Guide)

Cause 3 The connector of any optional paper feeder is disconnected.

Remedy Turn the printer OFF, unplug the power plug from the AC power outlet and contact your local authorized Canon dealer.

Cause 4 A paper feeder that is not for this printer is installed.

Remedy Turn the power OFF, install the paper feeder for this printer, and then turn it ON again. (See Getting Started Guide)

<11 NO "size" PAPER>

Cause Paper of the size specified in the application is not loaded in the paper source (in all the paper sources when PAPER SOURCE is set to AUTO; in the specified paper source when the setting is fixed).

Remedy 1 Refill or load paper.

Remedy 2 Press [Feeder Selection], then select other paper source for the same paper size or larger paper size. (See "Selecting a Paper Source," on p. 3-12)

<12 COVER OPEN>

Cause The front cover or top cover is open.

Remedy Close the cover indicated in the display firmly. If the printer is not online, press [Online].

 **NOTE**

If the message still appears even after one cover is closed, the other cover is open. Check the other cover and close both the covers.

<13 PAPER JAM>

Cause Paper is jammed inside the printer

Remedy Remove the jammed paper and set the paper cassette and covers to the original position. If the printer is not online, press [Online]. (See "Paper Jams," on p. 7-4)

 **IMPORTANT**

- If paper jams have occurred at multiple areas at the same time, the areas appear in the display by rotation.
- If you have removed the jammed paper without opening any cover, be sure to open and close the front cover once, and then press [Online].

<14 CHK TNR/COVER>

Cause 1 The toner cartridge of Y (Yellow), M (Magenta), C (Cyan), or K (Black) is not installed or installed improperly.

Remedy Install the toner cartridge properly. (See "Replacing Toner Cartridges," on p. 6-2)

Cause 2 The toner cover is open.

Remedy Close the toner cover firmly.

**IMPORTANT**

If you cannot close the toner cover, check if the toner cartridges are installed properly. If you try to close the toner cover forcefully, this may result in damage to the printer or toner cartridges.

<16 PREP."color" TNR>

(Warning Message)

Cause The toner cartridge of K (Black), Y (Yellow), M (Magenta), or C (Cyan) is nearing the end of its life.

Remedy Although you can continue to print for a while, have ready a new toner cartridge. Replace the toner cartridge of the indicated color with a new one before printing a large amount of data. After replacing the toner cartridge, reset the counter of the color of the replaced toner cartridge. (See "Replacing Toner Cartridges," on p. 6-2)

<16 CHG."color" TNR>

Cause The toner cartridge of K (Black), Y (Yellow), M (Magenta), or C (Cyan) has reached the end of its life.

Remedy Press [Online]. Although you can continue to print for a while, have ready a new toner cartridge. Replace the toner cartridge of the indicated color with a new one before printing a large amount of data. After replacing the toner cartridge, reset the counter of the color of the replaced toner cartridge. (See "Replacing Toner Cartridges," on p. 6-2)

<18 FEED ERROR>

Cause Paper of the size or type that cannot be fed from the multi-purpose tray or paper cassettes is specified.

Remedy 1 If a paper source is specified, press [Feeder Selection], then set PAPER SOURCE to AUTO.

Remedy 2 Press [Feeder Selection], select a paper source from which paper of the specified size or type can be fed, then load paper.

Remedy 3 Specify the settings for STD PAPER SIZE and STD PAPER TYPE in the FEEDER MENU options in the SETUP menu to the size or type of paper that can be loaded in the paper source.

Remedy 4 Press [Online], then print from the currently selected paper source. However, this may result in deterioration in print quality.

<18 NO CASSETTE 1>

Cause **Cassette 1 is not set.**

Remedy 1 Set Cassette 1. (See "Loading Paper in the Paper Cassette," on p. 3-18)

Remedy 2 Press [Feeder Selection], then select the multi-purpose tray. (See "Selecting a Paper Source," on p. 3-12)

<18 NO CASSETTE 2>

Cause **Cassette 2 is not set.**

Remedy 1 Set Cassette 2. (See "Loading Paper in the Paper Cassette," on p. 3-18)

Remedy 2 Press [Feeder Selection], then select the multi-purpose tray. (See "Selecting a Paper Source," on p. 3-12)

<18 NO CASSETTE 3>

Cause **Cassette 3 is not set.**

Remedy 1 Set Cassette 3. (See "Loading Paper in the Paper Cassette," on p. 3-18)

Remedy 2 Press [Feeder Selection], then select the multi-purpose tray. (See "Selecting a Paper Source," on p. 3-12)

<1G CHG."color" TNR>

Cause 1 **The toner cartridge of K (Black), Y (Yellow), M (Magenta), or C (Cyan) has reached the end of its life.**

Remedy Replace the toner cartridge of the indicated color with a new one. (See "Replacing Toner Cartridges," on p. 6-2)

Cause 2 (When the message is displayed even after the cartridge is replaced with a new one) The toner is harden at the bottom of the toner cartridge.

Remedy Remove the replaced toner cartridge, hold the toner cartridge so that its tab is at the bottom, shake the cartridge up and down forcefully again to evenly distribute the toner inside the cartridge, and then install the toner cartridge.

<23 DOWN.MEM.FULL>

<Auto Error Skip>

Cause The memory for registering macro and custom characters has run out and overflowed.

Remedy 1 The printer continues printing by pressing [Online]. However, the overflowed data cannot be registered.

Remedy 2 Perform a soft reset using the RESET menu, increase the free space of RAM using the following procedure, register the data again, and then print again.

- Perform a hard reset or cycle the power of the printer (Be aware that all the data in the memory will be deleted).
- Install an optional expansion RAM module. (See Getting Started Guide)

<26 SYS.MEM.FULL>

<Auto Error Skip>

Cause The work memory required for the printer process has run out while the system is processing the data (mainly the graphics data and text data).

Remedy 1 The printer continues printing by pressing [Online]. However, the data with which an error has occurred is not printed properly.

Remedy 2 Perform a soft reset using the RESET menu, and then increase the free space of RAM using the following procedure.

- Perform a hard reset or cycle the power of the printer (Be aware that all the data in the memory will be deleted).
- Install an optional expansion RAM module. (See Getting Started Guide)

<27 JOB START ERR>

<Auto Error Skip>

Cause The specified emulation does not exist.

Remedy Press [Online] to continue printing from the next data. However, the data with which an error has occurred is not printed.

<30 MEMORY FULL>

<Auto Error Skip>

Cause 1 The work memory has run out while the system is processing the data.

Remedy The printer continues printing by pressing [Online]. However, the data with which an error has occurred may not be printed properly.

Cause 2 **(If this error has occurred while the printer is ON) The amount of memory specified in NVRAM could not be secured because the memory construction had been changed (The expansion RAM is removed).**

Remedy 1 The printer continues printing by pressing [Online]. However, the data may not be printed properly due to the change of the memory construction.

**IMPORTANT**

The memory construction of NVRAM is rewritten to a securable value when <30 MEMORY FULL> appears. (* The settings for RIP Once and the hard disk is restored to the default value.) (See "SETUP Menu Settings," on p. 5-18)

Remedy 2 After turning the printer OFF, restore the memory to the original condition (install the removed RAM), and then print again. (See Getting Started Guide)

Remedy 3 Set EXT.RX BUFFER (See p. 5-66) in the INTERFACE MENU options in the SETUP menu to OFF, and then print again.

<32 2-SIDED ERROR>

<Auto Error Skip>

Cause 1 Paper on which automatic 2-sided printing cannot performed is selected.

Remedy Select a standard paper size for the paper source and paper size setting in the computer, and then print again.

Cause 2 **The printer received data for 2-sided printing on which the printer cannot perform automatic 2-sided printing.**

Remedy 1 The printer continues printing by pressing [Online]. However, the data on each side is printed on two pages.

Remedy 2 Perform a soft reset in the RESET menu, change the paper size of the data to the one on which the printer can perform 2-sided printing, and then print again.

<33 WORK MEM.FULL>

<Auto Error Skip>

Cause **The work memory for each print mode cannot be secured.**

Remedy 1 The printer continues printing by pressing [Online]. However, the data with which an error has occurred is not printed properly.



IMPORTANT

When you continue printing by pressing [Online], be aware that the data of macro that is already registered may be deleted.

- Remedy 2** Perform a soft reset in the RESET menu, increase the free space of RAM using the following procedure, and then print again.
- Perform a hard reset or cycle the power of the printer (Be aware that all the data in the memory that the printer has received will be deleted).
 - If you are using UFR II Printer Driver, install an optional expansion RAM module. However, the problem may not be solved even after the expansion RAM module is installed.

<35 PDF SIZE ERR>

<Auto Error Skip>

Cause **There is not sufficient free space to print the PDF file using the direct print function.**

- Remedy** Press [Online] to cancel the job. Afterward, perform the following processes (decreasing the size of the PDF file), and then print again.
- Optimizing the PDF file
 - Dividing the PDF file into multiple files

<35 TABLE FULL>

<Auto Error Skip>

Cause **The number of the documents in a job has exceeded 16.**

- Remedy** The printer continues printing by pressing [Online]. However, the job with which an error has occurred is not printed.

<36 DIS.LIST FULL>

<Auto Error Skip>

Cause **The memory required for processing has run out and overflowed.**

- Remedy 1** Press [Online] to continue printing. However, the job with which an error has occurred is not printed.
- Remedy 2** Perform a soft reset in the RESET menu, increase the free space of RAM using the following procedures, and then print again.
- Perform a hard reset or cycle the power of the printer (Be aware that all the data in the memory that the printer has received will be deleted).
 - Install an optional expansion RAM module (256 MB or more*). (See Getting Started Guide)

* However, even if a 512-MB expansion RAM module is installed, the free space to be increased is the same as when a 256-MB expansion RAM module is installed.

<38 LOW IMGE QLTY>**<Auto Error Skip>**

Cause **The printer cannot process the data in the Super Fine mode because it is too complicated.**

Remedy 1 The printer continues printing by pressing [Online]. However, the printer prints with the resolution level of the data being lowered.

Remedy 2 Perform a soft reset in the RESET menu, set RESOLUTION (See p. 5-43) in the QUALITY MENU options in the SETUP menu to FINE, and then print again.

Remedy 3 Perform a soft reset in the RESET menu, set GRADATION LEVEL (See p. 5-44) in the QUALITY MENU options in the SETUP menu to HIGH 1, and then print again.

Remedy 4 If you want to print in the Super Fine mode, perform a soft reset using the RESET menu, and then increase the free space of RAM using the following procedure.

- Perform a hard reset or cycle the power of the printer (Be aware that all the data in the memory that the printer has received will be deleted).
- Install an optional expansion RAM module. (See Getting Started Guide)

<39 SPL MEM.FULL>**<Auto Error Skip>**

Cause **Because spool memory has run out, the printer cannot print.**

Remedy 1 The printer continues printing by pressing [Online]. However, the page with which an error has occurred is not printed.

Remedy 2 Perform a soft reset in the RESET menu, specify the paper size smaller, and then print again.

Remedy 3 Perform a soft reset in the RESET menu, set GRADATION LEVEL (See p. 5-44) in the QUALITY MENU options in the SETUP menu to HIGH 1, and then print again.

Remedy 4 If 2-SIDED PRINT. in the FEEDER MENU options in the SETUP menu is set to ON, specify OFF, and then print again.

Remedy 5 Change the setting for HALFTONES (See p. 5-47) in the QUALITY MENU options in the SETUP menu, and then print again.

Remedy 6 Install an optional expansion RAM module, then print again. (See Getting Started Guide)

<41 CHK PAPER SIZE>

Cause 1 The size of the paper loaded in the multi-purpose tray or paper cassette is different from the setting for TRAY PAPER SIZE, CASSETTE2 SIZE, CASSETTE3 SIZE, or CASSETTE4 SIZE specified from the computer or control panel.

Remedy Match the size specified in TRAY PAPER SIZE (See p. 5-29) and the size of the loaded paper, and then press [Online].

Cause 2 You are using UFR II Printer Driver, and you loaded custom paper of its long edges 297.0 mm or less and printed when TRAY PAPER SIZE, CASSETTE2 SIZE, CASSETTE3 SIZE, or CASSETTE4 SIZE in the FEEDER MENU options in the SETUP menu was set to MIXED SIZE.

Remedy Load the paper in landscape orientation, then print again.

Cause 3 When the UFR II printer driver was not used, custom size paper was loaded in landscape orientation to be printed.

Remedy Load the paper in portrait orientation, then print again.

Cause 4 CHK PAPER SIZE in the USER MAIN. options in the SETUP is set to ON.

Remedy Set CHK PAPER SIZE (See p. 5-70) to OFF, then print again.

<52 RAST.MODE ERR>

<Auto Error Skip>

Cause The printer received data in format that it does not support during printing in the Raster mode.

Remedy 1 The printer continues printing by pressing [Online]. However, the data may not be printed properly.

Remedy 2 Print again from the printer driver for LBP5970.

<53 SEC.PRINT ERR>

<Auto Error Skip>

Cause 1 Secured print data is sent from a printer driver that is not for LBP5970.

Remedy Perform a soft reset using the RESET menu to delete the print data.

Cause 2 The printer received secured print data when the hard disk cannot be used.

Remedy Press [Online] to cancel printing, set HARD DISK (See p. 5-25) in the CONTROL MENU options in the SETUP menu to ON, perform a hard reset, and then print again.

Cause 3 The number of the jobs exceeded the amount of jobs the printer can save as secured print jobs (You can save up to 8 secured print jobs in the hard disk.)

Remedy Press [Online] to cancel printing, delete any unnecessary secured print jobs, and then print again.

Cause 4 The amount of the job data exceeded the amount of job data that you can save on the hard disk as secured print jobs (You can save the data in total of up to 4GB of secured print jobs, stored jobs, and paused jobs in the hard disk. However, when SECURED TYPE in the CONTROL MENU options is set to PDL, you can save only up to 1.88GB of data.

Remedy Press [Online] to cancel printing, resume any paused jobs or delete unnecessary secured print jobs, and then print again.

<53 STORE ERROR>**<Auto Error Skip>**

Cause 1 The data for which a stored job print had been specified was sent from a printer driver that is not for LBP5970.

Remedy Press [Online] to cancel the job.

Cause 2 The data cannot be saved on the hard disk because there is not sufficient free space in the hard disk.

Remedy The printer is ready to print by pressing [Online], ignoring the print data.

Cause 3 The number of the jobs exceeded the number of jobs you can save on the hard disk.

Remedy 1 The printer is ready to print by pressing [Online], ignoring the print data.

Remedy 2 Delete any unnecessary jobs from among the jobs saved on the hard disk.

Cause 4 The amount of the print jobs exceeded the amount of jobs you can save on the hard disk.

Remedy 1 The printer is ready to print by pressing [Online], ignoring the print data.

Remedy 2 Delete any unnecessary jobs from among the jobs saved on the hard disk.

Cause 5 The specified box number is not correct.

Remedy Specify the correct box number.

Cause 6 HARD DISK in the CONTROL MENU options in the SETUP menu is set to OFF.

Remedy Set HARD DISK (See p. 5-25) to ON.

<55 HDD ERROR>**<Auto Error Skip>**

Cause An error has occurred in the hard disk.

Remedy 1 The printer reformats the hard disk automatically.

Remedy 2 The printer starts up with its settings not using the hard disk by pressing [Online]. However, you cannot print with the functions that require the hard disk.

Remedy 3 Contact your local authorized Canon dealer for servicing.

<56 HDD ERROR>

Cause An error has occurred in the hard disk.

Remedy Format the hard disk in HDD MAINTENANCE (See p. 5-73) in the USER MAIN. options in the SETUP menu. If the same error occurs, you need to replace the hard disk. Contact your local authorized Canon dealer for servicing.

<57 RIP ONCE ERR.>**<Auto Error Skip>**

Cause 1 The printer cannot continue to print multiple copies using RIP Once because the hard disk has run out of free space.

Remedy 1 Divide the job into multiple jobs, then print again.

Remedy 2 Set RIP ONCE (See p. 5-27) in the CONTROL MENU options in the SETUP menu to OFF, and then perform a hard reset. (The functions of RIP Once become disabled.)

Remedy 3 A copy of the data is printed by pressing [Online].

Cause 2 The number of the copies that the printer can process exceeded when printing in the [Edit and Preview] mode.

Remedy 1 Print all the print jobs again using the printer driver for this printer.

Remedy 2 Reduce the number of the pages you print at a time and print again with the job divided into multiple jobs.

<58 JOB MEM.FULL>**<Auto Error Skip>**

Cause There is not sufficient free RAM space to process jobs.

Remedy 1 If you are processing multiple jobs at once, press [Online] to cancel printing, wait for other jobs complete, and then print again.

Remedy 2 If the job data is too large, divide the job and print again.

<59 JOB RX ERROR>

<Auto Error Skip>

Cause The printer received any unanalyzable data while it is receiving a job, or it timed out.

Remedy 1 Press [Online] to cancel printing, then print again.

Remedy 2 A problem may be occurring in the network you are using. Check the status of the network that you are using.

<60 KEY MNG.ERR.1>

Cause The file related to key management is broken.

Remedy Select the SETUP menu → the INTERFACE MENU options → NETWORK MENU → REMOTE UI SET. → SSL, and then make sure that OFF is specified. After that, restart the printer, and then regenerate the key and certificate and specify the settings for SSL from the Remote UI. After setting the key management and SSL, restart the printer again. (See Remote UI Guide "Chapter 3 Appendix")

<60 DECODE ERROR>

<Auto Error Skip>

Cause The printer could not analyze encrypted secured print data.

Remedy Perform a soft reset using the RESET menu, then print again.

<61 PRINT SET ERR>

Cause Long size paper was printed in the Super Fine mode.

Remedy 1 Perform a soft reset in the RESET menu, set RESOLUTION (See p. 5-43) in the QUALITY MENU options in the SETUP menu to FINE, and then print again.

Remedy 2 Press [Online] to continue printing from the next data. However, the data with which an error has occurred is not printed.

<98 CHG."color" DRUM>

Cause The drum cartridge of K (Black), Y (Yellow), M (Magenta), or C (Cyan) cannot be used.

Remedy Replace the drum cartridge of the indicated color with a new one. (See "Replacing Drum Cartridges," on p. 6-15)

<A4 nn ERROR> ("nn" represents two-digit alphanumeric characters)

Cause A problem has occurred and the printer does not operate properly.

Remedy Cycle the power of the printer. If the message appears even after cycling the power of the printer, note down the message in the display, and contact your local authorized Canon dealer.

<A5 nn ERROR> ("nn" represents two-digit alphanumeric characters)

Cause A problem has occurred and the printer does not operate properly.

Remedy Cycle the power of the printer. If the message appears even after cycling the power of the printer, note down the message in the display, and contact your local authorized Canon dealer.

<A7 nn ERROR> ("nn" represents two-digit alphanumeric characters)

Cause A problem has occurred and the printer does not operate properly.

Remedy Cycle the power of the printer. If the message appears even after cycling the power of the printer, note down the message in the display, and contact your local authorized Canon dealer.

<BT CLOCK ERROR> (Warning Message)

Cause The clock in this printer has a problem.

Remedy Though printing is possible as is, logs such as the print logs cannot be recorded correctly. Contact your local authorized Canon dealer.

<D7 nn ERROR> ("nn" represents two-digit alphanumeric characters)

Cause A problem has occurred and the printer does not operate properly.

Remedy Cycle the power of the printer. If the message appears even after cycling the power of the printer, note down the message in the display, and contact your local authorized Canon dealer.

<D8 LAYOUT ERROR>

Cause The page cannot be laid out because the memory has run out.

Remedy 1 Set [Graphics Mode] in UFR II Printer Driver to [Raster Mode], then print again. (See Help of UFR II Printer Driver)

Remedy 2 After performing a soft reset using the RESET menu, perform a hard reset to increase the free memory space or cycle the power of the printer, and then print again. (Be aware that all the data in the memory that the printer has received will be deleted.)

Remedy 3 Perform "Error Skip" to continue the job. However, the data with which an error has occurred is not printed properly.

<D8 VERSION ERROR>

Cause You tried to print from a printer driver that is not for LBP5970.

Remedy Print from the printer driver for LBP5970.

<D8 SYNTAX ERROR>

Cause Invalid data is sent when printing using UFR II Printer Driver.

Remedy 1 Press [Online] to continue printing from the next data. However, the page with which an error has occurred and its subsequent pages are not printed.

Remedy 2 Confirm the data to be printed, then print again.

<D8 nn ERROR> ("nn" represents two-digit alphanumeric characters)

Cause A problem has occurred and the printer does not operate properly.

Remedy Cycle the power of the printer. If the message appears even after cycling the power of the printer, note down the message in the display, and contact your local authorized Canon dealer.

<D9 IMG.DATA ERR.>

Cause Data which this printer cannot process is included in TIFF data or JPEG data.

Remedy This printer cannot print the data. Press [Online] to cancel the job.

<D9 IMG.REFER.ERR>

Cause Data which this printer cannot process is included in TIFF data.

Remedy This printer cannot print the data. Press [Online] to cancel the job.

<D9 nn ERROR> ("nn" represents two-digit alphanumeric characters)

Cause A problem has occurred and the printer does not operate properly.

Remedy 1 Cycle the power of the printer. If the message appears even after cycling the power of the printer, note down the message in the display, and contact your local authorized Canon dealer.

<DA PDF DATA ERR>

<Auto Error Skip>

Cause PDF data which this printer cannot process was sent.

Remedy 1 Remake the PDF data in a format which this printer supports and print again.

Remedy 2 Press [Online] to continue printing. However, the data with which an error has occurred is not printed properly.

<DA COMP.ANALY.ERR>

<Auto Error Skip>

Cause Data compressed in a format which this printer cannot process is included in pages of the PDF data.

Remedy 1 Remake the PDF data in a format which this printer supports and print again.

Remedy 2 Press [Online] to continue printing. However, the data with which an error has occurred is not printed properly.

<DA PAGE COMP.ERR>

Cause Pages compressed in a format which this printer cannot process are included in the PDF data.

Remedy 1 Perform a soft reset in the RESET menu, then remake the PDF data in a format which this printer supports, and then print again.

Remedy 2 Contact your local authorized Canon dealer.

<DA DATA PROC.ERR>

Cause PDF data which this printer cannot process was sent.

Remedy 1 Perform a soft reset in the RESET menu, then remake the PDF data in a format which this printer supports, and then print again.

Remedy 2 Contact your local authorized Canon dealer.

<DA PDF MEM.FULL>

Cause There is no memory to process the PDF file being processed.

Remedy 1 Perform a soft reset in the RESET menu, optimize the PDF in Adobe Acrobat, reduce the size of the data you are going to print at one time by resetting the resolution to an appropriate level or by another method, and then try printing again. (See the Adobe Acrobat Help.)

Remedy 2 Perform a soft reset in the RESET menu, then reduce the number of pages to print at one time by dividing the PDF data you are going to print in Adobe Acrobat into several files, before trying to print again. (See the Adobe Acrobat Help.)

Remedy 3 Perform a soft reset in the RESET menu, open the data in the application software, and then print again via the printer driver. (See the Adobe Acrobat Help.)

<DA TEMP.FILE ERR>

Cause An error has occurred while a temporary file of the PDF data is being processed.

Remedy Contact your local authorized Canon dealer.

<DA CLR ANALY.ERR>

Cause A color space definition which this printer cannot render was sent.

Remedy Contact your local authorized Canon dealer.

<DA DATA SCAN ERR>

Cause An error has occurred when the PDF data was read.

Remedy Perform a soft reset in the RESET menu, then remake the PDF data in a format which this printer supports, and then print again.

<DA OUTPUT SEL.ER>

Cause An error has occurred to the output mode of the PDF data.

Remedy Contact your local authorized Canon dealer.

<DA PDF PROF.ERR>

Cause An error has occurred while the ICC profile is being processed.

Remedy Contact your local authorized Canon dealer.

<DA PDF ACC.ERR 1>

Cause An error has occurred when the PDF data was read.

Remedy Contact your local authorized Canon dealer.

<DA PDF ACC.ERR 2>

Cause An error has occurred when the PDF data was read.

Remedy Contact your local authorized Canon dealer.

<DA PDF FONT ERR>

Cause Fonts which this printer cannot process are included in the PDF data.

Remedy Contact your local authorized Canon dealer.

<DA RENDERING ERR>

Cause An error has occurred while the PDF data is being rendered.

Remedy Contact your local authorized Canon dealer.

<DA DATA DECDE ER>

Cause 1 An incorrect password was entered to print the PDF data.

Remedy Enter the correct password.

Cause 2 The Security settings in the PDF file do not allow printing.

Remedy Change the settings to allow printing.

 **NOTE**

If you enter an incorrect password for PDF data by restriction on low resolution printing, this error will not be displayed. Instead, the printed PDF will be of low quality.

<DA PRT RANGE ERR>

Cause The specified print range is incorrect.

Remedy Specify the print range correctly, then print again.

 **NOTE**

This error will not be displayed if there are printable pages within the print range you specified. For example, if PDF data has five pages, and you specify a print range from page 2 to 10, page 2 to 5 will be printed without an error being displayed.

<DA PDF ERROR>

Cause PDF data which this printer cannot process was sent.

Remedy Press [Online] to continue printing. However, the data with which an error has occurred is not printed properly.

<DA TRANSP.ERROR>

<Auto Error Skip>

Cause Transparent image objects which this printer cannot process are included in the PDF data.

Remedy 1 Perform a soft reset in the RESET menu, optimize the PDF or flatten the transparent object to convert it into a format that this printer can process, and then print again. (See the Adobe Acrobat Help.)

Remedy 2 Press [Online] to continue printing. However, the page with which an error has occurred is not printed properly.

<DB FONT MEM.FULL>

<Auto Error Skip>

Cause The font memory of this printer has run out.

Remedy 1 Press [Online] to continue printing. However, the data with which an error has occurred is not printed properly.

Remedy 2 Decrease the number of the fonts to be downloaded onto this printer in the PS printer driver, then print again.

<DB SYS.MEM.FULL>

<Auto Error Skip>

Cause The memory required for processing has run out.

Remedy 1 Press [Online] to continue printing. However, the data with which an error has occurred is not printed properly.

Remedy 2 Perform a soft reset using the RESET menu, increase the free space of RAM using the following procedure, register the data again, and then print again.

- Perform a hard reset or cycle the power of the printer (Be aware that all the data in the memory will be deleted).
- Install an optional expansion RAM module. (See Getting Started Guide)

<DB MACROMEM.FULL>**<Auto Error Skip>**

Cause **The macro memory of this printer has run out.**

Remedy 1 Press [Online] to continue printing. However, the data with which an error has occurred is not printed properly.

Remedy 2 Decrease the number of the macros to be downloaded onto this printer in the PS printer driver, then print again.

<DB IMG.MEM.FULL>**<Auto Error Skip>**

Cause **The image memory of this printer has run out.**

Remedy 1 Press [Online] to continue printing. However, the data with which an error has occurred is not printed properly.

Remedy 2 Decrease the number of the images to be downloaded onto this printer in the PS printer driver, then print again.

<DB PTRN MEM.FULL>**<Auto Error Skip>**

Cause **The pattern memory of this printer has run out.**

Remedy 1 Press [Online] to continue printing. However, the data with which an error has occurred is not printed properly.

Remedy 2 Decrease the number of the patterns to be downloaded onto this printer in the PS printer driver, then print again.

<DB HDD ERROR>**<Auto Error Skip>**

Cause **An internal error has occurred.**

Remedy 1 Press [Online] to continue printing. However, the data with which an error has occurred is not printed properly.

Remedy 2 Cycle the power of the printer. If the message appears even after cycling the power of the printer, note down the message in the display, and contact your local authorized Canon dealer.

<E0 PREP."color" DRM>**(Warning Message)**

Cause **The drum cartridge of K (Black), Y (Yellow), M (Magenta), or C (Cyan) is nearing the end of its life.**

Remedy Although you can continue to print for a while, have ready a new drum cartridge. Replace the drum cartridge of the indicated color with a new one before printing a large amount of data. (See "Replacing Drum Cartridges," on p. 6-15)

<E1 NO WST.T.CTN>

Cause **The waste toner container is not installed or installed improperly.**

Remedy Install the waste toner container properly. (See "Replacing the Waste Toner Container," on p. 6-54)

<E1 PRE.WST.T.CTN>

(Warning Message)

Cause **The waste toner container needs to be replaced soon.**

Remedy Although you can continue to print for a while, have ready a new waste toner container.

<E1 CHG.WST.T.CTN>

Cause **The waste toner container is full.**

Remedy Replace the waste toner container with a new one. (See "Replacing the Waste Toner Container," on p. 6-54)

<E2 NO "color" DRUM>

Cause **The drum cartridge of K (Black), Y (Yellow), M (Magenta), or C (Cyan) is not installed or installed improperly.**

Remedy Install the drum cartridge of the indicated color properly. (See "Replacing Drum Cartridges," on p. 6-15)

<E5 PREP.FIX.UNIT>

(Warning Message)

Cause **The fixing unit is nearing the end of its life.**

Remedy Although you can continue to print for a while, have ready a new fixing unit. (See "Replacing the Fixing Unit," on p. 6-43)

<E7 CHK FIX.UNIT>

(Warning Message)

Cause **The fixing unit is not installed or installed improperly.**

Remedy Install the fixing unit properly. (See "Replacing the Fixing Unit," on p. 6-43)

<EF CHG."color" DRUM>**<Auto Error Skip>**

Cause The drum cartridge of K (Black), Y (Yellow), M (Magenta), or C (Cyan) has reached the end of its life.

Remedy Press [Online]. Although you can continue to print, the print quality may deteriorate. Replace the drum cartridge with a new one. If the printer is not online after replacing the drum cartridge, press [Online]. (See "Replacing Drum Cartridges," on p. 6-15)

<EM SERVER ERROR>**(Warning Message)**

Cause The printer could not connect to the POP3/SMTP server when printing e-mails, or the settings for the POP3/SMTP server are not correct.

Remedy Check the error in detail using the Remote UI or N/W Status Print. (See "When E-mail Print Fails," on p. 2-45)

<EM E-MAIL ERROR>**(Warning Message)**

Cause The printer could not connect to the POP3 server because an error had occurred in its hard disk.

Remedy Clear the hard disk error on the POP3 server.

<F9-nn PWR OFF>ON> ("nn" represents two-digit alphanumeric characters)

Cause A problem has occurred while the printer is processing print data.

Remedy Cycle the power of the printer. If the message appears even after cycling the power of the printer, note down the message in the display, and contact your local authorized Canon dealer.

<FF FONT FULL>**<Auto Error Skip>**

Cause Because of too many fonts to be registered, the field (font table) for registering font information has run out and overflowed.

Remedy The printer continues printing by pressing [Online]. However, the page with which an error has occurred is not printed properly.

<FM SIZE ERROR>**<Auto Error Skip>**

Cause There is some font with its size exceeds the pseudo-scalable font size.

Remedy Perform "Error Skip", then continue printing. However, the characters with which an error has occurred are not printed properly.

<FM SCALE ERROR>

<Auto Error Skip>

Cause There is a character in which the number of coordinate points on the contour lines exceeds the limitation of a pseudo-scalable font.

Remedy Perform "Error Skip", then continue printing. However, the characters with which an error has occurred are not printed properly.

<HF HDD FULL>

<Auto Error Skip>

Cause Free space in the hard disk has run out.

Remedy 1 The printer is ready to print by pressing [Online], ignoring the current process.

Remedy 2 Delete any unnecessary data from among the data saved on the hard disk.

<PC LOAD "size">

Cause The paper of the size specified in the application is not loaded in the paper cassette or multi-purpose tray, or the paper source for the different paper size is selected.

Remedy 1 Load the paper of the size selected in the application (or the one specified by scaling factors). (See "Loading Paper in the Paper Cassette," on p. 3-18)

Remedy 2 If you are using the multi-purpose tray, check the size of the paper in the multi-purpose tray, and when the size does not match the size specified in the application (or the one specified by scaling factors), specify the setting properly. (See "Loading Paper in the Multi-purpose Tray," on p. 3-48)

Remedy 3 Press [Feeder Selection], then select the paper cassette in which the paper of the matched size is loaded. (See "Selecting a Paper Source," on p. 3-12)

Remedy 4 Press [Online], then print to the currently loaded paper forcibly. If you are using the multi-purpose tray, the paper size setting for the multi-purpose tray automatically changes to the setting specified in the application.

**IMPORTANT**

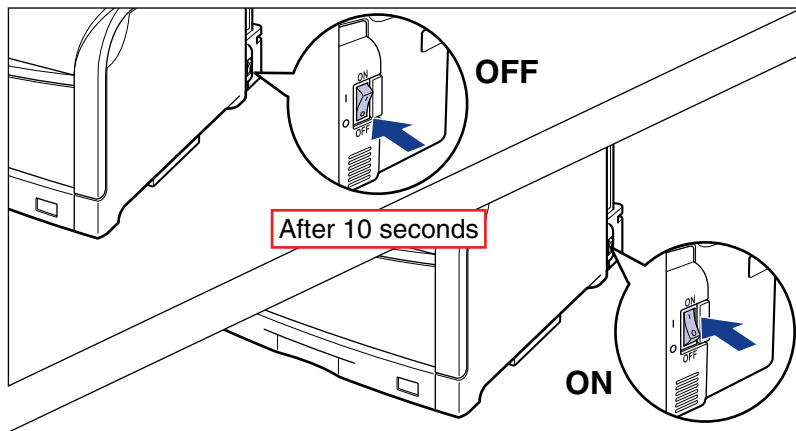
If you open the front cover when the message <PC LOAD "size"> is displayed, the message may disappear. However, be sure to follow the directions in the displayed message to change the paper.

Service Call Display

When a problem has occurred and the printer does not work properly, the service call shown in the figure appears:

| Message | Cause | Remedy |
|---|--|---|
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">Ennn-nnnn</div> ("n" represents a number) | A problem has occurred inside the printer. | Cycle the power of the printer using the following procedure. If the message does not disappear after cycling the power of the printer several times, contact your local authorized Canon dealer. |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">E001-nnnn</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">E003-nnnn</div> ("n" represents a number) | A problem has occurred with the fixing unit of the printer. | Perform the following procedures from the Step 2 to contact your local authorized Canon dealer. |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">F9-nn PWR OFF>ON</div> ("nn" represents two-digit alphanumeric characters) | A problem has occurred while the printer is processing print data. | Cycle the power of the printer using the following procedure. |

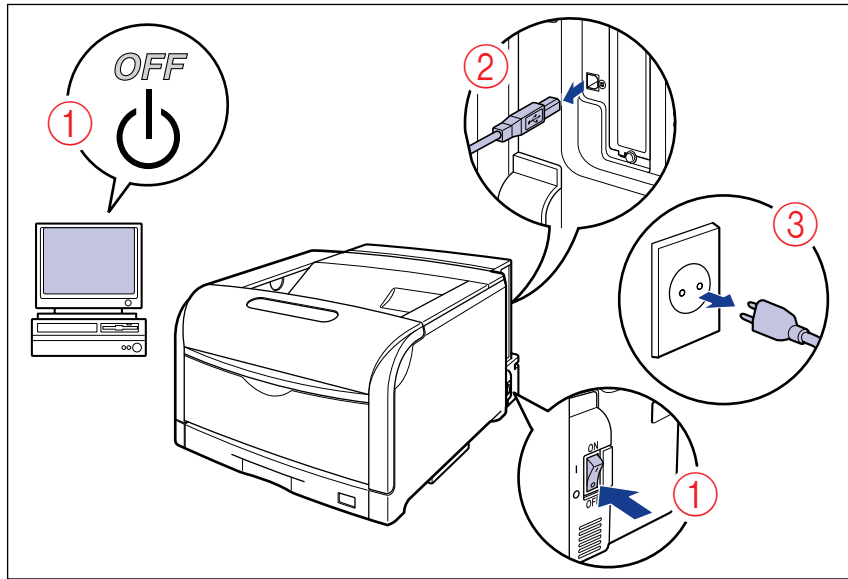
-
- 1** Turn the printer and the computer OFF, wait for 10 seconds or longer, and then turn it ON again.



If the message does not reappear, the printer can be used as normal. If the error message still appears, proceed to Step 2.

- 2** Note down the eight-digit alphanumeric characters and message in the display.

- 3** Turn the printer and computer OFF ①, remove the USB cable ②, and then disconnect the power plug from the AC power outlet ③.



- 4** Contact your local authorized Canon dealer.

When contacting your Canon dealer, please report the problems and code number (eight-digit alphanumeric characters) that you have noted.

When You Cannot Obtain Appropriate Printout Results

If any problem occurs while you are using the printer, take the following measures depending on the symptoms.

IMPORTANT

- If the printer does not operate properly or an error message appears, see "Message List" (p. 7-23) and "Service Call Display" (p. 7-45).
- When a paper jam occurs, see "Paper Jams," on p. 7-4.
- If a symptom that is not indicated in this section occurs, if none of the indicated remedies do not solve the problem, or if you cannot determine the problem, contact your local authorized Canon dealer.

Problems with the Power or Printer Operation

The printer cannot be turned ON.

Cause 1 The power plug is unplugged from the AC power outlet.

Remedy Plug the power plug into the AC power outlet.

Cause 2 The printer is plugged to an extension cord or multiple power strip.

Remedy Plug the power plug of the printer directly into the AC power outlet on the wall.

Cause 3 The breakers have tripped.

Remedy Reset the breakers on the switch board.

Cause 4 There is a break in the power cord.

Remedy If the printer is turned ON after replacing the power cord with the one that is of the same type and is used for other device, there is a break in the power cord. In this case, purchase a new power cord and replace it with the broken one.

The printer does not operate.

Cause 1 The printer is offline.

Remedy Press [Online] to turn on the Online indicator. (See "Online and Offline," on p. 2-10)

Cause 2 There is data remaining in the memory (the Job indicator is on).

Remedy Press [Online] to place the printer offline, then select FORM FEED in the RESET menu to output all the data remaining in the memory. (See "Canceling a Job," on p. 2-59)

Cause 3 The interface cable is disconnected.

Remedy Connect the interface cable firmly to the interface connectors on the computer and printer unit. (See Getting Started Guide)

Cause 4 This printer or any optional accessory is broken.

Remedy Clear the problem referring to the message in the display. (See "Message List," on p. 7-23, "Service Call Display," on p. 7-45)

All the indicators on the print server are off.

Cause 1 The LAN cable is not connected properly or broken.

Remedy 1 Remove the LAN cable once, then connect it again.

Remedy 2 Replace the LAN cable with another one, then connect it.

Cause 2 The cable is connected to the UP-LINK (cascade) port on the hub.

Remedy 1 Connect the LAN cable to a port with a "X" mark.

Remedy 2 If the hub has a UP-LINK (cascade) switch, switch to "X".

Cause 3 A cross LAN cable is being used.

Remedy 1 Replace the cable with a straight LAN cable.

Remedy 2 Connect the cross LAN cable to the UP-LINK (cascade) port on the hub. If the hub has a UP-LINK (cascade) switch, switch to "=".

 **NOTE**

A cross LAN cable is a cable used to connect to a printer and computer directly.

Cause 4 Cannot communicate with the hub.

Remedy 1 Make sure that the power of the hub is on.

Remedy 2 Set network transmission setting for the print server according to the transmission speed of the connected hub. (See "ETHERNET DRIVER," on p. 5-65)

Remedy 3 Replace the hub.

Cause 5 The hardware of the print server is in an abnormal condition.

Remedy Report the problems to your local authorized Canon dealer.

The printer stopped printing during a job.

Cause There is data remaining in the memory (the Job indicator is on).

Remedy Press [Online] to place the printer offline, then select FORM FEED in the RESET menu to output all the data remaining in the memory. (See "Canceling a Job," on p. 2-59)

The indicators on the control panel do not come on.

Cause 1 The printer is not ON.

Remedy Turn the printer ON.

Cause 2 The printer is in Power Save Mode.

Remedy The printer will be ready to print after you send print data or press any key on the control panel.

The keys on the control panel do not function.

Cause There is data remaining in the memory (the Job indicator is on).

Remedy Press [Online] to place the printer offline, then select FORM FEED in the RESET menu. (See "Canceling a Job," on p. 2-59)

A paper jam occurs each time you print.

Cause 1 The amount of the paper loaded in the paper cassette or multi-purpose tray exceeds the load limitation.

Remedy Reduce the amount of paper to within the load limitation and print again. (See "Loading Paper in the Paper Cassette," on p. 3-18, "Loading Paper in the Multi-purpose Tray," on p. 3-48)

Cause 2 Paper is not loaded properly in the paper cassette or multi-purpose tray.

Remedy Load the paper properly and print again. (See "Loading Paper in the Paper Cassette," on p. 3-18, "Loading Paper in the Multi-purpose Tray," on p. 3-48)

Cause 3 Unusable paper is loaded in the paper cassette or multi-purpose tray.

Remedy Replace the paper with one that can be used and print again. (See "Paper Requirements," on p. 3-2)

Cause 4 You are using UFR II Printer Driver, and you loaded custom paper of its long edges 297.0 mm or less and printed when TRAY PAPER SIZE, CASSETTE2 SIZE, CASSETTE3 SIZE, or CASSETTE4 SIZE in the FEEDER MENU options in the SETUP menu was set to MIXED SIZE.

Remedy Load the paper in landscape orientation, then print again.

Cause 5 When the UFR II printer driver was not used, custom size paper was loaded in landscape orientation to be printed.

Remedy Load the paper in portrait orientation, then print again.

Cause 6 There is still jammed paper inside the printer.

Remedy Remove any jammed paper and print again. (See "Paper Jams," on p. 7-4)

The hard disk cannot be used.

Cause 1 HARD DISK in the CONTROL MENU options in the SETUP is set to OFF.

Remedy Set HARD DISK (See p. 5-25) to ON, and then perform a hard reset.

Cause 2 An error has occurred in the hard disk.

Remedy Format the hard disk in HDD MAINTENANCE (See p. 5-73) in the USER MAIN. options in the SETUP menu. If the same error occurs, replace the hard disk.

Cause 3 The hard disk is not installed properly.

Remedy Turn the printer OFF, then check if the hard disk is installed properly. (See Getting Started Guide)

Cause 4 The data cannot be saved on the hard disk because there is not sufficient free space in the hard disk.

Remedy Delete any unnecessary jobs from among the jobs saved on the hard disk.

Jobs cannot be saved.

Cause 1 The data cannot be saved on the hard disk because there is not sufficient free space in the hard disk.

Remedy The printer is ready to print by pressing [Online], ignoring the print data. The data of 2GB or larger in total cannot be saved.

Cause 2 The number of the jobs exceeded the number of jobs you can save in the hard disk.

Remedy 1 The printer is ready to print by pressing [Online], ignoring the print data. Up to 100 jobs can be saved all together.

Remedy 2 Delete any unnecessary jobs from among the jobs saved on the hard disk.

Cause 3 **The amount of the print jobs exceeded the amount of jobs you can save in the hard disk.**

Remedy 1 The printer is ready to print by pressing [Online], ignoring the print data. The data of 2GB or larger cannot be saved.

Remedy 2 Delete any unnecessary jobs from among the jobs saved on the hard disk.

The printing speed drops when printing paper with a narrower width continuously.

Cause **This kind of phenomenon may occur depending on the printing preferences or setting for SP.S-SIZE MODE2.**

Remedy Set SP.S-SIZE MODE2 (See p. 5-72) in the USER MAIN. options in the SETUP menu to 1 or 2, and then print again. However, the print quality may deteriorate because the printer gives the priority to the printing speed.

Problems with the Printout Results

Unreadable characters are printed.

Cause 1 **The data is printed from Windows without the supplied printer driver installed for Windows.**

Remedy Install the supplied printer driver for Windows, then print again.

Cause 2 **The printer setting in the DOS application is not appropriate.**

Remedy Specify the printer setting in the DOS application to the one that is compatible with this printer.

A blank page cannot be printed.

Cause **PAPER SAVE is set to ON.**

Remedy When printing a blank page, set PAPER SAVE (See p. 5-75) and (See p. 5-80) to OFF.

The last page cannot be printed.

Cause **The command that notifies of the end of the data is not sent from the computer (the Job indicator is on).**

Remedy Press [Online] to place the printer offline, then select FORM FEED in the RESET menu (If you print using an application that does not have a printing function, the last page in which data is less than one page remains in the memory). (See "Canceling a Job," on p. 2-59)

The data lies outside the paper.

Cause 1 **You are using UFR II Printer Driver, and you loaded custom paper of its long edges 297.0 mm or less and printed when TRAY PAPER SIZE, CASSETTE2 SIZE, CASSETTE3 SIZE, or CASSETTE4 SIZE in the FEEDER MENU options in the SETUP menu was set to MIXED SIZE.**

Remedy Load the paper in landscape orientation, then print again.

Cause 2 **When the UFR II printer driver was not used, custom size paper was loaded in landscape orientation to be printed.**

Remedy Load the paper in portrait orientation, then print again.

Cause 3 **Paper of the size smaller than the data size is loaded.**

Remedy Load the paper of the size that matches the data size or print the data in the reduced size that matches the paper size.

Cause 4 **The position of the paper is incorrect.**

Remedy Load the paper properly and print again. (See "Loading Paper in the Paper Cassette," on p. 3-18, "Loading Paper in the Multi-purpose Tray," on p. 3-48)

Cause 5 **A document with no margins was printed.**

Remedy 1 If you are using UFR II Printer Driver, secure a margin of 5 mm or more (10 mm or more for envelopes) around the data, then print again (Data cannot be printed within a 5 mm margin (10 mm for envelopes) on all sides of the paper). (See the instruction manual supplied with your application)

Remedy 2 If you are using PCL Printer Driver, secure a margin of 4.23 mm or more (10 mm or more for envelopes) around the data, then print again (Data cannot be printed within a 4.23 mm margin (10 mm for envelopes) on all sides of the paper). (See the instruction manual supplied with your application)

Remedy 3 If you are using PS Printer Driver, secure a margin of 4 mm or more around the data, then print again (Data cannot be printed within a 4 mm margin on all sides of the paper). (See the instruction manual supplied with your application)

Remedy 4 If you are using the PS/UFR II printer driver and select the [Print with Upper Left of Sheet as Starting Point] check box in the printer driver, you can extend the printable area to near the edges of the paper. However, data may be printed with the edges missing.

In order to specify the setting for [Print with Upper Left of Sheet as Starting Point], display the following dialog box.

- For UFR II Printer Driver: Display the [Finishing Details] dialog box by clicking [Finishing Details] in the [Finishing] sheet.
- For PS Printer Driver: See Help of the PS printer driver.

Cause 6 **The printing position has been adjusted using ADJ.START POS. in the USER MAIN. options in the SETUP menu.**

Remedy Adjust the printing position to the appropriate value using ADJ.START POS. in the USER MAIN. options in the SETUP menu. (See "Adjusting the Printing Position," on p. 6-62)

The printing position is skewed.

Cause 1 **GUTTER, OFFSET Y, or OFFSET X in the LAYOUT MENU options in the SETUP menu is specified.**

Remedy Set GUTTER, OFFSET Y, or OFFSET X in the LAYOUT MENU options in the SETUP menu to "0", and then print again.

Cause 2 **"Top Margin" and "Paper Position" in the application are not specified properly.**

Remedy Specify the settings for "Top Margin" and "Paper Position" in the application properly, and then print again. (See the instruction manual supplied with your application)

Cause 3 **The printing position has been adjusted using ADJ.START POS. in the USER MAIN. options in the SETUP menu.**

Remedy Adjust the printing position to the appropriate value using ADJ.START POS. in the USER MAIN. options in the SETUP menu. (See "Adjusting the Printing Position," on p. 6-62)

The next page is printed from halfway across the previous page.

Cause 1 **"Line Spacing" or "Lines/Page" in the application is not specified properly.**

Remedy Specify the settings for "Line Spacing" and "Lines/Page" in the application so that data fits in one page, and print again. (See the instruction manual supplied with your application)

Cause 2 **MODE SELECTION in the PRINT MODE options in the SETUP menu is set to AUTO SELECTION, and the set time for MODE TIMEOUT in the INTERFACE MENU options in the SETUP menu is too short.**

Remedy Set MODE SELECTION in the PRINT MODE options in the SETUP menu to a setting value other than AUTO SELECTION or lengthen the set time for MODE TIMEOUT enough. (See "MODE SELECTION," on p. 5-66)

Data is printed with its size reduced.

Cause **The printer is set to reduce the print size.**

Remedy Confirm the setting for [Manual Scaling] in the printer driver.

Paper comes out wrinkled.

Cause 1 **Paper is loaded in the paper cassette or multi-purpose tray at an angle.**

Remedy Load the paper in the paper cassette or multi-purpose tray straight. (See "Loading Paper in Cassette 1," on p. 3-20, "Loading Paper (Other than Envelopes)," on p. 3-49)

Cause 2 **Paper is damp since the paper has been stored in unsuitable condition.**

Remedy Replace the paper with new one and print again. (See "Paper Requirements," on p. 3-2)

Cause 3 **The fixing unit is nearing the end of its life.**

Remedy Perform Configuration Page Print, check the value of the counter of the fixing unit. If the number of sheets has been increased by approximately 150,000 sheets since you replaced the fixing unit last time, replace the fixing unit with a new one. (See "Replacing the Fixing Unit," on p. 6-43)

Paper curls.

Cause 1 **Paper is damp since the paper has been stored in unsuitable condition.**

Remedy Replace the paper with new one and print again. (See "Paper Requirements," on p. 3-2)

Cause 2 **Paper is inappropriate.**

Remedy Replace the paper with one that can be used with this printer. (See "Paper Requirements," on p. 3-2)

Cause 3 **The paper is too thin.**

Remedy Set [Paper Type] to [Plain Paper L] in the printer driver. In order to specify the setting for [Paper Type], display the [Paper Source] sheet.

Nothing is printed on the paper.

Cause 1 Multiple sheets of paper were fed at a time.

Remedy Align the paper stack in the paper cassette or multi-purpose tray properly and load it again. If you are using coated paper or labels, fan them thoroughly and load them again. (See "Loading Paper in the Paper Cassette," on p. 3-18, "Loading Paper in the Multi-purpose Tray," on p. 3-48)

Cause 2 A problem has occurred inside the printer.

Remedy 1 If <Ennn-nnnn> is displayed in the display, turn the power OFF, wait for 10 seconds or longer, and then turn the power ON again. This may clear the message.

Remedy 2 If the message does not disappear even after applying the Remedy 1, contact your local authorized Canon dealer for servicing.

Print Quality Problems

Nothing is printed on the paper, but the paper is filled with a certain color.

Cause 1 The drum cartridge has been deteriorated or is damaged.

Remedy See "When Any Print Defect Appears" (p. 7-69) and solve the problem.

**NOTE**

The samples are provided in "Print Defect Samples" (See p. 7-91).

Cause 2 A problem has occurred inside the printer.

Remedy 1 If <Ennn-nnnn> is displayed in the display, turn the power OFF, wait for 10 seconds or longer, and then turn the power ON again. This may clear the message.

Remedy 2 If the message does not disappear even after applying the Remedy 1, contact your local authorized Canon dealer for servicing.

White streaks appear.

Cause The drum cartridge has been deteriorated or is damaged.

Remedy See "When Any Print Defect Appears" (p. 7-69) and solve the problem.

**NOTE**

The samples are provided in "Print Defect Samples" (See p. 7-91).

Color streaks appear.

Cause A problem has occurred in the printer, or the ITB unit has been deteriorated or is damaged.

Remedy See "When Any Print Defect Appears" (p. 7-69) and solve the problem.

 **NOTE**

The samples are provided in "Print Defect Samples" (See p. 7-91).

Printed pages have white specks.

Cause 1 Appropriate paper is not being used.

Remedy Replace the paper with one that can be used and print again. (See "Paper Requirements," on p. 3-2)

Cause 2 Paper is damp since the paper has been stored in unsuitable condition.

Remedy Replace the paper with new one and print again. (See "Paper Requirements," on p. 3-2)

Cause 3 The drum cartridge has been deteriorated.

Remedy See "When Any Print Defect Appears" (p. 7-69) and solve the problem.

 **NOTE**

The samples are provided in "Print Defect Samples" (See p. 7-91).

Residual images appear on the non-printed areas.

Cause 1 Printing paper is inappropriate.

Remedy Change the paper and print again. (See "Paper Requirements," on p. 3-2)

Cause 2 This kind of phenomenon may occur depending on the printing preferences or setting for **SP.S-SIZE MODE1**.

Remedy Set SP.S-SIZE MODE1 (See p. 5-72) in the USER MAIN. options in the SETUP to -1 or -2, and then print again.
However, the printing speed may drop because the printer gives the priority to the print quality.

Cause 3 The drum cartridge has been deteriorated.

Remedy See "When Any Print Defect Appears" (p. 7-69) and solve the problem.

 **NOTE**

The samples are provided in "Print Defect Samples" (See p. 7-91).

The overall print result is faint.

Cause 1 The setting for the toner density is not appropriate.

Remedy Adjust DENSITY:"color" (See p. 5-45) in the QUALITY MENU options in the SETUP menu.

Cause 2 **TONER SAVE in the QUALITY MENU options in the SETUP menu is set to ON.**

Remedy Set TONER SAVE (See p. 5-44) in the QUALITY MENU options in the SETUP menu to OFF.

The overall print result is dark.

Cause 1 The setting for the toner density is not appropriate.

Remedy Adjust DENSITY:"color" (See p. 5-45) in the QUALITY MENU options in the SETUP menu.

Cause 2 **The printer is exposed to direct sunlight or strong light.**

Remedy Move the printer to a place where it will not be exposed to direct sunlight or strong light. Alternatively, move the strong light source away from the printer.

The print is uneven.

Cause 1 The drum cartridge has been deteriorated.

Remedy See "When Any Print Defect Appears" (p. 7-69) and solve the problem.



The samples are provided in "Print Defect Samples" (See p. 7-91).

Cause 2 **Paper is too moist or too dry.**

Remedy Replace the paper with appropriate one and print again. (See "Paper Requirements," on p. 3-2)

The images appear rough or the data could not be printed properly when printing in the Super Fine mode.

Cause **The printer could not process the data in the Super Fine mode because it was too complicated or too large.**

Remedy 1 The printer continues printing by pressing [Online]. However, the printer prints with the resolution level of the data being lowered.

Remedy 2 Perform a soft reset using the RESET menu, then print again with the resolution level being lowered.

Remedy 3 If you want to print in the Super Fine mode, perform a soft reset by pressing [Reset], and then increase the free space of RAM using the following procedure.

- Perform a hard reset or cycle the power of the printer (Be aware that all the data in the memory that the printer has received will be deleted).
- Install an optional expansion RAM module. (See Getting Started Guide)

A portion of a page is not printed.

Cause 1 **The scale factor is incorrect.**

Remedy 1 Clear the [Manual Scaling] check box in the printer driver. If the check box is cleared, the scale factor will be set according to [Page Size] and [Output Size] automatically.

In order to specify the setting for [Manual Scaling], display the [Page Setup] sheet.

Remedy 2 Select the [Manual Scaling] check box in the printer driver, then specify an appropriate scale factor according to the paper size to be used.

In order to specify the setting for [Manual Scaling], display the [Page Setup] sheet.

Cause 2 **The position of the paper is incorrect.**

Remedy Load the paper properly. (See "Loading Paper in Cassette 1," on p. 3-20, "Loading Paper (Other than Envelopes)," on p. 3-49)

Cause 3 **A document with no margins was printed.**

Remedy 1 The printable area of this printer is as follows (10 mm for envelopes if you are using the UFR II/PCL printer driver). Secure a margin around the data.

When the UFR II printer driver is used: The area except for 5 mm of the edges of paper

When the PCL printer driver is used: The area except for 4.23 mm of the edges of paper

When the PS printer driver is used: The area except for 4 mm of the edges of paper

Remedy 2 If you are using the PS/UFR II printer driver and select the [Print with Upper Left of Sheet as Starting Point] check box in the printer driver, you can extend the printable area to near the edges of the paper.

In order to specify the setting for [Print with Upper Left of Sheet as Starting Point], display the following dialog box.

- For UFR II Printer Driver: Display the [Finishing Details] dialog box by clicking [Finishing Details] in the [Finishing] sheet.
- For PS Printer Driver: See Help of the PS printer driver.

 **IMPORTANT**

Depending on the print data to be printed, the edge of paper may be missing partly during printing or may blot during color printing.

Toner does not fix well.

Cause 1 **Appropriate paper is not being used.**

Remedy Replace the paper with one that can be used with this printer. (See "Paper Requirements," on p. 3-2)

Cause 2 **Toner may not fix onto paper completely depending on the paper type.**

Remedy Set [Gray Compensation] to [On] in the printer driver.

In order to specify the setting for [Gray Compensation], display the following dialog box.

- For UFR II Printer Driver: Display the [Advanced Settings] dialog box by clicking [Details] in the [Quality] sheet, then clicking [Advanced Settings] in the [Detailed Settings] dialog box.
- For PCL/PS Printer Driver: See Help of the PCL/PS printer driver.

Cause 3 **A problem has occurred inside the printer.**

Remedy 1 If <Ennn-nnnn> is displayed in the display, turn the power OFF, wait for 10 seconds or longer, and then turn the power ON again. This may clear the message.

Remedy 2 If the message does not disappear even after applying the Remedy 1, contact your local authorized Canon dealer for servicing.

The printed colors appear different from those printed by another LBP5970 being used at the same time.

Cause 1 **The default setting of the toner density of K (Black), Y (Yellow), M (Magenta), or C (Cyan) is somewhat varied.**

Remedy Adjust the toner density of the drum cartridge of K (Black), Y (Yellow), M (Magenta), or C (Cyan). (See "Adjusting the Color Balance," on p. 7-95)



IMPORTANT

Adjustment of the toner density affects all the color print jobs. Normally, use the printer with the toner density left to the default value (9).

Cause 2 Any of the four color toner cartridges is running out, or the drum cartridge has been deteriorated.

Remedy 1 Replace the toner cartridge of the color for which <PREP. "color" TNR> or <CHG."color" TNR> is indicated with a new one. (See "Replacing Toner Cartridges," on p. 6-2)

Remedy 2 See "When Any Print Defect Appears" (p. 7-69) and solve the problem.

Data is not printed in correct colors or colored text appears to be blurred due to a phenomenon of "Out-of-Register Colors".

Cause 1 The drum cartridges are not installed properly.

Remedy Check if the drum cartridges are installed properly. (See "Replacing Drum Cartridges," on p. 6-15)

Cause 2 Any of the four color toner cartridges is running out, or the drum cartridge has been deteriorated.

Remedy 1 Replace the toner cartridge of the color for which <PREP. "color" TNR> or <CHG."color" TNR> is indicated with a new one. (See "Replacing Toner Cartridges," on p. 6-2)

Remedy 2 See "When Any Print Defect Appears" (p. 7-69) and solve the problem.

Cause 3 Appropriate paper is not being used.

Remedy Replace the paper with one that can be used and print again. (See "Paper Requirements," on p. 3-2)

The colors of thin lines or filled-in patterns are different from the specified colors, or do not appear at all.

Cause 1 Some colors cannot be reproduced due to the combination of colors or patterns.

Remedy 1 Adjust the colors in the application and print again.

Remedy 2 Change the patterns in the application and print again.

Cause 2 The color may appear different depending on the fill-pattern.

Remedy 1 Readjust to a darker color and print again.

Remedy 2 Reload paper to change the feeding direction, then print again.

Fill-patterns are not printed in the correct color (specified color).

Cause The fill-pattern of the print data and the dither pattern of the printer are interfering with one another.

Remedy 1 Print again without specifying a fill-pattern in the application.

Remedy 2 Set [Halftones] to [Gradation] or [Color Tone] in the printer driver.
In order to specify the setting for [Halftones], display the following dialog box.

- For the UFR II printer driver: Display the [Detailed Settings] dialog box by clicking [Details] in the [Quality] sheet.
- For PCL/PS Printer Driver: See Help of the PCL/PS printer driver.

Remedy 3 If you are using UFR II Printer Driver, set [Halftones] to [Error Diffusion].
In order to specify the setting for [Halftones], display the [Detailed Settings] dialog box by clicking [Details] in the [Quality] sheet.

The displayed color and printed color differ when printing photos, etc.

Cause The method for adjusting color on the screen (RGB) and in the printer (YMC) is different. Therefore, there may be cases when the color on the screen cannot be printed out exactly as it appears.

Remedy 1 Set [Matching Method] to [Perceptual [Monitor Color Matched]] in the printer driver.
In order to specify the setting for [Matching Method], display the following sheet.

- For the UFR II printer driver: Display the [Matching] sheet by selecting the [Manual Color Settings] check box in the [Quality] sheet, and then clicking [Color Settings].
- For PCL/PS Printer Driver: See Help of the PCL/PS printer driver.

Remedy 2 When using the PCL/UFR II printer driver, adjust [Gamma] in the printer driver.
In order to specify the setting for [Gamma], display the following sheet.

- For UFR II Printer Driver: Display the [Matching] sheet by selecting the [Manual Color Settings] check box in the [Quality] sheet, and then clicking [Color Settings].
- For PCL Printer Driver: See Help of the PCL printer driver.

Remedy 3 If you are using the PS printer driver, set RGB SRCE PROF. (See p. 5-50) in the QUALITY MENU options to HDTV_gamma_1.5, HDTV_gamma_1.8, or HDTV_gamma_2.4.
Also, you can specify the same setting in the PS printer driver. For more details, see Help of the PS printer driver.

Streaks appear in the gradated portions when printing diagrams with gradations.

Cause 1 When you are using the PCL/UFR II printer driver, gray compensation is applied to the gray color portions of the "streaks" in the diagrams.

Remedy 1 Set [Gray Compensation] to [Off] in the printer driver.
In order to specify the setting for [Gray Compensation], display the following dialog box.

- For UFR II Printer Driver: Display the [Advanced Settings] dialog box by clicking [Details] in the [Quality] sheet, then clicking [Advanced Settings] in the [Detailed Settings] dialog box.
- For PCL Printer Driver: See Help of the PCL printer driver.

Cause 2 When you are using the PS printer driver, TR Normal or TR Photo in OUTPUT PROFILE is applied to the gray color portions of the "streaks" in the diagrams.

Remedy 1 Set OUTPUT PROFILE (See p. 5-97) in the PS options to NORMAL or PHOTO.

Remedy 2 Set RGB PURE BLACK (See p. 5-98) in the PS options to OFF.
Also, you can specify the same setting in the PS printer driver. For more details, see Help of the PS printer driver.

Data is not printed in the correct color (specified color) even after specifying the same color for a filled-in pattern and its border.

Cause When you are using the PCL/UFR II printer driver, a special process may be applied depending on the line width of the border so that thin lines are printed clearly.

Remedy 1 Set [Matching Method] to a setting other than [Standard] in the printer driver.
In order to specify the setting for [Matching Method], display the following sheet.

- For the UFR II printer driver: Display the [Matching] sheet by selecting the [Manual Color Settings] check box in the [Quality] sheet, and then clicking [Color Settings].
- For PCL Printer Driver: See Help of the PCL printer driver.

Remedy 2 Adjust [Gamma] in the printer driver.
In order to specify the setting for [Gamma], display the following sheet.

- For the UFR II printer driver: Display the [Matching] sheet by selecting the [Manual Color Settings] check box in the [Quality] sheet, and then clicking [Color Settings].
- For PCL Printer Driver: See Help of the PCL printer driver.

When printing from Windows, streaks appear on the printed paper, diagrams are printed with their colors partially different from the data, or diagrams that are not filled in with any color do not appear through another data over them and cannot be printed in correct color.

Cause **The superimposed areas are misaligned because the document is printed with its size enlarged or reduced, or any complicated superimpose process is specified in the application.**

Remedy Specify the following settings in the PCL 6/UFR II printer driver.

- For the UFR II printer driver: In the [Quality] sheet, click [Details], and then set [Rendering Rate] to [24 BPP].
- For PCL 6 Printer Driver: Specify the same setting as for the UFR II printer driver. For more details, see Help of the PCL 6 printer driver.

Colored text appears to be blurred.

Cause **A bold font is being used for the colored text.**

Remedy 1 Print again with thinner fonts.

Remedy 2 Set [Matching Method] to [Perceptual [Monitor Color Matched]] in the printer driver.
In order to specify the setting for [Matching Method], display the [Matching] sheet by selecting the [Manual Color Settings] check box in the [Quality] sheet, and then clicking [Color Settings].

Black text appears to be blurred.

Cause **When you are using the PS printer driver, black text is printed with the toner of Cyan (C), Magenta (M), Yellow (Y), and Black (Bk).**

Remedy 1 Set PURE BLACK TEXT (See p. 5-98) in the PS options to ON.
Also, you can specify the same setting in the PS printer driver. For more details, see Help of the PS printer driver.

Remedy 2 Set OUTPUT PROFILE (See p. 5-97) in the PS options to TR Normal or TR Photo.

Remedy 3 Set RGB PURE BLACK (See p. 5-98) in the PS options to ON.
Also, you can specify the same setting in the PS printer driver. For more details, see Help of the PS printer driver.

Thin lines and thin text blot.

Cause When you were using the PS printer driver, certain thin lines and text were subject to constraint of an internal process.

Remedy 1 Adjust the colors in the application and print again. (See the instruction manual supplied with your application)

Remedy 2 Make the lines bold or use a bold font for the text, then print again.

Remedy 3 Set B & W HALFTONES (See p. 5-100) or COLOR HALFTONES (See p. 5-101) in the PS options to ERR DIFFUSION or RESOLUTION.
Also, you can specify the same setting in the PS printer driver. For more details, see Help of the PS printer driver.

Remedy 4 If you are using Illustrator 8.0 or later for Windows as an application, set the setting for [Bitmap Print] to off. (See the instruction manual supplied with Illustrator)

Remedy 5 Set OUTPUT PROFILE (See p. 5-97) in the PS options to TR Normal or TR Photo.

If [Collate] is specified when data is printed from the PostScript application, the printed colors are different from the original colors of the data.

Cause Data was printed with [Collate] specified from the PS printer driver when an optional hard disk was not installed. (The RGB-based color model was used via GDI.)

Remedy 1 Set [Finishing] to [Group] in the printer driver.
In order to specify the setting for [Finishing], display the [Finishing] sheet.

 **NOTE**

If an optional hard disk is not installed, you cannot print data without changing the original colors with [Collate] specified from the PostScript application.

Remedy 2 Install an optional hard disk.

Streaks, flaws, or unevenness of gloss appears in the areas dense in color.

Cause The drum cartridge has been deteriorated or is damaged, or a problem has occurred in the fixing unit.

Remedy See "When Any Print Defect Appears" (p. 7-69) and solve the problem.

 **NOTE**

The samples are provided in "Print Defect Samples" (See p. 7-91).

The back of the printed paper has smudge marks.

Cause The size of the print data was larger than that of the loaded paper.

Remedy Check if the size of the print data matches that of the loaded paper.

Square areas that cannot be seen on the display appear around lines or text and are printed in a different color from the other areas.

Cause A process that is different from the specified halftone process or color process may be applied depending on the operating system or application.

Remedy 1 When using the UFR II printer driver, set [Gray Compensation] to [Off].
In order to specify the setting for [Gray Compensation], display the following dialog box.

- For the UFR II printer driver: Display the [Advanced Settings] dialog box by clicking [Details] in the [Quality] sheet, then clicking [Advanced Settings] in the [Detailed Settings] dialog box.
- For PCL Printer Driver: See Help of the PCL printer driver.

Remedy 2 When using the PCL/UFR II printer driver, set [Halftones] to [High Resolution], [Resolution], [Gradation], or [Color Tone].
In order to specify the setting for [Halftones], display the following dialog box.

- For UFR II Printer Driver: Display the [Detailed Settings] dialog box by clicking [Details] in the [Quality] sheet.
- For PCL Printer Driver: See Help of the PCL printer driver.

Remedy 3 When using the PCL/UFR II printer driver, set [Matching Mode] to [Gamma Adjustment].
In order to specify the setting for [Matching Mode], display the following sheet.

- For UFR II Printer Driver: Display the [Matching] sheet by selecting the [Manual Color Settings] check box in the [Quality] sheet, and then clicking [Color Settings].
- For PCL Printer Driver: See Help of the PCL printer driver.

Remedy 4 When using the PCL/UFR II printer driver, set [Matching Mode] to [Printer Default], and then specify the same setting for TEXT, GRAPHICS, and IMAGE in MATCHING METHOD (See p. 5-86).
In order to specify the setting for [Matching Mode], display the following sheet.

- For UFR II Printer Driver: Display the [Matching] sheet by selecting the [Manual Color Settings] check box in the [Quality] sheet, and then clicking [Color Settings].
- For PCL Printer Driver: See Help of the PCL printer driver.

Remedy 5 If you are using the PS printer driver, set B & W HALFTONES (See p. 5-100) or COLOR HALFTONES (See p. 5-101) in the PS options to ERR DIFFUSION, RESOLUTION, or GRADATION.
Also, you can specify the same setting in the PS printer driver. For more details, see Help of the PS printer driver.

Remedy 6 Set RGB PURE BLACK (See p. 5-98) in the PS options to OFF.
Also, you can specify the same setting in the PS printer driver. For more details, see Help of the PS printer driver.

Colored lines and text come out faint.

Cause Thin lines or text are being used.

Remedy Select the [Prioritize Printing of Colored Lines and Text] check box in the printer driver.
In order to specify the settings for [Prioritize Printing of Colored Lines and Text], display the following dialog boxes.

- For the UFR II printer driver: Display the [Advanced Settings] dialog box by clicking [Details] in the [Quality] sheet, then clicking [Advanced Settings] in the [Detailed Settings] dialog box.
- For PCL/PS Printer Driver: See Help of the PCL/PS printer driver.

 **NOTE**

When using the PS printer driver, you can also specify the same setting using OUTPUT PROFILE (See p. 5-97) in the printer's control panel. When doing so, set OUTPUT PROFILE to TR Normal or TR Photo.

The printing position is skewed slightly depending on the color to be printed.

Cause Although laser printers are manufactured with technology of high precision, a phenomenon of "Out-of-Register Colors" may be slightly conspicuous depending on the print image. Please note that this is due to the structure of laser printers, but not due to printer malfunction.

Remedy 1 Adjust the phenomenon of "Out-of-Register Colors" in CALIBRATION (See p. 5-106) in the UTILITY menu.

Remedy 2 If [Gray Compensation] in the printer driver is set to [Off], poor print quality (a phenomenon of "Out-of-Register Colors") may be alleviated.
In order to specify the setting for [Gray Compensation], display the following dialog box.

- For the UFR II printer driver: Display the [Advanced Settings] dialog box by clicking [Details] in the [Quality] sheet, then clicking [Advanced Settings] in the [Detailed Settings] dialog box.
- For PCL Printer Driver: See Help of the PCL printer driver.

Gradation in the black or gray parts of the image does not appear smooth (the color changes stand out).

Cause Data in black or gray was printed with the setting for RGB PURE BLACK enabled.

Remedy Set RGB PURE BLACK (See p. 5-98) in the PS options to OFF. Also, you can specify the same setting in the PS printer driver. For more details, see Help of the PS printer driver.



IMPORTANT

When printing is performed with the setting for RGB PURE BLACK set to OFF, data in black or gray is printed with 4-color toner of CMYK. Therefore, the data may be printed in color, even if all the pages are in black and white.

Gray data appears grainy.

Cause Data in black or gray was printed with the settings for RGB PURE BLACK and OUTPUT PROFILE enabled.

Remedy Set RGB PURE BLACK (See p. 5-98) to OFF, then set OUTPUT PROFILE (See p. 5-97) to NORMAL in the PS options.



IMPORTANT

When printing is performed with the setting for RGB PURE BLACK set to OFF, data in black or gray is printed with 4-color toner of CMYK. Therefore, the data may be printed in color, even if all the pages are in black and white.

When Any Print Defect Appears

When any print defects such as those in "Print Defect Samples" (See p. 7-91) appears, perform the following procedures in number order to solve the problem.

1. Clean the inside of the printer, then perform calibration. (See p. 7-69)
2. Print Test Chart 1. (See p. 7-87)
3. Print Test Chart 2. (See p. 7-89)



IMPORTANT

If any error message or service call is displayed in the display on the control panel, see "Message List" (p. 7-23) and "Service Call Display" (p. 7-45).

Cleaning the Inside of the Printer

If any print defects as those in "Print Defect Samples" (p. 7-91) appears on the printout result, clean the inside of the printer and perform calibration using the following procedure.

Precautions on Cleaning the Inside of the Printer

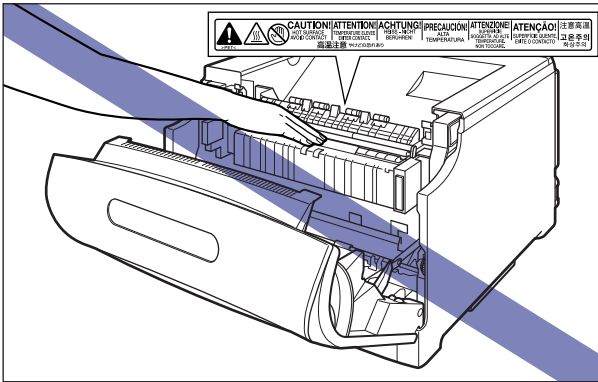


WARNING

There are some areas inside the printer which are subject to high-voltages. When removing jammed paper or when inspecting the inside of the printer, do not allow necklaces, bracelets, or other metal objects to touch the inside of the printer, as this may result in burns or electrical shock.

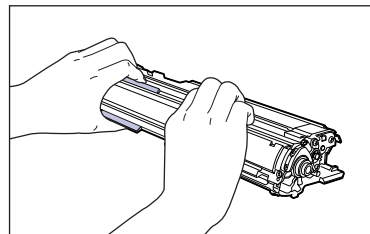
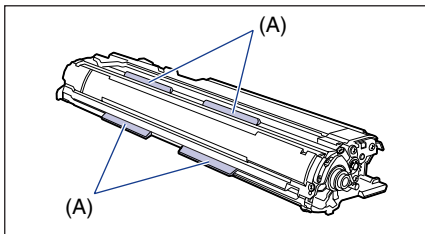
⚠ CAUTION

The fixing unit and its surroundings inside the printer are hot during use. Make sure the fixing unit is completely cool before cleaning the inside of the printer. Touching the fixing unit when it is still hot may result in burns.



👉 IMPORTANT

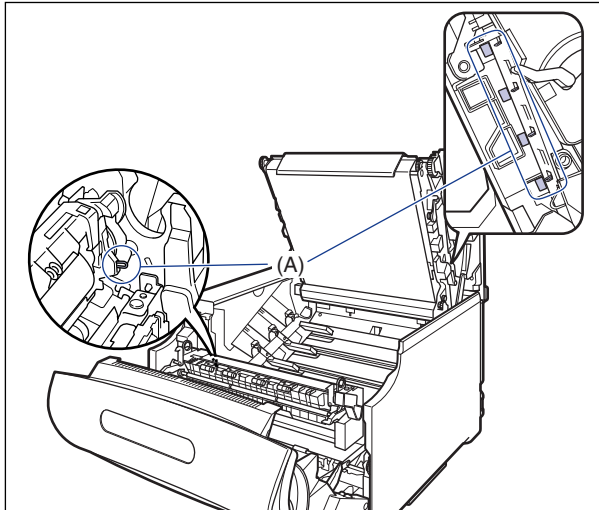
- When handling a drum cartridge, hold the blue tabs (A) properly as shown in the figure. Do not place it vertically or upside-down.



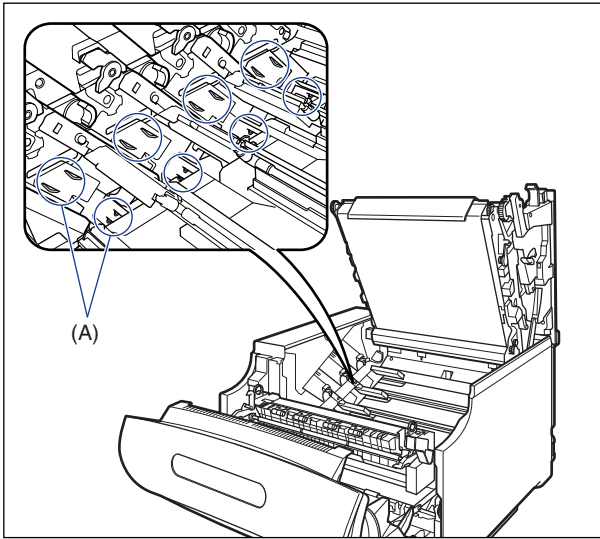
- When removing or installing the drum cartridges, work from the left side of the printer as shown in the figure.



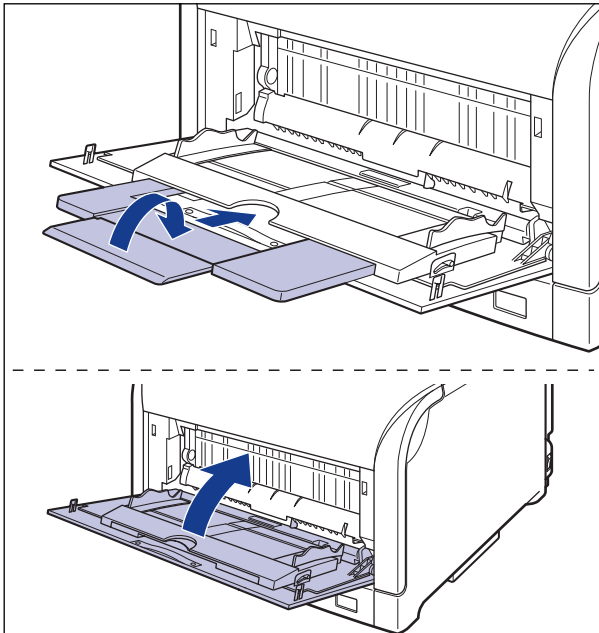
- Be sure not to touch the high-voltage contacts (A) shown in the figure. This may result in damage to the printer.
 - Right side of the ITB unit; Inside of the printer



- Drum cartridge guides



1 If you are using the multi-purpose tray, close it.

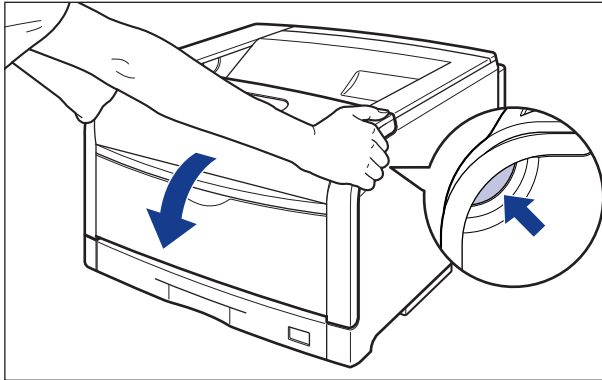


7

Troubleshooting

2 Open the front cover.

While pressing the lever on the right side of the front cover, open the front cover toward you.

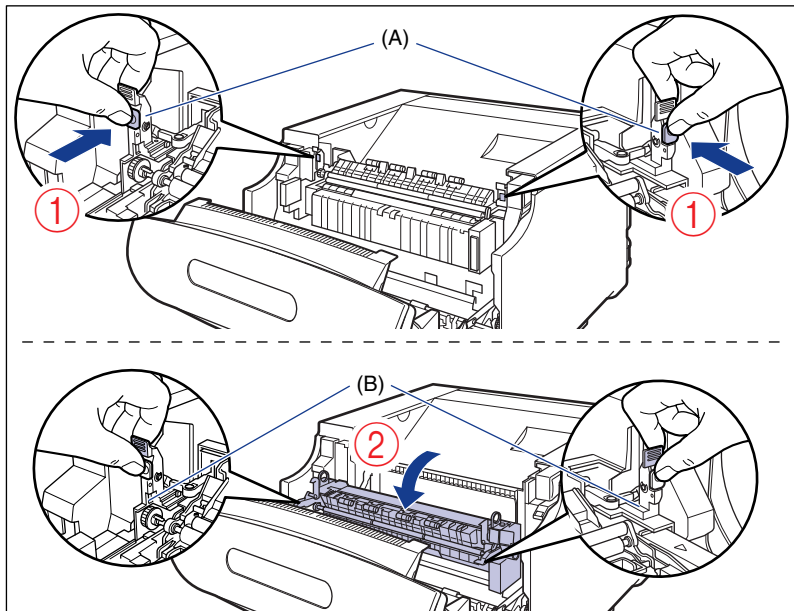


IMPORTANT

Before opening the front cover, make sure that the multi-purpose tray and the paper cassette of the printer are closed.

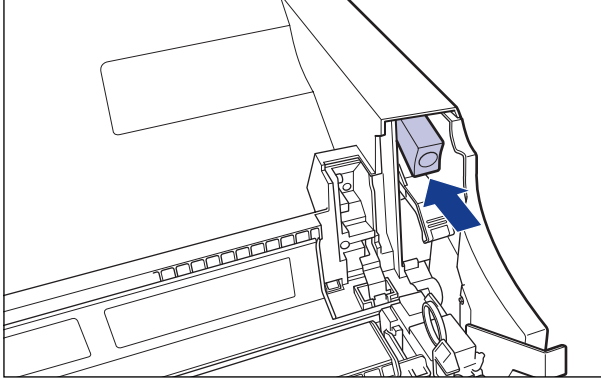
3 Tilt the fixing unit toward you.

While pressing the green lock release buttons (A) on the left and right side of the fixing unit ①, hold the tabs (B) and tilt the fixing unit toward you ② as shown in the figure.

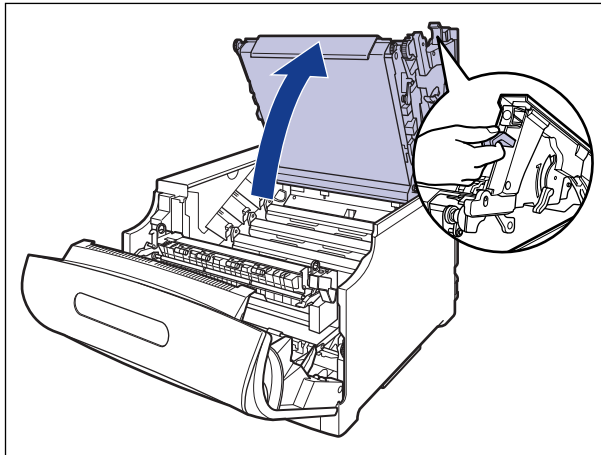


4 Open the top cover.

Press the blue lock release button of the top cover.

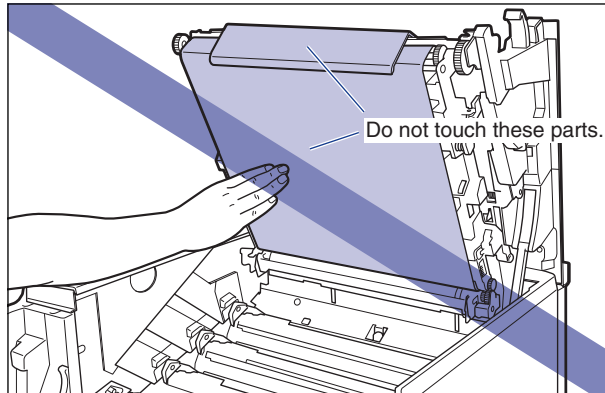


While holding the lever of the top cover, open the top cover.



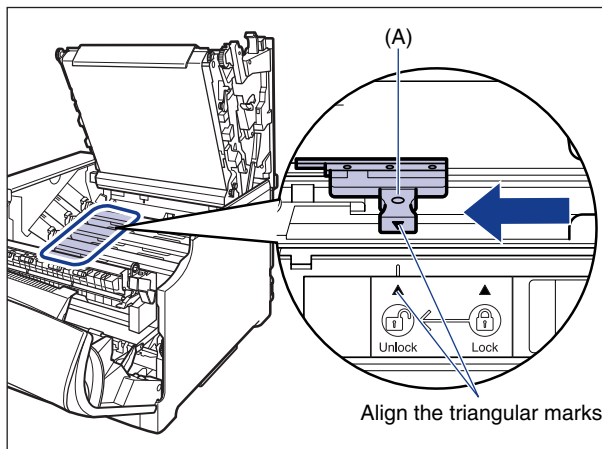
IMPORTANT

Do not touch the transfer belt of the ITB unit and the ITB unit cover. If the transfer belt is damaged, this may result in misfeeds or deterioration in print quality. If the print quality deteriorates due to the transfer belt of the ITB unit being touched, see "Cleaning the Transfer Belt of the ITB Unit" (p. 6-60) and clean the transfer belt of the ITB unit. The transfer belt of the ITB unit is supplied with a function that cleans itself, therefore, you do not need to clean the belt even when toner is on it.

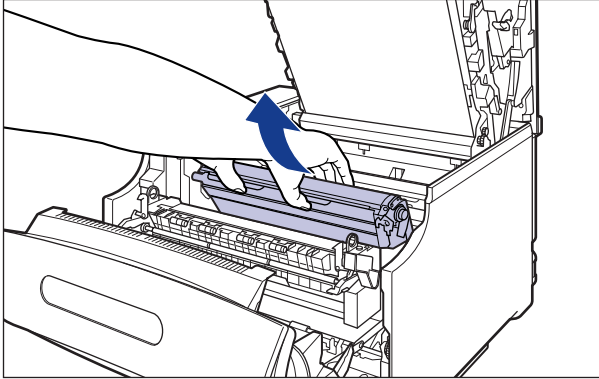


5 Slide the blue lock release lever (A) of all the drum cartridges to the position of "🔓" to release the locks of the drum cartridges.

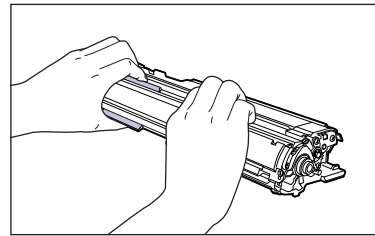
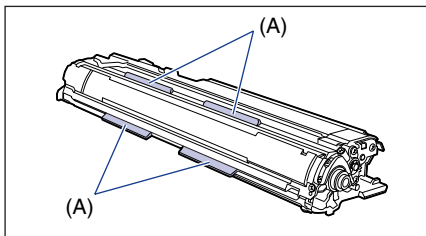
Slide the lock release lever until the triangular mark on the lock release lever aligns with the triangular mark on the label.



6 Remove all the drum cartridges.



Remove the drum cartridge by holding the blue tab (A) as shown in the figure.

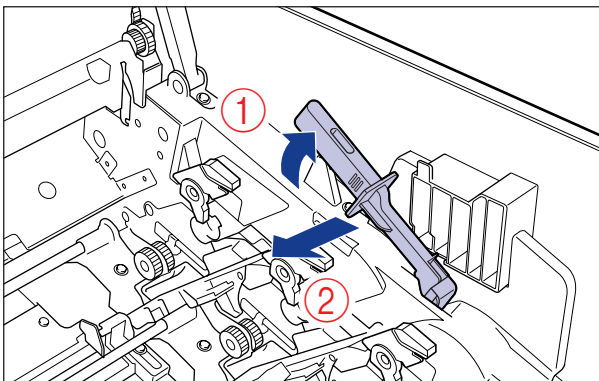


IMPORTANT

Place the removed drum cartridge into the original protective bag immediately.

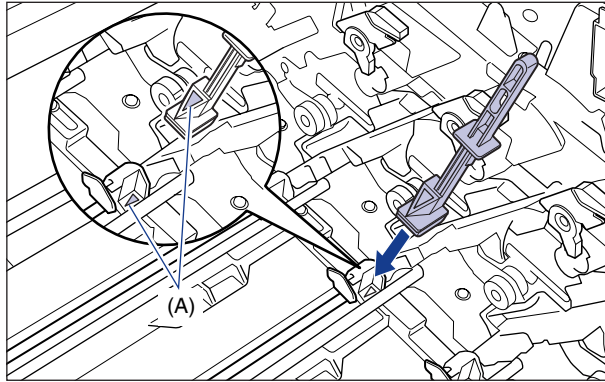
7 Remove the cleaning brush on the right side of the inside of the printer.

Raise the rear end of the cleaning brush ①, pull it out sideways ②.



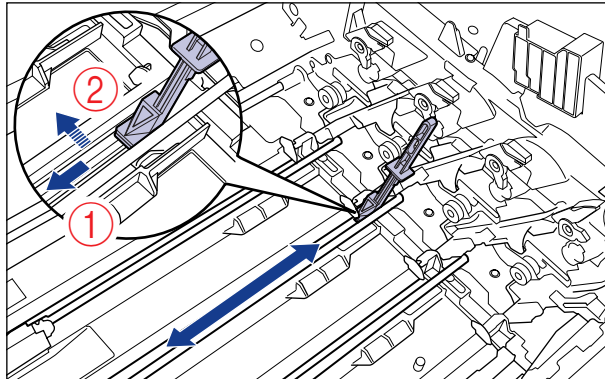
8 Insert the cleaning brush into the slot.

Insert the cleaning brush so that the triangular mark (A) on the brush aligns with that on the printer.

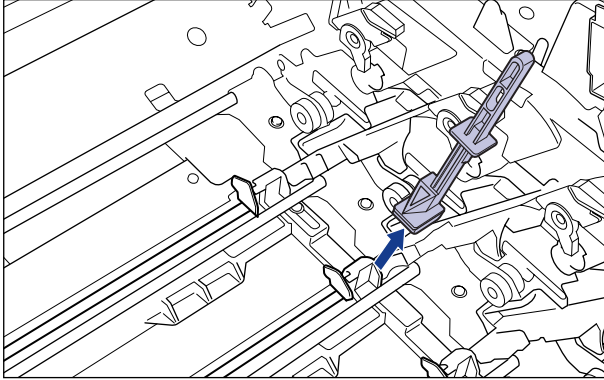


9 Slide the cleaning brush from side to side along the slot several times.

When you slide the cleaning brush ①, the cover opens automatically ②.

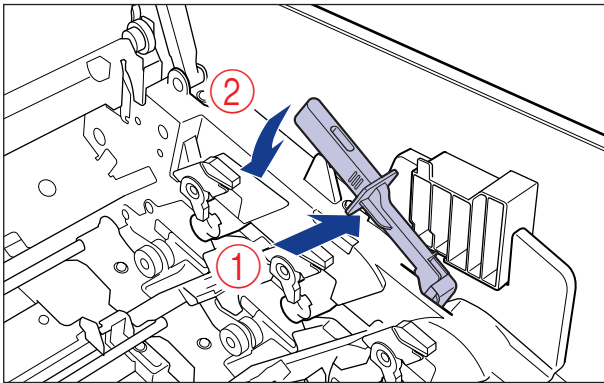


10 Pull the cleaning brush out of the slot.

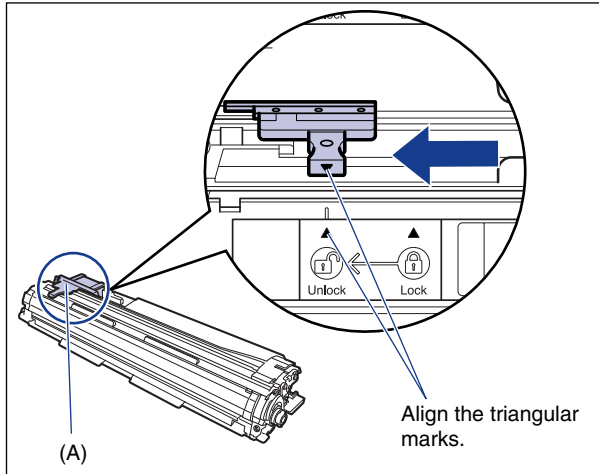


Repeat Step 8 to 10 to clean the slots of each color.

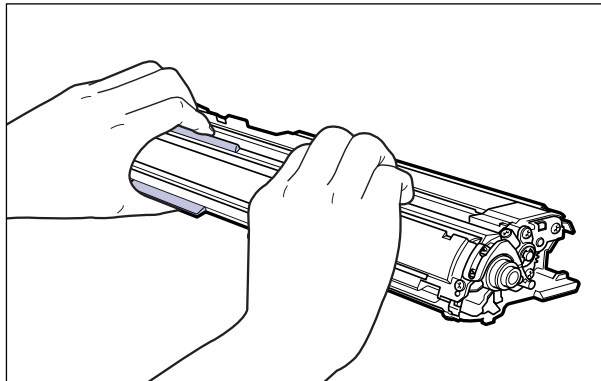
11 Put the cleaning brush back to its original position.



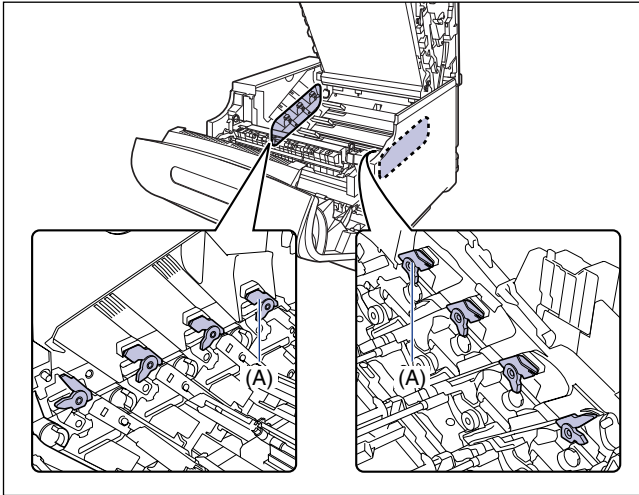
- 12** Before installing the drum cartridge, align the triangular mark on the lock release lever (A) with the triangular mark of "Ⓛ" on the label as shown in the figure.



When installing the drum cartridge, hold the blue tabs as shown in the figure.

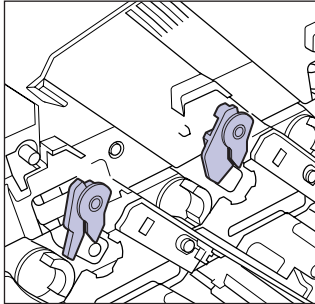


- 13** Make sure that the levers (A) near the drum cartridge guides on the both sides are in the proper position as shown in the figure.

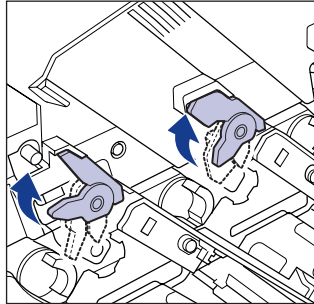


If the levers are not in the proper position, the drum cartridges cannot be installed. Raise the levers to the proper position as shown in the figure.

- Incorrect position

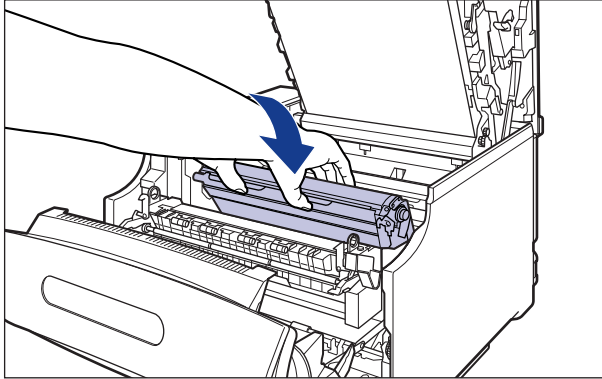


- Correct position



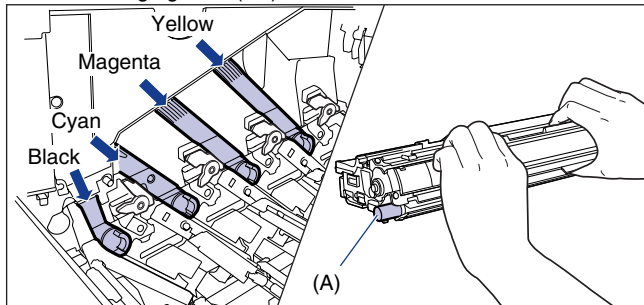
14 Install the drum cartridge in the printer.

Insert the drum cartridge firmly until it touches the back of the printer.

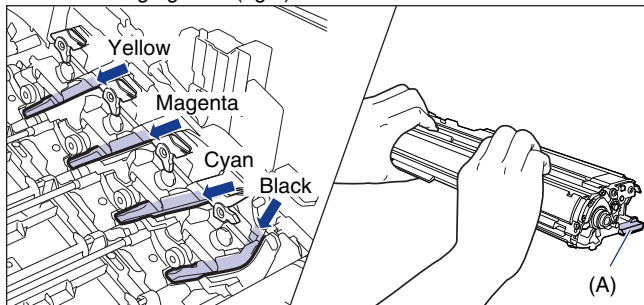


Insert the projections (A) on each side of the drum cartridge into the drum cartridge guides as shown in the figure.

- Drum cartridge guides (left)



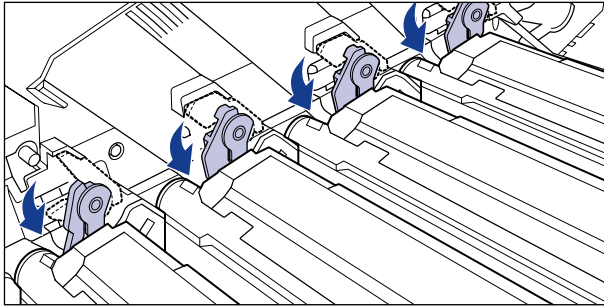
- Drum cartridge guides (right)



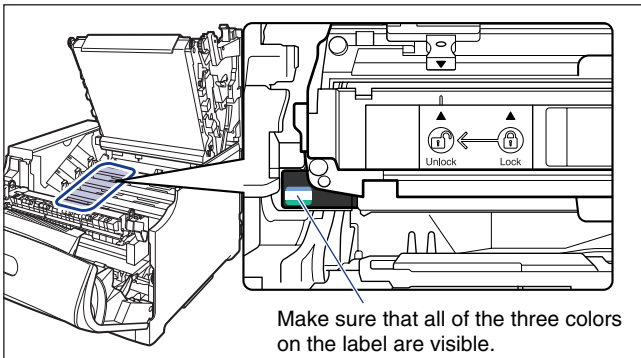
IMPORTANT

Insert the drum cartridges firmly until they touch the back of the printer. If the drum cartridges are not installed firmly, this may result in poor print quality.

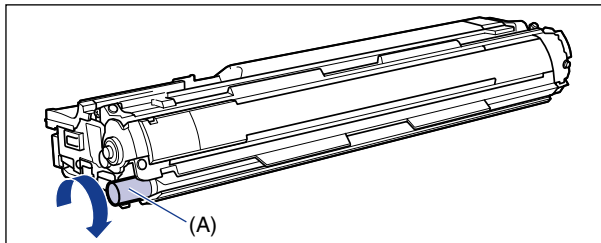
- 15** Make sure that the levers near the drum cartridge guides on the both sides are in the proper position as shown in the figure.



- 16** Make sure that the labels on the projections of the drum cartridge are visible.

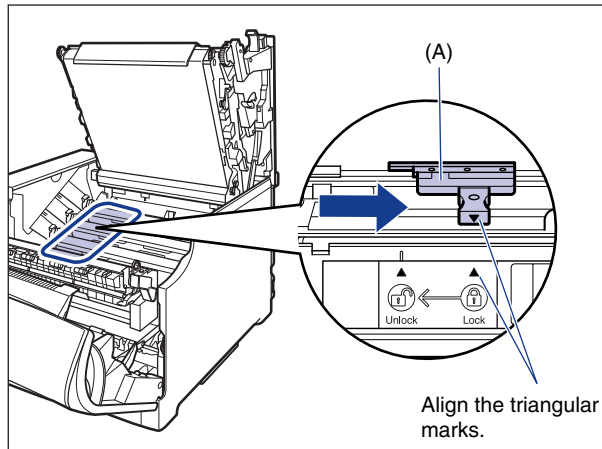


If you cannot see any of the three colors on the label from the front, take out the drum cartridge once, turn the projection (A) in the direction of the arrow until it clicks and stops, and then reinstall the cartridge.



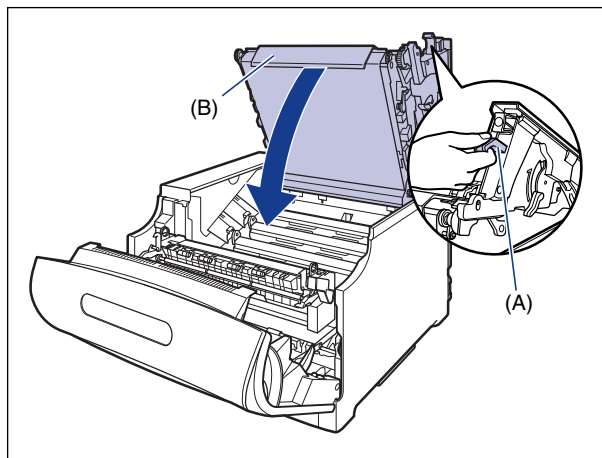
17 Slide the blue lock release lever (A) to the position of "Ⓐ" to lock the drum cartridge.

Slide the lock release lever until the triangular mark on the lock release lever aligns with the triangular mark on the label.

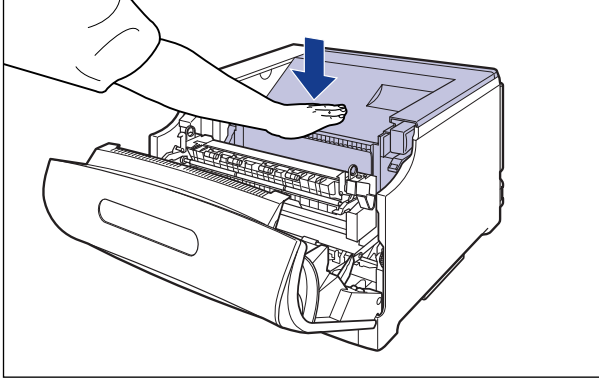


18 Close the top cover.

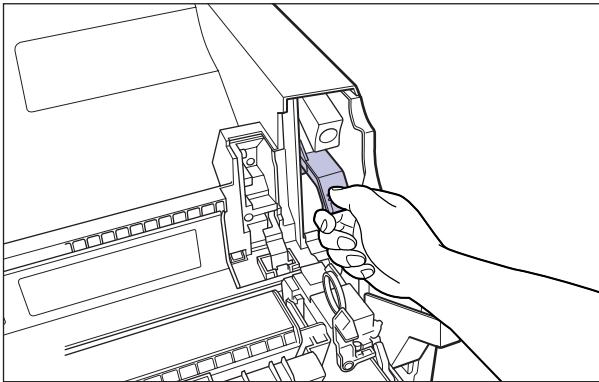
Close the top cover of the printer while holding it by the lever (A) gently. If you close the top cover forcefully, the ITB unit cover (B) may not move back to the original position, and this may result in damage to the printer.



By pressing the portion indicated "PUSH", close the top cover firmly until it cannot be pressed down any further as shown in the figure.



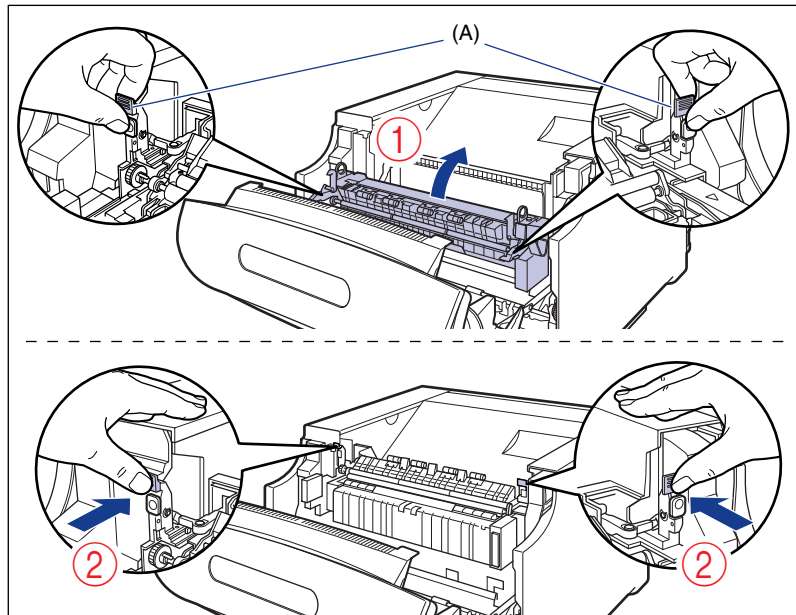
19 By holding the lever as shown in the figure, make sure that the top cover does not open.



 **IMPORTANT**

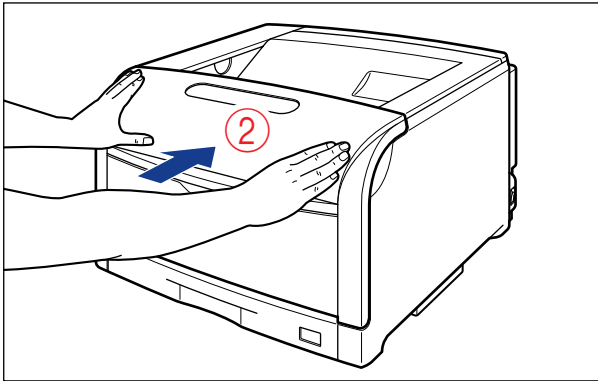
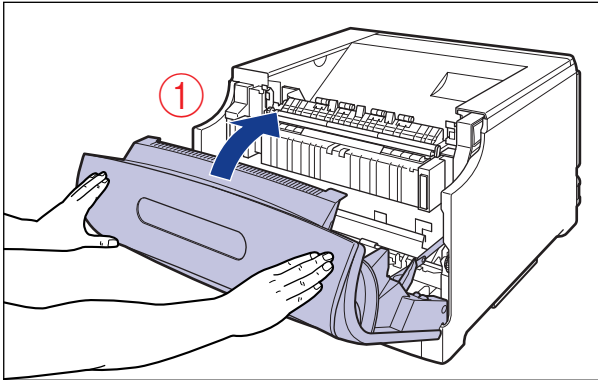
Close the top cover firmly until it cannot be pressed down any further. If the top cover is not closed firmly, this may result in poor print quality.

- 20** While holding the tabs (A), move the fixing unit back to its original position ①, and then press the tabs on the both sides as shown in the figure ②.



21 Close the front cover.

While supporting the front cover ①, push and close the front cover with both hands as shown in the figure ②.



After cleaning the inside of the printer, perform calibration using the following procedure.

CAUTION

Push the front portion of the front cover to close it as shown in the figure. If closing the front cover by the levers on the both sides, you may catch your fingers, resulting in personal injury.



22 Make sure that the printer is online.

If the printer is not online, press [Online].



23 Press [Utility].



24 Select CALIBRATION using [◀] and [▶], then press [OK].



Calibration is performed. The Ready indicator and Online indicator blink during the calibration.
After completing the calibration, the message <00 READY> appears in the display.



NOTE

Calibration takes approximately 50 seconds.

25 After performing calibration, print the print data in which print defect appeared again.

If the print defect problem is solved, you can use the printer as normal. If the print defect problem is not solved, go on to perform "Printing Test Chart 1" (See p. 7-87).

Printing Test Chart 1

Print Test Chart 1 when checking if the poor print quality is due to any problem in the drum cartridges. Print Test Chart 1 using the following procedure.



NOTE

Test Chart 1 is printed on 8 sheets of A4 size paper. Load A4 size paper.



1 Make sure that the printer is online.

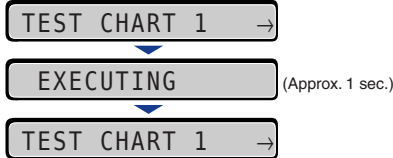
If the printer is not online, press [Online].



2 Press [Utility].



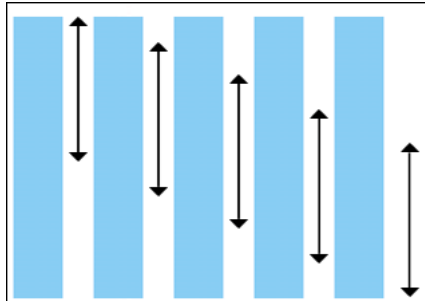
3 Select TEST CHART 1 using [◀] and [▶], then press [OK].



Test Chart 1 is printed.

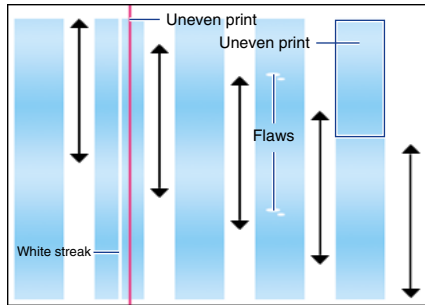
4 Check if any flaws, unevenness, or streaks appear on the printed Test Chart 1.

- When problems (flaws, uneven prints, streaks) do not appear on the printed paper



If there is no print defect (flaws, uneven print, or streaks) appearing on every sheet of Test Chart 1, go on to perform "Printing Test Chart 2" (See p. 7-89).

- When problems (flaws, uneven prints, streaks) appear on the printed paper



If you find any print defects (flaws, uneven print, or streaks) appearing on the sheets of all the colors of Test Chart 1, and if all of those are at the same areas or their features are all the same, go on to perform "Printing Test Chart 2" (See p. 7-89).

If you find any print defects (flaws, uneven print, or streaks) appearing only on the sheets of certain colors of Test Chart 1, and if all of those are at the same areas or their features are all the same, apply the following remedies.

- If white streaks appear on Test Chart 1: Contact your local authorized Canon dealer.
- If white streaks do not appear on Test Chart 1: Replace the drum cartridge of the color in which the print defect (flaws, uneven print, or streaks) appeared. For details on the procedure for replacing the drum cartridges, see "Storing Drum Cartridges," on p. 6-42. If the print defect problem is not solved even after replacing the drum cartridge, contact your local authorized Canon dealer.

Printing Test Chart 2

Print Test Chart 2 when checking if the poor print quality is due to any problem in the fixing unit. Print Test Chart 2 using the following procedure.

NOTE

Test Chart 2 is printed on a sheet of A4 size paper. Load A4 size paper.



1 Make sure that the printer is online.

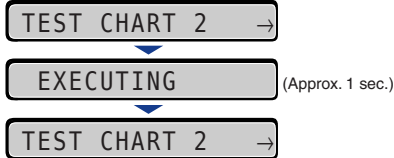
If the printer is not online, press [Online].



2 Press [Utility].



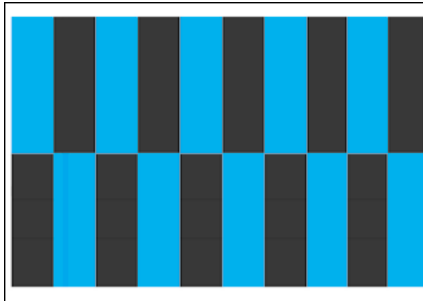
3 Select TEST CHART 2 using [◀] and [▶], then press [OK].



Test Chart 2 is printed.

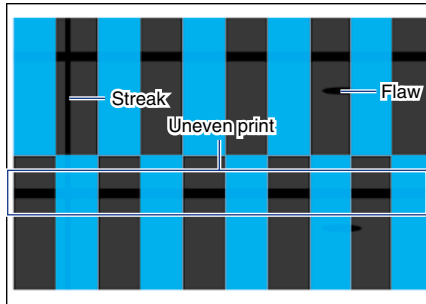
4 Check if any flaws, unevenness, or streaks appear on the printed Test Chart 2.

- When problems (flaws, uneven prints, streaks) do not appear on the printed paper



If there is no print defect (flaws, uneven print, or streaks) appearing on Test Chart 2, there is a possibility that some problem has occurred in the printer. Contact your local authorized Canon dealer.

- When problems (flaws, uneven prints, streaks) appear on the printed paper



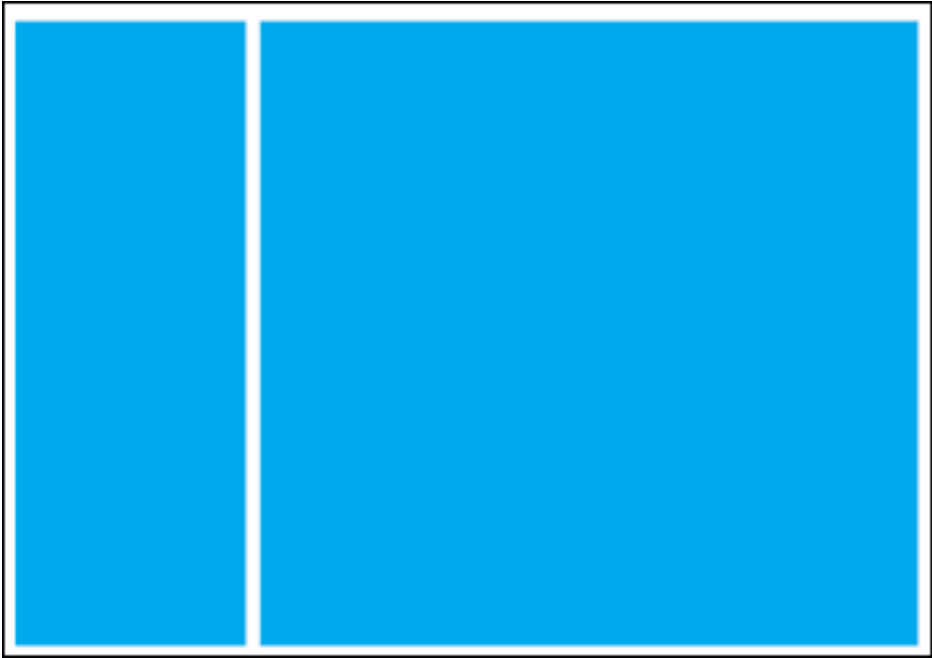
If there are any print defects (flaws, uneven print, or streaks) appearing on Test Chart 2, replace the fixing unit. For details on the procedure for replacing the fixing unit, see "Replacing the Fixing Unit," on p. 6-43. If the print defect problem is not solved even after replacing the fixing unit, contact your local authorized Canon dealer.

Print Defect Samples

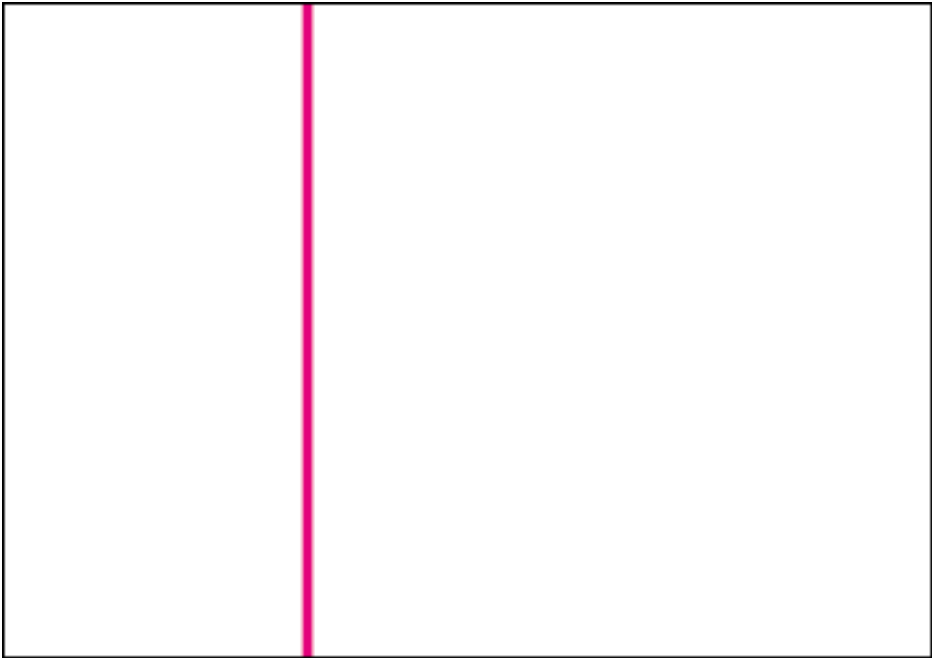
- Nothing is printed on the paper, but the paper is filled with a certain color.



■ White streaks appear.



■ Color streaks appear.



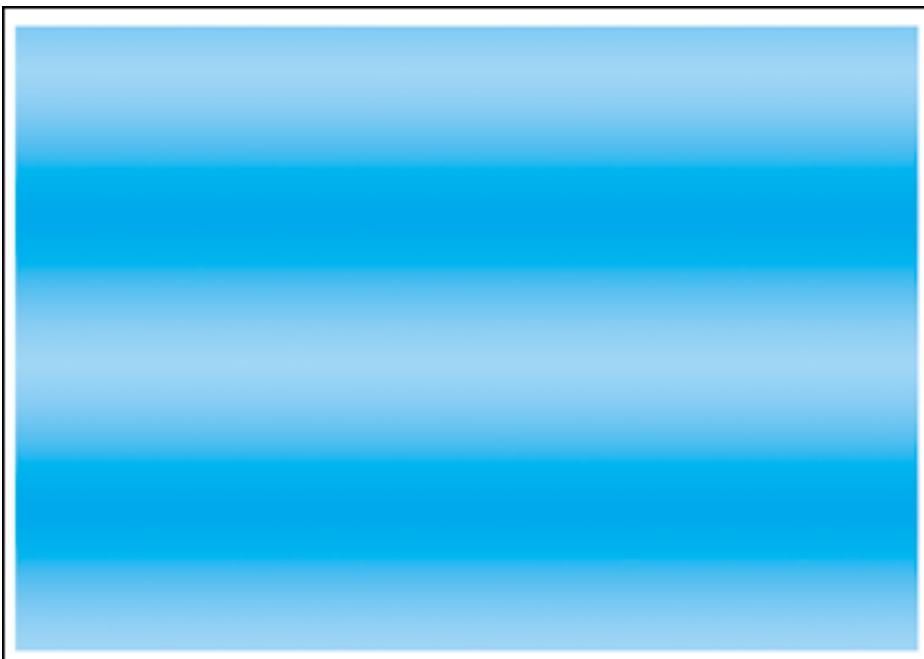
- Printed pages have white specks.



- Residual images appear on the non-printed areas.



- The print is uneven.



- Streaks, flaws, or unevenness of gloss appears in the areas dense in color.



Adjusting the Color Balance

When all the printout results appear reddish or bluish, or the color balance is not appropriate, you can correct the colors by adjusting each toner density of C (Cyan), M (Magenta), Y (Yellow), K (Black). The toner density can be specified in the range of 1 to 16 and is set to the standard density (9) before shipment.

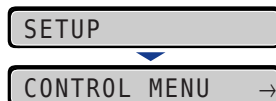
When adjusting the toner density using the control panel, use the following procedure.

IMPORTANT

While adjusting the toner density little by little, print the defective print data from the computer and check the printout results. If you cannot adjust the toner density, reset the density to the default value (9), and then contact your local authorized Canon dealer.



1 Press [Settings].



2 Select QUALITY MENU using [◀] and [▶], then press [OK].



The options for QUALITY MENU are displayed.



3 Select DENSITY of the target color using [◀] and [▶], then press [OK].



The toner density setting is displayed.



4 Select the toner density using [◀] and [▶], then press [OK].

The toner density is lightest when 1 is selected and densest when 16 is selected.



"=" is displayed on the left of the value, and the density is specified.

Appendix

8

CHAPTER

This chapter describes the contents of the various lists, printer specifications, and index.

| | |
|--|------|
| The Lists Common to All the Settings in the Print Mode | 8-2 |
| The Lists Common to Certain Settings in the Print Mode. | 8-5 |
| Typeface Samples | 8-7 |
| Scalable Fonts (PCL) | 8-7 |
| Bitmapped Fonts (PCL) | 8-9 |
| OCR Code Scalable Fonts (PCL) | 8-9 |
| PS Fonts | 8-10 |
| Symbol Sets Supported | 8-19 |
| Character Code Tables | 8-19 |
| Specifications | 8-44 |
| Hardware Specifications | 8-44 |
| Controller Specifications | 8-49 |
| Software Specifications | 8-49 |
| Dimensions of Each Part | 8-51 |
| Index | 8-52 |

Page Count List (Depending on the printer you are using, it cannot print this list.)

The number of [Print Total]* is printed on a departmental basis.

* [Print Total] indicates the number of printed surfaces. If you perform 2-sided printing on a sheet of paper, the number of the printed surfaces is two.

1. Make sure that the printer is online.
2. Press [Utility] to display the UTILITY menu.
3. Press [▶] to display PAGE COUNT LIST.
4. Press [OK] to print.

| Canon | | Page Count List | | LBP5970 | |
|-------------------------|-------|-----------------|------------|------------|------------|
| Departmental | Print | Print/Scan | Print/Scan | Print/Scan | Print/Scan |
| Jobs with Unchecked IDs | 0 | 0 | 0 | 0 | 0 |
| Utility, E-mail Print | 0 | 0 | 0 | 0 | 0 |

11805007 (3.0A) (1)

The Lists Common to Certain Settings in the Print Mode

This section describes the lists common to certain settings in the print mode.

IMPORTANT

The following list is a sample. The contents may partially differ from the lists printed by your printer.

PCL Fonts List

A list of the fonts that can be used in the PCL mode is printed.

1. Make sure that the printer is online.
2. Press [Utility] to display the UTILITY menu.
3. Press [▶] to display PCL UTILITY.
4. Press [OK] to display Exclusive Utilities for PCL.
5. Press [▶] to display FONTS LIST.
6. Press [OK] to output the page.

| FONTS LIST | | | | | | | PAGE 001 |
|--------------------------------------|--------|---------|-------|---------|-------------|----------|----------------------------|
| PCL Internal Fonts | | | | | | | |
| Font Name | Symbol | Spacing | Style | Stretch | Pitch/Point | Typeface | Sample |
| 0001 Courier | 0 | 0 | 0 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0002 09 Times | 1 | 0 | 0 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0003 09 Times Bold | 1 | 0 | 0 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0005 09 Times Italic | 1 | 0 | 3 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0006 09 Times Bold Italic | 1 | 0 | 3 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0005 09 Omega | 1 | 0 | 0 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0006 09 Omega Bold | 1 | 0 | 0 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0007 09 Omega Italic | 1 | 0 | 3 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0008 09 Omega Bold Italic | 1 | 0 | 3 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0009 09swiss | 1 | 1 | 3 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0010 09swiss Condensed Bold | 1 | 1 | 3 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0011 Univers Medium | 1 | 0 | 0 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0012 Univers Bold | 1 | 0 | 0 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0013 Univers Medium Italic | 1 | 0 | 3 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0014 Univers Bold Italic | 1 | 0 | 3 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0015 Univers Condensed Medium | 1 | 0 | 0 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0016 Univers Condensed Bold | 1 | 0 | 0 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0017 Univers Condensed Medium Italic | 1 | 0 | 3 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0018 Univers Condensed Bold Italic | 1 | 0 | 3 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0019 Antique Olive | 1 | 0 | 0 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0020 Antique Olive Bold | 1 | 0 | 0 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0021 Antique Olive Italic | 1 | 0 | 3 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0022 Antique Olive Bold Italic | 1 | 0 | 3 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0023 Garamond Antique | 1 | 0 | 0 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0024 Garamond Bold | 1 | 0 | 0 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0025 Garamond Italic | 1 | 0 | 3 | 0 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |
| 0026 Garamond Bold Italic | 1 | 0 | 3 | 3 | variable | code | ABCDEFGHIJKLMNPQRSTUWVWXYZ |

Typeface Samples

The fonts lists printed from the UTILITY menu are a comprehensive listing of all fonts currently available. The listing contains the names and print samples of the fonts stored on the printer.

Scalable Fonts (PCL)

| | |
|---------------------------------|--|
| Courier | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| CG Times | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| CG Times Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| CG Times Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| CG Times Bold Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| CG Omega | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| CG Omega Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| CG Omega Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| CG Omega Bold Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Coronet | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Clarendon Condensed Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers Medium | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers Medium Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Univers Bold Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Univers Condensed Medium | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers Condensed Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers Condensed Medium Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Univers Condensed Bold Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Antique Olive | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Antique Olive Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Antique Olive Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Garamond Antiqua | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Garamond Halbfett | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Garamond Kursiv Halbfett | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |

| | |
|-------------------------------------|--|
| Garamond Kursiv Halbfeet | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Marigold | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Albertus Medium | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Albertus Extra Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Arial | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Arial Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Arial Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Arial Bold Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Times New Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Times New Roman Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Times New Roman Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Times New Roman Bold Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Helvetica | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Helvetica Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Helvetica Oblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Helvetica Bold Oblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Helvetica Narrow | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Helvetica Narrow Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Helvetica Narrow Oblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Helvetica Narrow Bold Oblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Palatino Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Palatino Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Palatino Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Palatino Bold Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| ITC Avant Garde Gothic Book | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| ITC Avant Garde Gothic Demi | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| ITC Avant Garde Gothic Book Oblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| ITC Avant Garde Gothic Demi Oblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| ITC Bookman Light | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| ITC Bookman Demi | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| ITC Bookman Light Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| ITC Bookman Demi Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| New Century Schoolbook Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| New Century Schoolbook Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| New Century Schoolbook Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| New Century Schoolbook Bold Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Times Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |

 NOTE

127 PS fonts for Macintosh are included in the User Manual CD-ROM.

| | |
|--------------------------|-----------------------------------|
| AlbertusMT | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AlbertusMT Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| AlbertusMT Light | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AntiqueOlive Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AntiqueOlive Compact | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AntiqueOlive Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| AntiqueOlive Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AntiqueOliveCE Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AntiqueOliveCE Compact | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AntiqueOliveCE Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| AntiqueOliveCE Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Apple Chancery | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Apple ChanceryCE | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Arial BoldItalicMT | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Arial BoldMT | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Arial ItalicMT | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| ArialCE | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| ArialCE Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| ArialCE BoldItalic | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| ArialCE Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| ArialMT | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AvantGarde Book | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AvantGarde BookOblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| AvantGarde Demi | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AvantGarde DemiOblique | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AvantGardeCE Book | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AvantGardeCE BookOblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| AvantGardeCE Demi | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| AvantGardeCE DemiOblique | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Bodoni | ABCDEFGHIJKLMNOPQRSTUVWXYZ |

Copperplate ThirtyThreeBC

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Copperplate ThirtyTwoBC

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Coronet Regular

ABCDEFGHIJKLMNOPQRSTUVWXYZ

CoronetCE Regular

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Courier

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Courier Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Courier BoldOblique

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Courier Oblique

ABCDEFGHIJKLMNOPQRSTUVWXYZ

CourierCE

ABCDEFGHIJKLMNOPQRSTUVWXYZ

CourierCE Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ

CourierCE BoldOblique

ABCDEFGHIJKLMNOPQRSTUVWXYZ

CourierCE Oblique

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Eurostile

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Eurostile Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Eurostile BoldExtendedTwo

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Eurostile ExtendedTwo

ABCDEFGHIJKLMNOPQRSTUVWXYZ

EurostileCE

ABCDEFGHIJKLMNOPQRSTUVWXYZ

EurostileCE Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ

EurostileCE BoldExtendedTwo

ABCDEFGHIJKLMNOPQRSTUVWXYZ

EurostileCE ExtendedTwo

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Geneva

ABCDEFGHIJKLMNOPQRSTUVWXYZ

GenevaCE

ABCDEFGHIJKLMNOPQRSTUVWXYZ

GillSans

ABCDEFGHIJKLMNOPQRSTUVWXYZ

GillSans Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ

GillSans BoldCondensed

ABCDEFGHIJKLMNOPQRSTUVWXYZ

GillSans BoldItalic

ABCDEFGHIJKLMNOPQRSTUVWXYZ

GillSans Condensed

ABCDEFGHIJKLMNOPQRSTUVWXYZ

GillSans ExtraBold

ABCDEFGHIJKLMNOPQRSTUVWXYZ

GillSans Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ

GillSans Light

ABCDEFGHIJKLMNOPQRSTUVWXYZ

| | |
|--------------------------------|--|
| HelveticaCE Cond | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| HelveticaCE CondBold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| HelveticaCE CondBoldObl | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| HelveticaCE CondObl | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| HelveticaCE Narrow | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| HelveticaCE NarrowBold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| HelveticaCE Narrow BoldOblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| HelveticaCE NarrowOblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| HelveticaCE Oblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| HoeflerText Black | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| HoeflerText BlackItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| HoeflerText Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| HoeflerText Ornaments |  |
| HoeflerText Regular | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| HoeflerTextCE Black | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| HoeflerTextCE BlackItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| HoeflerTextCE Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| HoeflerTextCE Regular | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| JoannaMT | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| JoannaMT Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| JoannaMT BoldItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| JoannaMT Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| JoannaMTCE | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| JoannaMTCE Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| JoannaMTCE BoldItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| JoannaMTCE Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| LetterGothic | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| LetterGothic Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| LetterGothic BoldSlanted | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| LetterGothic Slanted | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |

LetterGothicCE
LetterGothicCE Bold
LetterGothicCE BoldSlanted
LetterGothicCE Slanted
LubalinGraph Book
LubalinGraph BookOblique
LubalinGraph Demi
LubalinGraph DemiOblique
LubalinGraphCE Book
LubalinGraphCE BookOblique
LubalinGraphCE Demi
LubalinGraphCE DemiOblique
Marigold
Monaco
MonacoCE
MonaLisa Recut
NewCenturySchlbk Bold
NewCenturySchlbk BoldItalic
NewCenturySchlbk Italic
NewCenturySchlbk Roman
NewCenturySchlbkCE Bold
NewCenturySchlbkCE BoldItalic
NewCenturySchlbkCE Italic
NewCenturySchlbkCE Roman
NewYork
NewYorkCE
Optima
Optima Bold
Optima BoldItalic
Optima Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ

| | |
|------------------------------|--|
| OptimaCE Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| OptimaCE BoldItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| OptimaCE Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| OptimaCE Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Oxford | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Palatino Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Palatino BoldItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Palatino Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Palatino Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| PalatinoCE Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| PalatinoCE BoldItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| PalatinoCE Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| PalatinoCE Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| StempelGaramond Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| StempelGaramond BoldItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| StempelGaramond Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| StempelGaramond Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| StempelGaramondCE Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| StempelGaramondCE BoldItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| StempelGaramondCE Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| StempelGaramondCE Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Symbol | ABXΔEΦΓHIΘKAMNOΠIΘPETYςΩΞΨZ |
| Taffy | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Times Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Times BoldItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Times Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Times Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| TimesCE Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| TimesCE BoldItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| TimesCE Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |

| | |
|--------------------------------|--|
| TimesCE Roman | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| TimesNewRomanCE | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| TimesNewRomanCE Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| TimesNewRomanCE BoldItalic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| TimesNewRomanCE Italic | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| TimesNewRomanPS BoldItalicMT | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| TimesNewRomanPS BoldMT | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| TimesNewRomanPS ItalicMT | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| TimesNewRomanPSMT | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers BoldExt | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers BoldExtObl | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Univers BoldOblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Univers Condensed | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers CondensedBold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers CondensedBoldOblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Univers CondensedOblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Univers Extended | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers ExtendedObl | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Univers Light | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| Univers LightOblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| Univers Oblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| UniversCE Bold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| UniversCE BoldExt | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| UniversCE BoldExtObl | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| UniversCE BoldOblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |
| UniversCE Condensed | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| UniversCE CondensedBold | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| UniversCE CondensedBoldOblique | <i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> |

Symbol Sets Supported

This section provides a list to the character code tables for the characters in each symbol set.

Character Code Tables

■ Desktop (7J: 234)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |
|---|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|---|
| 0 | | | 0 | @ | P | ' | p | | | | | “ | — | < | a | ' | 0 |
| 1 | | ! | 1 | A | Q | a | q | | | | ¶ | ” | ± | > | o | ˘ | 1 |
| 2 | | " | 2 | B | R | b | r | | | | § | μ | × | « | æ | ^ | 2 |
| 3 | | # | 3 | C | S | c | s | | | | ‡ | ‰ | ÷ | » | Æ | ” | 3 |
| 4 | | \$ | 4 | D | T | d | t | | | | ‡ | • | ° | , | ð | ˘ | 4 |
| 5 | | % | 5 | E | U | e | u | | | | © | • | ' | ” | Ð | ˘ | 5 |
| 6 | | & | 6 | F | V | f | v | | | | ® | o | " | . | ij | ˘ | 6 |
| 7 | | ' | 7 | G | W | g | w | | | | ™ | o | ¼ | i | IJ | ˘ | 7 |
| 8 | | (| 8 | H | X | h | x | | | | ‰ | ■ | ½ | ı | ı | ° | 8 |
| 9 | |) | 9 | I | Y | i | y | | | | ¢ | ■ | ¾ | Pt | L | . | 9 |
| A | | * | : | J | Z | j | z | | | | – | □ | 1 | ℓ | œ | – | A |
| B | | + | ; | K | [| k | { | | | | — | □ | 2 | £ | Œ | , | B |
| C | | , | < | L | \ | l | | | | | ... | ' | 3 | ¥ | ø | . | C |
| D | | - | = | M |] | m | } | | | | fi | ¬ | / | ¤ | Ø | . | D |
| E | | . | > | N | ^ | n | ~ | | | | fl | | | f | þ | ı | E |
| F | | / | ? | O | _ | o | ☒ | | | | | = | | ß | þ | | F |

■ ISO 4: United Kingdom (1E: 37)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | @ | P | ` | p | | | | | | | | |
| 1 | | | ! | 1 | A | Q | a | q | | | | | | | | |
| 2 | | | " | 2 | B | R | b | r | | | | | | | | |
| 3 | | | £ | 3 | C | S | c | s | | | | | | | | |
| 4 | | | \$ | 4 | D | T | d | t | | | | | | | | |
| 5 | | | % | 5 | E | U | e | u | | | | | | | | |
| 6 | | | & | 6 | F | V | f | v | | | | | | | | |
| 7 | | | ' | 7 | G | W | g | w | | | | | | | | |
| 8 | | | (| 8 | H | X | h | x | | | | | | | | |
| 9 | | |) | 9 | I | Y | i | y | | | | | | | | |
| A | | | * | : | J | Z | j | z | | | | | | | | |
| B | | | + | ; | K | [| k | { | | | | | | | | |
| C | | | , | < | L | \ | l | | | | | | | | | |
| D | | | - | = | M |] | m | } | | | | | | | | |
| E | | | . | > | N | ^ | n | ~ | | | | | | | | |
| F | | | / | ? | O | _ | o | ☒ | | | | | | | | |

■ ISO 6: ASCII (0U: 21)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | @ | P | ' | p | | | | | | | | |
| 1 | | | ! | 1 | A | Q | a | q | | | | | | | | |
| 2 | | | " | 2 | B | R | b | r | | | | | | | | |
| 3 | | | # | 3 | C | S | c | s | | | | | | | | |
| 4 | | | \$ | 4 | D | T | d | t | | | | | | | | |
| 5 | | | % | 5 | E | U | e | u | | | | | | | | |
| 6 | | | & | 6 | F | V | f | v | | | | | | | | |
| 7 | | | ' | 7 | G | W | g | w | | | | | | | | |
| 8 | | | (| 8 | H | X | h | x | | | | | | | | |
| 9 | | |) | 9 | I | Y | i | y | | | | | | | | |
| A | | | * | : | J | Z | j | z | | | | | | | | |
| B | | | + | ; | K | [| k | { | | | | | | | | |
| C | | | , | < | L | \ | l | | | | | | | | | |
| D | | | - | = | M |] | m | } | | | | | | | | |
| E | | | . | > | N | ^ | n | ~ | | | | | | | | |
| F | | | / | ? | O | _ | o | ☒ | | | | | | | | |

■ ISO 11: Swedish (0S: 19)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | É | P | é | p | | | | | | | | |
| 1 | | | ! | 1 | A | Q | a | q | | | | | | | | |
| 2 | | | " | 2 | B | R | b | r | | | | | | | | |
| 3 | | | # | 3 | C | S | c | s | | | | | | | | |
| 4 | | | ¤ | 4 | D | T | d | t | | | | | | | | |
| 5 | | | % | 5 | E | U | e | u | | | | | | | | |
| 6 | | | & | 6 | F | V | f | v | | | | | | | | |
| 7 | | | ' | 7 | G | W | g | w | | | | | | | | |
| 8 | | | (| 8 | H | X | h | x | | | | | | | | |
| 9 | | |) | 9 | I | Y | i | y | | | | | | | | |
| A | | | * | : | J | Z | j | z | | | | | | | | |
| B | | | + | ; | K | Ä | k | ä | | | | | | | | |
| C | | | , | < | L | Ö | l | ö | | | | | | | | |
| D | | | - | = | M | Å | m | å | | | | | | | | |
| E | | | . | > | N | Û | n | ü | | | | | | | | |
| F | | | / | ? | O | _ | o | ☒ | | | | | | | | |

■ ISO 15: Italian (0I: 9)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | § | P | ù | p | | | | | | | | |
| 1 | | | ! | 1 | A | Q | a | q | | | | | | | | |
| 2 | | | " | 2 | B | R | b | r | | | | | | | | |
| 3 | | | £ | 3 | C | S | c | s | | | | | | | | |
| 4 | | | \$ | 4 | D | T | d | t | | | | | | | | |
| 5 | | | % | 5 | E | U | e | u | | | | | | | | |
| 6 | | | & | 6 | F | V | f | v | | | | | | | | |
| 7 | | | ' | 7 | G | W | g | w | | | | | | | | |
| 8 | | | (| 8 | H | X | h | x | | | | | | | | |
| 9 | | |) | 9 | I | Y | i | y | | | | | | | | |
| A | | | * | : | J | Z | j | z | | | | | | | | |
| B | | | + | ; | K | ° | k | à | | | | | | | | |
| C | | | , | < | L | ç | l | ò | | | | | | | | |
| D | | | - | = | M | é | m | è | | | | | | | | |
| E | | | . | > | N | ^ | n | ì | | | | | | | | |
| F | | | / | ? | O | _ | o | ☒ | | | | | | | | |

■ ISO 17: Spanish (2S: 83)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | 0 | § | P | ` | p | | | | | | | | | |
| 1 | | ! | 1 | A | Q | a | q | | | | | | | | | |
| 2 | | " | 2 | B | R | b | r | | | | | | | | | |
| 3 | | £ | 3 | C | S | c | s | | | | | | | | | |
| 4 | | \$ | 4 | D | T | d | t | | | | | | | | | |
| 5 | | % | 5 | E | U | e | u | | | | | | | | | |
| 6 | | & | 6 | F | V | f | v | | | | | | | | | |
| 7 | | ' | 7 | G | W | g | w | | | | | | | | | |
| 8 | | (| 8 | H | X | h | x | | | | | | | | | |
| 9 | |) | 9 | I | Y | i | y | | | | | | | | | |
| A | | * | : | J | Z | j | z | | | | | | | | | |
| B | | + | ; | K | ı | k | ° | | | | | | | | | |
| C | | , | < | L | Ñ | l | ñ | | | | | | | | | |
| D | | - | = | M | ı | m | ç | | | | | | | | | |
| E | | . | > | N | ^ | n | ~ | | | | | | | | | |
| F | | / | ? | O | _ | o | ☒ | | | | | | | | | |

■ ISO 21: German (1G: 39)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | 0 | § | P | ` | p | | | | | | | | | |
| 1 | | ! | 1 | A | Q | a | q | | | | | | | | | |
| 2 | | " | 2 | B | R | b | r | | | | | | | | | |
| 3 | | # | 3 | C | S | c | s | | | | | | | | | |
| 4 | | \$ | 4 | D | T | d | t | | | | | | | | | |
| 5 | | % | 5 | E | U | e | u | | | | | | | | | |
| 6 | | & | 6 | F | V | f | v | | | | | | | | | |
| 7 | | ' | 7 | G | W | g | w | | | | | | | | | |
| 8 | | (| 8 | H | X | h | x | | | | | | | | | |
| 9 | |) | 9 | I | Y | i | y | | | | | | | | | |
| A | | * | : | J | Z | j | z | | | | | | | | | |
| B | | + | ; | K | Ä | k | ä | | | | | | | | | |
| C | | , | < | L | Ö | l | ö | | | | | | | | | |
| D | | - | = | M | Ü | m | ü | | | | | | | | | |
| E | | . | > | N | ^ | n | ß | | | | | | | | | |
| F | | / | ? | O | _ | o | ☒ | | | | | | | | | |

■ ISO 60: Danish/Norwegian (0D: 4)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | @ | P | ` | p | | | | | | | | |
| 1 | | | ! | 1 | A | Q | a | q | | | | | | | | |
| 2 | | | " | 2 | B | R | b | r | | | | | | | | |
| 3 | | | # | 3 | C | S | c | s | | | | | | | | |
| 4 | | | \$ | 4 | D | T | d | t | | | | | | | | |
| 5 | | | % | 5 | E | U | e | u | | | | | | | | |
| 6 | | | & | 6 | F | V | f | v | | | | | | | | |
| 7 | | | ' | 7 | G | W | g | w | | | | | | | | |
| 8 | | | (| 8 | H | X | h | x | | | | | | | | |
| 9 | | |) | 9 | I | Y | i | y | | | | | | | | |
| A | | | * | : | J | Z | j | z | | | | | | | | |
| B | | | + | ; | K | Æ | k | æ | | | | | | | | |
| C | | | , | < | L | Ø | l | ø | | | | | | | | |
| D | | | - | = | M | Å | m | å | | | | | | | | |
| E | | | . | > | N | ^ | n | ˆ | | | | | | | | |
| F | | | / | ? | O | _ | o | ⊞ | | | | | | | | |

■ ISO 69: French (1F: 38)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | à | P | μ | p | | | | | | | | |
| 1 | | | ! | 1 | A | Q | a | q | | | | | | | | |
| 2 | | | " | 2 | B | R | b | r | | | | | | | | |
| 3 | | | £ | 3 | C | S | c | s | | | | | | | | |
| 4 | | | \$ | 4 | D | T | d | t | | | | | | | | |
| 5 | | | % | 5 | E | U | e | u | | | | | | | | |
| 6 | | | & | 6 | F | V | f | v | | | | | | | | |
| 7 | | | ' | 7 | G | W | g | w | | | | | | | | |
| 8 | | | (| 8 | H | X | h | x | | | | | | | | |
| 9 | | |) | 9 | I | Y | i | y | | | | | | | | |
| A | | | * | : | J | Z | j | z | | | | | | | | |
| B | | | + | ; | K | ° | k | é | | | | | | | | |
| C | | | , | < | L | ç | l | ù | | | | | | | | |
| D | | | - | = | M | § | m | è | | | | | | | | |
| E | | | . | > | N | ^ | n | ˆ | | | | | | | | |
| F | | | / | ? | O | _ | o | ⊞ | | | | | | | | |

■ ISO 8859/1 Latin 1 (0N: 14)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | 0 | @ | P | ` | p | | | | | ° | À | Ď | à | ď |
| 1 | | ! | 1 | A | Q | a | q | | | | ı | ± | Á | Ň | á | ň |
| 2 | | " | 2 | B | R | b | r | | | | ç | ² | Â | Ò | â | ò |
| 3 | | # | 3 | C | S | c | s | | | | £ | ³ | Ã | Ó | ã | ó |
| 4 | | \$ | 4 | D | T | d | t | | | | ¤ | ´ | Ä | Ô | ä | ô |
| 5 | | % | 5 | E | U | e | u | | | | ¥ | μ | Å | Õ | å | õ |
| 6 | | & | 6 | F | V | f | v | | | | | ¶ | Æ | Ö | æ | ö |
| 7 | | ' | 7 | G | W | g | w | | | | § | · | Ç | × | ç | ÷ |
| 8 | | (| 8 | H | X | h | x | | | | ¨ | , | È | Ø | è | ø |
| 9 | |) | 9 | I | Y | i | y | | | | © | ı | É | Ù | é | ù |
| A | | * | : | J | Z | j | z | | | | ª | º | Ê | Ú | ê | ú |
| B | | + | ; | K | [| k | { | | | | « | » | Ë | Û | ë | û |
| C | | , | < | L | \ | l | | | | | ¬ | ¼ | Ì | Ü | ì | ü |
| D | | - | = | M |] | m | } | | | | - | ½ | Í | Ý | í | ý |
| E | | . | > | N | ^ | n | ~ | | | | ® | ¾ | Î | Þ | î | þ |
| F | | / | ? | O | _ | o | ☒ | | | | - | ¸ | Ï | ß | ï | ÿ |

■ ISO 8859/2 Latin 2 (2N: 78)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | 0 | @ | P | ` | p | | | | | ° | Ř | Đ | ř | đ |
| 1 | | ! | 1 | A | Q | a | q | | | | À | á | Á | Ň | á | ň |
| 2 | | " | 2 | B | R | b | r | | | | ˘ | ˙ | Â | Ň | â | ň |
| 3 | | # | 3 | C | S | c | s | | | | Ł | ł | Ã | Ó | ã | ó |
| 4 | | \$ | 4 | D | T | d | t | | | | ¤ | ´ | Ä | Ô | ä | ô |
| 5 | | % | 5 | E | U | e | u | | | | Ł | ł | Ĺ | Õ | ĺ | õ |
| 6 | | & | 6 | F | V | f | v | | | | Š | š | Ć | Ö | ć | ö |
| 7 | | ' | 7 | G | W | g | w | | | | § | ˘ | Ç | × | ç | ÷ |
| 8 | | (| 8 | H | X | h | x | | | | ¨ | , | Č | Ř | č | ř |
| 9 | |) | 9 | I | Y | i | y | | | | Š | š | É | Ù | é | ù |
| A | | * | : | J | Z | j | z | | | | Ş | ş | Ę | Ú | ę | ú |
| B | | + | ; | K | [| k | { | | | | Ť | ť | Ë | Û | ë | ű |
| C | | , | < | L | \ | l | | | | | Ž | ž | Ě | Ü | ě | ü |
| D | | - | = | M |] | m | } | | | | - | ˘ | Í | Ý | í | ý |
| E | | . | > | N | ^ | n | ~ | | | | Ž | ž | Î | Ŧ | î | ŧ |
| F | | / | ? | O | _ | o | ☒ | | | | Ž | ž | Ď | ß | ď | · |

■ ISO 8859/9 Latin 5 (5N: 179)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | 0 | @ | P | ` | p | | | | ° | À | Ĝ | à | ğ | 0 |
| 1 | | ! | 1 | A | Q | a | q | | | ı | ± | Á | Ñ | á | ñ | 1 |
| 2 | | " | 2 | B | R | b | r | | | ç | ² | Â | Ò | â | ò | 2 |
| 3 | | # | 3 | C | S | c | s | | | £ | ³ | Ã | Ó | ã | ó | 3 |
| 4 | | \$ | 4 | D | T | d | t | | | ¤ | ´ | Ä | Ö | ä | ö | 4 |
| 5 | | % | 5 | E | U | e | u | | | ¥ | µ | Å | Õ | å | õ | 5 |
| 6 | | & | 6 | F | V | f | v | | | | ¶ | Æ | Ö | æ | ö | 6 |
| 7 | | ' | 7 | G | W | g | w | | | § | · | Ç | × | ç | ÷ | 7 |
| 8 | | (| 8 | H | X | h | x | | | ¨ | , | È | Ø | è | ø | 8 |
| 9 | |) | 9 | I | Y | i | y | | | © | ı | É | Ù | é | ù | 9 |
| A | | * | : | J | Z | j | z | | | ª | º | Ê | Ú | ê | ú | A |
| B | | + | ; | K | [| k | { | | | « | » | Ë | Û | ë | û | B |
| C | | , | < | L | \ | l | | | | ¬ | ¼ | Ì | Ü | ì | ü | C |
| D | | - | = | M |] | m | } | | | - | ½ | Í | Ý | í | ý | D |
| E | | . | > | N | ^ | n | ~ | | | ® | ¾ | Î | Ş | î | ş | E |
| F | | / | ? | O | _ | o | ⊞ | | | - | ¸ | Ï | ß | ï | ÿ | F |

■ ISO 8859/10 Latin 6 (6N: 206)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| 0 | | | 0 | @ | P | ` | p | | | | ° | À | Đ | ā | ð | 0 | |
| 1 | | ! | 1 | A | Q | a | q | | | ı | ª | Á | Ñ | á | ñ | 1 | |
| 2 | | " | 2 | B | R | b | r | | | | ² | Ê | Ē | â | ö | 2 | |
| 3 | | # | 3 | C | S | c | s | | | | ³ | Ĝ | Ĝ | ã | ó | 3 | |
| 4 | | \$ | 4 | D | T | d | t | | | | ´ | Ī | Ī | ä | ö | 4 | |
| 5 | | % | 5 | E | U | e | u | | | | µ | Ī | Ī | å | ö | 5 | |
| 6 | | & | 6 | F | V | f | v | | | | ¶ | Ķ | Ķ | æ | ö | 6 | |
| 7 | | ' | 7 | G | W | g | w | | | | · | § | · | İ | Ü | ı | ü |
| 8 | | (| 8 | H | X | h | x | | | | , | Ł | ł | Č | Ø | č | ø |
| 9 | |) | 9 | I | Y | i | y | | | | ı | Đ | đ | É | U | é | u |
| A | | * | : | J | Z | j | z | | | | ª | Š | š | Ę | Ú | ę | ú |
| B | | + | ; | K | [| k | { | | | | « | Ŧ | t | Ë | Û | ë | û |
| C | | , | < | L | \ | l | | | | | ¬ | Ž | ž | È | Û | è | ü |
| D | | - | = | M |] | m | } | | | | - | - | — | Í | Ý | í | ý |
| E | | . | > | N | ^ | n | ~ | | | | | Ū | ū | Î | Ɔ | î | Ɔ |
| F | | / | ? | O | _ | o | ⊞ | | | | | Ŋ | ŋ | Ï | ß | ï | κ |

■ ISO 8859/15 Latin 9 (9N: 302)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | @ | P | ` | p | | | | ° | À | Ð | à | ð |
| 1 | | | ! | 1 | A | Q | a | q | | | i | ± | Á | Ñ | á | ñ |
| 2 | | | " | 2 | B | R | b | r | | | ç | ² | Â | Ò | â | ò |
| 3 | | | # | 3 | C | S | c | s | | | £ | ³ | Ã | Ó | ã | ó |
| 4 | | | \$ | 4 | D | T | d | t | | | € | Ž | Ä | Ô | ä | ô |
| 5 | | | % | 5 | E | U | e | u | | | ¥ | μ | Å | Ö | å | ö |
| 6 | | | & | 6 | F | V | f | v | | | Š | ¶ | Æ | Û | æ | ö |
| 7 | | | ' | 7 | G | W | g | w | | | § | · | Ç | × | ç | ÷ |
| 8 | | | (| 8 | H | X | h | x | | | š | ž | È | Ø | è | ø |
| 9 | | |) | 9 | I | Y | i | y | | | © | ı | É | Ù | é | ù |
| A | | | * | : | J | Z | j | z | | | ª | º | Ê | Ú | ê | ú |
| B | | | + | ; | K | [| k | { | | | « | » | Ë | Û | ë | û |
| C | | | , | < | L | \ | l | | | | ¬ | œ | Ì | Ü | ì | ü |
| D | | | - | = | M |] | m | } | | | - | œ | Í | Ý | í | ý |
| E | | | . | > | N | ^ | n | ~ | | | ® | ÿ | Î | Þ | î | þ |
| F | | | / | ? | O | _ | o | ☒ | | | - | ı | Ï | ß | ï | ÿ |

■ ITC Zapf Dingbats MS (14L: 460)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | ☞ | ✦ | ✧ | ✪ | ◻ | (| | | ⑤ | ① | ⑦ | ➡ | |
| 1 | | | ✂ | ☉ | ✧ | ✪ | ☼ | ◻ |) | | ♫ | ⑥ | ② | ⑧ | ➡ | ➡ |
| 2 | | | ✂ | ☉ | ✦ | ✪ | ☼ | ◻ | (| | • | ⑦ | ③ | ⑨ | ➡ | ➡ |
| 3 | | | ✂ | ✓ | ✦ | ✪ | ☼ | ▲ |) | | • | ⑧ | ④ | ⑩ | ➡ | ➡ |
| 4 | | | ✂ | ✓ | ✦ | ✪ | ☼ | ▼ | (| | ♥ | ⑨ | ⑤ | ➡ | ➡ | ✂ |
| 5 | | | ☹ | ✕ | ✦ | ✪ | ☼ | ◆ |) | | ♥ | ⑩ | ⑥ | ➡ | ➡ | ➡ |
| 6 | | | ☹ | ✕ | ✦ | ✪ | ☼ | ♠ | < | | ♣ | ① | ⑦ | ↔ | ➡ | ✂ |
| 7 | | | ☹ | ✕ | ✦ | ✪ | ☼ | ♠ | > | | ♣ | ② | ⑧ | ↕ | ➡ | ✂ |
| 8 | | | ✈ | ✕ | ★ | ✪ | ☼ | | (| | ♣ | ③ | ⑨ | ↙ | ➡ | ➡ |
| 9 | | | ☹ | ✕ | ☆ | ☼ | ☼ | |) | | ♠ | ④ | ⑩ | ➡ | ➡ | ➡ |
| A | | | ☹ | ✕ | ☼ | ☼ | ☼ | | (| | ♥ | ⑤ | ① | ↙ | ➡ | ➡ |
| B | | | ☹ | ✕ | ☆ | ☼ | ☼ | ‘ |) | | ♠ | ⑥ | ② | ➡ | ➡ | ➡ |
| C | | | ☹ | ✕ | ✪ | ☼ | ● | ’ | (| | ① | ⑦ | ③ | ➡ | ➡ | ➡ |
| D | | | ☹ | ✕ | ★ | ☼ | ○ | “ |) | | ② | ⑧ | ④ | ➡ | ➡ | ➡ |
| E | | | ☹ | ✕ | ☆ | ☼ | ■ | ” | | | ③ | ⑨ | ⑤ | ➡ | ➡ | ➡ |
| F | | | ☹ | ✕ | ☆ | ☼ | ◻ | | | | ④ | ⑩ | ⑥ | ➡ | ➡ | ➡ |

Legal (1U: 53)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | @ | P | ° | p | | | | | | | | |
| 1 | | | ! | 1 | A | Q | a | q | | | | | | | | |
| 2 | | | " | 2 | B | R | b | r | | | | | | | | |
| 3 | | | # | 3 | C | S | c | s | | | | | | | | |
| 4 | | | \$ | 4 | D | T | d | t | | | | | | | | |
| 5 | | | % | 5 | E | U | e | u | | | | | | | | |
| 6 | | | & | 6 | F | V | f | v | | | | | | | | |
| 7 | | | ' | 7 | G | W | g | w | | | | | | | | |
| 8 | | | (| 8 | H | X | h | x | | | | | | | | |
| 9 | | |) | 9 | I | Y | i | y | | | | | | | | |
| A | | | * | : | J | Z | j | z | | | | | | | | |
| B | | | + | ; | K | [| k | § | | | | | | | | |
| C | | | , | = | L | @ | l | ¶ | | | | | | | | |
| D | | | - | = | M |] | m | † | | | | | | | | |
| E | | | . | c | N | © | n | ™ | | | | | | | | |
| F | | | / | ? | O | _ | o | ☒ | | | | | | | | |

Math-8 (8M: 269)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | ∴ | ∏ | ∴ | π | | | — | ⊕ | Å | [|] | |
| 1 | | √ | 1 | A | P | α | ρ | | ↑ | ∇ | ⊙ | → | ⌊ | ⌋ | | |
| 2 | | | " | 2 | B | Σ | β | σ | → | ∃ | ⊗ | ⌈ | ⌋ | | | |
| 3 | | | ° | 3 | Γ | T | γ | τ | ↓ | T | ⊖ | ⌊ | { | } | | |
| 4 | | | ∞ | 4 | Δ | T | δ | υ | ← | ⊥ | ⊗ | ∩ | ⌊ | ⌋ | | |
| 5 | | | ÷ | 5 | E | Φ | ε | φ | ↑ | U | ∧ | ⌋ | ⌋ | | | |
| 6 | | | ∞ | 6 | Z | X | ξ | χ | ⇒ | ∩ | ∇ | § | φ | | | |
| 7 | | | ' | 7 | H | Ψ | η | ψ | ↓ | ∈ | ∇ | ∠ | J | ↓ | | |
| 8 | | | (| 8 | Θ | Ω | θ | ω | ⇐ | ∃ | ¬ | ∅ | ∇ | ↖ | | |
| 9 | | |) | 9 | I | ∇ | ι | ϑ | ⇄ | ∉ | ∅ | ∞ | | > | | |
| A | | | × | e | K | ∂ | κ | φ | ↔ | C | · | ∩ | ∠ | ↙ | | |
| B | | | + | ε | Λ | ς | λ | ⊘ | ⊕ | ∩ | • | ∩ | / | \ | | |
| C | | | . | < | M | ≤ | μ | ≈ | ⇔ | ∅ | • | ∅ | - | < | | |
| D | | | - | = | N | ≠ | ν | ≡ | ↔ | ∅ | ∅ | ∅ | = | ∅ | | |
| E | | | . | > | Ξ | ≥ | ξ | ≠ | ↔ | ⊆ | † | ∞ | * | ± | | |
| F | | | / | ≈ | O | _ | o | ☒ | — | ∩ | ‡ | ∞ | ≡ | | | |

■ MC Text (12J: 682)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|
| 0 | | | | 0 | @ | P | ` | p | Ä | ê | † | ∞ | ¿ | - | ‡ | |
| 1 | | ! | 1 | A | Q | a | q | Å | ë | ° | ± | i | — | · | Ò | |
| 2 | | " | 2 | B | R | b | r | Ç | í | ç | ≤ | ¬ | “ | , | Ú | |
| 3 | | # | 3 | C | S | c | s | É | ì | £ | ≥ | √ | ” | „ | Û | |
| 4 | | \$ | 4 | D | T | d | t | Ñ | î | § | ¥ | f | ‘ | % | Ü | |
| 5 | | % | 5 | E | U | e | u | Ö | ï | • | μ | ≈ | ’ | Â | ı | |
| 6 | | & | 6 | F | V | f | v | Û | ñ | ¶ | ∂ | Δ | ÷ | Ê | ^ | |
| 7 | | ' | 7 | G | W | g | w | á | ó | β | Σ | « | ◇ | Á | ˘ | |
| 8 | | (| 8 | H | X | h | x | à | ò | ® | Π | » | ÿ | È | - | |
| 9 | |) | 9 | I | Y | i | y | â | ô | © | π | ... | ÿ | È | ˘ | |
| A | | * | : | J | Z | j | z | ä | ö | ™ | ∫ | / | Í | · | | |
| B | | + | ; | K | [| k | { | ā | ō | ’ | ª | À | € | Î | ° | |
| C | | , | < | L | \ | l | | á | ú | ” | ° | Ã | < | Ï | ˘ | |
| D | | - | = | M | J | m | } | ç | ù | ≠ | Ω | Õ | > | ì | ˘ | |
| E | | . | > | N | ^ | n | ~ | é | û | Æ | æ | Œ | fi | Ó | ˘ | |
| F | | / | ? | O | _ | o | | è | ü | Ø | ø | œ | fl | Ô | ˘ | |

■ Microsoft Publishing (6J: 202)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|-----|----|----|----|----|----|----|----|-----|----|----|----|----|----|
| 0 | | | | | 2 | | ‘ | | | | | ° | | | Ω | |
| 1 | | | 1 | | | | | | | | ’ | • | ˘ | | | |
| 2 | | | ” | | Ŕ | | | | | | ” | • | ˘ | ˘ | | |
| 3 | | | 3 | | Š | % | š | | | | ^ | ● | ˘ | ˘ | | |
| 4 | | | 4 | | ™ | | | | | | ~ | ○ | ˘ | ˘ | | |
| 5 | | | 5 | | | | | | | | | ○ | ˘ | ˘ | | ı |
| 6 | | | 7 | | | | | | | | | ○ | ˘ | ˘ | ı | ı |
| 7 | | | ’ | | | | | | | | | ■ | ˘ | ˘ | ı | ı |
| 8 | | | 9 | | | | | | | | | ■ | ” | ” | ı | ı |
| 9 | | | 0 | | Ÿ | | | | | | fi | ■ | | | | |
| A | | | 8 | | Ž | | ž | | | | fl | □ | ° | ° | | |
| B | | | † | | | | | | | | ff | □ | ˘ | ˘ | | |
| C | | | , | „ | Ł | | ł | | | | ffi | □ | | | | |
| D | | | - | ‡ | — | | | | | | ffl | % | ” | ” | | |
| E | | | ... | | ˆ | | “ | | | Pt | < | ◆ | ˘ | ˘ | | |
| F | | | / | | Œ | = | œ | | | f | > | ◇ | ˘ | ˘ | ˘ | ˘ |

■ OCR-A (00: 15)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | @ | P | r | p | | | | | | | | |
| 1 | | | ! | 1 | A | Q | a | q | | | | | | | | |
| 2 | | | " | 2 | B | R | b | r | | | | | | | | |
| 3 | | | # | 3 | C | S | c | s | | | | | | | | |
| 4 | | | \$ | 4 | D | T | d | t | | | | | | | | |
| 5 | | | % | 5 | E | U | e | u | | | | | | | | |
| 6 | | | & | 6 | F | V | f | v | | | | | | | | |
| 7 | | | ' | 7 | G | W | g | w | | | | | | | | |
| 8 | | | (| 8 | H | X | h | x | | | | | | | | |
| 9 | | |) | 9 | I | Y | i | y | | | | | | | | |
| A | | | * | : | J | Z | j | z | | | | | | | | |
| B | | | + | ; | K | [| k | { | | | | | | | | |
| C | | | , | < | L | \ | l | | | | | | | | | |
| D | | | - | = | M |] | m | } | | | | | | | | |
| E | | | . | > | N | ^ | n | ~ | | | | | | | | |
| F | | | / | ? | O | _ | o | | | | | | | | | |

■ OCR-B (10: 47)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | @ | P | ' | p | | | | | | | | |
| 1 | | | ! | 1 | A | Q | a | q | | | | | | | | |
| 2 | | | " | 2 | B | R | b | r | | | | | | | | |
| 3 | | | # | 3 | C | S | c | s | | | | | | | | |
| 4 | | | \$ | 4 | D | T | d | t | | | | | | | | |
| 5 | | | % | 5 | E | U | e | u | | | | | | | | |
| 6 | | | & | 6 | F | V | f | v | | | | | | | | |
| 7 | | | ' | 7 | G | W | g | w | | | | | | | | |
| 8 | | | (| 8 | H | X | h | x | | | | | | | | |
| 9 | | |) | 9 | I | Y | i | y | | | | | | | | |
| A | | | * | : | J | Z | j | z | | | | | | | | |
| B | | | + | ; | K | [| k | { | | | | | | | | |
| C | | | , | < | L | \ | l | | | | | | | | | |
| D | | | - | = | M |] | m | } | | | | | | | | |
| E | | | . | > | N | ^ | n | ~ | | | | | | | | |
| F | | | / | ? | O | _ | o | | | | | | | | | |

■ PC-8 (10U: 341)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| 0 | | ▶ | | 0 | @ | P | ` | p | Ç | É | á | ⋮ | ⊥ | ⊥ | α | ≡ | 0 |
| 1 | ☺ | ◀ | ! | 1 | A | Q | a | q | ü | æ | í | ⊞ | ⊥ | ≡ | β | ± | 1 |
| 2 | ☹ | ⬆ | " | 2 | B | R | b | r | é | Æ | ó | ⊞ | ⊥ | ≡ | Γ | ≥ | 2 |
| 3 | ♥ | !! | # | 3 | C | S | c | s | â | ô | ú | | ⊥ | ⊥ | π | ≤ | 3 |
| 4 | ♦ | ƒ | \$ | 4 | D | T | d | t | ä | ö | ñ | ⊥ | ⊥ | ⊥ | Σ | ∫ | 4 |
| 5 | ♣ | § | % | 5 | E | U | e | u | à | ò | Ñ | ≡ | + | ≡ | σ | ∫ | 5 |
| 6 | ♠ | - | & | 6 | F | V | f | v | â | û | ª | ⊥ | ⊥ | ⊥ | μ | ÷ | 6 |
| 7 | • | ⬆ | ' | 7 | G | W | g | w | ç | ù | º | ⊥ | ⊥ | ⊥ | τ | ≈ | 7 |
| 8 | ◼ | ↑ | (| 8 | H | X | h | x | ê | ÿ | ¿ | ≡ | ⊥ | ≡ | Φ | ° | 8 |
| 9 | ○ | ↓ |) | 9 | I | Y | i | y | ë | Ö | ⊥ | ⊥ | ⊥ | ⊥ | Θ | · | 9 |
| A | ◼ | → | * | : | J | Z | j | z | è | Ü | ⊥ | ⊥ | ⊥ | ⊥ | Ω | · | A |
| B | ♂ | ← | + | ; | K | [| k | { | ï | ç | ½ | ⊥ | ⊥ | ⊥ | δ | √ | B |
| C | ♀ | ⊥ | , | < | L | \ | l | | î | £ | ¼ | ⊥ | ⊥ | ⊥ | ∞ | n | C |
| D | ♪ | ↔ | - | = | M |] | m | } | ï | ¥ | ¡ | ⊥ | = | ⊥ | φ | ² | D |
| E | ♫ | ▲ | . | > | N | ^ | n | ~ | Ä | Pt | « | ≡ | ⊥ | ⊥ | ε | ■ | E |
| F | ☼ | ▼ | / | ? | O | _ | o | △ | Å | f | » | ⊥ | ⊥ | ⊥ | ∩ | | F |

■ PC-8 Danish/Norwegian (11U: 373)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| 0 | | ▶ | | 0 | @ | P | ` | p | Ç | É | á | ⋮ | ⊥ | ⊥ | α | ≡ | 0 |
| 1 | ☺ | ◀ | ! | 1 | A | Q | a | q | ü | æ | í | ⊞ | ⊥ | ≡ | β | ± | 1 |
| 2 | ☹ | ⬆ | " | 2 | B | R | b | r | é | Æ | ó | ⊞ | ⊥ | ≡ | Γ | ≥ | 2 |
| 3 | ♥ | !! | # | 3 | C | S | c | s | â | ô | ú | | ⊥ | ⊥ | π | ≤ | 3 |
| 4 | ♦ | ƒ | \$ | 4 | D | T | d | t | ä | ö | ñ | ⊥ | ⊥ | ⊥ | Σ | ∫ | 4 |
| 5 | ♣ | § | % | 5 | E | U | e | u | à | ò | Ñ | ≡ | + | ≡ | σ | ∫ | 5 |
| 6 | ♠ | - | & | 6 | F | V | f | v | â | û | ø | ⊥ | ⊥ | ⊥ | μ | ÷ | 6 |
| 7 | • | ⬆ | ' | 7 | G | W | g | w | ç | ù | Õ | ⊥ | ⊥ | ⊥ | τ | ≈ | 7 |
| 8 | ◼ | ↑ | (| 8 | H | X | h | x | ê | ÿ | ¿ | ≡ | ⊥ | ≡ | Φ | ° | 8 |
| 9 | ○ | ↓ |) | 9 | I | Y | i | y | ë | Ö | ä | ⊥ | ⊥ | ⊥ | Θ | · | 9 |
| A | ◼ | → | * | : | J | Z | j | z | è | Ü | Å | ⊥ | ⊥ | ⊥ | Ω | · | A |
| B | ♂ | ← | + | ; | K | [| k | { | ï | ø | ℓ | ⊥ | ⊥ | ⊥ | δ | √ | B |
| C | ♀ | ⊥ | , | < | L | \ | l | | î | £ | 'n | ⊥ | ⊥ | ⊥ | ∞ | n | C |
| D | ♪ | ↔ | - | = | M |] | m | } | ï | Ø | ¡ | ⊥ | = | ⊥ | φ | ² | D |
| E | ♫ | ▲ | . | > | N | ^ | n | ~ | Ä | L³ | ≡ | ⊥ | ⊥ | ⊥ | ε | ■ | E |
| F | ☼ | ▼ | / | ? | O | _ | o | △ | Å | † | □ | ⊥ | ⊥ | ⊥ | ∩ | | F |

■ PC-8 Greek (14G: 455)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | ▶ | | 0 | @ | P | ` | p | Α | Ρ | ι | ☐ | ⊥ | ⊥ | ω | Ω |
| 1 | ☺ | ◀ | ! | 1 | A | Q | a | q | Β | Σ | κ | ☐ | ⊥ | ⊥ | ά | ± |
| 2 | ☻ | ⬆ | " | 2 | B | R | b | r | Γ | Τ | λ | ☐ | ⊥ | ⊥ | έ | ≧ |
| 3 | ♥ | !! | # | 3 | C | S | c | s | Δ | Υ | μ | | ⊥ | ⊥ | ή | ≦ |
| 4 | ♦ | ¶ | \$ | 4 | D | T | d | t | Ε | Φ | ν | ⊥ | ⊥ | ⊥ | ϊ | ∫ |
| 5 | ♣ | § | % | 5 | E | U | e | u | Z | X | ξ | ⊥ | ⊥ | ⊥ | ί | ∫ |
| 6 | ♠ | - | & | 6 | F | V | f | v | H | Ψ | ο | ⊥ | ⊥ | ⊥ | ό | ÷ |
| 7 | • | ⬆ | ' | 7 | G | W | g | w | Θ | Ω | π | ⊥ | ⊥ | ⊥ | ύ | ≈ |
| 8 | ☐ | ↑ | (| 8 | H | X | h | x | I | α | ρ | ⊥ | ⊥ | ⊥ | ÿ | ° |
| 9 | ○ | ↓ |) | 9 | I | Y | i | y | K | β | σ | ⊥ | ⊥ | ⊥ | ώ | £ |
| A | ☉ | → | * | : | J | Z | j | z | Λ | γ | ς | ⊥ | ⊥ | ⊥ | Ά | · |
| B | ♂ | ← | + | ; | K | [| k | { | M | δ | τ | ⊥ | ⊥ | ☐ | Έ | √ |
| C | ♀ | ⊥ | , | < | L | \ | l | | N | ε | υ | ⊥ | ⊥ | ☐ | Η | ⁿ |
| D | ♪ | ↔ | - | = | M | J | m | } | Ξ | ζ | φ | ⊥ | ⊥ | ☐ | Ι | ² |
| E | ♫ | ▲ | . | > | N | ^ | n | ˘ | O | η | χ | ⊥ | ⊥ | ☐ | Ό | ■ |
| F | ☼ | ▼ | / | ? | O | _ | o | △ | Π | θ | ψ | ⊥ | ⊥ | ☐ | Υ | |

■ PC-775 (26U: 853)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | ▶ | | 0 | @ | P | ` | p | Ć | É | Ā | ☐ | ⊥ | ⊥ | Ó | - |
| 1 | ☺ | ◀ | ! | 1 | A | Q | a | q | ü | æ | Ī | ☐ | ⊥ | ⊥ | č | β |
| 2 | ☻ | ⬆ | " | 2 | B | R | b | r | é | Æ | ó | ☐ | ⊥ | ⊥ | ē | Ō |
| 3 | ♥ | !! | # | 3 | C | S | c | s | ā | ō | Ž | | ⊥ | ⊥ | ě | Ń |
| 4 | ♦ | ¶ | \$ | 4 | D | T | d | t | ä | ö | ž | ⊥ | ⊥ | ⊥ | ï | ō |
| 5 | ♣ | § | % | 5 | E | U | e | u | ğ | Ğ | ž | ⊥ | ⊥ | ⊥ | š | Ō |
| 6 | ♠ | - | & | 6 | F | V | f | v | â | ç | ” | Č | ⊥ | ⊥ | ū | μ |
| 7 | • | ⬆ | ' | 7 | G | W | g | w | ć | Ś | | ⊥ | ⊥ | ⊥ | ŭ | ń |
| 8 | ☐ | ↑ | (| 8 | H | X | h | x | ł | ś | ® | ⊥ | ⊥ | ⊥ | ž | ķ |
| 9 | ○ | ↓ |) | 9 | I | Y | i | y | ē | Ö | ® | ⊥ | ⊥ | ⊥ | ķ | · |
| A | ☉ | → | * | : | J | Z | j | z | Ŕ | Ů | ⊥ | ⊥ | ⊥ | ⊥ | Ů | · |
| B | ♂ | ← | + | ; | K | [| k | { | ŕ | ø | ½ | ⊥ | ⊥ | ☐ | ł | ¹ |
| C | ♀ | ⊥ | , | < | L | \ | l | | ī | £ | ¼ | ⊥ | ⊥ | ☐ | ŋ | ³ |
| D | ♪ | ↔ | - | = | M | J | m | } | Ž | Ø | Ł | ⊥ | ⊥ | ☐ | Ě | ² |
| E | ♫ | ▲ | . | > | N | ^ | n | ˘ | Ä | × | « | Š | ⊥ | ⊥ | Ň | ■ |
| F | ☼ | ▼ | / | ? | O | _ | o | △ | Å | □ | » | ⊥ | ⊥ | ☐ | Ž | ' |

■ PC-850 (12U: 405)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |
|---|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|---|
| 0 | | ▶ | | 0 | @ | P | ` | p | Ç | É | á | ⋮ | Ł | ð | Ó | - | 0 |
| 1 | ☺ | ◀ | ! | 1 | A | Q | a | q | ü | æ | í | ☒ | ⊥ | Ð | β | ± | 1 |
| 2 | ☺ | ⬆ | " | 2 | B | R | b | r | é | Æ | ó | ☒ | ⊥ | Ê | Ô | _ | 2 |
| 3 | ♥ | !! | # | 3 | C | S | c | s | â | ô | ú | | ⊥ | È | Ò | ¾ | 3 |
| 4 | ♦ | ¶ | \$ | 4 | D | T | d | t | ä | ö | ñ | ⊥ | — | È | ö | ¶ | 4 |
| 5 | ♣ | § | % | 5 | E | U | e | u | à | ò | Ñ | Á | + | ı | Õ | § | 5 |
| 6 | ♠ | - | & | 6 | F | V | f | v | â | ú | ª | Â | ã | Í | μ | ÷ | 6 |
| 7 | • | ⬆ | ' | 7 | G | W | g | w | ç | ù | º | À | Ã | Î | þ | „ | 7 |
| 8 | ☐ | ↑ | (| 8 | H | X | h | x | ê | ÿ | ı | © | Ł | İ | Ɔ | ° | 8 |
| 9 | ○ | ↓ |) | 9 | I | Y | i | y | ë | Ö | ® | ≡ | ≡ | ⊥ | Ú | “ | 9 |
| A | ☉ | → | * | : | J | Z | j | z | è | Ü | ¬ | | ≡ | ⊥ | Û | • | A |
| B | ♂ | ← | + | ; | K | [| k | { | ĩ | ø | ½ | ≡ | ≡ | ☐ | Ù | ¹ | B |
| C | ♀ | ⊥ | , | < | L | \ | l | | î | £ | ¼ | ≡ | ≡ | ☐ | ý | ³ | C |
| D | ♪ | ↔ | - | = | M |] m | } | ì | Ø | ı | © | = | | Ý | ² | | D |
| E | ♫ | ▲ | . | > | N | ^ | n | ˘ | Ä | × | « | ¥ | ≡ | İ | - | ■ | E |
| F | ☼ | ▼ | / | ? | O | _ | o | △ | Å | f | » | ⊥ | ☐ | ☐ | ' | | F |

■ PC-852 (17U: 565)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |
|---|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|---|
| 0 | | ▶ | | 0 | @ | P | ` | p | Ç | É | á | ⋮ | Ł | d | Ó | - | 0 |
| 1 | ☺ | ◀ | ! | 1 | A | Q | a | q | ü | Í | í | ☒ | ⊥ | Ð | β | ˘ | 1 |
| 2 | ☺ | ⬆ | " | 2 | B | R | b | r | é | Í | ó | ☒ | ⊥ | Ð | Ô | ˘ | 2 |
| 3 | ♥ | !! | # | 3 | C | S | c | s | â | ô | ú | | ⊥ | È | Ñ | ˘ | 3 |
| 4 | ♦ | ¶ | \$ | 4 | D | T | d | t | ä | ö | À | ⊥ | — | d | ñ | ˘ | 4 |
| 5 | ♣ | § | % | 5 | E | U | e | u | û | L | á | Á | + | Ñ | ñ | § | 5 |
| 6 | ♠ | - | & | 6 | F | V | f | v | ć | Ź | Ž | Â | Ă | Í | Š | ÷ | 6 |
| 7 | • | ⬆ | ' | 7 | G | W | g | w | ç | Š | ž | Ě | ă | Î | š | „ | 7 |
| 8 | ☐ | ↑ | (| 8 | H | X | h | x | ı | ś | Ę | Ş | Ł | ě | Ř | ° | 8 |
| 9 | ○ | ↓ |) | 9 | I | Y | i | y | ë | Ö | e | ≡ | ≡ | ⊥ | Ú | “ | 9 |
| A | ☉ | → | * | : | J | Z | j | z | Ő | Ü | | | ≡ | ⊥ | ř | • | A |
| B | ♂ | ← | + | ; | K | [| k | { | ő | Ť | ž | ≡ | ≡ | ☐ | Ů | ů | B |
| C | ♀ | ⊥ | , | < | L | \ | l | | î | ř | Č | ≡ | ≡ | ☐ | ý | Ř | C |
| D | ♪ | ↔ | - | = | M |] m | } | Ž | Ł | ş | Ž | = | | Ý | ř | | D |
| E | ♫ | ▲ | . | > | N | ^ | n | ˘ | Ä | × | « | ž | ≡ | Ů | ř | ■ | E |
| F | ☼ | ▼ | / | ? | O | _ | o | △ | Ć | č | » | ⊥ | ☐ | ☐ | ' | | F |

■ PC-858 (13U: 437)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| 0 | | ▶ | | 0 | @ | P | ` | p | Ç | É | á | ⋮ | ⊥ | ð | Ó | - | 0 |
| 1 | ☺ | ◀ | ! | 1 | A | Q | a | q | ü | æ | í | ⊞ | ⊥ | Ð | β | ± | 1 |
| 2 | ☺ | ⋈ | " | 2 | B | R | b | r | é | Æ | ó | ⊞ | ⊥ | Ê | Ô | = | 2 |
| 3 | ♥ | !! | # | 3 | C | S | c | s | â | ô | ú | | ⊥ | Ë | Õ | ¾ | 3 |
| 4 | ♦ | ¶ | \$ | 4 | D | T | d | t | ä | ö | ñ | ⊥ | — | È | ō | ¶ | 4 |
| 5 | ♣ | § | % | 5 | E | U | e | u | à | ò | Ñ | Á | + | € | Õ | § | 5 |
| 6 | ♠ | - | & | 6 | F | V | f | v | â | ù | ª | Â | ã | Í | μ | ÷ | 6 |
| 7 | • | ⋈ | ' | 7 | G | W | g | w | ç | ù | º | À | Ã | Î | þ | . | 7 |
| 8 | ☐ | ↑ | (| 8 | H | X | h | x | ê | ÿ | ¿ | ⊞ | ⊥ | Ï | Ɔ | ° | 8 |
| 9 | ○ | ↓ |) | 9 | I | Y | i | y | ë | Ö | ® | ⊞ | ⊥ | ⊥ | Ú | ˆ | 9 |
| A | ☉ | → | * | : | J | Z | j | z | è | Û | ¬ | | ⊞ | ⊥ | Û | · | A |
| B | ♂ | ← | + | ; | K | [| k | { | ï | ø | ½ | ⊞ | ⊞ | ☐ | Ù | ¹ | B |
| C | ♀ | ⊥ | , | < | L | \ | l | | î | £ | ¼ | ⊞ | ⊞ | ☐ | ý | ³ | C |
| D | ♪ | ↔ | - | = | M | J | m | } | ì | Ø | ¡ | ⊥ | = | | Ý | ² | D |
| E | ♫ | ▲ | . | > | N | ^ | n | ˘ | Ä | × | « | ¥ | ⊞ | Ï | - | ■ | E |
| F | ☼ | ▼ | / | ? | O | _ | o | △ | Å | f | » | ⊥ | ⊞ | ☐ | ' | | F |

■ PC-860 (20U: 661)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| 0 | | ▶ | | 0 | @ | P | ` | p | Ç | É | á | ⋮ | ⊥ | ⊥ | α | ≡ | 0 |
| 1 | ☺ | ◀ | ! | 1 | A | Q | a | q | ü | À | í | ⊞ | ⊥ | ⊞ | β | ± | 1 |
| 2 | ☺ | ⋈ | " | 2 | B | R | b | r | é | È | ó | ⊞ | ⊥ | ⊞ | Γ | ≥ | 2 |
| 3 | ♥ | !! | # | 3 | C | S | c | s | â | ô | ú | | ⊥ | ⊥ | π | ≤ | 3 |
| 4 | ♦ | ¶ | \$ | 4 | D | T | d | t | ä | ö | ñ | ⊥ | — | ⊥ | Σ | ∫ | 4 |
| 5 | ♣ | § | % | 5 | E | U | e | u | à | ò | Ñ | ≠ | + | ⊥ | σ | ∫ | 5 |
| 6 | ♠ | - | & | 6 | F | V | f | v | Á | Ú | ª | ⊞ | ⊞ | ⊞ | μ | ÷ | 6 |
| 7 | • | ⋈ | ' | 7 | G | W | g | w | ç | ù | º | ⊞ | ⊞ | ⊞ | τ | ≈ | 7 |
| 8 | ☐ | ↑ | (| 8 | H | X | h | x | ê | ÿ | ¿ | ⊞ | ⊥ | ⊞ | Φ | ° | 8 |
| 9 | ○ | ↓ |) | 9 | I | Y | i | y | Ë | Ö | ® | ⊞ | ⊥ | ⊥ | Θ | · | 9 |
| A | ☉ | → | * | : | J | Z | j | z | è | Û | ¬ | | ⊞ | ⊥ | Ω | · | A |
| B | ♂ | ← | + | ; | K | [| k | { | Í | ç | ½ | ⊞ | ⊞ | ☐ | δ | √ | B |
| C | ♀ | ⊥ | , | < | L | \ | l | | Ô | £ | ¼ | ⊞ | ⊞ | ☐ | ∞ | n | C |
| D | ♪ | ↔ | - | = | M | J | m | } | ì | Ù | ¡ | ⊥ | = | ☐ | φ | ² | D |
| E | ♫ | ▲ | . | > | N | ^ | n | ˘ | Ä | Pt | « | ⊥ | ⊞ | ☐ | ε | ■ | E |
| F | ☼ | ▼ | / | ? | O | _ | o | △ | Å | Ó | » | ⊥ | ⊞ | ☐ | ∩ | | F |

■ PC-865 (25U: 821)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | ▶ | | 0 | @ | P | ` | p | Ç | É | á | ☼ | ⊥ | ⊥ | α | ≡ |
| 1 | ☺ | ◀ | ! | 1 | A | Q | a | q | ü | æ | í | ☼ | ⊥ | ≡ | β | ± |
| 2 | ☺ | ⬆ | " | 2 | B | R | b | r | é | Æ | ó | ☼ | ⊥ | ≡ | Γ | ≥ |
| 3 | ♥ | !! | # | 3 | C | S | c | s | â | ô | ú | | ⊥ | ⊥ | π | ≤ |
| 4 | ♦ | ¶ | \$ | 4 | D | T | d | t | ä | ö | ñ | ⊥ | ⊥ | ⊥ | Σ | ∫ |
| 5 | ♣ | § | % | 5 | E | U | e | u | à | ò | Ñ | ≡ | + | ≡ | σ | J |
| 6 | ♠ | - | & | 6 | F | V | f | v | â | û | ª | ⊥ | ⊥ | ⊥ | μ | ÷ |
| 7 | • | ⬆ | ' | 7 | G | W | g | w | ç | ù | º | ⊥ | ⊥ | ⊥ | τ | ≈ |
| 8 | ☐ | ↑ | (| 8 | H | X | h | x | ê | ÿ | ¿ | ⊥ | ⊥ | ⊥ | Φ | ° |
| 9 | ○ | ↓ |) | 9 | I | Y | i | y | ë | Ö | ⊥ | ⊥ | ⊥ | ⊥ | Θ | · |
| A | ☉ | → | * | : | J | Z | j | z | è | Ü | ⊥ | ⊥ | ⊥ | ⊥ | Ω | · |
| B | ♂ | ← | + | ; | K | [| k | { | ï | ø | ½ | ⊥ | ⊥ | ☐ | δ | √ |
| C | ♀ | ⊥ | , | < | L | \ | l | | î | £ | ¼ | ⊥ | ⊥ | ☐ | ∞ | n |
| D | ♪ | ↔ | - | = | M | J | m | } | ì | Ø | ı | ⊥ | = | ☐ | φ | ² |
| E | ♫ | ▲ | . | > | N | ^ | n | ~ | Ä | Pt | « | ≡ | ⊥ | ☐ | ε | ▪ |
| F | ☼ | ▼ | / | ? | O | _ | o | △ | Å | f | □ | ⊥ | ⊥ | ☐ | ∩ | |

■ PC-1004 (9J: 298)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|
| 0 | | | | 0 | @ | P | ` | p | | | ° | À | Đ | à | đ | |
| 1 | | | ! | 1 | A | Q | a | q | | ' | ı | ± | Á | Ñ | á | ñ |
| 2 | | | " | 2 | B | R | b | r | , | ' | ç | ² | Â | Ò | â | ò |
| 3 | | | # | 3 | C | S | c | s | | “ | £ | ³ | Ã | Ó | ã | ó |
| 4 | - | | \$ | 4 | D | T | d | t | „ | ” | ¤ | ´ | Ä | Ô | ä | ô |
| 5 | ˘ | | % | 5 | E | U | e | u | ... | • | ¥ | μ | Å | Õ | å | õ |
| 6 | · | | & | 6 | F | V | f | v | † | - | | ¶ | Æ | Ö | æ | ö |
| 7 | | | ' | 7 | G | W | g | w | ‡ | — | § | · | Ç | × | ç | ÷ |
| 8 | ° | | (| 8 | H | X | h | x | ^ | ~ | ¨ | , | È | Ø | è | ø |
| 9 | | |) | 9 | I | Y | i | y | ‰ | ™ | © | ı | É | Ù | é | ù |
| A | ˘ | | * | : | J | Z | j | z | Š | š | ª | º | Ê | Ú | ê | ú |
| B | ˘ | | + | ; | K | [| k | { | < | > | « | » | Ë | Û | ë | û |
| C | ˘ | | , | < | L | \ | l | | Œ | œ | ¬ | ¼ | Ï | Ü | ï | ü |
| D | | | - | = | M | J | m | } | | | - | ½ | Í | Ý | í | ý |
| E | | | . | > | N | ^ | n | ~ | | | ® | ¾ | Î | Þ | î | þ |
| F | | | / | ? | O | _ | o | △ | | ÿ | ¯ | ¿ | Ï | ß | ï | ÿ |

■ PC-Turkish (9T: 308)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | ▶ | | 0 | @ | P | ` | p | Ç | É | á | ☐ | ☐ | ☐ | ☐ | ☐ |
| 1 | ☺ | ◀ | ! | 1 | A | Q | a | q | ü | æ | í | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2 | ☺ | ⬆ | " | 2 | B | R | b | r | é | Æ | ó | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3 | ♥ | !! | # | 3 | C | S | c | s | â | ô | ú | | ☐ | ☐ | ☐ | ☐ |
| 4 | ♦ | ¶ | \$ | 4 | D | T | d | t | ä | ö | ñ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5 | ♣ | § | % | 5 | E | U | e | u | à | ò | Ñ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6 | ♠ | - | & | 6 | F | V | f | v | â | û | Ğ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7 | • | ⬆ | ' | 7 | G | W | g | w | ç | ù | ğ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8 | ☐ | ↑ | (| 8 | H | X | h | x | ê | î | ı | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9 | ○ | ↓ |) | 9 | I | Y | i | y | ë | Ö | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| A | ☐ | → | * | : | J | Z | j | z | è | Ü | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| B | ♂ | ← | + | ; | K | [| k | { | ï | ç | ½ | ☐ | ☐ | ☐ | ☐ | ☐ |
| C | ♀ | ⊥ | , | < | L | \ | l | | î | £ | ¼ | ☐ | ☐ | ☐ | ☐ | ☐ |
| D | ♪ | ↔ | - | = | M | J | m | } | ı | ¥ | ı | ☐ | ☐ | ☐ | ☐ | ☐ |
| E | ♫ | ▲ | . | > | N | ^ | n | ˘ | Ä | Ş | « | ☐ | ☐ | ☐ | ☐ | ☐ |
| F | ☼ | ▼ | / | ? | O | _ | o | △ | Å | ş | » | ☐ | ☐ | ☐ | ☐ | ☐ |

■ Pi Font (15U: 501)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | | - | :: | Ø | ☐ | ☐ | | | | | | | | |
| 1 | | | | - | Δ | ø | ☐ | ☐ | | | | | | | | |
| 2 | | | " | ˘ | | R | ☐ | ☐ | | | | | | | | |
| 3 | | | • | • | | Σ | ☐ | ☐ | | | | | | | | |
| 4 | | | “ | ↗ | | | + | ☐ | | | | | | | | |
| 5 | | | ” | ↘ | | | ☐ | ☐ | | | | | | | | |
| 6 | | | ‘ | ↙ | f | | - | ☐ | | | | | | | | |
| 7 | | | ’ | ↖ | | | | | | | | | | | | |
| 8 | | | < | Δ | ħ | | U | ☐ | | | | | | | | |
| 9 | | |) | ▷ | | | ☐ | ☐ | | | | | | | | |
| A | | | ™ | ▽ | | | ☐ | ☐ | | | | | | | | |
| B | | | SM | ◁ | | ☐ | ☐ | ☐ | | | | | | | | |
| C | | | ® | ⊲ | ℒ | ☐ | ☐ | ☐ | | | | | | | | |
| D | | | © | § | ℓ | ☐ | ☐ | ☐ | | | | | | | | |
| E | | | ® | ⊳ | | < | | | | | | | | | | |
| F | | | ¶ | | > | | ☐ | ☐ | | | | | | | | |

■ PS Math (5M: 173)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|
| 0 | | | 0 | ≅ | ∏ | ¯ | π | | | | ° | ∞ | ∠ | ∠ | € | |
| 1 | | ! | 1 | A | Θ | α | θ | | | ‡ | ± | ℑ | ∇ | < | > | |
| 2 | | √ | 2 | B | P | β | ρ | | | ' | " | ℔ | ® | ® | ∫ | |
| 3 | | # | 3 | X | Σ | χ | σ | | | ≤ | ≥ | ∅ | © | © | ∫ | |
| 4 | | ∃ | 4 | Δ | T | δ | τ | | | / | × | ⊗ | ™ | ™ | | |
| 5 | | % | 5 | E | Y | ε | υ | | | ∞ | ∞ | ⊕ | ∏ | ∑ | J | |
| 6 | | & | 6 | Φ | ς | φ | ϖ | | | f | ∂ | ∅ | √ | | | |
| 7 | | ∃ | 7 | Γ | Ω | γ | ω | | | ♣ | • | ∩ | · | | | |
| 8 | | (| 8 | H | Ξ | η | ξ | | | ♦ | ÷ | ∪ | ¬ | | | |
| 9 | |) | 9 | I | Ψ | ι | ψ | | | ♥ | ≠ | ∩ | ∧ | | | |
| A | | * | : | ∅ | Z | φ | ζ | | | ♠ | ≡ | ≅ | ∨ | | | |
| B | | + | ; | K | [| κ | { | | | ↔ | ≈ | ∂ | ↔ | | | |
| C | | , | < | Λ | ∴ | λ | | | | ← | ... | ∩ | ≡ | | | |
| D | | - | = | M |] | μ | } | | | ↑ | | ⊆ | ↑ | { | } | |
| E | | . | > | N | ⊥ | ν | ~ | | | → | - | ∈ | ⇒ | | | |
| F | | / | ? | O | _ | o | | | | ↓ | ← | ∉ | ∩ | | | |

■ PS Text (10J: 330)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|
| 0 | | | 0 | @ | P | ' | p | | | | | | | - | | |
| 1 | | ! | 1 | A | Q | a | q | | | i | - | ` | | Æ | æ | |
| 2 | | " | 2 | B | R | b | r | | | ç | † | ' | | | | |
| 3 | | # | 3 | C | S | c | s | | | £ | ‡ | ^ | | a | | |
| 4 | | \$ | 4 | D | T | d | t | | | / | · | ~ | | | | |
| 5 | | % | 5 | E | U | e | u | | | ¥ | | - | | ı | | |
| 6 | | & | 6 | F | V | f | v | | | f | ¶ | ˘ | | | | |
| 7 | | ' | 7 | G | W | g | w | | | § | • | · | | | | |
| 8 | | (| 8 | H | X | h | x | | | □ | , | " | | Ł | ł | |
| 9 | |) | 9 | I | Y | i | y | | | ' | " | | | Ø | ø | |
| A | | * | : | J | Z | j | z | | | " | " | ° | | Œ | œ | |
| B | | + | ; | K | [| k | { | | | « | » | „ | | ° | β | |
| C | | , | < | L | \ | l | | | | < | ... | | | | | |
| D | | - | = | M |] | m | } | | | > | ‰ | ˘ | | | | |
| E | | . | > | N | ^ | n | ~ | | | fi | | ˘ | | | | |
| F | | / | ? | O | _ | o | | | | fl | ˘ | ˘ | | | | |

■ Roman-8 (8U: 277)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | 0 | @ | P | ' | p | | | | | – | â | Ă | Á | Ɔ |
| 1 | | ! | 1 | A | Q | a | q | | | | À | Ý | ê | î | Ā | Ɔ |
| 2 | | " | 2 | B | R | b | r | | | | Â | ý | ô | ø | ā | · |
| 3 | | # | 3 | C | S | c | s | | | | È | ° | û | Æ | Ð | μ |
| 4 | | \$ | 4 | D | T | d | t | | | | Ê | Ç | á | â | ð | ¶ |
| 5 | | % | 5 | E | U | e | u | | | | Ë | ç | é | í | Í | ¾ |
| 6 | | & | 6 | F | V | f | v | | | | Ī | Ñ | ó | ø | Ì | – |
| 7 | | ' | 7 | G | W | g | w | | | | Ĭ | ñ | ú | æ | Ó | ¼ |
| 8 | | (| 8 | H | X | h | x | | | | ˘ | ı | à | Ă | Ò | ½ |
| 9 | |) | 9 | I | Y | i | y | | | | ˙ | ı | è | ì | Õ | ª |
| A | | * | : | J | Z | j | z | | | | ^ | ı | ò | Ö | õ | ° |
| B | | + | ; | K | [| k | { | | | | ˘ | £ | ù | Û | Š | « |
| C | | , | < | L | \ | l | | | | | ˘ | ¥ | ä | É | š | ■ |
| D | | - | = | M |] | m | } | | | | Û | § | ë | ï | Ú | » |
| E | | . | > | N | ^ | n | ~ | | | | Û | f | ö | ß | ÿ | ± |
| F | | / | ? | O | _ | o | ☒ | | | | £ | c | ü | Ô | ÿ | |

■ Roman-9 (4U: 149)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | 0 | @ | P | ' | p | | | | | – | â | Ă | Á | Ɔ |
| 1 | | ! | 1 | A | Q | a | q | | | | À | Ý | ê | î | Ā | Ɔ |
| 2 | | " | 2 | B | R | b | r | | | | Â | ý | ô | ø | ā | · |
| 3 | | # | 3 | C | S | c | s | | | | È | ° | û | Æ | Ð | μ |
| 4 | | \$ | 4 | D | T | d | t | | | | Ê | Ç | á | â | ð | ¶ |
| 5 | | % | 5 | E | U | e | u | | | | Ë | ç | é | í | Í | ¾ |
| 6 | | & | 6 | F | V | f | v | | | | Ī | Ñ | ó | ø | Ì | – |
| 7 | | ' | 7 | G | W | g | w | | | | Ĭ | ñ | ú | æ | Ó | ¼ |
| 8 | | (| 8 | H | X | h | x | | | | ˘ | ı | à | Ă | Ò | ½ |
| 9 | |) | 9 | I | Y | i | y | | | | ˙ | ı | è | ì | Õ | ª |
| A | | * | : | J | Z | j | z | | | | ^ | € | ò | Ö | õ | ° |
| B | | + | ; | K | [| k | { | | | | ˘ | £ | ù | Û | Š | « |
| C | | , | < | L | \ | l | | | | | ˘ | ¥ | ä | É | š | ■ |
| D | | - | = | M |] | m | } | | | | Û | § | ë | ï | Ú | » |
| E | | . | > | N | ^ | n | ~ | | | | Û | f | ö | ß | ÿ | ± |
| F | | / | ? | O | _ | o | ☒ | | | | £ | c | ü | Ô | ÿ | |

■ Symbol (19M: 621)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|
| 0 | | | 0 | ≅ | Π | ̄ | π | | | | ° | ℵ | ∠ | ∠ | | 0 |
| 1 | | ! | 1 | Α | ⊖ | α | θ | | | Υ | ± | ℑ | ∇ | < | > | 1 |
| 2 | | ∇ | 2 | B | P | β | ρ | | | ' | " | ℥ | ® | ® | ∫ | 2 |
| 3 | | # | 3 | X | Σ | χ | σ | | | ≤ | ≥ | ∅ | © | © | ∫ | 3 |
| 4 | | ∃ | 4 | Δ | T | δ | τ | | | / | × | ⊗ | ™ | ™ | | 4 |
| 5 | | % | 5 | E | Υ | ε | υ | | | ∞ | ∞ | ⊕ | Π | Σ | J | 5 |
| 6 | | & | 6 | Φ | ς | φ | ϖ | | | f | ∂ | ∅ | √ | / | \ | 6 |
| 7 | | ∃ | 7 | Γ | Ω | γ | ω | | | ♣ | • | ∩ | · | | | 7 |
| 8 | | (| 8 | H | Ξ | η | ξ | | | ♦ | ÷ | ∪ | ¬ | ∫ | ∫ | 8 |
| 9 | |) | 9 | I | Ψ | ι | ψ | | | ♥ | ≠ | ∩ | ∧ | ∫ | ∫ | 9 |
| A | | * | : | Θ | Z | φ | ζ | | | ♠ | ≡ | ⊇ | ∨ | | | A |
| B | | + | ; | K | [| κ | { | | | ↔ | ≈ | ∅ | ↔ | ∫ | ∫ | B |
| C | | , | < | Λ | ∴ | λ | | | | ← | ... | ∩ | ≠ | ∫ | ∫ | C |
| D | | - | = | M | J | μ | } | | | ↑ | | ⊆ | ↑ | { | } | D |
| E | | . | > | N | ⊥ | v | ~ | | | → | — | ε | ⇒ | ∫ | ∫ | E |
| F | | / | ? | O | _ | o | | | | ↓ | ⊥ | ∅ | ↓ | | | F |

■ Unicode (18N: 590)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | 0 | @ | P | ` | p | | | | ° | À | Đ | à | đ | 0 |
| 1 | | ! | 1 | A | Q | a | q | | | i | ± | Á | Ñ | á | ñ | 1 |
| 2 | | " | 2 | B | R | b | r | | | ç | ² | Â | Ò | â | ò | 2 |
| 3 | | # | 3 | C | S | c | s | | | £ | ³ | Ã | Ó | ã | ó | 3 |
| 4 | | \$ | 4 | D | T | d | t | | | ¤ | ´ | Ä | Ô | ä | ô | 4 |
| 5 | | % | 5 | E | U | e | u | | | ¥ | μ | Å | Õ | å | õ | 5 |
| 6 | | & | 6 | F | V | f | v | | | | ¶ | Æ | Ö | æ | ö | 6 |
| 7 | | ' | 7 | G | W | g | w | | | § | · | Ç | × | ç | ÷ | 7 |
| 8 | | (| 8 | H | X | h | x | | | ¨ | , | È | Ø | è | ø | 8 |
| 9 | |) | 9 | I | Y | i | y | | | © | ı | É | Ù | é | ù | 9 |
| A | | * | : | J | Z | j | z | | | ª | º | Ê | Ú | ê | ú | A |
| B | | + | ; | K | [| k | { | | | « | » | Ë | Û | ë | û | B |
| C | | , | < | L | \ | l | | | | ¬ | ¼ | Ì | Ü | ì | ü | C |
| D | | - | = | M | J | m | } | | | - | ½ | Í | Ý | í | ý | D |
| E | | . | > | N | ^ | n | ~ | | | ® | ¾ | Î | Þ | î | þ | E |
| F | | / | ? | O | _ | o | | | | ™ | ¿ | Ï | ß | ï | ÿ | F |

■ Ventura International (13J: 426)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|
| 0 | | | | 0 | @ | P | ' | p | | | „ | % | â | Å | Á | Æ |
| 1 | | | ! | 1 | A | Q | a | q | | | À | “ | ê | î | Ã | œ |
| 2 | | | " | 2 | B | R | b | r | | | Â | ” | ô | Ø | ä | ¶ |
| 3 | | | # | 3 | C | S | c | s | | | È | ° | û | Æ | | † |
| 4 | | | \$ | 4 | D | T | d | t | | | Ê | Ç | á | â | | ‡ |
| 5 | | | % | 5 | E | U | e | u | | | Ë | ç | é | í | Í | — |
| 6 | | | & | 6 | F | V | f | v | | | Ï | Ñ | ó | ø | Ì | - |
| 7 | | | ' | 7 | G | W | g | w | | | Ĭ | ñ | ú | æ | Ó | |
| 8 | | | (| 8 | H | X | h | x | | | © | ı | à | Ä | Ö | |
| 9 | | |) | 9 | I | Y | i | y | | | ® | ı | è | ı | Ö | a |
| A | | | * | : | J | Z | j | z | | | ™ | ı | ò | Ö | ö | ° |
| B | | | + | ; | K | [| k | { | | | < | £ | ù | Ü | Š | « |
| C | | | , | < | L | \ | l | | | | > | ¥ | ä | É | š | • |
| D | | | - | = | M |] | m | } | | | Û | § | ë | ï | Ú | » |
| E | | | . | > | N | ^ | n | ~ | | | Û | f | ö | ß | ÿ | |
| F | | | / | ? | O | _ | o | | | | c | ü | Ô | ÿ | ... | |

■ Ventura Math (6M: 205)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|
| 0 | | | | 0 | ≅ | Π | — | π | | | ◇ | ® | ≤ | ↓ | | Π |
| 1 | | | ! | 1 | A | Θ | α | θ | | | √ | ⊃ | ◆ | ← | · | ™ |
| 2 | | | √ | 2 | B | P | β | ρ | | | ⌊ | ⊇ | ≥ | ® | ∠ | ≡ |
| 3 | | | # | 3 | X | Σ | χ | σ | | | ⌈ | ⌋ | ∂ | " | J | ⇔ |
| 4 | | | ∃ | 4 | Δ | T | δ | τ | | | | ∞ | f | | ∇ | |
| 5 | | | % | 5 | E | Y | ε | ν | | | ⌊ | ♣ | ' | ℔ | { | Σ |
| 6 | | | & | 6 | Φ | ς | φ | ω | | | ⌊ | ⊕ | ℔ | © | | ™ |
| 7 | | | ∃ | 7 | Γ | Ω | γ | ω | | | | ⊗ | ∅ | ± |) | |
| 8 | | | (| 8 | H | Ξ | η | ξ | | | ↑ | ⊆ | ∞ | → | | ⌋ |
| 9 | | |) | 9 | I | Ψ | ι | ψ | | | ⇒ | U | ♠ | ↑ | ¬ | ∅ |
| A | | | * | : | ∅ | Z | φ | ζ | | | ↓ | - | α | ≠ | ∇ | ∩ |
| B | | | + | ; | K | [| κ | { | | | ∅ | ... | • | ≡ | | ∈ |
| C | | | , | < | Λ | ∴ | λ | | | | ⊂ | | / | ° | | © |
| D | | | - | = | M |] | μ | } | | | ⌋ | ∧ | ♥ | ↔ | | ∉ |
| E | | | . | > | N | ⊥ | ν | ~ | | | | ← | × | ⌊ | ⌋ | |
| F | | | / | ? | O | _ | o | | | | } | ≈ | ℥ | ∫ | ÷ | < |

■ Ventura US (14J: 458)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|
| 0 | | | 0 | @ | P | ' | p | | | ” | ‰ | | | | | |
| 1 | | ! | 1 | A | Q | a | q | | | “ | | | | | | |
| 2 | | " | 2 | B | R | b | r | | | ” | | | | | ¶ | |
| 3 | | # | 3 | C | S | c | s | | | ° | | | | | † | |
| 4 | | \$ | 4 | D | T | d | t | | | | | | | | ‡ | |
| 5 | | % | 5 | E | U | e | u | | | | | | | | — | |
| 6 | | & | 6 | F | V | f | v | | | | | | | | - | |
| 7 | | ' | 7 | G | W | g | w | | | | | | | | | |
| 8 | | (| 8 | H | X | h | x | | | © | | | | | | |
| 9 | |) | 9 | I | Y | i | y | | | ® | | | | | | |
| A | | * | : | J | Z | j | z | | | ™ | | | | | | |
| B | | + | ; | K | [| k | { | | | | | | | | | |
| C | | , | < | L | \ | l | | | | | | | | | • | |
| D | | - | = | M |] | m | } | | | § | | | | | | |
| E | | . | > | N | ^ | n | ~ | | | | | | | | | |
| F | | / | ? | O | _ | o | | | | ç | | | | | ... | |

■ Windows 3.0 Latin 1 (9U: 309)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | | | 0 | @ | P | ` | p | € | | ° | À | Ð | à | ð | | |
| 1 | | ! | 1 | A | Q | a | q | | ' | ı | ± | Á | Ñ | á | ñ | |
| 2 | | " | 2 | B | R | b | r | | ' | ç | ² | Â | Ò | â | ò | |
| 3 | | # | 3 | C | S | c | s | | £ | ³ | Ã | Ó | ã | ó | | |
| 4 | | \$ | 4 | D | T | d | t | | ¤ | ´ | Ä | Ö | ä | ö | | |
| 5 | | % | 5 | E | U | e | u | | ¥ | µ | Å | Õ | å | õ | | |
| 6 | | & | 6 | F | V | f | v | | | ¶ | Æ | Ö | æ | ö | | |
| 7 | | ' | 7 | G | W | g | w | | § | · | Ç | × | ç | ÷ | | |
| 8 | | (| 8 | H | X | h | x | | ¨ | , | È | Ø | è | ø | | |
| 9 | |) | 9 | I | Y | i | y | | © | ı | É | Ù | é | ù | | |
| A | | * | : | J | Z | j | z | | ª | º | Ê | Ú | ê | ú | | |
| B | | + | ; | K | [| k | { | | « | » | Ë | Û | ë | û | | |
| C | | , | < | L | \ | l | | | ¬ | ¼ | Ì | Ü | ì | ü | | |
| D | | - | = | M |] | m | } | | - | ½ | Í | Ý | í | ý | | |
| E | | . | > | N | ^ | n | ~ | | ® | ¾ | Î | Þ | î | þ | | |
| F | | / | ? | O | _ | o | ☒ | | - | ¿ | Ï | ß | ï | ÿ | | |

■ Windows 3.1 Latin 1 (19U: 629)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|
| 0 | | | 0 | @ | P | ` | p | € | | | ° | À | Ð | à | ð | 0 |
| 1 | | ! | 1 | A | Q | a | q | | ´ | ı | ± | Á | Ñ | á | ñ | 1 |
| 2 | | " | 2 | B | R | b | r | , | ’ | ı | ² | Â | Ò | â | ò | 2 |
| 3 | | # | 3 | C | S | c | s | f | “ | £ | ³ | Ã | Ó | ã | ó | 3 |
| 4 | | \$ | 4 | D | T | d | t | „ | ” | ¤ | ´ | Ä | Ö | ä | ö | 4 |
| 5 | | % | 5 | E | U | e | u | ... | • | ¥ | μ | Å | Õ | å | õ | 5 |
| 6 | | & | 6 | F | V | f | v | † | - | | ¶ | Æ | Ö | æ | ö | 6 |
| 7 | | ' | 7 | G | W | g | w | ‡ | — | § | · | Ç | × | ç | ÷ | 7 |
| 8 | | (| 8 | H | X | h | x | ^ | ~ | ¨ | , | È | Ø | è | ø | 8 |
| 9 | |) | 9 | I | Y | i | y | ‰ | ™ | © | ı | É | Ù | é | ù | 9 |
| A | | * | : | J | Z | j | z | Š | š | ª | º | Ê | Ú | ê | ú | A |
| B | | + | ; | K | [| k | { | < | > | « | » | Ë | Û | ë | û | B |
| C | | , | < | L | \ | l | | Œ | œ | ¬ | ¼ | Ì | Û | ì | ü | C |
| D | | - | = | M |] | m | } | | | - | ½ | Í | Ý | í | ý | D |
| E | | . | > | N | ^ | n | ~ | Ž | ž | ® | ¾ | Î | Þ | î | þ | E |
| F | | / | ? | O | _ | o |  | ÿ | ÿ | ¯ | ¸ | Ï | ß | ï | ÿ | F |

■ Windows 3.1 Latin 2 (9E: 293)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |
|---|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|---|
| 0 | | | 0 | @ | P | ` | p | € | | | ° | Ř | Đ | ř | đ | 0 | |
| 1 | | ! | 1 | A | Q | a | q | | ´ | ˘ | ± | Á | Ň | á | ň | 1 | |
| 2 | | " | 2 | B | R | b | r | , | ’ | ˘ | ² | Â | Ň | â | ň | 2 | |
| 3 | | # | 3 | C | S | c | s | | “ | Ł | ł | Ã | Ó | ã | ó | 3 | |
| 4 | | \$ | 4 | D | T | d | t | „ | ” | ¤ | ´ | Ä | Ö | ä | ö | 4 | |
| 5 | | % | 5 | E | U | e | u | ... | • | Ł | μ | Ł | Ó | ł | ó | 5 | |
| 6 | | & | 6 | F | V | f | v | † | - | | ¶ | Ć | Ö | ć | ö | 6 | |
| 7 | | ' | 7 | G | W | g | w | ‡ | — | § | · | Ç | × | ç | ÷ | 7 | |
| 8 | | (| 8 | H | X | h | x | | | ¨ | , | Č | Ř | č | ř | 8 | |
| 9 | |) | 9 | I | Y | i | y | ‰ | ™ | © | ı | É | Ù | é | ù | 9 | |
| A | | * | : | J | Z | j | z | Š | š | § | § | Ę | Ú | ę | ú | A | |
| B | | + | ; | K | [| k | { | < | > | « | » | Ë | Û | ë | û | B | |
| C | | , | < | L | \ | l | | Š | š | ¬ | ¼ | Ł | Ë | ł | ë | ü | C |
| D | | - | = | M |] | m | } | Ť | ť | - | ~ | Í | Ý | í | ý | D | |
| E | | . | > | N | ^ | n | ~ | Ž | ž | ® | ı | Î | Ť | î | ť | E | |
| F | | / | ? | O | _ | o |  | Ž | ž | Ž | ž | Ď | ß | ď | · | F | |

■ Windows 3.1 Latin 5 (5T: 180)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | @ | P | ` | p | € | | | ° | À | Ĝ | à | ğ |
| 1 | | ! | 1 | A | Q | a | q | | ' | i | ± | Á | Ñ | á | ñ | |
| 2 | | " | 2 | B | R | b | r | , | ' | c | ² | Â | Ò | â | ò | |
| 3 | | # | 3 | C | S | c | s | f | “ | £ | ³ | Ã | Ó | ã | ó | |
| 4 | | \$ | 4 | D | T | d | t | „ | ” | ¤ | ´ | Ä | Ô | ä | ô | |
| 5 | | % | 5 | E | U | e | u | ... | • | ¥ | μ | Å | Õ | å | õ | |
| 6 | | & | 6 | F | V | f | v | † | - | | ¶ | Æ | Ö | æ | ö | |
| 7 | | ' | 7 | G | W | g | w | ‡ | — | § | · | Ç | × | ç | ÷ | |
| 8 | | (| 8 | H | X | h | x | ^ | ~ | ” | , | È | Ø | è | ø | |
| 9 | |) | 9 | I | Y | i | y | ‰ | ™ | ® | ¹ | É | Ù | é | ù | |
| A | | * | : | J | Z | j | z | Š | š | ª | º | Ê | Ú | ê | ú | |
| B | | + | ; | K | [| k | { | < | > | « | » | Ë | Û | ë | û | |
| C | | , | < | L | \ | l | | Œ | œ | ¬ | ¼ | Ì | Ü | ì | ü | |
| D | | - | = | M |] | m | } | | | - | ½ | Í | Ý | í | ý | |
| E | | . | > | N | ^ | n | ~ | | | ® | ¾ | Î | Ş | î | ş | |
| F | | / | ? | O | _ | o | ☒ | Ÿ | ¯ | ¸ | | Ï | ß | ï | ÿ | |

■ Windows Baltic (19L: 620)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 |
|---|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|
| 0 | | | | 0 | @ | P | ` | p | € | | | ° | À | Š | a | š |
| 1 | | ! | 1 | A | Q | a | q | | ' | | ± | Ā | Ņ | ā | ņ | |
| 2 | | " | 2 | B | R | b | r | , | ' | c | ² | Ā | Ņ | ā | ņ | |
| 3 | | # | 3 | C | S | c | s | | “ | £ | ³ | Č | Ó | č | ó | |
| 4 | | \$ | 4 | D | T | d | t | „ | ” | ¤ | ´ | Ä | Ö | ä | ö | |
| 5 | | % | 5 | E | U | e | u | ... | • | | μ | Å | Õ | å | õ | |
| 6 | | & | 6 | F | V | f | v | † | - | | ¶ | Æ | Ö | æ | ö | |
| 7 | | ' | 7 | G | W | g | w | ‡ | — | § | · | È | × | ē | ÷ | |
| 8 | | (| 8 | H | X | h | x | | | Ø | ø | Č | U | č | u | |
| 9 | |) | 9 | I | Y | i | y | ‰ | ™ | ® | ¹ | É | Ļ | é | ļ | |
| A | | * | : | J | Z | j | z | | | Ŕ | ŗ | Ž | Š | ž | š | |
| B | | + | ; | K | [| k | { | < | > | « | » | Ë | Ū | ë | ū | |
| C | | , | < | L | \ | l | | | | ¬ | ¼ | Ģ | Ū | ģ | ū | |
| D | | - | = | M |] | m | } | | | - | ½ | Ķ | Ž | ķ | ž | |
| E | | . | > | N | ^ | n | ~ | ˘ | ˙ | ® | ¾ | Ī | Ž | ī | ž | |
| F | | / | ? | O | _ | o | ☒ | Ÿ | ¯ | ¸ | | Æ | æ | Ļ | ļ | |

■ Wingdings (579L: 18540)

| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| 0 | | | | ☐ | ✂ | ℙ | ℹ | ☐ | ⓪ | ⊙ | • | ⊕ | ⊖ | ↻ | ➔ | ↕ | 0 |
| 1 | | | ✂ | ☐ | ✂ | ✈ | ♁ | ☐ | ① | ⊙ | ○ | ⊕ | ⊖ | ↻ | ↑ | ↕ | 1 |
| 2 | | | ✂ | ☐ | ✂ | ⚙ | ♁ | ☐ | ② | ⊙ | ○ | ⊕ | ⊖ | ↻ | ↓ | ↕ | 2 |
| 3 | | | ✂ | ☐ | ✂ | ♁ | ♁ | • | ③ | ⊙ | ○ | ⊕ | ⊖ | ↻ | ↗ | ↕ | 3 |
| 4 | | | ✂ | ☐ | ✂ | ♁ | ♁ | ◆ | ④ | ⊙ | ○ | ⊕ | ⊖ | ↻ | ↗ | ↕ | 4 |
| 5 | | | ☐ | ☐ | ✂ | ⊕ | ♁ | ◆ | ⑤ | ⊙ | ⊙ | ⊕ | ⊖ | ↻ | ↖ | ↕ | 5 |
| 6 | | | ☐ | ☐ | ✂ | ⊕ | ✂ | ◆ | ⑥ | ⊙ | ○ | ★ | ↻ | ↖ | ↕ | ↕ | 6 |
| 7 | | | ☐ | ☐ | ✂ | ⊕ | ♁ | ◆ | ⑦ | ⊙ | ■ | ⊕ | ⊖ | ↻ | ↖ | ↕ | 7 |
| 8 | | | ☐ | ☐ | ✂ | ✂ | ⊕ | ☐ | ⑧ | ⊙ | ☐ | ⊕ | ⊖ | ↻ | ➔ | ↕ | 8 |
| 9 | | | ☐ | ☐ | ✂ | ★ | ♁ | ☐ | ⑨ | ⊙ | ♁ | ⊕ | ⊖ | ↻ | ➔ | ☐ | 9 |
| A | | | ☐ | ☐ | ☺ | ☾ | ♁ | ✂ | ⓪ | ⊙ | ♁ | ⊕ | ⊖ | ↻ | ↖ | ☐ | A |
| B | | | ☐ | ☐ | ☺ | ☾ | ♁ | ⊙ | ⓪ | ♁ | ★ | ⊕ | ⊖ | ↻ | ↖ | ✕ | B |
| C | | | ☐ | ☐ | ☺ | ♁ | ● | ⊙ | ⓪ | ♁ | ★ | ⊕ | ⊖ | ↻ | ↖ | ✓ | C |
| D | | | ☐ | ☐ | ☐ | ♁ | ○ | “ | ⓪ | ♁ | ★ | ⊕ | ⊖ | ↻ | ↖ | ☐ | D |
| E | | | ☐ | ☐ | ☐ | ♁ | ■ | ” | ⓪ | • | ★ | ⊕ | ⊖ | ↻ | ↖ | ☐ | E |
| F | | | ☐ | ☐ | ☐ | ♁ | ☐ | | ⓪ | • | ★ | ⊕ | ⊖ | ↻ | ↖ | ☐ | F |
| | 00 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | A0 | B0 | C0 | D0 | E0 | F0 | |

Specifications

Hardware Specifications

| | |
|---|--|
| Type | Desktop Page Printer |
| Printing method | Electrophoto Method (On-demand fixing) |
| Resolution | 1200dpi (Super Fine Mode)/600dpi (Fine Mode) |
| Printing speed Plain paper (64 to 105 g/m²) | When printing A4 continuously Black and white printing: 32 pages/min. Color printing: 30 pages/min. * Print speed may drop in stages depending on the paper size, paper type, print copies, and the settings of the fixing mode. (This is because the safety function that prevents damage caused by heat becomes active.) |
| Warm up time (Time from power on to printer ready) | 30 seconds or less * May vary depending on the use conditions (such as the availability of the optional accessories and installation environment). |
| Recovery time (Time from sleep mode to printer ready) | - During Printer Power Save Mode (Power Save Mode 2): 3 seconds or less* ¹ * ² - During Deep Sleep Mode (Power Save Mode 3): 30 seconds or less * ¹ This is the default setting. * ² 30 seconds or less when 8 hours or more have elapsed after the printer entered Printer Power Save Mode (Power Save Mode 2) |
| First print time | When printing A4 size paper Black and white: approx. 7.5 seconds Color: approx. 9 seconds * May vary depending on the output environment. |

| | | |
|--|------------------------------|---|
| Paper size | Cassette 1 | A3, B4, A4, B5, A5, Ledger (11 x 17), Legal, Letter, Executive Paper capacity: approx. 230 sheets (80 g/m ²) |
| | Cassette 2 (Optional) | <ul style="list-style-type: none"> - Standard sizes A3, B4, A4, B5, A5, Ledger (11 x 17), Legal, Letter, Executive, 8K, 16K - Custom sizes When loading paper in portrait orientation: Width 210.0 to 297.0 mm; Length 210.0 to 431.8 mm When loading paper in landscape orientation (Only when UFR II Printer Driver is used): Width 210.0 to 297.0 mm; Length 148.0 to 297.0 mm Paper capacity: approx. 550 sheets (80 g/m²) |
| | Cassette 3 (Optional) | |
| | Cassette 4 (Optional) | |
| | Multi-purpose Tray | <ul style="list-style-type: none"> - Standard sizes A3, B4, A4, B5, A5, 12 x 18, Ledger (11 x 17), Legal, Statement, Letter, Executive, 8K, 16K, Envelope DL, Envelope COM10, Envelope C5, Envelope Monarch, Envelope B5 - Custom sizes When loading paper in portrait orientation: Width 98.0 to 320.0 mm; Length 139.7 to 457.2 mm When loading paper in landscape orientation (Only when UFR II Printer Driver is used): Width 139.7 to 297.0 mm; Length 139.7 to 297.0 mm - Long size paper Width 210.0 to 297.0 mm; Length 457.3 to 1,200.0 mm Paper capacity: approx. 90 sheets (80 g/m²) |
| Automatic 2-sided printing | | <ul style="list-style-type: none"> - Standard sizes A3, B4, A4, B5, A5, Ledger (11 x 17), Legal, Statement, Letter, Executive, 8K, 16K - Custom sizes When loading paper in portrait orientation: Width 210.0 to 312.0 mm; Length 210.0 to 431.8 mm When loading paper in landscape orientation (Only when UFR II Printer Driver is used): Width 210.0 to 297.0 mm; Length 148.0 to 297.0 mm |
| Paper output | | Face down |
| Output capacity | | Approx. 250 sheets (80 g/m ²) |
| Noise (Declared noise emission in accordance with ISO 9296) | | <p>Lwad (declared A-weighted sound power level (1B = 10dB))</p> <ul style="list-style-type: none"> During standby: Background noise level During operation: 7.0 B or less <p>Sound pressure level (Bystander position)</p> <ul style="list-style-type: none"> During standby: Background noise level During operation: 53.0 dB (A) or less |

| | |
|--|---|
| Operating environment (Printer unit only) | Operating environment temperature: 10 to 30 °C (50 to 86 °F) Humidity: 10 to 80 % RH (no condensation) |
| Power supply | 220 -240 V (± 10 %) 50/60 Hz (± 2 Hz) |
| Power consumption (at temperature of 20 °C (68 °F)) | Average during operation: approx. 645 W Average during standby: approx. 36 W Average during Panel Off Mode (Power Save Mode 1): approx. 35 W Average during Printer Power Save Mode (Power Save Mode 2): approx. 16 W* Average during Deep Sleep Mode (Power Save Mode 3): approx. 1 W Maximum: 1,495 W or less * This is the default setting. |

| | | |
|--------------------|---|--|
| Consumables | Toner cartridge | <ul style="list-style-type: none"> - Canon Toner Cartridge (Black) Printable pages: approx. 10,000 pages* * Canon genuine toner cartridges, and for A4 size paper at 5 % page coverage with the default print density setting |
| | Toner cartridge | <ul style="list-style-type: none"> - Canon Toner Cartridge (Yellow) - Canon Toner Cartridge (Magenta) - Canon Toner Cartridge (Cyan) Printable pages: approx. 6,000 pages* * Canon genuine toner cartridges, and for A4 size paper at 5 % page coverage with the default print density setting |
| | Drum cartridge | <ul style="list-style-type: none"> - Canon Drum Cartridge (Black) - Canon Drum Cartridge (Yellow) - Canon Drum Cartridge (Magenta) - Canon Drum Cartridge (Cyan) Printable pages: approx. 50,000 pages* ^{1*2*3} ^{*1} The numbers of the pages are estimated when printing in the following conditions. Canon genuine drum cartridges; Paper size: A4; Paper type: Plain paper; Printing ratio: 5 %; Print density: the default; Continuous/1-sided Printing ^{*2} When printing at interval of 2 sheets (2-sheet intermittent printing), the lifetime of the drum cartridges (Canon Genuine Drum Cartridges) for this printer is approximately 45,000 pages for the black toner and approximately 40,000 pages for each color toner. These values are the number of pages that you can print when performing only color printing. Even when printing in black and white, each of the color drum cartridges is consumed. Therefore, when printing in black and white a lot, the lifetime of each of the color drum cartridges may be half the number of pages you can print. ^{*3} Depending on the printing preferences or printing environment such as the intermittency of printing, paper types, paper sizes, and 1-sided / 2-sided printing, the number of pages that you can print may be half this number. |
| Fixing unit | <ul style="list-style-type: none"> - Canon Fixing Unit Printable pages: approx. 150,000* pages * Canon genuine fixing unit, and for 1-sided printing on A4 size paper | |

| | | |
|---------------------------|---|--|
| <p>Consumables</p> | <p>Waste toner container</p> | <p>- Canon Waste Toner Container*1*2 *1 The waste toner container (Canon Genuine Waste Toner Container) for this printer will be filled to capacity after printing approximately 6,200 pages. The numbers of the pages are estimated when printing in the following conditions. Paper size: A4; Paper type: Plain paper; Printing ratio: 5 %; Print density: the default; 2-sheet intermittent/1-sided Printing *2 Depending on the printing preferences or printing environment such as the intermittency of printing, paper types, paper sizes, and 1-sided / 2-sided printing, the number of pages that you can print may be half this number.</p> |
| <p>Weight</p> | <p>Printer unit and included parts</p> | <p>Printer (excluding the toner cartridges and drum cartridges)approx. 48.5 kg Toner cartridge (Black)approx. 0.4 kg Toner cartridge (Yellow, Magenta, Cyan)approx. 0.3 kg Drum cartridge.....approx. 1.9 kg Fixing unitapprox. 2.9 kg Waste toner container.....approx. 0.2 kg</p> |
| | <p>Consumables, periodical replacement parts, and optional accessories</p> | <p>Toner cartridge (Black) (Canon Genuine Toner Cartridge)approx. 0.4 kg Toner cartridge (Cyan, Yellow, Magenta) (Canon Genuine Toner Cartridge)approx. 0.3 kg Drum cartridge (Canon Genuine Drum Cartridge)approx. 1.9 kg Fixing unit (Canon Genuine Fixing Unit)approx. 2.9 kg Waste toner container (Canon Genuine Waste Toner Container)approx. 0.2 kg PAPER FEEDER PF-98B (including the cassette).....approx. 11 kg</p> |

Controller Specifications

| | |
|------------------------------|--|
| CPU | R4000 series (400 MHz), MIPS64 series (533 MHz) * The upper limit of the frequency range |
| Memory (RAM) capacity | Standard 256 MB Expandable up to 768 MB by installing an optional expansion RAM module |
| Host interface | USB 2.0 Hi-Speed/USB Full-Speed (USB1.1 equivalent) X 1 LAN connector (10BASE-T/100BASE-TX) X 1 |
| User interface | LCD 16 characters X 1 line 11 LED indicators 9 Operation keys |
| RAM slot | 1 |
| ROM slot | 1 |
| Expansion slot | 2 |

Software Specifications

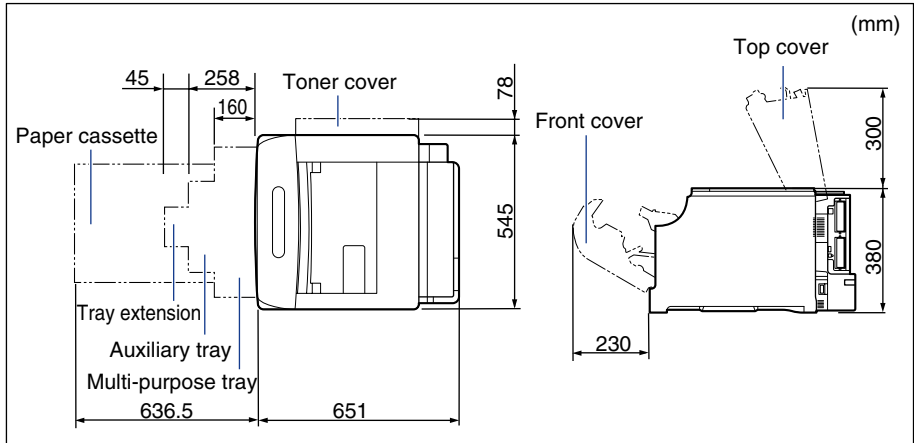
| | |
|-------------------------|---|
| Command language | PCL 5c, PCL 6, PostScript 3 emulation, and UFR II |
| Built-in fonts | PCL: 80 Scalable fonts, 2 OCR fonts and 10 Bitmap fonts PS: 136 standard fonts, 115 Central Europe fonts |

| | |
|-----------------------|---|
| Printable area | <p>PCL 5c/PCL 6 Data cannot be printed within a 4.23 mm (10 mm for envelopes) margin on all sides of the paper.</p> <p>PS Data cannot be printed within a 4 mm margin on all sides of the paper.</p> <p>UFR II Data cannot be printed within a 5 mm (10 mm for envelopes) margin on all sides of the paper.</p> <p>* If you are using the PS/UFR II printer driver and select the [Print with Upper Left of Sheet as Starting Point] check box in the printer driver, you can extend the printable area to near the edges of the paper.</p> <p>In order to specify the setting for [Print with Upper Left of Sheet as Starting Point], display the following dialog box.</p> <ul style="list-style-type: none">- For UFR II Printer Driver: Display the [Finishing Details] dialog box by clicking [Finishing Details] in the [Finishing] sheet.- For PS Printer Driver: See Help of the PS printer driver. <p>However, when a document with no margins is printed, the data may be printed with the edges missing or the edge of paper may blot during color printing even if the [Print with Upper Left of Sheet as Starting Point] check box is selected. In this case, specify the scaling factor in the PS/UFR II printer driver to print smaller so that any data on the document will not miss, and then print again.</p> |
|-----------------------|---|

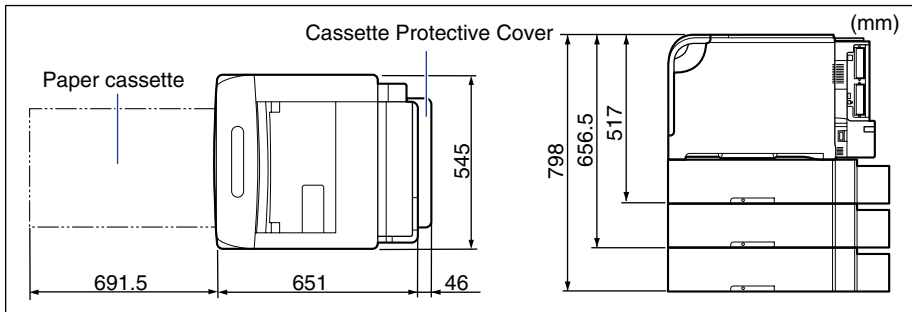
Dimensions of Each Part

■ Printer

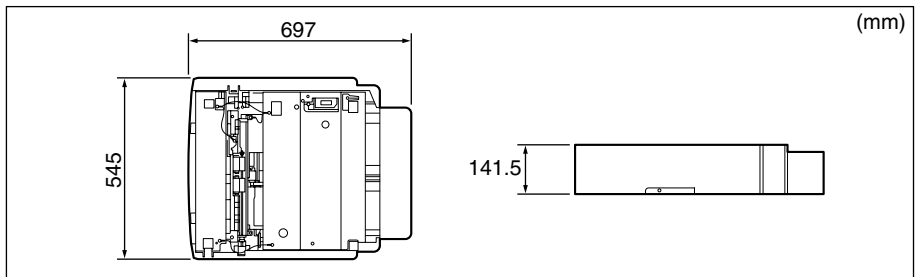
- Standard state



- When three paper feeders are installed



■ PAPER FEEDER PF-98B



Numerics

- 10 Indicator (Green), 1-8
- 100 Indicator (Green), 1-8
- 2-SIDED PRINT., 5-38, 5-118
- 2-sided Printing, 3-63
 - Manual 2-sided Printing, 3-65

A

- ACT Indicator (Green), 1-8
- ADJ.START POS., 5-69
- Adjusting the Color Balance, 7-95
- Adjusting the Printing Position, 6-62
- ALT.METHOD, 5-42
- APPEND CR TO LF, 5-78
- APPLETALK, 5-62
- ASSURE JOB LOG, 5-28
- AUTO ERROR SKIP, 5-20, 7-23
 - Auto Error Skip, 7-23
- AUTO SELECTION, 5-33
- AUTO SWITCH, 5-68
- Auxiliary Tray, 1-8

B

- B & W HALFTONES
 - PDF1.5, 5-92
 - PS, 5-100
 - QUALITY MENU, 5-47
- BARDIMM, 5-80
- BIND.LOCATION, 5-40
- Bitmapped Fonts (PCL), 8-9
- BLACK OVERPRINT
 - PDF1.5, 5-88
 - PS, 5-99
- BRIGHTNESS

- PDF1.5, 5-89
- PS, 5-100

C

- CALIBRATE TIME, 5-25
- CALIBRATE TIMER, 5-25
- CALIBRATION, 5-106
- Cancel Job, 2-60
- [Cancel Job] Key, 1-11, 4-5
- CANCEL JOB Menu, 4-14
- Canceling a Job, 2-59
- CASSETTE(n) SIZE (n = 2, 3, 4), 5-30, 5-118
- CASSETTE(n) TYPE (n = 2, 3, 4), 5-36, 5-118
- CASSETTE1 TYPE, 5-35, 5-118
- CHANGE TONER, 5-116
- Character Code Tables, 8-19
- CHK PAPER SIZE, 5-70
- CLEANING, 5-72
 - Cleaning
 - Inside of the Printer, 7-69
 - Outside of the Printer, 6-68
 - Transfer Belt, 6-60
 - Cleaning Brush, 7-76
- CMS, 5-49
- CMS SELECTION, 5-49
- CMS/GAMMA, 5-49
- CMYK OVERPRINT
 - PDF1.5, 5-89
 - PS, 5-102
- CMYK PROFILE, 5-85
- COATED PAPER, 5-74
 - Coated Paper, 3-4
- COLOR HALFTONES
 - PDF1.5, 5-93
 - PS, 5-101
 - QUALITY MENU, 5-48
- COLOR MODE, 5-47

- Command Prompt, 2-33
- COMMENT PRINT, 5-94
- Condensation, 6-14, 6-42
- CONFIG.PAGE, 5-104, 5-105
- Configuration Page, 8-2
- CONNECT.RECOG., 5-66
- CONTROL MENU Options, 5-2
- Control Panel, 1-11
- Control Panel Power Switch, 1-12, 4-6
- COPIES, 5-39
- Counter Check, 4-17
- CUSTOM SIZE, 5-77

D

- DATE AND TIME, 5-22
- DATE SETTING, 5-22
- DAYLIGHT SAVING, 5-22
- DENSITY
 - BLACK, 5-46
 - CYAN, 5-45
 - MAGENTA, 5-46
 - YELLOW, 5-46
- Dimensions, 8-51
- Direct Print, 2-12
- Display, 1-13
- Drum Cartridge
 - Handling, 6-40
 - Message, 6-15
 - Replacement, 6-15, 6-20
 - Storage, 6-42

E

- [Edit and Preview] Mode, 2-51
- E-mail Print, 2-34
- E-MAIL PRT LOG, 5-113
- E-MAIL PRT SET, 5-65
- E-MAIL UTILITY, 5-106
- ENCRYPTED PRINT, 5-109
- Encrypted Secured Print, 2-52

- ENLRG A4 WIDTH, 5-79
- ENLRG PRT AREA
 - IMAGING, 5-83
 - PDF1.5, 5-90
- Envelopes, 3-5, 3-54
- Error Message, 7-23
- ETHERNET DRIVER, 5-65
- EXIF ADJUSTMENT, 5-84
- Expansion RAM, 1-5
- Expansion Slot, 1-8
- EXT. CARD LIST, 5-105
- EXT.RX BUFFER, 5-66
- EXTENSION CARD, 5-66

F

- FEEDER MENU Options, 5-3
- [Feeder Selection] Key, 1-11, 4-5
- FINISHING, 5-91
- FIT TO PAGE, 5-90
- FIXING UNIT, 5-70
- Fixing Unit, 1-10
 - Message, 6-43
 - Replacement, 6-43, 6-45
 - Resetting the Counter, 6-52
- FONT NUMBER, 5-76
- FONTS LIST, 5-104, 5-105
- Forced Output, 2-59
- FORM FEED, 5-114
- FORM LINES, 5-76
- FREESCAPE, 5-80
- Front Cover, 1-7

G

- GAMMA, 5-52
- GRADATION LEVEL, 5-44
- GRADATION SET., 5-53
- GRAY COMPENSATE
 - PDF1.5, 5-90
 - QUALITY MENU, 5-48
- GRAY PROFILE
 - PDF1.5, 5-86

PS, 5-96
GUTTER, 5-41
Gutter, 3-67

H

HALFTONES, 5-47
Handling
 Drum Cartridge, 6-40
 Multi-purpose Tray, 3-13
 Paper Cassette, 3-13
 Printer, 6-79
 Toner Cartridge, 6-12
HARD DISK, 5-25
Hard Disk, 1-6, 2-4
Hard Disk Slot, 1-8
HARD RESET, 5-114
Hard Reset, 2-62
HDD ALL ERASE, 5-73
HDD Indicator, 1-12, 2-5
HDD MAINTENANCE, 5-73
Heavy Paper, 3-4
How to View the Display, 4-7

I

I/F CONNECTION, 5-55
IMAGING SETUP Options, 5-12
INIT.COUNTER, 5-70
INIT.N/W SET., 5-65
INTERFACE MENU Options, 5-7
INTERRUPT PRINT, 5-26
INVLPAPER TRAY, 5-32
ITB Unit, 1-10
 Cleaning the Transfer Belt, 6-60

J

Job Indicator, 1-12
[Job] Key, 1-12, 4-6
JOB LOG LIST, 5-112
JOB Menu, 4-12, 5-16

JOB TIMEOUT, 5-95

K

Keys, 4-5

L

Labels, 3-5
LAN Connector, 1-8
Laser Beam, xxi
LAYOUT MENU Options, 5-4
Lift Handles, 1-8
LIMIT EMAIL PRT, 5-83
LINE CONTROL, 5-54
Loading Paper
 Envelopes, 3-54
 Multi-purpose Tray, 3-48
 Paper Cassette, 3-18
Lock Release Button, 1-10
Long Size Paper, 3-52

M

Main Power Indicator, 1-12
MANUAL 2-SIDED, 5-37
MATCHING METHOD
 PDF1.5, 5-86
 PS, 5-97
 QUALITY MENU, 5-51
Menu Categories, 4-4
Menu Functions, 4-2
Menu Functions and Menu Operation, 4-9
Message, 7-23
Message Indicator, 1-12
MODE PRIORITY, 5-68
MODE SELECTION, 5-66
MODE TIMEOUT, 5-56
Multi-purpose Tray, 1-8
 Handling, 3-13
 How to Close, 3-15
 Paper Size Setting, 3-59

Paper Type Setting, 3-61

N

NETWARE SETTING, 5-62

NETWORK, 5-75

NETWORK MENU, 5-57

Network Status Print, 8-3

N-UP PRINT, 5-91

NW STATUS PRINT, 5-105

O

OCR Code Scalable Fonts (PCL), 8-9

Offline, 2-11

OFFSET X, 5-39

OFFSET Y, 5-39

[OK] Key, 1-12, 4-6

Online, 2-10

Online Indicator, 1-11

[Online] Key, 1-11, 4-5

Optional Equipment, 1-5

ORIENTATION

IMAGING, 5-81

PCL, 5-75

OUTPUT PROFILE

PDF1.5, 5-86

PS, 5-97

QUALITY MENU, 5-51

Output Tray, 1-8, 3-16

Paper Capacity, 3-12

Output Trays, 3-16

Outputting Data (Forced Output), 2-59

P

PAGE COUNT LIST, 5-107

Page Count List, 8-4

PANEL LANGUAGE, 5-20

Paper

Loading Orientation, 3-70

Printable Area, 3-7

Storage, 3-9

Paper Cassette, 1-8, 3-18

Handling, 3-13

Paper Type Setting, 3-46

Paper Feed Roller, 7-14

Paper Feeder, 1-5

Paper Guides, 1-8

Paper Jams, 7-4

PAPER SAVE (PCL SETUP), 5-75

PAPER SAVE (UFR II SETUP), 5-80

Paper Size, 3-2

List, 3-2

Setting, 3-59

Paper Size Guide, 1-8

PAPER SOURCE, 5-117

Paper Source, 3-11

Paper Capacity, 3-12

Selection, 3-12

Type, 3-11

Paper Source Indicators, 1-11

Paper Type List, 3-4

Paper Type Setting

Multi-purpose Tray, 3-61

Paper Cassette, 3-46

Parts and Their Functions, 1-7

PCL Fonts List, 8-5

PCL SETUP Options, 5-11

PCL UTILITY, 5-104

PDF1.5 Options, 5-13

PDL SELECT(PnP), 5-29

PITCH, 5-76

PLAIN PAPER, 5-74

Plain Paper, 3-4

POINT SIZE, 5-76

POW. SAVE TIMER, 5-24

POWER SAVE MODE, 5-18

Power Save Mode, 2-6

POWER SAVE TIME, 5-19

POWER SAVE TIME (TIMER SETTINGS), 5-25

Power Socket, 1-9

Power Supply

Problems, 7-48

Turning the Printer ON, 2-2

Power Switch, 1-8, 2-3, 2-5, 2-6

Print Defect Samples, 7-91

PRINT EMAIL TXT, 5-83

PRINT GUARANTEE, 5-82
 [Print] Mode, 2-50
 Print Mode, 2-57
 PRINT MODE Options, 5-10
 PRINT POSITION, 5-82
 PRINT PS ERRORS, 5-95
 Print Quality, 7-69
 Print Quality Problems, 7-56
 Printer
 Cleaning, 6-68
 Cleaning Inside, 7-69
 Handling, 6-79
 Moving, 6-71
 Operation Problems, 7-48
 Printer Status to Enter the Menu Operation, 4-4
 Printing Position Adjustment Print, 8-3
 PRNTPOSNPRINT, 5-107
 Problems
 Paper Jams, 7-4
 Print Quality, 7-69
 Problems with the Printout Results, 7-52
 PS Configuration Page, 8-6
 PS Fonts, 8-10
 PS Fonts List, 8-6
 PS Options, 5-14
 PS ROM, 1-5
 PS UTILITY, 5-105
 PS/Barcode ROM, 1-5
 PURE BLACK TEXT
 PDF1.5, 5-87
 PS, 5-98
 PWR SAVE IN ERR, 5-19

Q

QUALITY CHANGE, 5-55
 QUALITY MENU Options, 5-5
 QUICK FORMAT, 5-73
 QUIET MODE, 5-28

R

Rating Label, 1-9

Ready Indicator, 1-12
 Rear Cover, 1-9
 RECEIVE E-MAILS, 5-106
 RECVRY PRINTING, 5-70
 REMOTE UI SET., 5-64
 RENDER CL SPACE, 5-84
 REPORTLOG LST, 5-112
 [Reset] Key, 1-12, 4-6
 RESET Menu, 4-13, 5-16
 RESOLUTION, 5-43
 RGB PURE BLACK, 5-98
 RGB SRCE PROF.
 PDF1.5, 5-84
 PS, 5-95
 QUALITY MENU, 5-50
 RIP ONCE, 5-27
 RX LOG LIST, 5-106

S

Scalable Fonts (PCL), 8-7
 SECURED PRINT, 5-110
 Secured Print, 2-52
 [Secured Print] Mode, 2-50
 SECURED TYPE, 5-27
 SECURING TIME, 5-26
 SELECT FEEDER Menu, 4-15, 5-17
 Self-diagnostic Test, 2-3
 Service Call Display, 7-45
 Setting Items, 5-2
 Setting Priority, 4-3
 [Settings] Key, 1-12, 4-6
 SETUP Menu, 4-9, 5-2
 SETUP Menu Initialization, 4-18
 SHOW WARNINGS, 5-21
 CONTROL MENU, 5-21
 IMAGING, 5-82
 SHUT DOWN, 5-115
 SMB, 5-62
 SMOOTHING (AST)
 PDF1.5, 5-94
 PS, 5-103
 QUALITY MENU, 5-53
 SNMP V. 1, 5-63
 SNMP V. 3 SET., 5-63

SOFT RESET, 5-114
Soft Reset, 2-61
SP.IMAGE MODE, 5-71
SP.PRINT MODE, 5-74
SPS-SIZE MODE1, 5-72
SPS-SIZE MODE2, 5-72
Specifications, 8-44
SPOOLER, 5-64
START WAIT TIME, 5-64
STD FORMAT, 5-74
STD PAPER SIZE, 5-31
STD PAPER TYPE, 5-33
STORE LOG LST, 5-112
[Store] Mode, 2-51
Stored Job Print, 2-54
STOREJOB LIST, 5-111
STOREJOB PRINT, 5-111
Storing Printouts, 3-10
Sub Power Supply, 1-12
SUBSTITUTE SIZE, 5-71
SYMBOL SET, 5-77
Symbol Sets Supported, 8-19

T

TCP/IP SETTINGS, 5-57
TEST CHART 1, 5-107
Test Chart 1, 7-87
TEST CHART 2, 5-108
Test Chart 2, 7-89
TIME SETTING, 5-22
TIME ZONE, 5-23
TIMER SETTINGS, 5-23
Toner Cartridge
 Handling, 6-12
 Message, 6-2
 Replacement, 6-2, 6-4
 Resetting the Counter, 6-10
 Storage, 6-14
Toner Cover, 1-8
TONER SAVE, 5-44
TONER VOLUME, 5-54
Top Cover, 1-8, 1-10
Tray Extension, 1-8
TRAY PAPER SIZE, 5-29, 5-117

TRAY PAPER TYPE, 5-34, 5-118
TRAY PRIORITY, 5-31
Typeface Samples, 8-7

U

UFR II SETUP Options, 5-12
UNIT OF MEASURE, 5-77
Unusable Paper, 3-8
UPDATE FIRMWARE, 5-75
Usable Paper, 3-2
USB, 5-75
USB Connector, 1-8
USER MAIN. Options, 5-10
[Utility] Key, 1-12, 4-6
UTILITY Menu, 4-11, 5-15

V

Ventilation Slots, 1-8, 1-9

W

WAIT TIMEOUT, 5-95
WAKE UP TIME, 5-24
WAKE UP TIMER, 5-23
Warning Message, 7-23
WARNING STEP, 5-20
Waste Toner Container
 Message, 6-54
 Replacement, 6-54, 6-56
Waste Toner Cover, 1-9

X

X DIMENSION, 5-77

Y

Y DIMENSION, 5-78

Z

ZOOM, 5-81

Canon