

# Information

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## Introduction

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This manual contains detailed instructions and notes on the operation and use of this machine. For your safety and benefit, read this manual carefully before using the machine. Keep this manual in a handy place for quick reference.

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## Important

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Contents of this manual are subject to change without prior notice.


In no event will the company be liable for direct, indirect, special, incidental, or consequential damages as a result of handling or operating the machine.



**Notes:**

Some illustrations in this manual might be slightly different from the machine. Certain options might not be available in some countries. For details, please contact your local dealer.

Depending on which country you are in, certain units may be optional. For details, please contact your local dealer.



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## Caution

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For good print quality, the manufacturer recommends that you use genuine toner from the manufacturer.

The manufacturer shall not be responsible for any damage or expense that might result from the use of parts other than genuine parts from the manufacturer with your office products.

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## Notes

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The model names of the machines do not appear in the following pages. Check the type of your machine before reading this manual. (For details, see "Machine Types", Hardware Guide in the CD-ROM.)

- Type 1: SP 5200DN/Aficio SP 5200DN
- Type 2: SP 5210DN/Aficio SP 5210DN

Certain types might not be available in some countries. For details, please contact your local dealer.

Two kinds of size notation are employed in this manual. With this machine refer to the metric version.

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## Power Source

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220-240 V, 50/60 Hz, 6 A or less

Please be sure to connect the power cord to a power source as above.

# Laws and Regulations

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## Legal Prohibition

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Do not copy or print any item for which reproduction is prohibited by law. Copying or printing the following items is generally prohibited by local law: bank notes, revenue stamps, bonds, stock certificates, bank drafts, checks, passports, driver's licenses.

The preceding list is meant as a guide only and is not inclusive. We assume no responsibility for its completeness or accuracy. If you have any questions concerning the legality of copying or printing certain items, consult with your legal advisor.

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## Laser Safety

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This machine complies with the requirements of IEC60825-1:2007(EN-60825-1:2007) for class 1 laser product.

This machine contains four AlGaAs laser diodes, with 6.2 milliwatt, 770 - 795 nanometer wavelength.

This equipment does not emit hazardous light, since the beam is totally enclosed during all customer modes of operation and maintenance.

The following label is attached on the inside of the printer near the toner cartridge.



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### Caution:

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Use of controls or adjustments or performance of procedures other than those specified in this manual might result in hazardous radiation exposure.

# User Information on Electrical & Electronic Equipment

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## Users in the EU, Switzerland and Norway

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Our Products contain high quality components and are designed to facilitate recycling.

Our products or product packaging are marked with the symbol below.



The symbol indicates that the product must not be treated as municipal waste. It must be disposed of separately via the appropriate return and collection systems available. By following these instructions you ensure that this product is treated correctly and help to reduce potential impacts on the environment and human health, which could otherwise result from inappropriate handling. Recycling of products helps to conserve natural resources and protect the environment.

For more detailed information on collection and recycling systems for this product, please contact the shop where you purchased it, your local dealer or sales/service representatives.

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## All Other Users

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If you wish to discard this product, please contact your local authorities, the shop where you bought this product, your local dealer or sales/service representatives.

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## For Turkey only

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EEE Yönetmeliğine Uygundur.

Bu sistem sarf malzemeleri ve yedek parçaları da dahil olmak üzere EEE Yönetmeliğine Uygundur.

# Note for the Battery and/or Accumulator Symbol (For EU countries only)



In accordance with the Battery Directive 2006/66/EC Article 20 Information for end-users Annex II, the above symbol is printed on batteries and accumulators. This symbol means that in the European Union, used batteries and accumulators should be disposed of separately from your household waste.

In the EU, there are separate collection systems for not only used electrical and electronic products but also batteries and accumulators.

Please dispose of them correctly at your local community waste collection/ recycling centre.

# Users information for RFID in 13.56MHz



## Declaration of Conformity

### Notice to Users in EEA Countries

This product complies with the essential requirements and provisions of Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

The CE Declaration of Conformity is available on the Internet at URL:

[http://www.ricoh.co.jp/fax/ce\\_doc/](http://www.ricoh.co.jp/fax/ce_doc/)

# Safety Information

When using this machine, the following safety precautions should always be followed.

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## Safety During Operation

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In this manual, the following important symbols are used:

**⚠ WARNING:**  
*Indicates a potentially hazardous situation which, if instructions are not followed, could result in death or serious injury.*

**⚠ CAUTION:**  
*Indicates a potentially hazardous situation which, if instructions are not followed, may result in minor or moderate injury or damage to property.*

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## Safety Precautions to be Followed

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This section explains safety precautions that should always be followed when using this machine.

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### Environments where the machine can be used

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This section explains safety precautions about environments where the machine can be used.

**⚠ WARNING:**

• ***Do not use flammable sprays or solvents in the vicinity of this machine. Doing so could result in fire or electric shock.***

• ***Do not place vases, plant pots, cups, toiletries, medicines, small metal objects, or containers holding water or any other liquids, on or close to this machine. Fire or electric shock could result from spillage or if such objects or substances fall inside this machine.***

**⚠ CAUTION:**

• ***Keep the machine away from humidity and dust. Otherwise a fire or an electric shock might occur.***

• ***Do not place the machine on an unstable or tilted surface. If it topples over, an injury might occur.***

- *Do not place heavy objects on the machine. Doing so can cause the machine to topple over, possibly resulting in injury.*
- *Make sure the room where you are using the machine is well ventilated and spacious. Good ventilation is especially important when the machine is used heavily.*
- *Keep the machine away from salt-bearing air and corrosive gases. Also, do not install the machine in places where chemical reactions are likely (laboratories, etc.), as doing so will cause the machine to malfunction.*
- *Do not obstruct the machine's vents. Doing so risks fire caused by overheated internal components.*
- *When new, electrical devices containing volatile materials will normally release emissions into the air of their vicinity. For this reason, for the first few days after installation of a new device, strong ventilation inside the room where it is placed is necessary.*
- *Machine sound levels exceeding [Sound Power Level (Black and White)] > 63 dB (A) are not suitable for desk work environment, so place the machine in another place.*
- *The printer might topple over and cause damage and injuries if four optional paper feed units are stacked to a printer which is installed directly on the floor. For details about preventing the machine toppling over, contact your service representative.*

 **Note**

- To avoid possible build-up of ozone, locate this machine in large well ventilated room that has an air turnover of more than 30 m<sup>3</sup>/hr/person.

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## Handling power cords and power plugs

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This section explains safety precautions about handling power cords and power plugs.

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### **WARNING:**

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- ***If the power cord is damaged and its inner wires are exposed or broken, contact your service representative for a replacement. Use of damaged power cords could result in fire or electric shock.***
- ***Do not use any power sources other than those that match the specifications shown in this manual. Doing so could result in fire or electric shock.***



• ***Do not use any frequencies other than those that match the specifications shown. Doing so could result in fire or electric shock.***

• ***Do not use multi-socket adaptors. Doing so could result in fire or electric shock.***

• ***Do not use extension cords. Doing so could result in fire or electric shock.***

• ***Do not use power cords that are damaged, broken, or modified. Also, do not use power cords that have been trapped under heavy objects, pulled hard, or bent severely. Doing so could result in fire or electric shock.***

• ***Touching the prongs of the power cable's plug with anything metallic constitutes a fire and electric shock hazard.***

• ***The supplied power cord is for use with this machine only. Do not use it with other appliances. Doing so could result in fire, electric shock, or injury.***

• ***It is dangerous to handle the power cord plug with wet hands. Doing so could result in electric shock.***

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** CAUTION:**

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• ***Be sure to push the plug of the power cord fully into the wall outlet. Partially inserted plugs create an unstable connection that can result in unsafe buildup of heat.***

• ***If this machine is not going to be used for several days or longer at a time, disconnect its power cord from the wall outlet.***

• ***When disconnecting the power cord from the wall outlet, always pull the plug, not the cord. Pulling the cord can damage the power cord. Use of damaged power cords could result in fire or electric shock.***

• ***Be sure to disconnect the plug from the wall outlet and clean the prongs and the area around the prongs at least once a year. Allowing dust to build up on the plug constitutes a fire hazard.***

• ***When performing maintenance on the machine, always disconnect the power cord from the wall outlet.***

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## Handling the main machine

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This section explains safety precautions about handling the main machine.

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### **WARNING:**

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- ***Be sure to locate the machine as close as possible to a wall outlet. This will allow easy disconnection of the power cord in the event of an emergency.***
- ***If the machine emits smoke or odours, or if it behaves unusually, you must turn off its power immediately. After turning off the power, be sure to disconnect the power cord plug from the wall outlet. Then contact your service representative and report the problem. Do not use the machine. Doing so could result in fire or electric shock.***
- ***If metal objects, or water or other fluids fall inside this machine, you must turn off its power immediately. After turning off the power, be sure to disconnect the power cord plug from the wall outlet. Then contact your service representative and report the problem. Do not use the machine. Doing so could result in fire or electric shock.***
- ***If the machine topples, or if a cover or other part gets broken, you must turn off its power immediately. After turning off the power, be sure to disconnect the power cord plug from the wall outlet. Then contact your service representative and report the problem. Do not use the machine. Doing so could result in fire or electric shock.***
- ***Do not touch this machine if a lightning strike occurs in the immediate vicinity. Doing so could result in electric shock.***
- ***Keep the polythene materials (bags, etc.) supplied with this machine away from babies and small children at all times. Suffocation can result if polythene materials are brought into contact with the mouth or nose.***

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### **CAUTION:**

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- ***Unplug the power cord from the wall outlet before you move the machine. While moving the machine, take care that the power cord is not damaged under the machine. Failing to take these precautions could result in fire or electric shock.***
- ***Before installing or removing options, always disconnect the power cord plugs from the wall outlet and allow time for the main unit to fully cool. Failing to take these precautions could result in burns.***

- *When moving the machine, hold the inset grips at both sides, and then lift the printer slowly. Lifting it carelessly or dropping it may cause an injury.*

### **Important**

- Rating voltage of the connector for options: Max. DC 24 V.
- Voltage must not fluctuate more than 10%.

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## **Handling the machine's interior**

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This section explains safety precautions about handling the machine's interior.

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### **WARNING:**

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- ***Do not remove any covers or screws other than those explicitly mentioned in this manual. Inside this machine are high voltage components that are an electric shock hazard and laser components that could cause blindness. Contact your sales or service representative if any of the machine's internal components require maintenance, adjustment, or repair.***
- ***Do not attempt to disassemble or modify this machine. Doing so risks burns and electric shock. Note again that exposure to the laser components inside this machine risks blindness.***

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### **CAUTION:**

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- *Some of this machine's internal components get very hot. For this reason, take care when removing misfed paper. Not doing so could result in burns.*
- *The inside of the machine could be very hot. Do not touch the parts with a label indicating the "hot surface". Otherwise, an injury might occur.*
- *When loading paper, take care not to trap or injure your fingers.*
- *During operation, rollers for transporting the paper and originals revolve. A safety device has been installed so that the machine can be operated safely. But take care not to touch the machine during operation. Otherwise, an injury might occur.*
- *If the machine's interior is not cleaned regularly, dust will accumulate. Fire and breakdown can result from heavy accumulation of dust inside this machine. Contact your sales or service representative for details about and charges for cleaning the machine's interior.*
- *Do not pull out the paper tray forcefully. If you do, the tray might fall and cause an injury.*

- *Do not touch the inside of the controller board compartment. It may cause a machine malfunction or a burn.*

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## Handling the machine's supplies

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This section explains safety precautions about handling the machine's supplies.

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### **WARNING:**

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- *Do not incinerate toner (new or used) or toner containers. Doing so risks burns. Toner will ignite on contact with naked flame.*
- *Do not store toner (new or used) or toner containers anywhere near naked flames. Doing so risks fire and burns. Toner will ignite on contact with naked flame.*
- *Keep the polythene materials (bags, gloves, etc.) supplied with this machine away from babies and small children at all times. Suffocation can result if polythene materials are brought into contact with the mouth or nose.*

---

### **CAUTION:**

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- *Do not crush or squeeze toner containers. Doing so can cause toner spillage, possibly resulting in dirtying of skin, clothing, and floor, and accidental ingestion.*
- *Store toner (new or used), toner containers, and components that have been in contact with toner out of reach of children.*
- *If toner or used toner is inhaled, gargle with plenty of water and move into a fresh air environment. Consult a doctor if necessary.*
- *If toner or used toner gets into your eyes, flush immediately with large amounts of water. Consult a doctor if necessary.*
- *If toner or used toner is swallowed, dilute by drinking a large amount of water. Consult a doctor if necessary.*
- *When removing jammed paper or replacing toner, avoid getting toner (new or used) on your clothing. If toner comes into contact with your clothing, wash the stained area with cold water. Hot water will set the toner into the fabric and make removing the stain impossible.*

- *When removing jammed paper or replacing toner, avoid getting toner (new or used) on your skin. If toner comes into contact with your skin, wash the affected area thoroughly with soap and water.*

- *Do not attempt to print on stapled sheets, aluminum foil, carbon paper, or any kind of conductive paper. Doing so risks fire.*

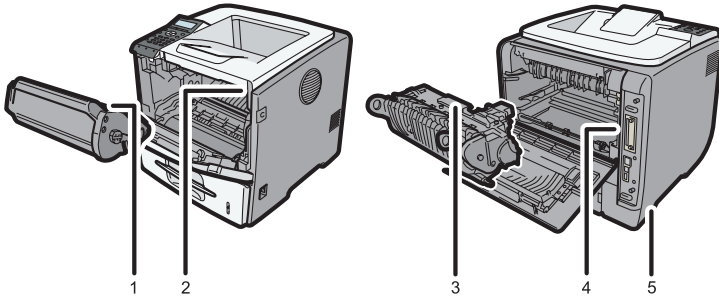
- *Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.*

# Safety Labels of This Machine

This section explains the machine's safety information labels.

## Positions of ⚠️ WARNING and ⚠️ CAUTION labels

This machine has labels for ⚠️ WARNING and ⚠️ CAUTION at the positions shown below. For safety, please follow the instructions and handle the machine as indicated.



CEC230



CEC202

Do not incinerate spilled toner or used toner. Toner dust is flammable and might ignite when exposed to an open flame.

Disposal should take place at an authorized dealer or an appropriate collection site.

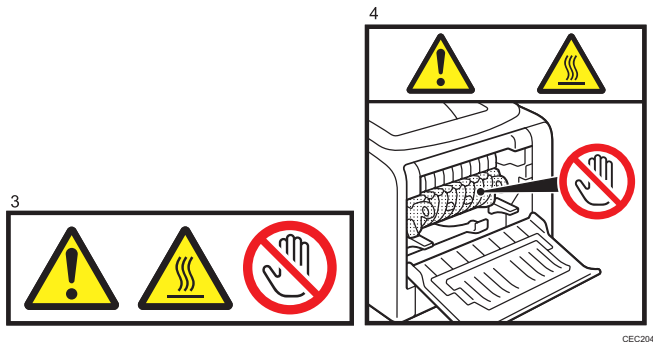
If you dispose of the used toner containers yourself, dispose of them according to local regulations.

Keep toner (used or unused) and toner containers out of reach of children.



CEC203

Do not put your hands inside the printer. The inside of this printer becomes very hot. Do not touch parts with this label (indicating a hot surface).



The inside of this printer becomes very hot. Do not touch parts with this label (indicating a hot surface).



The printer weighs approximately 23kg (51 lb.). When moving the printer, use the inset grips on both sides, and lift slowly in pairs.

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## Power Switch Symbols

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The meanings of the symbols for the switches on this machine are as follows:

- **I** : POWER ON.
- **O** : POWER OFF.

# Noise Emission

## ❖ Sound power level

- Main unit only

	Type 1	Type 2
Stand-by	Less than 46.5 dB (A)	Less than 48 dB (A)
Printing	Less than 71.8 dB (A)	Less than 72 dB (A)

- Complete system

	Type 1	Type 2
Stand-by	Less than 50.5 dB (A)	Less than 52 dB (A)
Printing	Less than 75.8 dB (A)	Less than 76 dB (A)

## ❖ Sound Pressure level

- Main unit only

	Type 1	Type 2
Stand-by	Less than 40.5 dB (A)	Less than 42 dB (A)
Printing	Less than 65.8 dB (A)	Less than 66 dB (A)

- Complete system

	Type 1	Type 2
Stand-by	Less than 44.5 dB (A)	Less than 46 dB (A)
Printing	Less than 69.8 dB (A)	Less than 70 dB (A)

- Sound power level and sound pressure level are actual values measured in accordance with ISO 7779.
- Sound pressure level is measured from the position of the bystander.



MEMO

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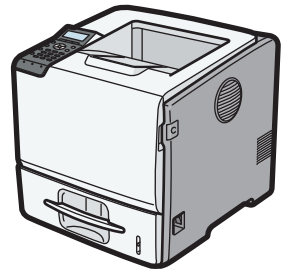
EN (GB) M020-8510



M0208510



# Operating Instructions Hardware Guide



- 
- 1** Guide to the Printer
  - 2** Setting Up the Printer
  - 3** Installing Options
  - 4** Connecting the Printer
  - 5** Configuration
  - 6** Loading Paper
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  - 8** Adjusting the Printer
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## **Introduction**

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## **Important**

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For good print quality, the manufacturer recommends that you use genuine toner from the manufacturer.

The manufacturer shall not be responsible for any damage or expense that might result from the use of parts other than genuine parts from the manufacturer with your office products.

Some illustrations in this manual might be slightly different from the machine.

Certain options might not be available in some countries. For details, please contact your local dealer.

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# How to Read This Manual

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## Symbols

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This manual uses the following symbols:

 **Important**

Indicates points to pay attention to when using the machine, and explanations of likely causes of paper misfeeds, damage to originals, or loss of data. Be sure to read these explanations.

 **Note**

Indicates supplementary explanations of the machine's functions, and instructions on resolving user errors.

 **Reference**

This symbol is located at the end of sections. It indicates where you can find further relevant information.

[ ]

Indicates the names of keys on the machine's display or control panels.

 **Region A** (mainly Europe and Asia)

 **Region B** (mainly North America)

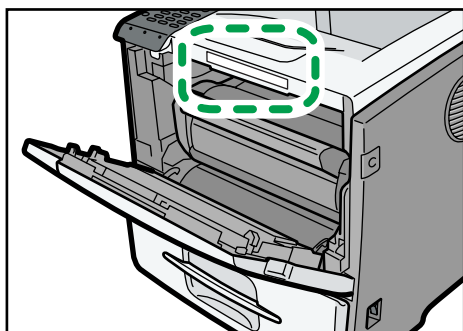
Differences in the functions of Region A and Region B models are indicated by two symbols. Read the information indicated by the symbol that corresponds to the region of the model you are using. For details about which symbol corresponds to the model you are using, see p.7 "Model-Specific Information".

---

## Model-Specific Information

This section explains how you can identify the region your machine belongs to.

There is a label on the front cover of the printer, and it is located in the position shown below. The label contains details that identify the region your machine belongs to. Read the label.



CEC247

The following information is region-specific. Read the information under the symbol that corresponds to the region of your machine.

 **Region A** (mainly Europe and Asia)

If the label contains the following, your machine is a region A model:

- CODE XXXX -22, -27
- 220-240V

 **Region B** (mainly North America)

If the label contains the following, your machine is a region B model:

- CODE XXXX -1 1
- 120-127V

### **Note**

- Dimensions in this manual are given in two units of measure: metric and inch. If your machine is a Region A model, refer to the metric units. If your machine is a Region B model, refer to the inch units.

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## Machine Types

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This printer comes in two models that have different printing speeds.

When describing procedures that are model-specific, this manual refers to the different printer models as Type 1 or Type 2. The following table describes the model types.

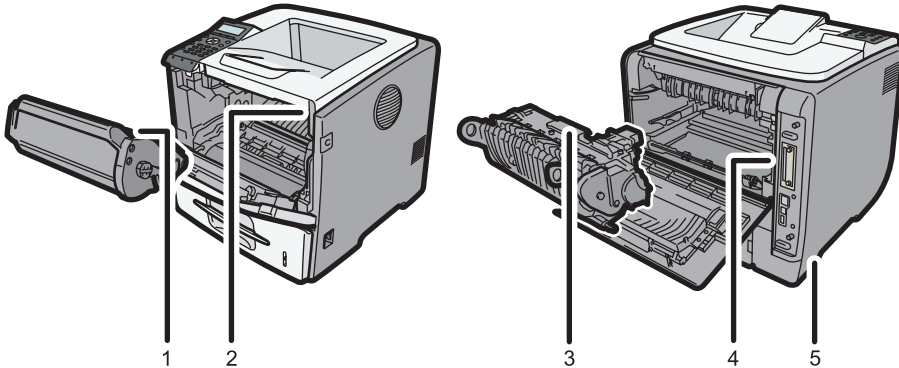
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### Model types

Model types	Model name
Type 1	SP 5200DN
Type 2	SP 5210DN

# Positions of WARNING and CAUTION Labels

This machine has labels for ⚠WARNING and ⚠CAUTION at the positions shown below. For safety, please follow the instructions and handle the machine as indicated.



CEC230



CEC202

Do not incinerate spilled toner or used toner. Toner dust is flammable and might ignite when exposed to an open flame.

Disposal should take place at an authorized dealer or an appropriate collection site.

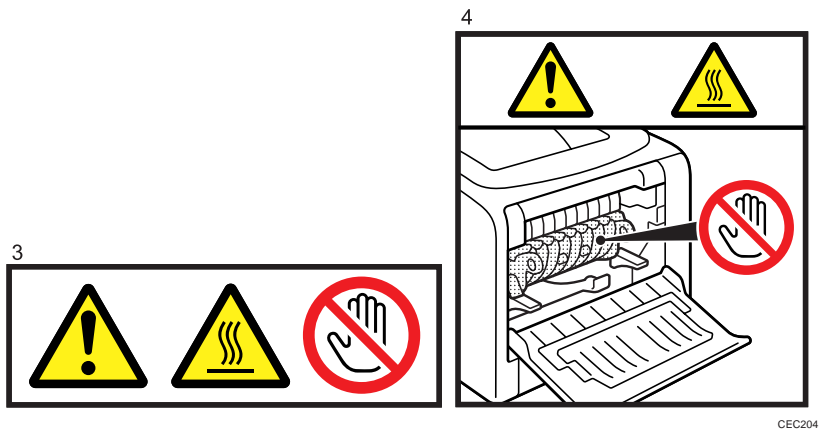
If you dispose of the used toner containers yourself, dispose of them according to local regulations.

Keep toner (used or unused) and toner containers out of reach of children.



CEC203

Do not put your hands inside the printer. The inside of this printer becomes very hot. Do not touch parts with this label (indicating a hot surface).



The inside of this printer becomes very hot. Do not touch parts with this label (indicating a hot surface).

5



The printer weighs approximately 23 kg (51 lb.). When moving the printer, use the inset grips on both sides, and lift slowly in pairs.

---

## Power Switch Symbols

---

The meanings of the symbols for the switches on this machine are as follows:

- I : POWER ON
- O : POWER OFF



---

# Manuals for This Printer

Read this manual carefully before you use this printer.

Refer to the manuals that are relevant to what you want to do with the printer.

## ★ Important

- Media differ according to manual.
- The printed and electronic versions of a manual have the same contents.
- Adobe Acrobat Reader/Adobe Reader must be installed in order to view the manuals as PDF files.
- A Web browser must be installed in order to view the html manuals.

## Safety Information

Contains information about safe usage of this printer.

To avoid injury and prevent damage to the printer, be sure to read this.

## Quick Installation Guide

Contains procedures for removing the printer from its box, and connecting it to a computer.

## Hardware Guide (This manual)

Contains information about paper; names and functions of the parts of this printer; and procedures such as installing options, replacing consumables, responding to error messages, and resolving jams.

## Driver Installation Guide

Contains procedures for installing the printer driver. This manual is included on the driver CD-ROM.

## Software Guide

Contains information about using this printer, its software, and its security functions.

## Security Guide

This manual is for administrators of the printer. It explains security functions that you can use to prevent unauthorized use of the printer, data tampering, or information leakage. Be sure to read this manual when setting the enhanced security functions, or user and administrator authentication.

## VM Card Extended Feature Settings Web Reference

Contains information about setting up the extended features settings using Web Image Monitor.

## UNIX Supplement

Contains information about the usage of commands to operate this printer.

To obtain the "UNIX Supplement", visit our Web site or consult an authorized dealer.

This manual includes explanations of functions and settings that might not be available on this printer.

This manual is provided in English only.

## ↓ Note



- In this manual, "Enhanced Locked Print NX" is abbreviated as "ELP-NX".

- 
- Manuals provided are specific to printer types.

---

# List of Options

This section provides a list of options for this printer, and how they are referred to as in this manual.

Option List	Referred to as
Paper Feed Unit TK1120	Paper feed unit
Paper Feed Unit TK1130	Paper feed unit with casters
Hard Disk Drive Type 2670	Hard disk
Memory Unit Type G 256 MB	SDRAM module
Memory Unit Type I 512 MB	SDRAM module
Gigabit Ethernet Board Type A	Gigabit Ethernet board
 <b>Region B</b> IEEE 802.11a/g Interface Unit Type L	Wireless LAN interface unit
 <b>Region A</b> IEEE 802.11a/g Interface Unit Type M	Wireless LAN interface unit
IEEE 1284 Interface Board Type A	IEEE 1284 interface board
SD card for NetWare printing Type E	NetWare card
VM CARD Type O	VM card
SD Card for Fonts Type C	SD font card
IPDS Unit Type 5200	IPDS card

 **Note**

- For details about the specifications of each option, see p.213 "Specifications".

---

# Operating Instructions

This section explains how to use HTML format manuals.

---

## Reading the HTML Manuals on the CD-ROMs

---

1. Insert the CD-ROM into the CD-ROM drive of your computer.
2. Select a language and a product, and then click [OK].
3. Click [Read HTML manuals].
4. Click the title of manual you want to read.

### Note

- The browsers we recommend are Internet Explorer 6 or later, Firefox 3.5 or later, and Safari 4.0 or later.
- Non-recommended browsers can display the simplified manual only.
- If you are using an earlier or non-recommended browser and the simplified version of the documentation does not appear automatically, open index.htm, which can be found in the following folder on the CD-ROM: MANUAL\_HTML\LANG\((language)\(manual)\unv
- Depending on your computer's operating environments, you can select the HTML manual from the following two versions:
  - Standard version
  - Simplified version
- If you want to read the HTML manuals on a Macintosh, insert the CD-ROM into the CD-ROM drive, and then click [Read HTML manuals].
- If JavaScript is disabled or unavailable in your browser, you will not be able to search or use certain buttons in the HTML documentation.

---

## Reading the HTML Manuals That You Install on the Computer

---

For easy access, we recommend you install the manuals on your computer.

1. Insert the CD-ROM into the CD-ROM drive of your computer.
2. Select a language and a product, and then click [OK].
3. Click [Install manuals].
4. Install the HTML manuals following the on-screen instructions.
5. When the installation is complete, click [Finish].
6. Click [Exit].

---

## 7. Open the HTML manuals that you installed.

When opening the manuals from an icon, double-click the manual icon on the desktop. When opening the manuals from the [Start] menu, point to [All Programs], and then [Product Name].

## 8. Click the title of the manual you want to read.

### Note

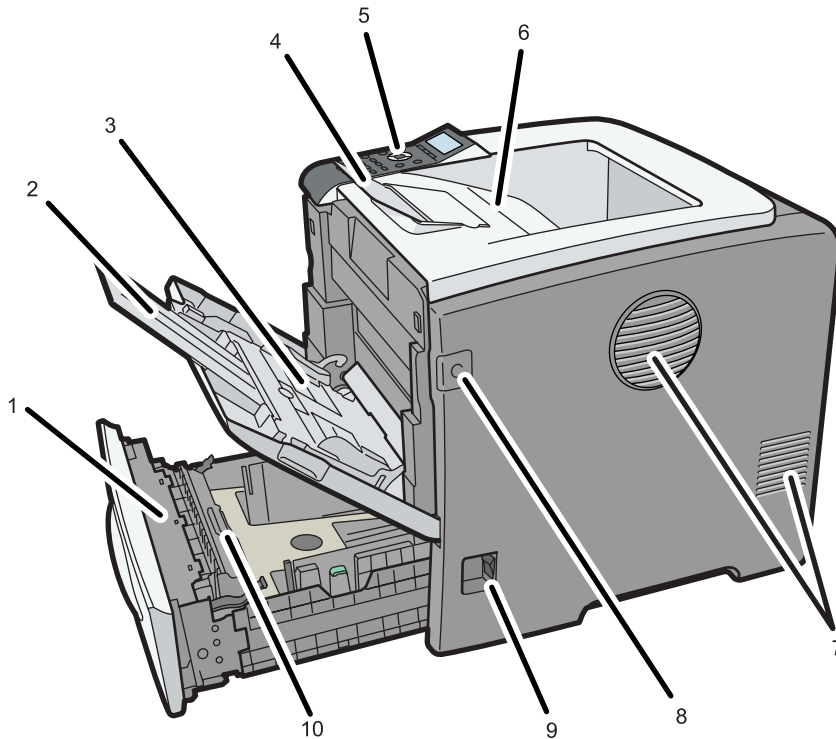
- You need administrator permissions to install the manuals. Log in as an Administrators group member.
- The system requirements for installing the manuals are as follows:
  - Operating system: Windows XP/Vista/7, Windows Server 2003/2003 R2/2008/2008 R2
  - Minimum display resolution: 800 × 600 pixels
- If you cannot install a manual, copy the "MANUAL\_HTML" folder to your computer's hard drive, and then run "Setup.exe".
- To delete an installed manual, on the [Start] menu, click [All Programs], then [Product Name], and then uninstall the data.
- Depending on the settings made during installation, menu folder names may differ.



# 1. Guide to the Printer

This chapter explains the names and functions of the printer's components.

## Exterior: Front View



CEC207

### 1. Standard Paper Feed Tray (Tray 1)

Up to 550 sheets of plain paper can be loaded.

### 2. Bypass Tray Extension

Pull this out when loading a sheet that is longer than A4<sup>□</sup> and 8 1/2" x 11" (Letter)<sup>□</sup> on the Bypass Tray.

### 3. Bypass Tray

Up to 100 sheets of plain paper can be loaded.

See p.101 "Supported Paper for Each Tray" and p.101 "Loading Paper".

### 4. Tray Extension

Raise this barrier to prevent paper from falling off.

### 5. Control Panel

Contains keys for printer control and a display that shows the printer status.

**6. Standard Tray**

Prints are delivered here printed side facing down.

**7. Vents**

To prevent overheating, heat from internal components is released through these vents. Malfunctions and failure can result if these vents are blocked or obstructed.

**8. Front Cover Release Button**

Press this to open the front cover.

**9. Power Switch**

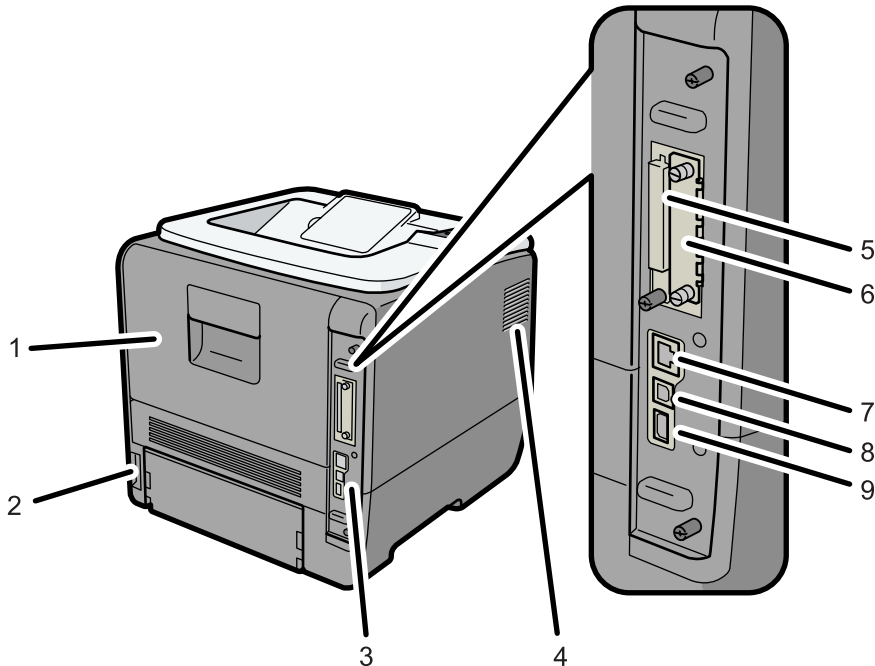
Press this to turn the printer's power on and off.

**10. Friction Pad**

This ensures only one sheet of paper is fed in at a time. If multi-sheet feeds occur, clean the friction pad carefully.



# Exterior: Rear View



CEC208

## 1. Rear Cover

Open this cover to replace the fusing unit.

## 2. Power Connector

Connect the power cord to the printer here. Insert the other end of the cable into a nearby wall outlet.

## 3. Controller Board

Slide this out to install options such as the SDRAM module or printer hard disk. Plug cables such as a USB cable and Ethernet cable into their connectors.

## 4. Vents

To prevent overheating, heat from internal components is released through these vents. Malfunctions and failure can result if these vents are blocked or obstructed.

## 5. SD Card Slots

Remove the cover and install SD cards here.

## 6. Optional Interface Board Slot

Insert an optional Wireless LAN interface unit, Gigabit Ethernet board, or 1284 interface board in this slot.

## 7. Ethernet Port

Use a network interface cable to connect the printer to the network.

## 8. USB Port B

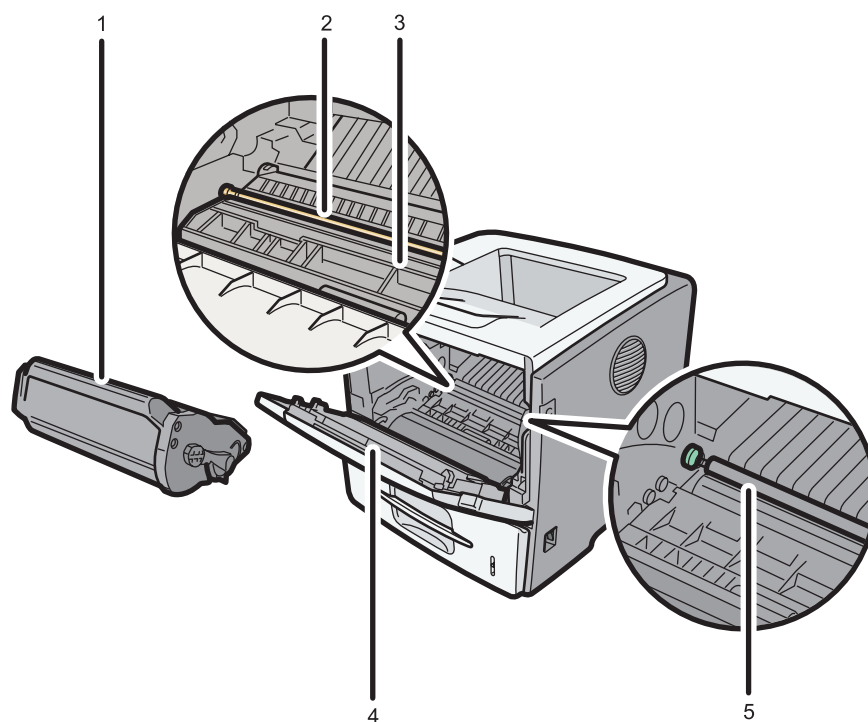
Use a USB cable to connect the printer to a computer.

## 9. USB Port A

Use a USB cable to connect the optional USB devices such as the authentication card reader.

# Interior

## Front view



CEC209

### 1. Print Cartridge

Contains toner and the photo conductor unit.

When "Replace Print Cartridge." appears on the display, replace this unit.

### 2. Registration Roller

Feeds in sheets of paper for printing. Be sure to clean this roller if it becomes dirty or replace the print cartridge.

See p. 159 "Cleaning the Registration Roller".

### 3. Guide Board

Open this to remove jammed paper.

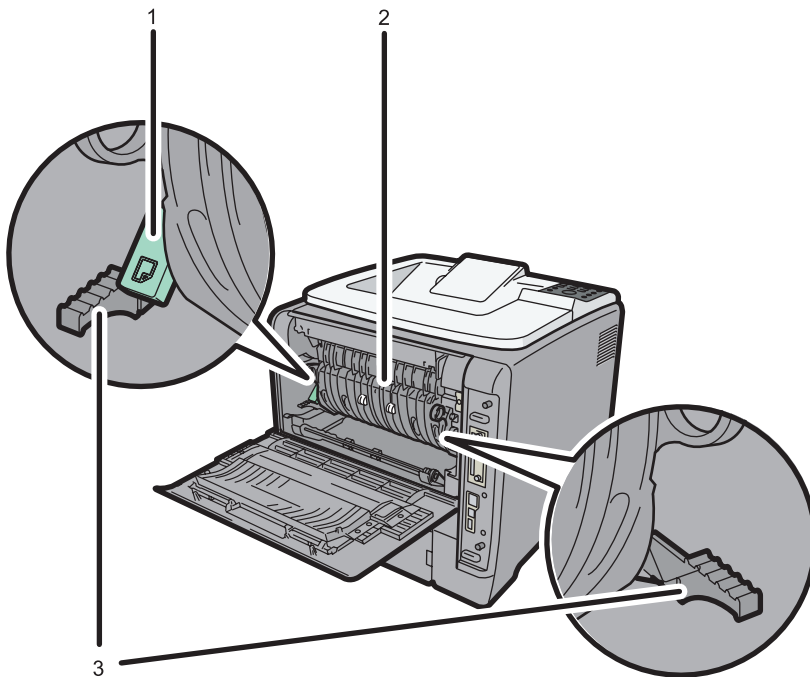
### 4. Front Cover

Open this to access the printer's interior.

### 5. Transfer Roller

When "Replacmnt Requir:Maint. Kit" appears on the display, replace this roller.

## Rear view



CEC231

### 1. Envelope lever

Use this lever if envelopes become wrinkled during printing. Raising or lowering the envelope lever according to the thickness of the paper you are printing on can improve print quality.

### 2. Fusing Unit

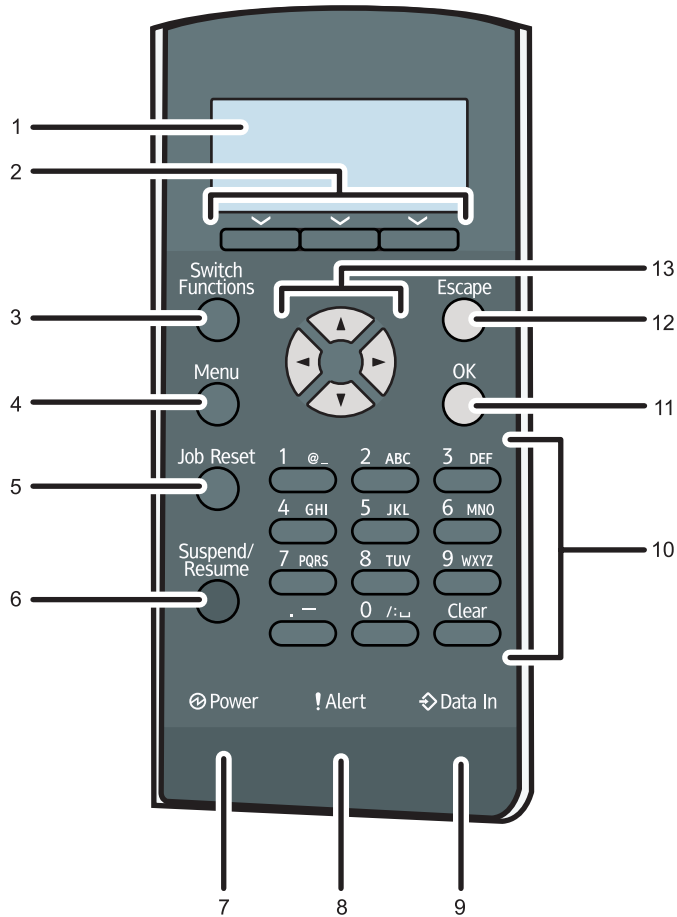
Fuses print images onto paper.

When "Replacmnt Requir:Maint. Kit" appears on the display, replace this unit.

### 3. Fusing Unit Lock Levers

Lift these levers to replace the fusing unit.

# Control Panel



CEC210

## 1. Display

Displays current printer status and error messages.

Entering energy saver mode turns off the back light. For details about energy saver mode, see Software Guide.

## 2. Selection Keys

Correspond to the function items at the bottom line on the display.

Example: When this manual instructs you to press [Option], press the selection key on the left below the initial screen.

## 3. [Switch Functions] Key

Press this key to switch between the operation screen of the printer function and the function screens of the extended features currently in use.

## 4. [Menu] Key

Press this key to configure and check the current printer settings.

## 5. [Job Reset] Key

When the printer is online, press this key to cancel an ongoing print job.

## 6. [Suspend/Resume] Key

Press this to suspend the print job currently being processed. The indicator remains lit as long as the job is suspended.

To resume the job, press this key again. Resumption of a suspended job will occur automatically when the time specified in [Auto Reset Timer] elapses (default: **60 seconds**).

For details about the [Auto Reset Timer] setting, see "Making Printer Settings Using the Control Panel", Software Guide.

## 7. Power Indicator

Lights up when the printer is ready to receive data from a computer. Flashes when the printer is warming up or receiving data. It is unlit when the power is off or while the printer is in energy saver mode.

## 8. Alert Indicator

Lights up or flashes when a printer error occurs.

Steady red: printing is not possible, or is possible but print quality cannot be ensured.

Flashing yellow: the printer will soon require maintenance or a replacement consumable such as print cartridge.

Follow the instructions that appear on the display.

## 9. Data In Indicator

Flashes when the printer is receiving data from a computer. The data in indicator is lit if there is data to be printed.

## 10. Number Keys

Use these to enter characters or numbers.

## 11. [OK] Key

Use this key to confirm settings, or setting values, or move to the next menu level.

## 12. [Escape] Key

Press this key to cancel an operation or return to the previous display.

## 13. Scroll Keys

Press these keys to move the cursor in each direction.

When the [▲] [▼] [◀] [▶] keys appear in this manual, press the scroll key of the same direction.

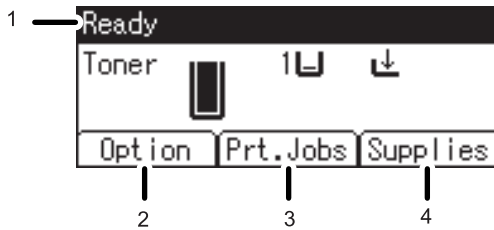
# Display Panel

The items are highlighted when selected.

## ★ Important

- Do not touch the display panel.

The following screen appears when you turn on the printer.



CEC235

### 1. Operational Status or Messages

Displays the printer status or the messages.

### 2. [Option]

Press to display the following items:

- Form Feed
- Error Log

### 3. [Prt.Jobs]

Press to display print jobs sent from a computer.

### 4. [Supplies]

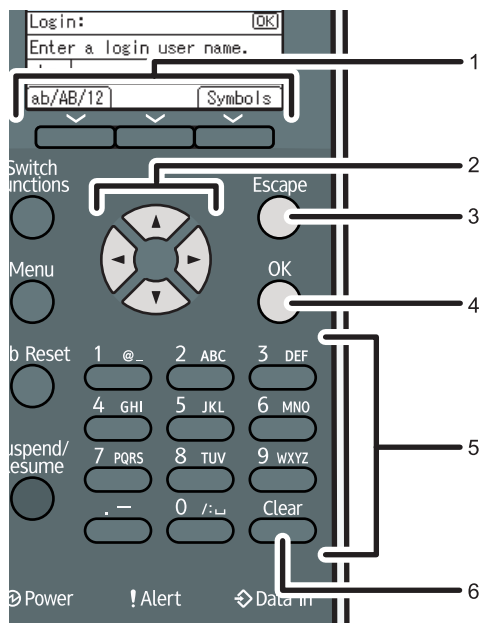
Press to display the information of supplies for the printer.

## ↓ Note

- [Prt.Jobs] is displayed only when the hard disk is installed in the printer.
- By default, the remaining amount of toner is displayed. To not display the remaining amount of toner, press the [Menu] key, and then select [Maintenance] on the display. Select [General Settings], then [Display Supply Info], and then select [Off].
- Adjust the brightness if the screen is dark. To adjust the display contrast, press the [Menu] key, and then select [Maintenance] on the display. Select [General Settings] and then [Display Contrast].

# Entering Characters

When you enter a character, it will be displayed at the position indicated by the cursor. If a character is already displayed at the cursor position, the entered character will be displayed before that.



CEC212

## 1. Selection Keys

Correspond to the function items on the bottom line of the display.

Example: When this manual instructs you to press [ab/AB/12], press the selection key on the left below the text input screen.

Press the left selection key to switch the input mode between lowercase, uppercase, and numeric characters.

Press the right selection key to display a list of the symbols that you can enter.

## 2. Scroll Keys

Press to move the cursor in each direction.

When the [▲] [▼] [◀] [▶] keys appear in this manual, press the scroll key showing the same direction.

## 3. [Escape] Key

Clears the entered text and numbers, and returns the display to its previous state.

## 4. [OK] Key

Confirms the entered text and numbers, and displays the next menu.

## 5. Number Keys

To enter text using the number keys, select text input mode by pressing [ab/AB/12].



When you press a number key repeatedly, the character changes in the order indicated above the key you are pressing.

#### 6. [Clear] Key

Deletes the character at the cursor position. You can delete a character at the far right side of a line even if the cursor is placed to the right of the character.

1

## How to Enter Characters

Use the following procedure to enter text in the text input screen. ("User#2" is the text entered in this example.)

1. Press [ab/AB/12] to change the input mode to uppercase.

Login:	[OK]
Enter a login user name.	
abc	
ab/AB/12	Symbols

2. Press the [8 TUV] key twice, and then press the [▶] key. A letter "U" is entered.

Login:	[OK]
Enter a login user name.	
ABC	U
ab/AB/12	Symbols

3. Press [ab/AB/12] two more times to change the input mode to lowercase.

Login:	[OK]
Enter a login user name.	
abc	U_
ab/AB/12	Symbols

4. Press the [7 PQRS] key four times, and then press the [▶] key. A letter "s" is entered.

Login:	[OK]
Enter a login user name.	
abc	Us
ab/AB/12	Symbols

5. Press the [3 DEF] key twice, and then press the [►] key. A letter "e" is entered.

Login:	[OK]
Enter a login user name.	
abc   Use	
ab/AB/12	Symbols

6. Press the [7 PQRS] key three times, and then press the [►] key. A letter "r" is entered.

Login:	[OK]
Enter a login user name.	
abc   User	
ab/AB/12	Symbols

7. Press [Symbols] to display a list of the symbols you can enter.

Login:	[OK]
Enter a login user name.	
abc   User	
ab/AB/12	Symbols

8. Use the scroll keys to select "#", and then press the [OK] key.

Symbols:	1/2	◀▶	[OK]
! " # \$ % & ' ( )			
* + , - . / : ; <			
= > ? @ [ \ ] ^ _			

The list of symbols disappears and a "#" symbol is entered.

Login:	[OK]
Enter a login user name.	
abc   User#	
ab/AB/12	Symbols

9. Press [ab/AB/12] two more times to change the input mode to numeric.

Login:	[OK]
Enter a login user name.	
123   User#	
ab/AB/12	Symbols

10. Press the [2 ABC] key. A number "2" is entered.

Login:	[OK]
Enter a login user name.	
123	User#2_
ab/AB/12	Symbols

11. Press the [OK] key to proceed to the next menu.



## 2. Setting Up the Printer

This chapter explains how to set up and configure the printer for operation.

### Printer Setup Procedure

Use the following procedure to set up the printer.

2

**1. Select a suitable location for your printer.**

For details, see p.32 "Place to Install".

**2. Take the printer out of its box, and then remove the protective materials and adhesive tape.**

For details, see p.36 "Unpacking".

**3. Load paper in the standard paper feed tray.**

For details, see p.117 "Loading Paper in Trays".

**4. Turn the printer power on.**

For details, see p.39 "Turning the Printer's Power On and Off".

**5. Select the language used on the display.**

For details, see p.43 "Selecting the Display Language".

**6. Print a test page.**

For details, see p.44 "Test Printing".

**7. Connect the printer to your network.**

For details, see p.69 "Connecting the Printer".

**8. Configure the printer's network settings.**

For details, see p.75 "Configuration".

**9. Install the printer driver.**

For details, see Driver Installation Guide.

## Place to Install

The printer's location should be carefully chosen because environmental conditions greatly affect its performance.

### **WARNING**

- Do not use any frequencies other than those that match the specifications shown. Doing so could result in fire or electric shock.

### **WARNING**

- Do not use any power sources other than those that match the specifications shown in "Safety Information". Doing so could result in fire or electric shock.

### **WARNING**

- Do not use multi-socket adaptors. Doing so could result in fire or electric shock.

### **WARNING**

- Do not use extension cords. Doing so could result in fire or electric shock.

### **WARNING**

- Do not use power cords that are damaged, broken, or modified. Also, do not use power cords that have been trapped under heavy objects, pulled hard, or bent severely. Doing so could result in fire or electric shock.

### **WARNING**

- Touching the prongs of the power cable's plug with anything metallic constitutes a fire and electric shock hazard.

### **WARNING**

- The supplied power cord is for use with this machine only. Do not use it with other appliances. Doing so could result in fire, electric shock, or injury.

### **WARNING**

- It is dangerous to handle the power cord plug with wet hands. Doing so could result in electric shock.

**⚠ WARNING**

- If the power cord is damaged and its inner wires are exposed or broken, contact your service representative for a replacement. Use of damaged power cords could result in fire or electric shock.

**⚠ WARNING**

- Be sure to locate the machine as close as possible to a wall outlet. This will allow easy disconnection of the power cord in the event of an emergency.

**⚠ WARNING**

- Do not use flammable sprays or solvents in the vicinity of this machine. Doing so could result in fire or electric shock.

**⚠ CAUTION**

- Keep the machine away from humidity and dust. Otherwise a fire or an electric shock might occur.

**⚠ CAUTION**

- Do not place the machine on an unstable or tilted surface. If it topples over, an injury might occur.

**⚠ CAUTION**

- Make sure the room where you are using the machine is well ventilated and spacious. Good ventilation is especially important when the machine is used heavily.

**⚠ CAUTION**

- Keep the machine away from salt-bearing air and corrosive gases. Also, do not install the machine in places where chemical reactions are likely (laboratories, etc.), as doing so will cause the machine to malfunction.

**⚠ CAUTION**

- Be sure to disconnect the plug from the wall outlet and clean the prongs and the area around the prongs at least once a year. Allowing dust to build up on the plug constitutes a fire hazard.

**⚠ CAUTION**

- Machine sound levels exceeding [Sound Power Level (Black and White)] > 63 dB (A) are not suitable for desk work environments, so place the machine in another room.

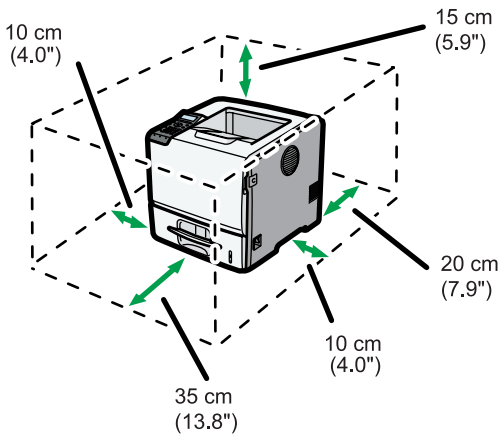
## ⚠ CAUTION

- When new, electrical devices containing volatile materials will normally release emissions into the air of their vicinity. For this reason, for the first few days after installation of a new device, strong ventilation inside the room where it is placed is necessary.

## 2

### Space Required for Installation

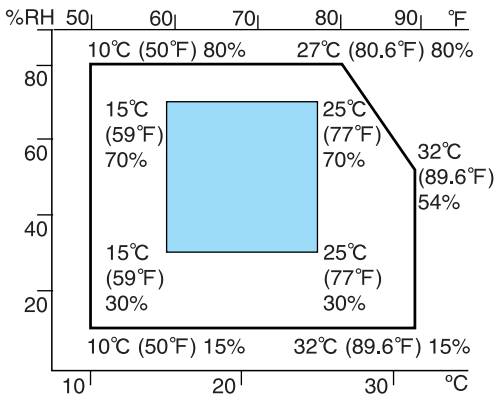
The recommended (or minimum) space requirements are as follows:



CEC213

### Optimum Environmental Conditions

Permissible and recommended temperature and humidity ranges are as follows:



CBK019

- White area: Permissible Range
- Blue area: Recommended Range

### ↓ Note

- The printer must be level within 5 mm, 0.2" from both front to rear and left to right.



- When you use this printer for a long time in a confined space without good ventilation, you may detect an odd smell. To keep the workplace comfortable, we recommend you keep it well ventilated.

### Ventilation

When you use this machine in a confined space without good ventilation for a long time or print large quantities, you might detect an odd smell.

This might cause the output paper to also have an odd smell.

When you detect an odd smell, regularly ventilate in order to keep the workplace comfortable.

- Set up the machine so that it does not directly ventilate towards people.
- Ventilation should be more than 30 m<sup>3</sup>/hr/person.

### New machine smell

When a machine is new, it might have a unique smell. This smell will subside in about one week.

When you detect an odd smell, sufficiently ventilate and circulate the air in the room.

### Environments to Avoid


Do not use the printer in the following environments:


#### ★ Important

- Areas exposed to direct sunlight or strong light
- Dusty areas
- Areas with corrosive gases
- Areas that are excessively cold, hot, or humid
- Areas directly exposed to currents of hot, cold, or room-temperature air from air conditioners
- Areas directly exposed to radiant heat from heaters
- Locations near air conditioners, heaters, or humidifiers
- Locations near other electronic equipment
- Locations subject to frequent strong vibration

### Power Source

Connect the power cord to a power source of the following specification:

 **Region A** (mainly Europe and Asia)  
220 - 240 V, 50/ 60 Hz, 6 A or more

 **Region B** (mainly North America)  
120 - 127 V, 60 Hz, 11 A or more

# Unpacking

To protect it from shock and vibration during transit, this printer comes packaged in cushioning foam and secured with tape. Remove these protective materials after bringing the machine to where it will be installed.

## **WARNING**

- Keep the polythene materials (bags, etc.) supplied with this machine away from babies and small children at all times. Suffocation can result if polythene materials are brought into contact with the mouth or nose.

## **WARNING**

- Do not incinerate toner (new or used) or toner containers. Doing so risks burns. Toner will ignite on contact with naked flame.

## **CAUTION**

- Do not crush or squeeze toner containers. Doing so can cause toner spillage, possibly resulting in dirtying of skin, clothing, and floor, and accidental ingestion.

## **CAUTION**

- Store toner (new or used), toner containers, and components that have been in contact with toner out of reach of children.

## **CAUTION**

- If toner or used toner is inhaled, gargle with plenty of water and move into a fresh air environment. Consult a doctor if necessary.

## **CAUTION**

- If toner or used toner gets into your eyes, flush immediately with large amounts of water. Consult a doctor if necessary.

## **CAUTION**

- If toner or used toner is swallowed, dilute by drinking a large amount of water. Consult a doctor if necessary.

## **CAUTION**

- When lifting the machine, use the inset grips on both sides. The printer could break or cause an injury if dropped.

**★ Important**

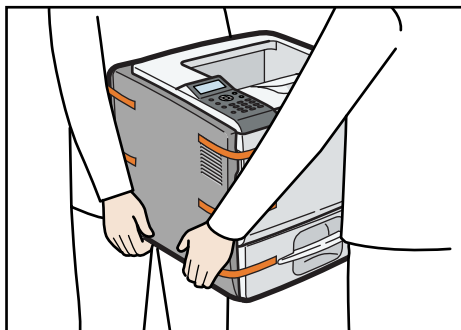
- Removed tape is dirty. Be careful not to let it touch your hands or clothes.
- Do not grip on the tray area when lifting the printer.
- Do not allow paper clips, staples, or other small metallic objects to fall inside the printer.
- Keep the uncovered print cartridge away from direct sunlight.
- When you use this printer for the first time, use the print cartridge packaged with the printer.

**↓ Note**

- Print cartridge (consumables) are not covered by warranty. However, if there is problem, contact the store where they were purchased.

1. **Remove the plastic bag.**
2. **Lift the printer with two people by using the inset grips on both sides of the printer.**

Leave the tape holding the paper feed tray and cover in place while moving the printer. Lower the machine slowly and carefully to prevent trapping your hands.



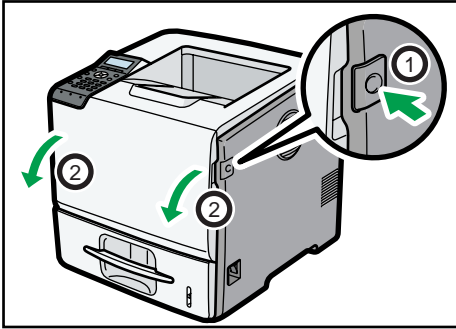
CEC232

When moving the printer, do not hold on the following parts as doing so could cause a malfunction:

- The handle onto the standard paper feed tray.
- The underside of the bypass tray.

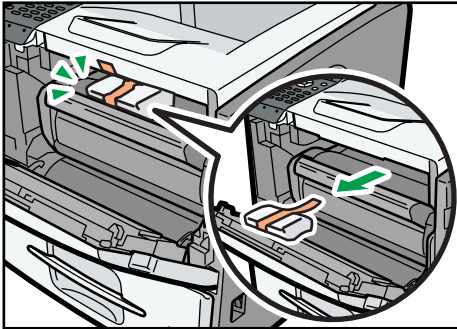
3. **Remove the adhesive tape.**

4. Open the front cover by pushing the front cover release button.



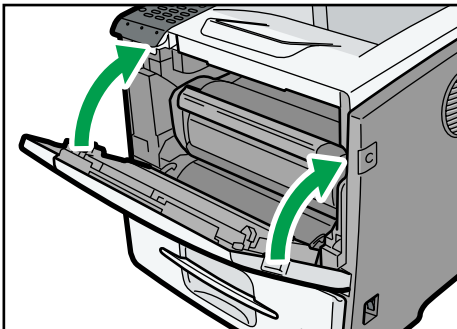
CEC025

5. Remove the fixing material and adhesive tape.



CEC226

6. Close the front cover.



CEC214

# Turning the Printer's Power On and Off

## **⚠ WARNING**

- It is dangerous to handle the power cord plug with wet hands. Doing so could result in electric shock.

## **★ Important**

- Do not turn off the power switch before following the shutdown procedure shown here. Doing so can result in damage to the hard disk or memory, leading to malfunction.
- Do not physically disturb the printer while printing is in progress. Doing so may damage the printer.

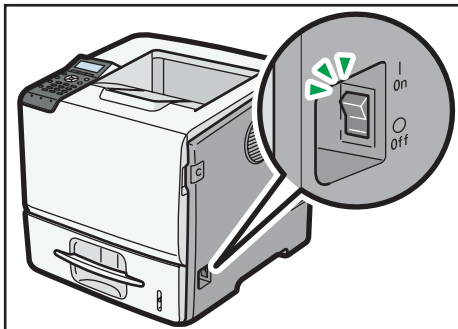
2

## Turning on the Power

## **★ Important**

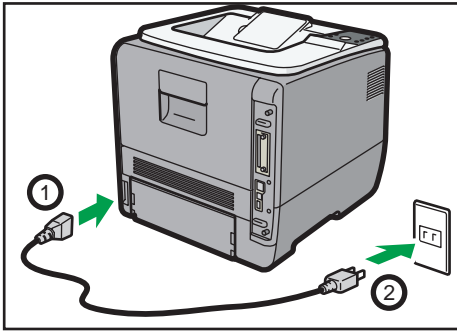
- Make sure the power cord is plugged securely into the wall outlet.
- Turn the power switch off when plugging and unplugging the power plug.
- Do not turn off the power switch until initializing is completed. Doing so results in malfunction.

1. Make sure the power switch is set to "○ Off".



CEC056

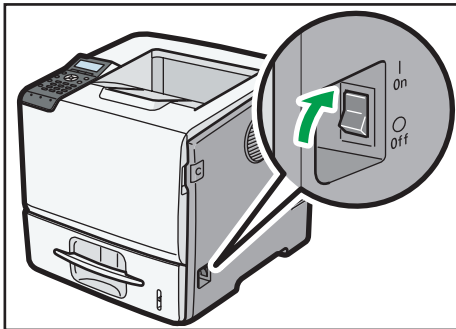
2. Plug in the power cable, and securely insert the plug of the power cord into the wall socket.



CEC057

3. Turn the power switch to "I On".

The power indicator on the control panel lights up.



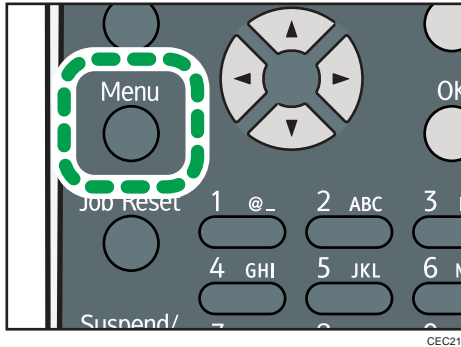
CEC058

**Note**

- Wait until "Ready" appears on the display panel.
- The printer may make a noise while initializing. This noise does not indicate a malfunction.

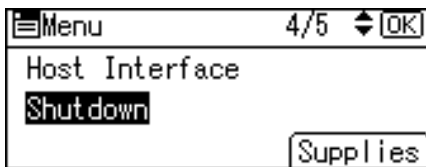
## Turning off the Power

1. Press the [Menu] key.

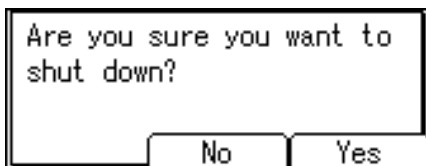


2

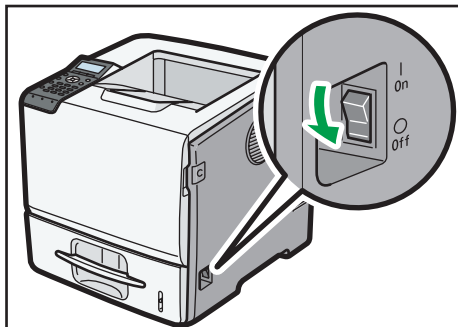
2. Press the [▼] or [▲] key to select [Shutdown], and then press the [OK] key.



3. Press [Yes].



4. Wait until a screen prompting you to turn off the main power appears, and then turn the power switch to "O Off".



### Note

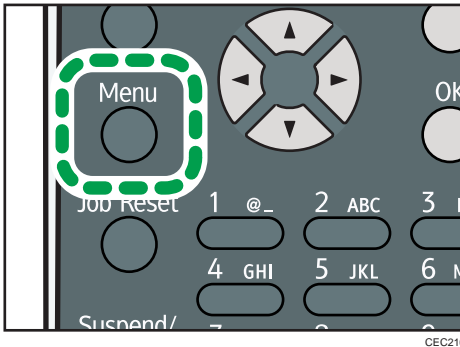
- Even if you follow the shutdown procedure, the printer might not shutdown in the following cases:
  - If it is communicating with external devices.

- If the hard disk is active.
- If the printer's cover is opened.



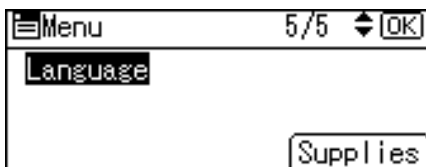
# Selecting the Display Language

1. Press the [Menu] key.

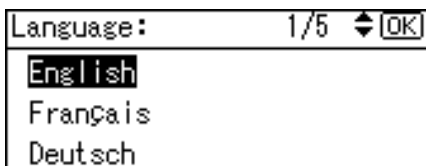


2

2. Press the [▼] or [▲] key to select [Language], and then press the [OK] key.



3. Press the [▼] or [▲] key to select the preferred language, and then press the [OK] key.



4. Press the [Menu] key to return to the initial screen.

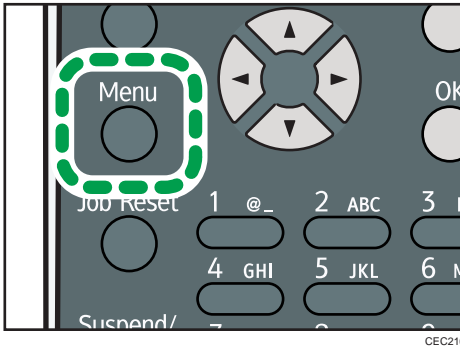
## ↓ Note

- The default setting is English.

## Test Printing

Print a test print in order to verify that the printer is working normally. Test printing checks printer performance only; it does not test the connection to the computer.

1. Press the [Menu] key.



2. Press the [▼] or [▲] key to select [List/Test Print], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Config. Page], and then press the [OK] key.



4. Press the [Menu] key to return to the initial screen.

### ↓ Note

- If printing is not normal, check to see if an error message appears on the display. If there is an error message, see p.171 "Troubleshooting".

# 3. Installing Options

This chapter explains how to install various options for this printer.

## Available Options

By installing options, you can improve printer performance and expand the available features.

### CAUTION

- Before installing or removing options, always disconnect the power cord plugs from the wall outlet and allow time for the main unit to fully cool. Failing to take these precautions could result in burns.

3

## Order of Option Installation

When installing multiple options, the following order is recommended:

### 1. Attach the paper feed unit.

Attach the paper feed unit to the bottom of the printer.

You can attach up to four paper feed unit. Up to 2850 sheets of paper can be loaded in total.

### 2. If you are using Type 1 model, install the SDRAM module.

Install the expansion memory in the controller board slot.

There are two types of SDRAM module, 256 MB and 512 MB.

### 3. If you are using Type 1 model, install the hard disk.

### 4. Install the optional interface board.

Install the optional Gigabit Ethernet board, Wireless LAN interface unit, or IEEE 1284 interface board in the slot.

### 5. Insert SD card options.

Install the SD card supplied with the optional hard disk (Type 1 model only), NetWare card, SD font card, VM card, or IPDS card.

Insert these units into the SD card slot.

If you want to use two or more SD cards that can be inserted in the same slot, contact your sales and service representative.

## Where to Install Options

### External options

- Paper feed unit

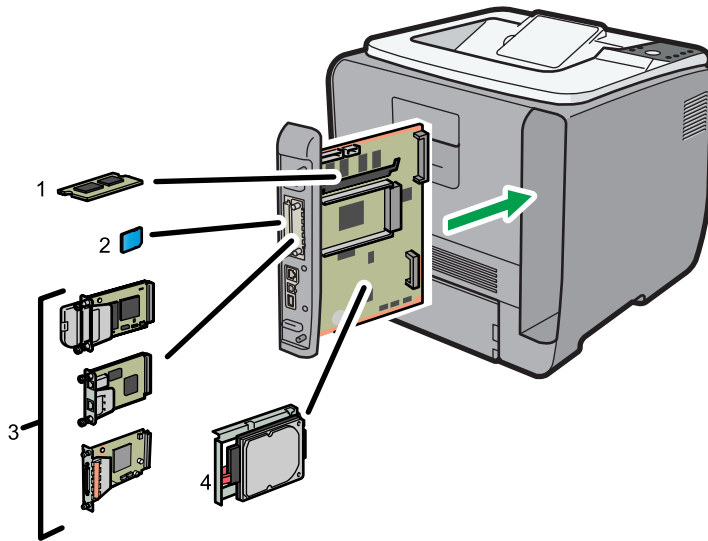
Loads up to 550 sheets of paper. Up to four paper feed unit can be installed on the printer. Installed tray unit is identified as "Tray 2", "Tray 3", "Tray 4", and "Tray 5".

There are two types of the optional paper feed unit: the one with casters on its bottom side, and the one without casters. To set the printer directly on the floor, attach the optional paper feed unit with casters to the bottom of the printer.

For details about attaching the paper feed unit, see p.48 "Attaching the Paper Feed Unit".

### Internal options

## 3



CEC074

#### 1. SDRAM module

For details about this option, see p.55 "Installing the SDRAM Module".

#### 2. SD card options

For details about installing these options, see p.66 "Installing the SD Memory Card Options".

#### 3. Optional interface boards

- Wireless LAN interface unit
- Gigabit Ethernet board
- IEEE 1284 interface board

For details about installing these options, see p.59 "Installing the Interface Units".

#### 4. Hard disk

For details about this option, see p.52 "Installing the Hard Disk".

#### ↓ Note

- For details about the specifications of each option, see p.213 "Specifications".

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## Caution When Re-installing the Controller Board

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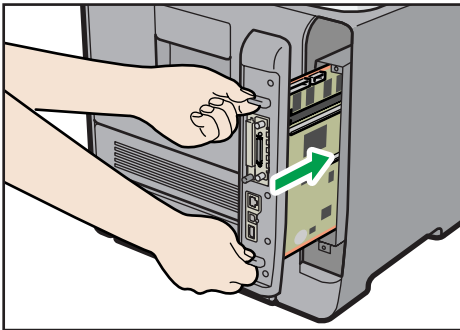
This section describes how to handle the controller board when installing options.

If you slide out the controller board to install units, carefully read the instructions about re-installing the controller board.

### ★ Important

- The following may occur if the controller board is not properly installed:
  - All control panel indicators light up.
  - No control panel indicators light up.
  - An error message appears on the display.

Push the bottom center area of the board to re-install the controller board in the printer.



CEC076

## Attaching the Paper Feed Unit

### **WARNING**

- If the machine topples, or if a cover or other part gets broken, you must turn the power switch to off and disconnect the power cord plug from the wall outlet. Then contact your service representative and report the problem. Do not use the machine. Doing so could result in fire or electric shock.

3

### **CAUTION**

- The printer weighs approximately 23 kg (51 lb.). When moving the printer, use the inset grips on both sides, and lift slowly. The printer will break or cause injury if dropped.

### **CAUTION**

- Unplug the power cord from the wall outlet before you move the machine. While moving the machine, take care that the power cord is not damaged under the machine. Failing to take these precautions could result in fire or electric shock.

### **CAUTION**

- Do not place the machine on an unstable or tilted surface. If it topples over, an injury might occur.

### **CAUTION**

- Lifting the paper feed unit carelessly or dropping it may cause injury.

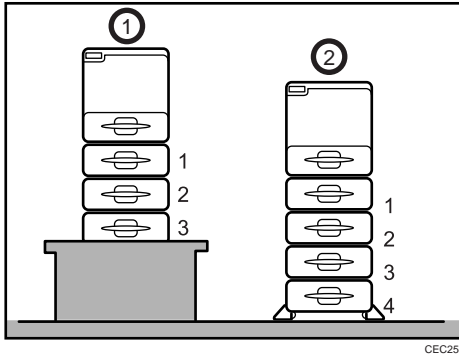
### **CAUTION**

- The printer might topple over and cause damage and injuries if four optional paper feed units are stacked to a printer which is installed directly on the floor. For details about preventing the machine toppling over, contact your service representative.

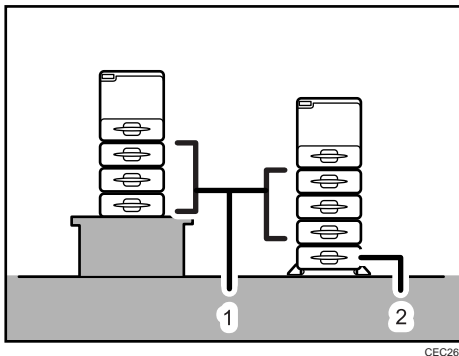
### **Important**

- The printer should always be lifted by two people.
- Do not grip on the tray area when lifting the printer.
- When four paper feed units are installed, they are detected as "Tray 2", "Tray 3", "Tray 4", and "Tray 5", starting from the upper unit.
- The same procedure applies when attaching the optional paper feed unit with casters.
- The number of optional trays that can be attached differs depending on the location where the printer is installed.

- If the printer is installed on a desk or other elevated surface, up to three optional paper feed units can be stacked (①). If the printer is installed directly on the floor, up to four optional paper feed units can be stacked (②).



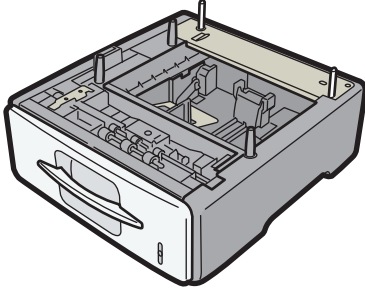
- To install the printer directly on the floor, stack the optional paper feed unit with casters to the bottom of the printer.



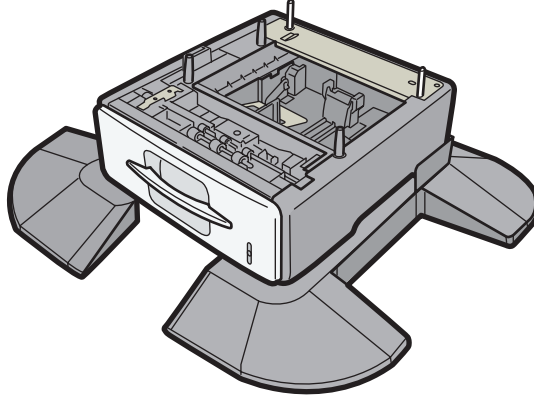
1. Paper feed unit
2. Paper feed unit with casters

**1. Check the package contains the following:**

1



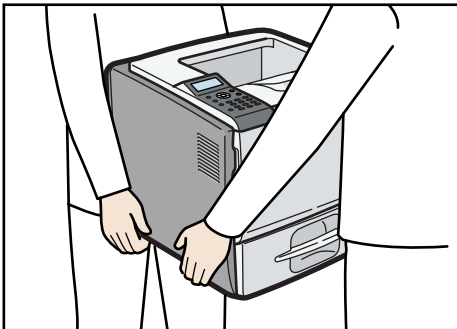
2



CEC256

3

1. Paper feed unit (including a paper tray)
2. Paper feed unit with casters (including a paper tray)
2. Turn off the printer's power switch, and then unplug the printer's power cord from the wall outlet.
3. Remove the adhesive tape from the optional paper feed unit.
4. Lift the printer using the inset grips on both sides of the printer.



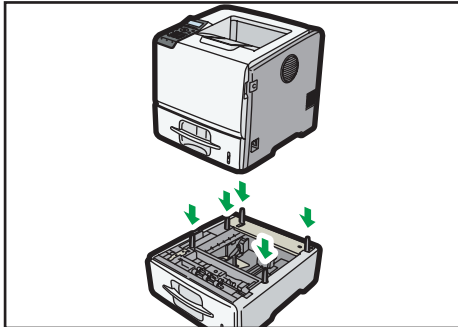
CEC045

When moving the printer, do not hold on the following parts as doing so could cause a malfunction:

- The handle onto the standard paper feed tray.
- The underside of the bypass tray.



5. There are five upright pins on the optional paper feed unit. Align them with the holes on the underside of the printer, and then carefully lower the printer.



CEC039

6. After installing the option, print the configuration page to confirm the installation.

**Note**

- When moving the printer, remove the paper feed unit.
- After finishing the installation, you can check whether the paper feed unit is properly installed by printing the configuration page from the [List/Test Print] menu. If the paper feed unit is properly installed, "Tray 2", "Tray 3", "Tray 4", and "Tray 5" will appear for "Attached Equipment" on the configuration page.
- If the paper feed unit is not installed properly, reinstall it following this procedure. If you cannot install it properly even after attempting reinstallation, contact your sales or service representative.
- If the print area is not centered correctly, adjust the printing position for the optional paper feed unit. For details, see p. 165 "Adjusting Printing Position".
- For details about printing the configuration page, see p.44 "Test Printing".
- For details about loading paper onto the paper tray, see p. 117 "Loading Paper in Trays".
- After a new paper feed unit has been installed, the driver settings might need to be reconfigured. For details, see "Making Option Settings for the Printer", Driver Installation Guide.

# Installing the Memory Expansion Units

The following procedure applies to Type 1 model only.

## ⚠ CAUTION

- Do not touch the inside of the controller board compartment. Doing so may cause a machine malfunction or a burn.

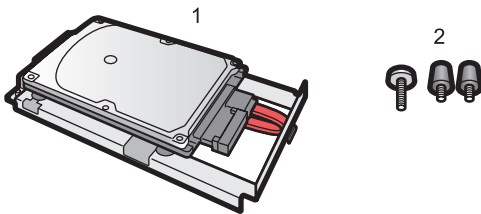
### 3

## Installing the Hard Disk

### ★ Important

- Before touching the hard disk, touch something metal to discharge any static electricity. Static electricity can damage the hard disk.
- Do not subject the hard disk to physical shocks.

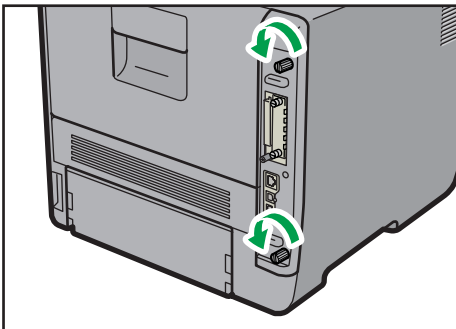
1. Check the package contains the following:



CEC015

1. Hard disk
2. Screws

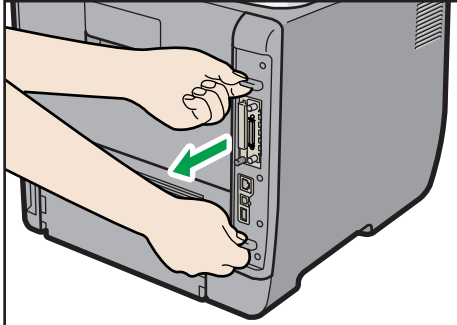
2. Turn off the power to the printer, and then unplug the power cable and interface cable.
3. Remove the two screws holding the controller board in place.



CEC073

The removed screws are required to fasten the controller board.

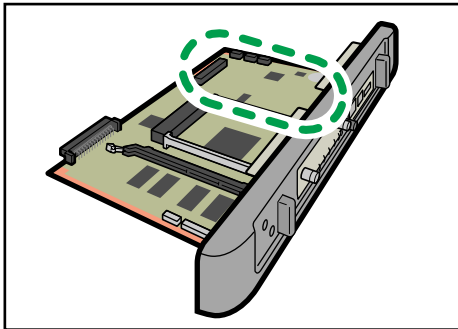
**4. Gripping the handles, carefully pull out the controller board.**



CEC075

**5. Place the controller board on a flat surface.**

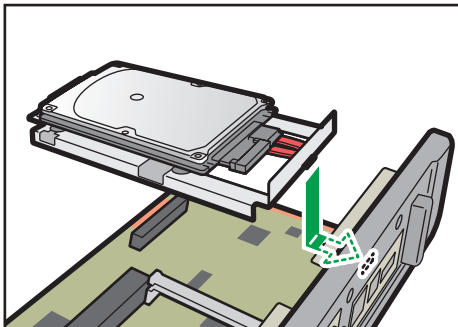
The hard disk is installed in the slot shown in the illustration below.



CEC019

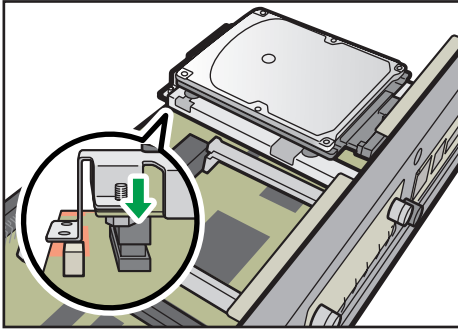
**6. Insert the protrusion on the front end of the hard disk board into the notch on the back panel of the controller board.**

Be sure to set the hard disk board parallel with the controller board.



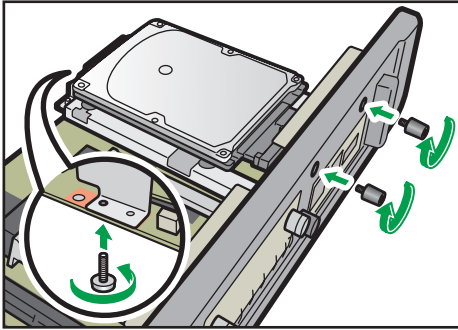
CEC016

7. Fit the hard disk on the connector of the controller board carefully until it stops.



CEC017

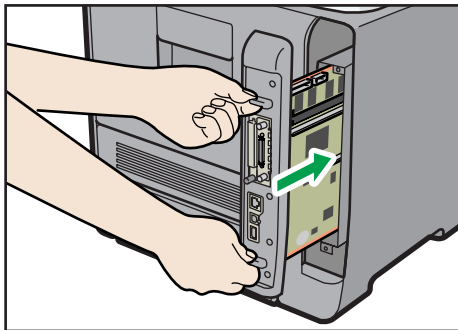
8. Tighten the two screws by turning them clockwise with a coin, and then secure the hard disk board by tightening the third screw from the under side of the controller board.



CEC018

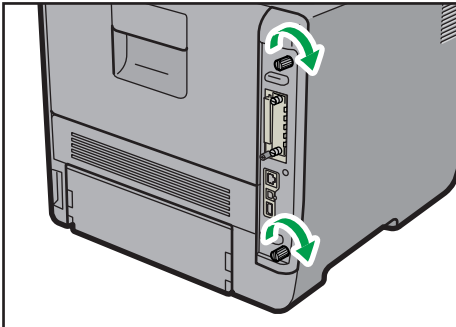
9. To install other options on the controller board, follow the installation procedure shown in the documentation provided with the option.
10. Align the controller board with the top and bottom rails, and then push it carefully in, until it stops.

The printer may malfunction if the controller board is not properly installed.



CEC076

## 11. Fasten the controller board to the printer with the two screws.



CEC072

First install the optional hard disk, and then install the SD card provided with the hard disk. For details about the installation procedure, see p.66 "Installing the SD Memory Card Options".

### ↓ Note

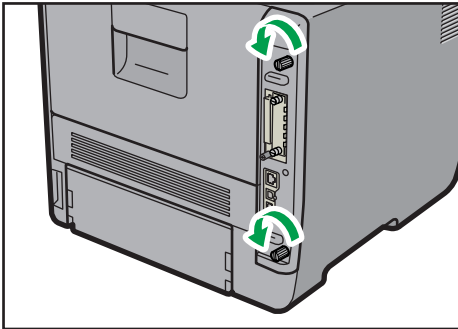
- After finishing installation, you can check whether the hard disk is properly installed: Print the configuration page from the [List/Test Print] menu. If it is installed properly, you will see "Hard Disk" will appear for "Device Connection" on the configuration page.
- If the Hard disk is not properly installed, repeat this procedure. If you cannot install it properly even after reinstallation, contact your sales or service representative.
- For details on printing the configuration page, see p.44 "Test Printing".

## Installing the SDRAM Module

### ★ Important

- Before touching the SDRAM module, ground yourself by touching something metal to discharge any static electricity. Static electricity can damage the SDRAM module.
  - Do not subject the SDRAM module to physical shocks.
  - The printer comes equipped with 256 MB of memory. This can be expanded to a maximum of 768 MB.
1. Turn off the power of the printer, and then unplug the power cable and interface cable.

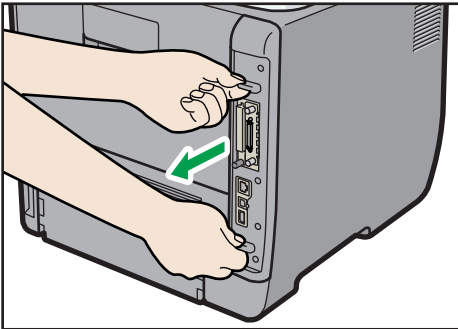
**2. Remove the two screws holding the controller board in place.**



CEC073

The removed screws are required to fasten the controller board.

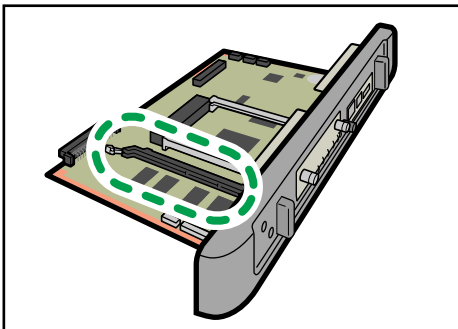
**3. Gripping the handles, carefully pull out the controller board.**



CEC075

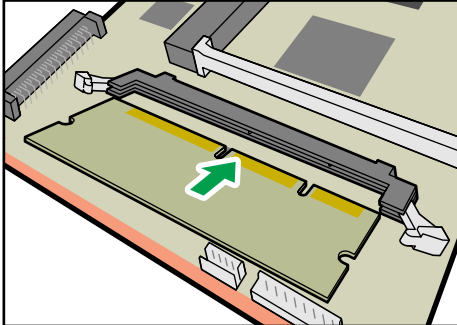
**4. Place the controller board on a flat surface.**

The SDRAM module is installed in the slot shown in the illustration below.



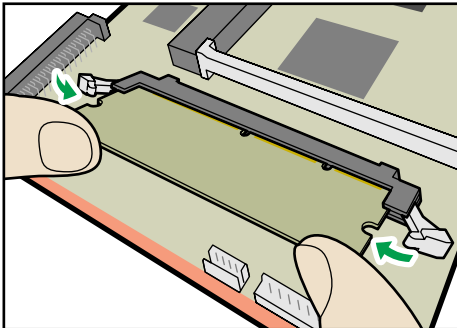
CEC012

5. To install the recommended memory, align the notch of the recommended memory with the protruding part of the vacant slot, and then carefully insert the module at an angle.



CEC013

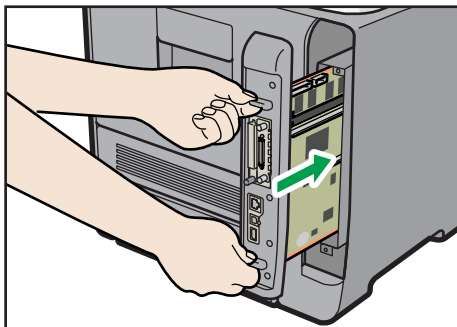
6. Keeping the module at an angle, press it down until it clicks into place.



CEC014

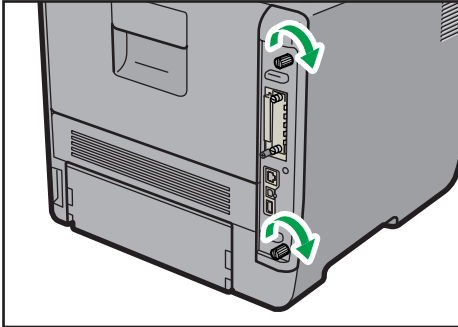
7. Align the controller board with the top and bottom rails, and then push it carefully in, until it stops.

The printer may malfunction if the controller board is not properly installed.



CEC076

**8. Fasten the controller board to the printer with the two screws.**



CEC072

3

**Note**

- After finishing the installation, you can check the SDRAM module is properly installed: Print the configuration page from the [List/Test Print] menu. If it is installed properly, the memory capacity will appear under "Total Memory" on the configuration page.
- The table below shows the total SDRAM module capacities.

Standard	Extended	Total
256 MB	256 MB	512 MB
256 MB	512 MB	768 MB

- If the SDRAM module is not properly installed, repeat this procedure. If you cannot install it properly even after reinstallation, contact your sales or service representative.
- Install the controller board carefully to prevent any malfunction.
- For details on printing the configuration page, see p.44 "Test Printing".



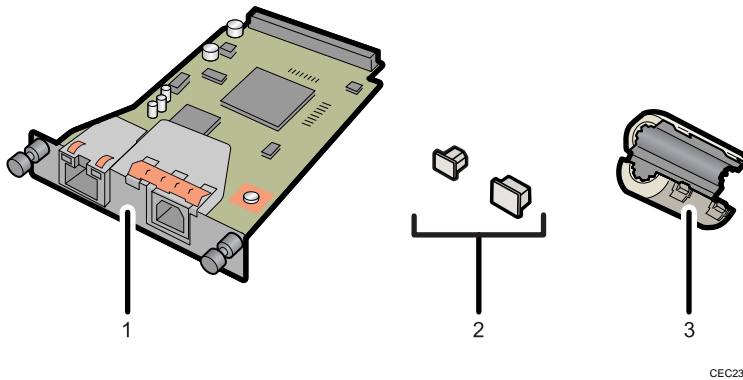
# Installing the Interface Units

## Installing the Gigabit Ethernet Board

### ★ Important

- The printer's Ethernet and USB ports are not available when the Gigabit Ethernet board is installed in to the printer. Use the Ethernet and USB ports on the Gigabit Ethernet board.
- Before beginning work, ground yourself by touching something metal to discharge any static electricity. Static electricity can damage the Gigabit Ethernet board.
- Do not subject the Gigabit Ethernet board to physical shocks.

### 1. Check the contents of the package.

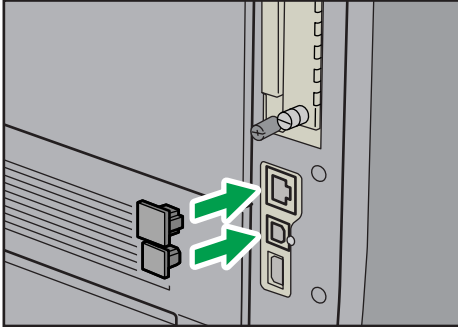


1. Gigabit Ethernet Board
2. Protective caps (one each for the Ethernet port and the USB port)
3. Ferrite core

Design of the ferrite core varies according to printer model.

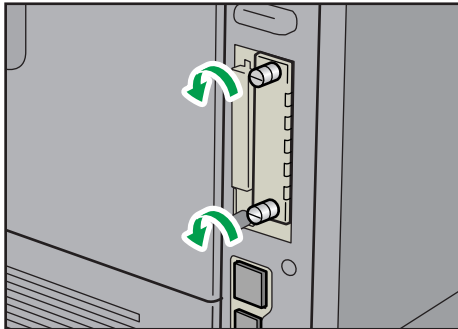
### 2. Turn off the power, and then unplug the power cord.

3. Disconnect the cables from the Ethernet port and the USB port of the printer, and cover each port with its protective cap.



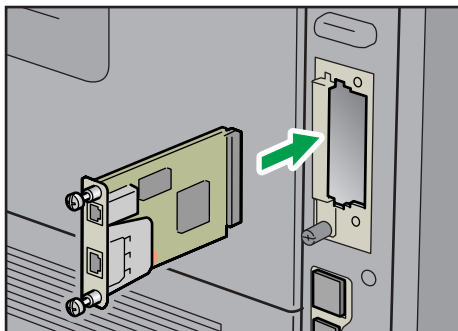
CEC071

4. Remove the two screws and remove the cover of the slot in which the Gigabit Ethernet board is installed.



CEC243

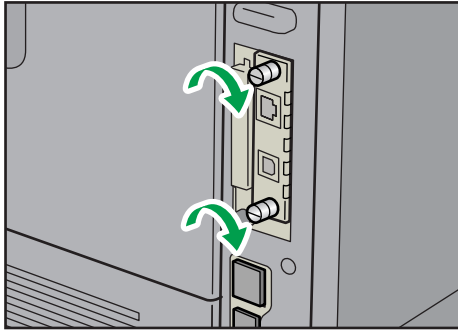
5. Fully insert the Gigabit Ethernet board.



CEC067

6. Tighten the two screws to secure the Gigabit Ethernet board.

Check the Gigabit Ethernet board is connected firmly to the interface board slot.



Connect the cable to the Gigabit Ethernet board. For details see p.69 "Ethernet Cable Connection" or p.72 "USB Cable Connection".

#### ↓ Note

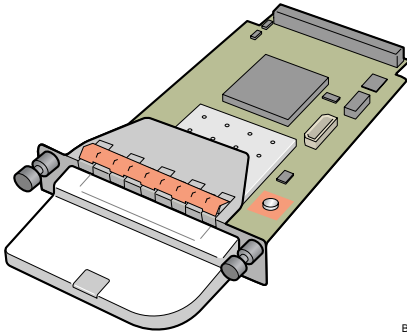
- Confirm that the Gigabit Ethernet board was correctly installed by printing the configuration page. If it is correctly installed, "Gigabit Ethernet" will appear for "Device Connection" on the configuration page.
- If the board was not installed properly, repeat the procedure from step 4. If it cannot be installed correctly even after reattempting installation, contact your sales or service representative.
- For details about printing the configuration page, see p.44 "Test Printing".
- Before using the Gigabit Ethernet board, you must configure settings from the printer control panel. For details, see p.75 "Ethernet Configuration".

## Installing the Wireless LAN Interface Board

#### ★ Important

- Before beginning work, ground yourself by touching something metal to discharge any static electricity. Static electricity can damage the unit.
- Do not subject the unit to physical shocks.

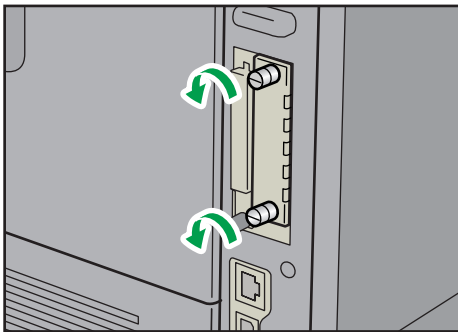
**1. Check the contents of the package.**



BFL301S

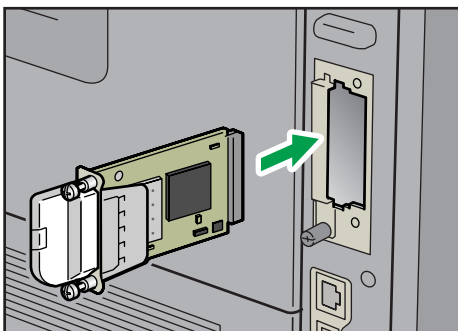
**2. Turn off the power, and then unplug the power cord.**

**3. Remove the two screws and remove the cover of the slot in which the Wireless LAN interface board is installed.**



CEC061

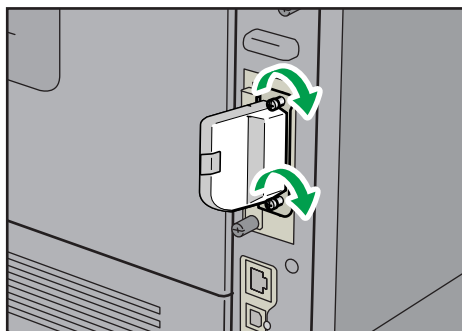
**4. Fully insert the Wireless LAN interface board.**



CEC065

**5. Tighten the two screws to secure the interface board.**

Check the Wireless LAN interface board is connected firmly to the interface board slot.



CEC242

3

### ↓ Note

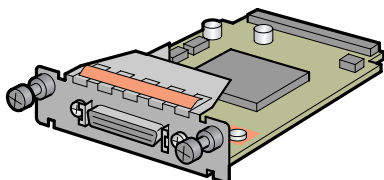
- Confirm that the interface board was correctly installed by printing the configuration page. If it is correctly installed, "Wireless LAN" will appear for "Device Connection" on the configuration page.
- If the board was not installed properly, repeat the procedure from step 3. If it cannot be installed correctly even after reattempting installation, contact your sales or service representative.
- For details about printing the configuration page, see p.44 "Test Printing".
- Before using the Wireless LAN interface board, you must configure settings from the printer control panel. For details, see p.84 "Wireless LAN Configuration".

## Installing the IEEE 1284 Interface Board

### ★ Important

- Before beginning work, ground yourself by touching something metal to discharge any static electricity. Static electricity can damage the IEEE 1284 interface board.
- Do not subject the IEEE 1284 interface board to physical shocks.
- For connection to the IEEE 1284 interface board, use a half pitch 36-pin interface cable.

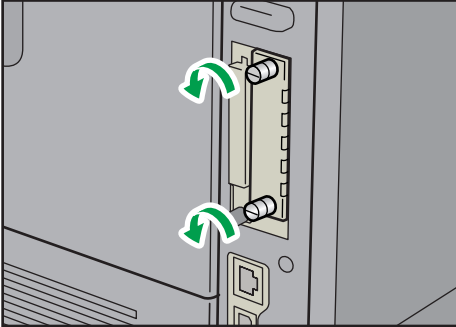
1. Check the contents of the package.



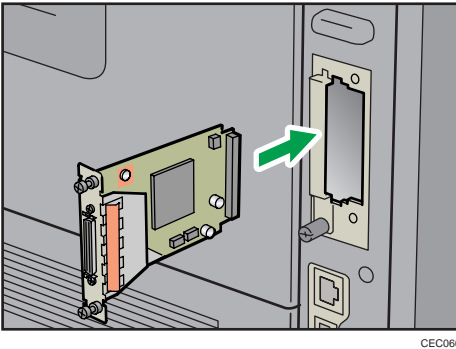
BFL302S

2. Turn off the power, and then unplug the power cord.

3. Remove the two screws and remove the cover of the slot in which the 1284 interface board is installed.

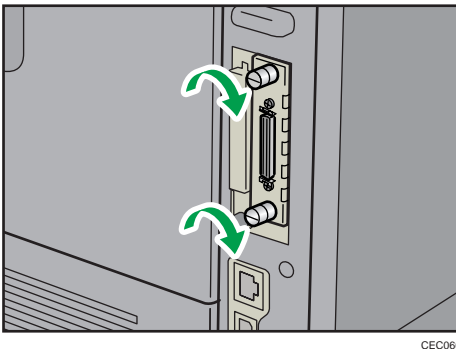


4. Fully insert the IEEE 1284 interface board.



5. Tighten the two screws to secure the interface board.

Check the IEEE 1284 interface board is connected firmly to the interface board slot.



**Note**

- Confirm that the IEEE 1284 interface board was correctly installed by printing the configuration page. If it is correctly installed, "Parallel Interface" will appear for "Device Connection" on the configuration page.

- If the board was not installed properly, repeat the procedure from step 3. If it cannot be installed correctly even after reattempting installation, contact your sales or service representative.
- For details about printing the configuration page, see p.44 "Test Printing".

# Installing the SD Memory Card Options

## ⚠ CAUTION

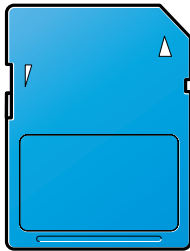
- Keep SD memory cards out of reach of children. If a child swallows an SD memory card, consult a doctor immediately.

## ★ Important

3

- Do not subject the card to physical shocks.
- The VM card is optional to Type 1 models only. To use it, the optional 512 MB SDRAM module must be installed.
- If you are using Type 1 model, the optional SDRAM module must be installed to use the IPDS card.

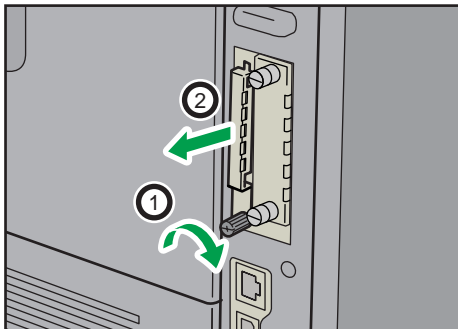
1. Check the contents of the package.



BFL308S

2. Turn off the power, and then unplug the power cord.

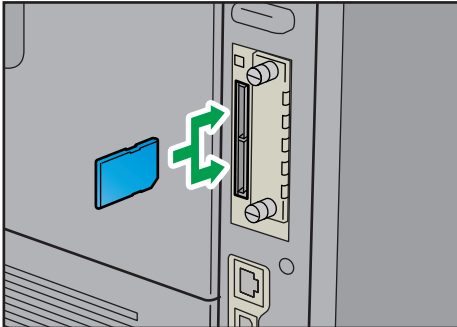
3. Remove the one screw, and then carefully remove the cover of the SD card slot.



CEC068



4. Carefully push in the SD card (notched corner downward and leading), until it clicks into place.



CEC070

Insert the SD card in the appropriate slot as follows:

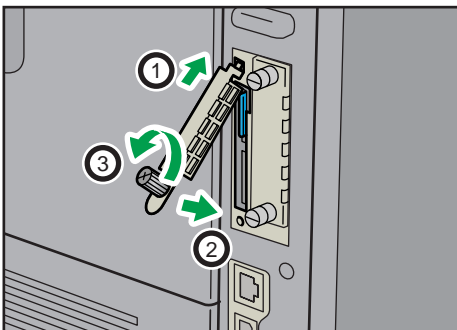
- Upper slot: SD font card, NetWare card, IPDS card
- Lower slot: VM card, ELP-NX card

The SD card supplied with the optional hard disk (Type 1 model only) can be used in either of the two slots.

To export the printer settings by selecting [Machine Settings Export], insert the SD card on which the settings are to be stored into the lower slot.

If you want to use two or more SD cards that can be inserted in the same slot, contact your sales and service representative.

5. Reattach the cover over the SD card. Fasten the one screw to secure the cover.



CEC069

If the ELP-NX card is inserted in the printer, the installation will automatically start when the printer is turned on. After the installation is complete, restart the printer.

**Note**

- Do not touch the card while the printer is in use. It may come loose, even if pushed only slightly. The slot cover must be reattached.

- You can confirm that the SD card was installed correctly by checking the control panel menu. Depending on the SD card, certain menu items appear on the display.
  - SD card supplied with the optional hard disk (Type 1 model only): Make sure [Machine Data Encryption] appears in [Security Options]. Depending on settings, [Machine Data Encryption] might not appear. For details about how to confirm this setting, consult your administrator.
  - IPDS card: Make sure [IPDS Menu] appears under [Print Settings].
  - NetWare card: Make sure [NetWare] appears in [Effective Protocol] under [Network].
  - ELP-NX card: Press the [Switch Functions] key, and then confirm that ELP-NX appears in [Java™/X].
- If the card is not installed properly, repeat the procedure from the beginning. If it cannot be installed correctly even after reattempting installation, contact your sales or service representative.
- For details about printing the configuration page, see p.44 "Test Printing".

# 4. Connecting the Printer

This chapter explains how to connect network and USB cables.

## Ethernet Cable Connection

Prepare a hub and other network devices, and connect the Ethernet cable to the printer.

Connect 10BASE-T or 100BASE-TX cable to the printer's Ethernet port. For 1000BASE-T, the optional Gigabit Ethernet board is required.

### CAUTION

- A network interface cable with a ferrite core must be used for RF interference suppression.

### CAUTION

- For users outside the United States of America: properly shielded and grounded cables and connectors must be used for connections to a host computer (and/or peripheral) in order to meet emission limits.

### CAUTION

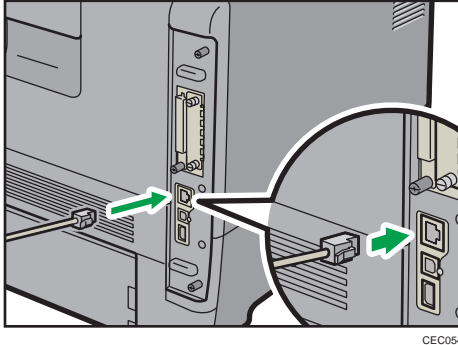
- For users in the United States of America: properly shielded and grounded cables and connectors must be used for connections to a host computer (and/or peripheral) in order to meet FCC emission limits.

### Important

- An Ethernet cable is not supplied with this printer. Select your cable according to the network environment.
- The printer's Ethernet and USB ports are not available when the Gigabit Ethernet board is attached to the printer.

### Connecting to the standard Ethernet port

1. Connect the Ethernet cable to the Ethernet port.

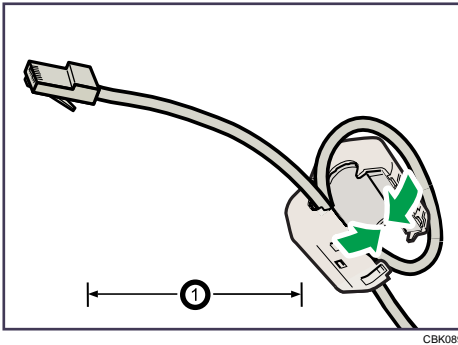


2. Connect the other end of the cable to the network, for example using a hub.

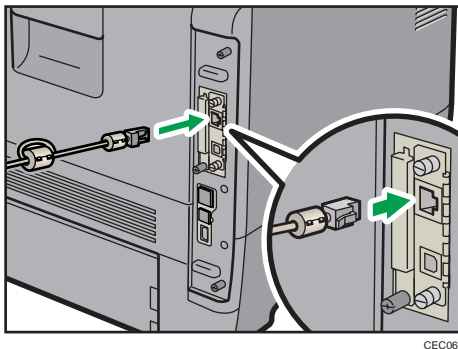
### Connecting to the Ethernet port of the Gigabit Ethernet board

1. Attach the ferrite core to the Ethernet cable.

Attach the other ferrite core about 10 cm (4 inches) (①) from this core making a loop as shown.



2. Connect the Ethernet cable to the Ethernet port of the Gigabit Ethernet board.



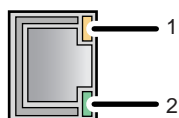
3. Connect the other end of the cable to the network, for example using a hub.

### ↓ Note

- For details about configuring the network environment, see p.75 "Ethernet Configuration".
- For details about installing the Gigabit Ethernet board, see p.59 "Installing the Interface Units".

## Reading the LED Lamps

### Standard Ethernet port



CBK090

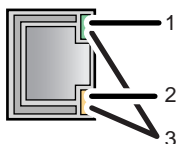
#### 1. Yellow indicator

If the printer is connected to a 100BASE-TX Ethernet, the yellow indicator will be lit. This indicator will be unlit if the printer is connected to a 10BASE-T Ethernet.

#### 2. Green indicator

If the printer is connected to a 10BASE-T Ethernet or 100BASE-TX Ethernet, the green indicator will be lit.

### Optional Gigabit Ethernet board



CBK091

#### 1. Green indicator

If the printer is connected to a 10BASE-T Ethernet, the green indicator will be lit. This indicator will be unlit if the printer is connected to a 100BASE-TX Ethernet.

#### 2. Yellow indicator

If the printer is connected to a 100BASE-TX Ethernet, the yellow indicator will be lit. This indicator will be unlit if the printer is connected to a 10BASE-T Ethernet.

#### 3. Green and yellow indicators

If the printer is connected to a 1000BASE-T Ethernet, both indicators will be lit.

# USB Cable Connection

## ⚠ CAUTION

- For users outside the United States of America: properly shielded and grounded cables and connectors must be used for connections to a host computer (and/or peripheral) in order to meet emission limits.

## ⚠ CAUTION

- For users in the United States of America: properly shielded and grounded cables and connectors must be used for connections to a host computer (and/or peripheral) in order to meet FCC emission limits.

4

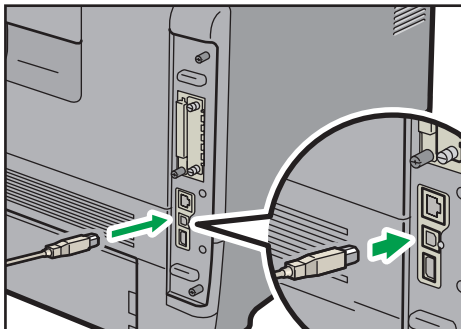
## ★ Important

- USB connection is possible under Windows XP/Vista/7, Windows Server 2003/2003 R2/2008/2008 R2, and Mac OS X 10.3.3 or later.
- A USB cable is not supplied with this printer. Select your cable according to the computer.

### 1. Connect the USB cable to the printer.

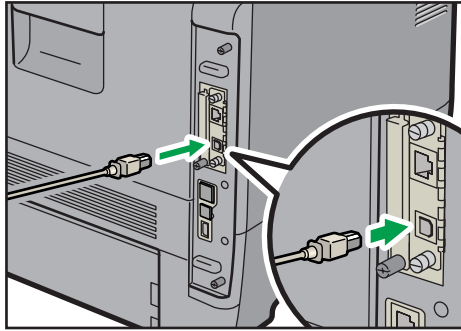
- **Connecting the USB cable to the standard USB port B**

Connect the smaller connector of the USB cable to the standard USB port B on the left side of the printer.



- **Connecting the USB cable to the Gigabit Ethernet board USB port**

Connect the smaller connector of the USB cable to the USB port of the Gigabit Ethernet board.



- 2. Connect the opposite end's flat connector to the desired device such as your computer's USB interface, or a USB hub.**

The printer is now connected to the computer. The Plug and Play screen appears on the computer display. For details, see "Installing the Printer Driver Using USB", Driver Installation Guide.

# Parallel Cable Connection

The type of cable required varies depending on the computer you are using. Make sure to use the interface cable compliant with your computer.

## ⚠ CAUTION

- For users outside the United States of America: properly shielded and grounded cables and connectors must be used for connections to a host computer (and/or peripheral) in order to meet emission limits.

## ⚠ CAUTION

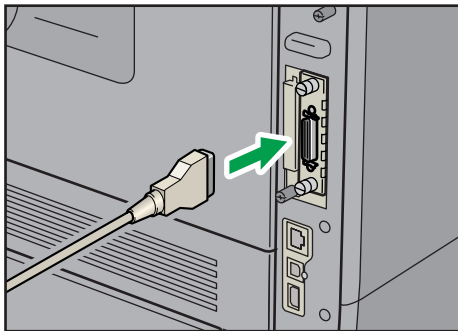
- For users in the United States of America: properly shielded and grounded cables and connectors must be used for connections to a host computer (and/or peripheral) in order to meet FCC emission limits.

4

## ★ Important

- The printer's parallel connection is a standard bidirectional interface that requires an IEEE 1284-compliant half pitch 36-pin parallel cable and host computer parallel port.
- Use shielded interface cable. Unshielded cables create electromagnetic interference.

1. Turn off the printer and computer.
2. Connect the interface cable to the IEEE 1284 interface board.



CEC064

3. Connect the other end of the interface cable to your computer, and then secure the cable.

The printer is now connected to the computer. Install the printer driver. For details, see "Installing the Printer Driver Using Parallel Cable", Driver Installation Guide.

## ↓ Note

- For details about installing the 1284 interface board, see p.59 "Installing the Interface Units".



# 5. Configuration

This chapter explains supported network connections, and settings for the IP addresses and the Wireless LAN security.

## Ethernet Configuration

**★ Important**

- Configure the printer for the network using the control panel.
- The following table shows the control panel settings and their default values. These items appear in the [Network] under [Host Interface] menu.

Setting Name	Default
Machine IPv4 Address	<ul style="list-style-type: none"><li>• Auto-Obtain (DHCP): On</li><li>• IPv4 Address: 11.22.33.44</li><li>• Subnet Mask: 0.0.0.0</li><li>• Gateway Address: 0.0.0.0</li></ul>
IPv6 Stateless Setting	Active
IPsec	Inactive
NW Frame Type	Auto Select
Effective Protocol	<ul style="list-style-type: none"><li>• IPv4: Active</li><li>• IPv6: Inactive</li><li>• NetWare: Inactive</li><li>• SMB: Active</li><li>• AppleTalk: Inactive</li></ul>
Ethernet Speed	Auto Select
IEEE802.1X Auth.(Ethernet)	Inactive
Restr.IEEE802.1X Auth.Def.	-
LAN Type	Ethernet
Permit SSL/TLS Comm.	Ciphertext Priority

### ↓ Note

- If DHCP is in use on your network, the IP address, subnet mask, and gateway address are all set automatically.
- If the printer is already placed on a TCP/IP-capable environment, you can also use a Web browser to configure the IP address-related settings.
- Configure these setting as necessary. See Software Guide for details.

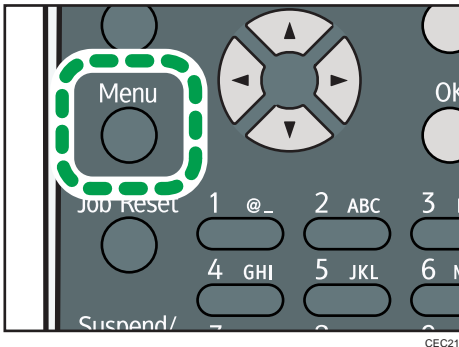
## Specifying an IP Address (No DHCP)

Follow this procedure to assign a specific IP address to the printer. This is only necessary when you will use the printer on a network without DHCP, or want to prevent the printer's IP address from changing.

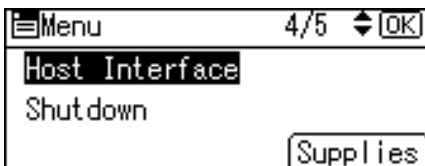
Before beginning, make sure that you know the IP address, subnet mask and gateway address that the printer will use.

5

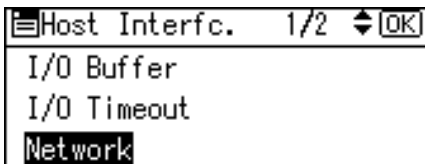
1. Press the [Menu] key.



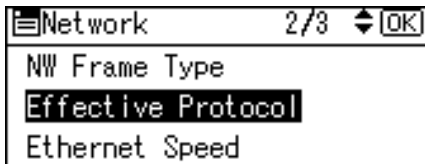
2. Press the [▼] or [▲] key to select [Host Interface], and then press the [OK] key.



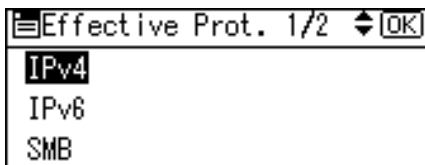
3. Press the [▼] or [▲] key to select [Network], and then press the [OK] key.



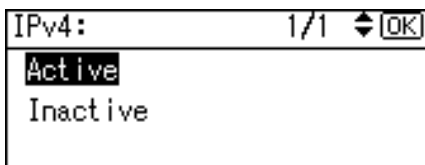
4. Press the [▼] or [▲] key to select [Effective Protocol], and then press the [OK] key.



5. Press the [▼] or [▲] key to select the appropriate network protocol, and then press the [OK] key.



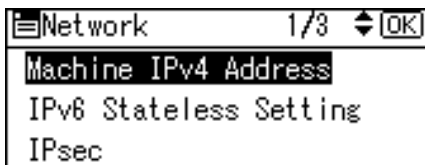
6. Press the [▼] or [▲] key to select [Active] or [Inactive], and then press the [OK] key.



Set other protocols you need to set in the same way.

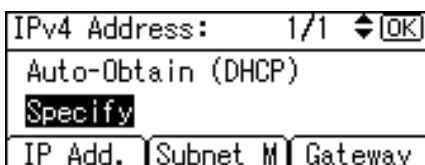
- Select [Inactive] for unused protocols.
- Enable IPv4 to use the pure IPv4 environment of NetWare5/5.1, NetWare 6/6.5.

7. Press the [Escape] key until the screen returns to the [Network] menu.
8. If you use IPv4, assign the IPv4 address to the printer. Press the [▼] or [▲] key to select [Machine IPv4 Address], and then press the [OK] key.



To get the IP address for the printer, consult your network administrator.

9. To specify the IP Address, press [IP Add.].



If you use IPv4, also assign the subnet mask and gateway address. To assign these, press [Subnet M] or [Gateway].

**10. Enter the address, and then press the [OK] key.**

Change the IP address from "11.22.33.44" to an IP address supported by your network.

IPv4 Address:	↕	[OK]
Enter with No. keys or ↕.		
192	168	0 206

**11. Use the same method to assign the subnet mask and gateway address.****12. Press the [▼] or [▲] key to select [Specify], and then press the [OK] key.**

IPv4 Address:	1/1	↕	[OK]
Auto-Obtain (DHCP)			
Specify			
IP Add.	Subnet M	Gateway	

**13. Press the [Menu] key to return to the initial screen.****14. Print a configuration page to confirm the settings.****Note**

- For details about printing the configuration page, see p.44 "Test Printing".

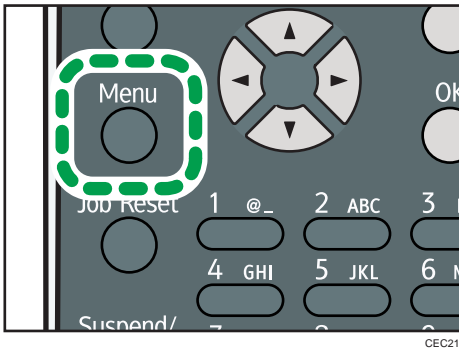
## Receiving an IP Address Automatically (DHCP)

Follow this procedure to set the printer to receive an IP address automatically using DHCP. The DHCP feature is active by default, so this procedure is only required if you have changed the default settings.

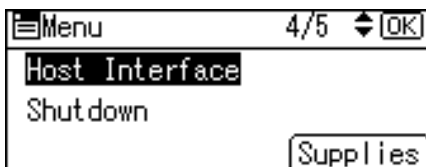
**★ Important**

- When [Auto-Obtain (DHCP)] is selected, you cannot configure the IP address, subnet mask, or gateway address.
- Consult your network administrator for information about configuring network settings.

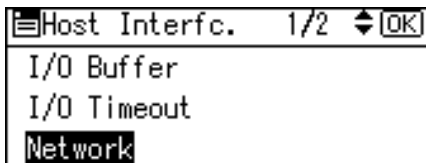
1. Press the [Menu] key.



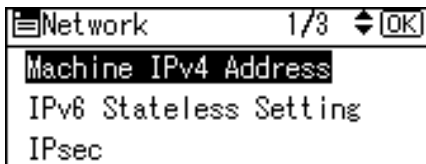
2. Press the [▼] or [▲] key to select [Host Interface], and then press the [OK] key.



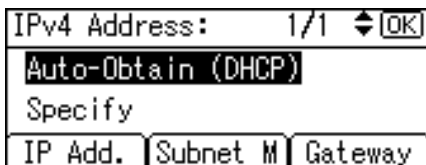
3. Press the [▼] or [▲] key to select [Network], and then press the [OK] key.



4. Press the [▼] or [▲] key to select [Machine IPv4 Address], and then press the [OK] key.



5. Press the [▼] or [▲] key to select [Auto-Obtain (DHCP)], and then press the [OK] key.



To check the detected addresses, press the followings:

- [IP Add.]: IP address
- [Subnet M]: Subnet Mask
- [Gateway]: Default Gateway

6. Press the [Menu] key to return to the initial screen.
7. Print a configuration page to confirm the settings.

**Note**

- For details about printing the configuration page, see p.44 "Test Printing".

## Configuring Network Settings When Using NetWare

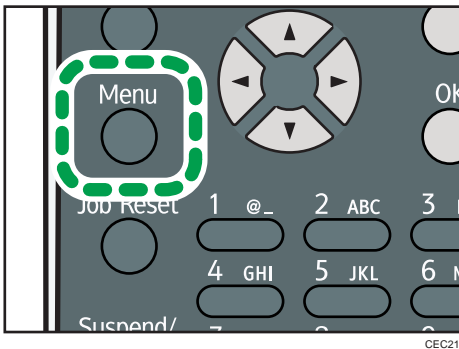
To use NetWare, select the appropriate NetWare frame type from the following.

- Auto Select
- Ethernet II
- Ethernet 802.2
- Ethernet 802.3
- Ethernet SNAP

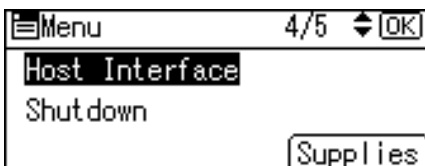
**Important**

- Usually, you can use the default (Auto Select). When you first select [Auto Select], the frame type detected by the printer is adopted. However, if your network can use more than two frame types, the printer may fail to select the correct frame type with [Auto Select] selected. In this case, select the preferred frame type.

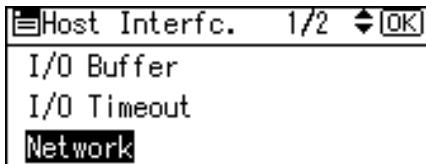
1. Press the [Menu] key.



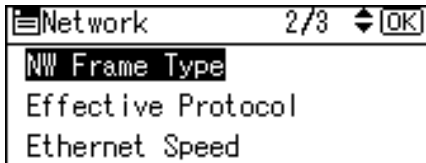
2. Press the [▼] or [▲] key to select [Host Interface], and then press the [OK] key.



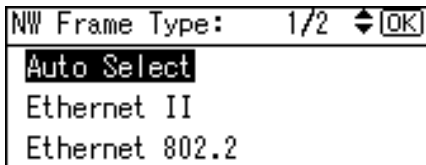
3. Press the [▼] or [▲] key to select [Network], and then press the [OK] key.



4. Press the [▼] or [▲] key to select [NW Frame Type], and then press the [OK] key.



5. Press the [▼] or [▲] key to select the frame type to use, and then press the [OK] key.



6. Press the [Menu] key to return to the initial screen.  
7. Print a configuration page to confirm the settings.

**Note**

- For details about printing the configuration page, see p.44 "Test Printing".

## Setting the Ethernet Speed

You can set the speed that the printer will use for Ethernet communications. In most cases, this should be left on the default setting, [Auto Select]. This setting allows two interfaces to automatically determine the optimum speed when they are connected.

Router/HUB	Printer				
	[10Mbps Half Duplex]	[10Mbps Full Duplex]	[100Mbps Half Duplex]	[100Mbps Full Duplex]	[Auto Select]
10 Mbps half duplex	○	-	-	-	○
10 Mbps full duplex	-	○	-	-	-

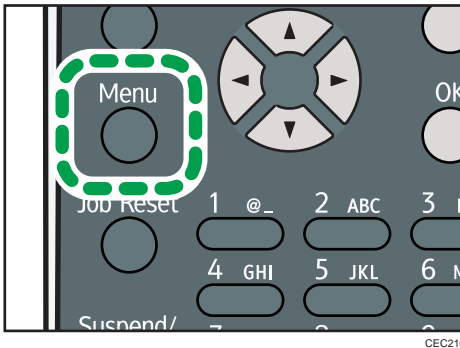
Router/HUB	Printer				
	[10Mbps Half Duplex]	[10Mbps Full Duplex]	[100Mbps Half Duplex]	[100Mbps Full Duplex]	[Auto Select]
100 Mbps half duplex	-	-	<input type="radio"/>	-	<input type="radio"/>
100 Mbps full duplex	-	-	-	<input type="radio"/>	-
auto-negotiation (auto selection)	<input type="radio"/>	-	<input type="radio"/>	-	<input type="radio"/>

5

**★ Important**

- Connection cannot be established if the selected Ethernet speed does not match your network's transmission speed.
- The use of this feature is recommended. To use it, select [Auto Select].

1. Press the [Menu] key.

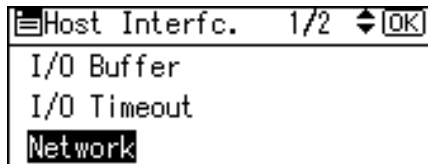


2. Press the [▼] or [▲] key to select [Host Interface], and then press the [OK] key.

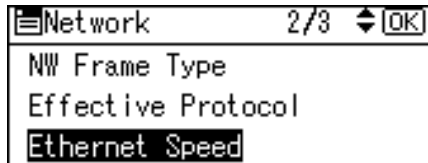




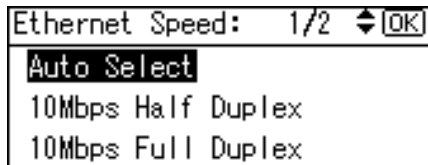
3. Press the [▼] or [▲] key to select [Network], and then press the [OK] key.



4. Press the [▼] or [▲] key to select [Ethernet Speed], and then press the [OK] key.



5. Press the [▼] or [▲] key to select the Ethernet speed, and then press the [OK] key.



6. Press the [Menu] key to return to the initial screen.  
7. Print a configuration page to confirm the settings.

**Note**

- For details about printing the configuration page, see p.44 "Test Printing".

# Wireless LAN Configuration

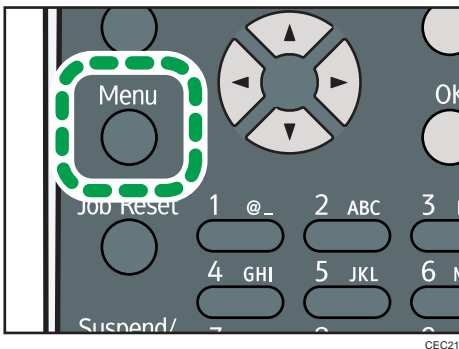
## ★ Important

- Ethernet and Wireless LAN cannot be used at the same time.
- To use Wireless LAN, set as follows using the control panel: press the [Menu] key, select [Host Interface], [Network], [LAN Type], and then select [Wireless LAN]. In addition, you must set the IP address, subnet mask, gateway address, DHCP, Frame Type (NW), and active protocol as explained in p.75 "Ethernet Configuration".
- The following table shows the control panel settings and their defaults. These items appear in the [Wireless LAN] under [Host Interface] menu.

Setting Name	Default
Communication Mode	Infrastructure Mode
SSID Setting	blank
Ad-hoc Channel	11
Security Method	Off
Wireless LAN Signal	-
Restore Defaults	-

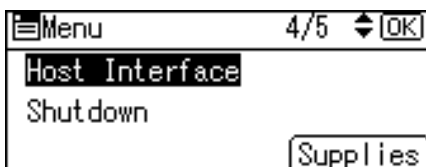
5

1. Press the [Menu] key.

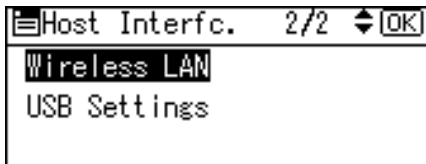


CEC216

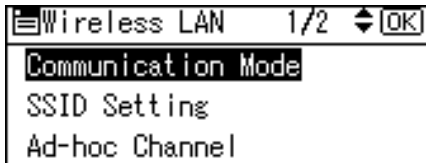
2. Press the [▼] or [▲] key to select [Host Interface], and then press the [OK] key.



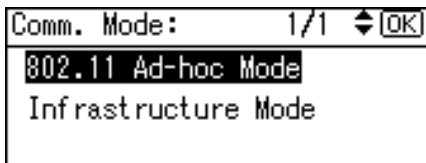
3. Press the [▼] or [▲] key to select [Wireless LAN], and then press the [OK] key.



4. Press the [▼] or [▲] key to select [Communication Mode], and then press the [OK] key.

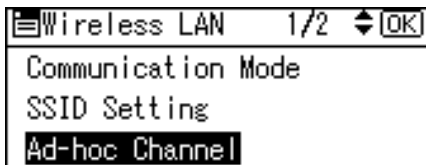


5. Press the [▼] or [▲] key to select the transmission mode of Wireless LAN, and then press the [OK] key.

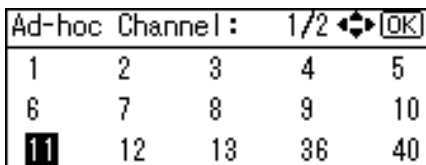


The transmission mode of the Wireless LAN can also be set using Web Image Monitor.



6. If [802.11 Ad-hoc Mode] is selected for [Communication Mode], confirm the channel to use for transmission.
7. Press the [▼] or [▲] key to select [Ad-hoc Channel], and then press the [OK] key.



8. Press the scroll keys to select the Ad-hoc channel, and then press the [OK] key.



Select an Ad-hoc channel according to the IEEE 802.11 standard you are using.

- When using IEEE 802.11 b/g:
  -  **Region A** (mainly Europe and Asia)  
Channels 1 to 13
  -  **Region B** (mainly North America)

Channels 1 to 11

- When using IEEE 802.11 a:  
Channels 36,40,44,48

9. Press the [Menu] key to return to the initial screen.

10. Print a configuration page to confirm the settings.

#### ↓ Note

- For details, see Web Image Monitor Help, and "Using Web Image Monitor", Software Guide.
- For details about printing the configuration page, see p.44 "Test Printing".

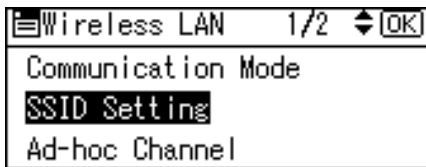
## Setting the SSID

### 5

When [Communication Mode] is set to [Infrastructure Mode] or [802.11 Ad-hoc Mode], you must specify the Service Set Identifier (SSID) of the wireless access point that the printer will connect to for network access.

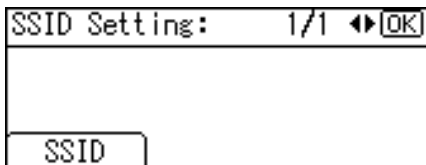
Ask your network administrator for the SSID to use.

1. In the [Wireless LAN] menu, press the [▼] or [▲] key to select [SSID Setting], and then press the [OK] key.

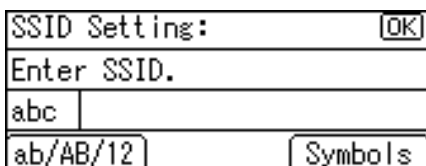


If an SSID has been set, you can check the current SSID setting.

2. Press [SSID], and then press [Enter].



3. Enter the characters, and then press the [OK] key.



You can switch among lower /upper cases and numeric characters by pressing [ab/AB/12].

The characters that can be used are ASCII 0 × 20-0 × 7e (32 bytes).

4. Press the [Menu] key to return to the initial screen.

5. Print a configuration page to confirm the settings.

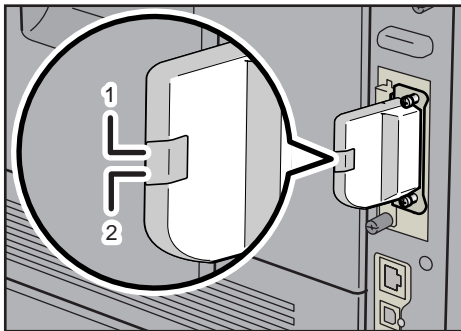
**Note**

- The SSID can also be set using a Web browser. For details, see Web Image Monitor Help.
- For details about printing the configuration page, see p.44 "Test Printing".

## Confirming Wireless Network Connectivity

After you have installed the Wireless LAN interface unit, use the following procedure to check for Wireless LAN connectivity.

Make sure the LED on the Wireless LAN interface unit is lit.



CEC077

1. If the Wireless LAN unit is receiving power, the upper indicator will be lit green.
2. If the printer is connected to an operational network and is communicating normally, the lower indicator will be lit orange.

## Cautions When Using a Wireless LAN

A Wireless LAN uses radio waves instead of cables to send and receive data. Because radio waves usually pass through walls and other obstructions, the following problems may arise if you do not configure wireless security settings.

### Information leakage

Information such as IDs, passwords, credit card numbers, and e-mail content may be seen by an unauthorized 3rd party.

### Unauthorized network access

- Damage to or alteration of data and/or system configurations by viruses or other malware.
- Impersonation of legitimate network users, resulting in data theft.
- Theft of sensitive or confidential data.

To minimize the possibility of these threats, it is recommended that you check the available features of this printer, wireless access points, and other equipment that uses the Wireless LAN, and configure security settings for the Wireless LAN.

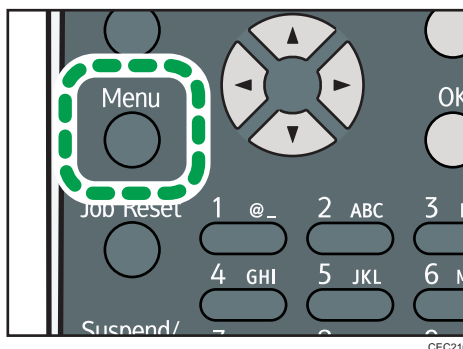
# Setting Security Method of Wireless LAN

## Setting a WEP Key

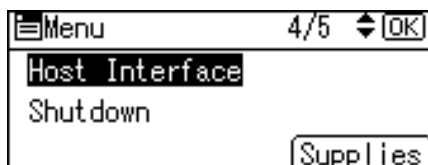
If the wireless network uses WEP to encrypt transmitted data, the corresponding WEP key must be set to the printer to allow communications with other network devices.

Ask your network administrator for the WEP key to use.

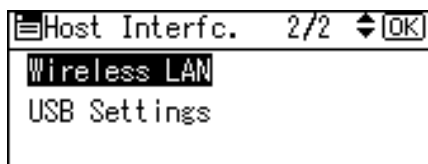
1. Press the [Menu] key.



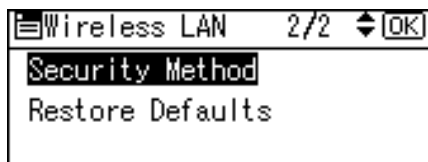
2. Press the [▼] or [▲] key to select [Host Interface], and then press the [OK] key.



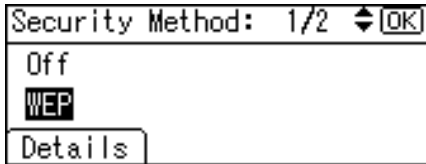
3. Press the [▼] or [▲] key to select [Wireless LAN], and then press the [OK] key.



4. Press the [▼] or [▲] key to select [Security Method], and then press the [OK] key.

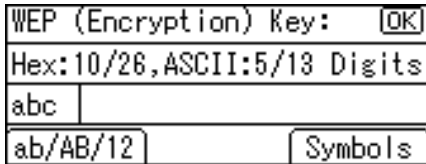


5. Press the [▼] or [▲] key to select [WEP], and then press [Details].



When activating the WEP setting, you will need to enter the WEP key.

6. Enter the characters, and then press the [OK] key.



5

- When entering a character, pressing the [OK] key will mask it with an asterisk for security reasons.
- When using 64-bit WEP, up to 10 hexadecimal characters or five ASCII characters can be entered. When using 128-bit WEP, up to 26 hexadecimal characters or 13 ASCII characters can be used.
- Up to 10 or 26 hexadecimal characters and 5 or 13 ASCII characters can be entered.
- For ASCII character strings, uppercase and lowercase letters are differentiated, so be sure to enter characters in the required case.

7. Press the [▼] or [▲] key to select [WEP], and then press the [OK] key.

8. Press the [Menu] key to return to the initial screen.

9. Print a configuration page to confirm the settings.

#### ↓ Note

- The WEP key can also be set using a Web browser. For details, see Web Image Monitor Help.
- For details about printing the configuration page, see p.44 "Test Printing".

## Setting WPA

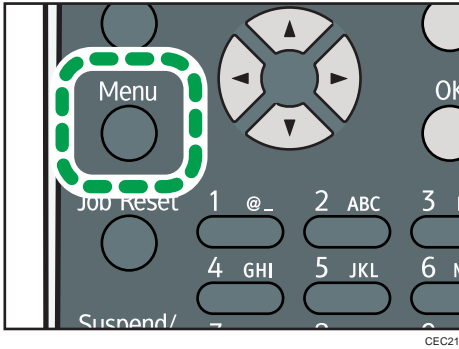
In the case of using WPA on a network, activate the WPA setting to be used for communication along with WPA. Consult your network administrator for information about making authentication settings.

#### ★ Important

- For setting WPA, installing the optional Hard disk is required.



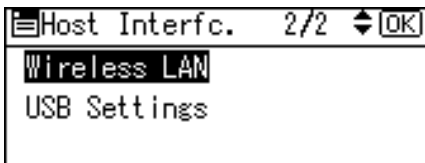
1. Press the [Menu] key.



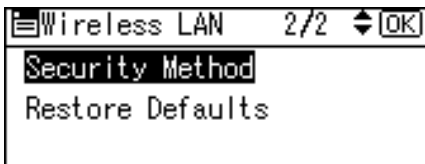
2. Press the [▼] or [▲] key to select [Host Interface], and then press the [OK] key.



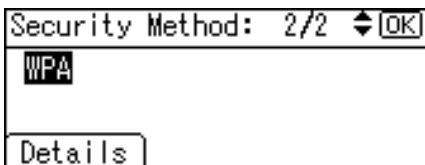
3. Press the [▼] or [▲] key to select [Wireless LAN], and then press the [OK] key.



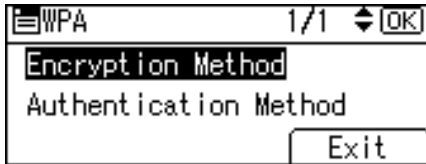
4. Press the [▼] or [▲] key to select [Security Method], and then press the [OK] key.



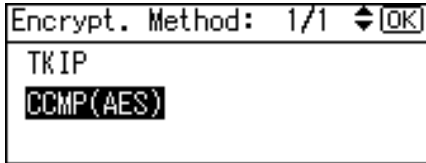
5. Press the [▼] or [▲] key to select [WPA], and then press [Details].



6. Press the [▼] or [▲] key to select [Encryption Method], and then press the [OK] key.



7. Press the [▼] or [▲] key to select encryption method, and then press the [OK] key.



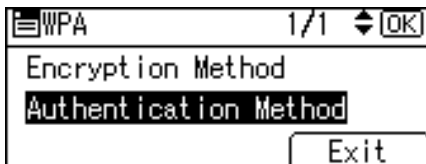
Consult your network administrator for information about making encryption settings.

Encryption settings are as follows:

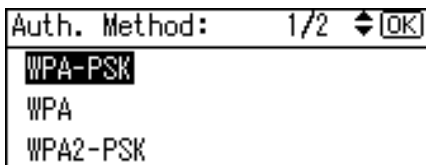
- [TKIP]
  - Uses the same algorithm as RC4, but further reduces vulnerability using methods such as key mixing.
- [CCMP(AES)]
  - Increases security using AES (Advanced Encryption Standard).

The display returns to the [WPA] menu.

8. Press the [▼] or [▲] key to select [Authentication Method], and then press the [OK] key.



9. Press the [▼] or [▲] key to select authentication settings, and then press the [OK] key.



Authentication settings are as follows:

- [WPA-PSK]
  - Performs authentication using an encryption key (a Pre-Shared Key) that is shared by the access point and client.
- [WPA]

WPA uses CA certificates and a RADIUS server to provide secure wireless communication.

- [WPA2-PSK]

As with WPA-PSK, authenticate using the encryption key (a Pre-Shared Key) shared by the access point and client. Enter Pre-Shared Key using between 8 and 63 ASCII characters.

- [WPA2]

WPA2 is an expanded version of WPA that fully supports IEEE 802.11i.

Wait for two seconds, the display returns to the [WPA] menu.

**10. If [WPA] or [WPA2] is selected in step 9, a confirmation message appears. Press [OK].**

Wait for two seconds. The display returns to the [WPA] menu, proceed to step 15.

**11. If [WPA-PSK] or [WPA2-PSK] is selected in step 9, enter the Pre-Shared Key, and then press the [OK] key.**

PSK Entry:	[OK]
Enter ASCII 8-63byte	
abc	
ab/AB/12	Symbols

- When entering a character, pressing the [OK] key will mask it with an asterisk for security reasons.
- Enter the Pre-Shared Key using between 8 and 63 ASCII characters.
- Uppercase and lowercase letters are differentiated, so be sure to enter characters in the required case.
- Wait for two seconds. The display returns to the [Authentication Method] menu.

**12. Press the [Escape] key.**

**13. Press [Exit].**

WPA	1/1	[OK]
Encryption Method		
Authentication Method		
Exit		

**14. Press the [▼] or [▲] key to select [WPA], and then press the [OK] key.**

**15. Press the [Menu] key to return to the initial screen.**

**16. Print a configuration page to confirm the settings.**

**Note**

- For details about printing the configuration page, see p.44 "Test Printing".

# Configuring IEEE 802.1X

IEEE 802.1X can be configured using Web Image Monitor's administrator mode. You can select four types of EAP authentication method: EAP-TLS, LEAP, EAP-TTLS and PEAP. Note that each EAP authentication method has different configuration settings and authentication procedures.

Types and requirements of certificates are as follows:

## **EAP Types Requiring a "Site Certificate"**

EAP-TLS, EAP-TTLS, PEAP (Necessary except LEAP)

## **EAP Types Requiring a "Site Certificate" and a "Device Certificate"**

EAP-TLS, PEAP (Phase 2 is for TLS only)

If a certificate is required, configure all settings after installing the certificate.

## 5

---

### Installing a Site Certificate

---

Access the authentication server and obtain the CA certificate.

Methods of obtaining certificates differ according to the operating system you are using.

1. Log in to Web Image Monitor as an administrator.
2. In the menu area, click [Configuration].
3. Under "Security", click [Site Certificate].
4. Click [Browse] on the "Site Certificate to Import" window, and then select the CA certificate you obtained.
5. Click [Import].
6. Check that the imported certificate's [Status] shows "Trustworthy".  
If [Site Certificate Check] shows [Active], and the [Status] of the certificate shows [Untrustworthy], communication might not be possible.
7. Click [OK].
8. Click [Logout].
9. Quit the Web Image Monitor.

---

### Installing Device Certificate

---

1. Log in to Web Image Monitor as an administrator.
2. In the menu area, click [Configuration].
3. Under "Security", click [Device Certificate].
4. Click [Certificate 2] on the "Device Certificate" window, and then click [Request].

5. Enter appropriate "Common Name" and "Country Code" on "Certificate Information" page, and then click [OK].
6. "Updating..." appears. Wait for about 2 minutes, and then click [OK].
7. Click [Details], shown in the "Device Certificate" window as the memo pad icon for "Requesting".
8. Select all, and then copy the entire "Text for Requested Certificate" text that is displayed in the "Certificate Status" window.
9. Access the certificate authority server, and then obtain the CA signified certificate using the text copied into "Text for Requested Certificate" windows.

Obtaining the certificate differs depending on the environment you want to use.

10. Click [Certificate 2] on "Device Certificate" window, and then click [Install].
11. Using a text editor, open the CA signified certificate downloaded in step 9, and then copy over all the text.
12. In the [Enter Certificate Request] window, paste all the text copied into the CA signified certificate.
13. Click [OK].
14. "Updating..." appears. Wait for about one or two minutes, and then click [OK].
15. Check that the "Device Certificate" shows "Installed".
16. Click [Certificate 2] on "Certification", and then click [OK].
17. Click [Logout].
18. Quit Web Image Monitor.

#### Note

- If you request two certificates simultaneously, the certificate authority might not display either certificate. Click [Cancel Request] to cancel the request.
- You can select [Certificate 1-4] in the "Device Certificate" window. Note that if you select [Certificate 1] in the "Device Certificate" window, you must select "Certificate 1" in the "IEEE 802.1X" drop down menu in the "Certification" window.
- Click [Cancel Request] to cancel the request for the server certificate.
- If "Not found" appears after clicking [OK] in steps 6 and 14, wait one or two minutes, and then click [Refresh].

---

## Setting Items of IEEE 802.1X for Ethernet

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1. Log in to Web Image Monitor as an administrator.
2. In the menu area, click [Configuration].
3. Under "Security", click [IEEE 802.1X].

**4. In "User Name", enter the user name set in the RADIUS server.**

**5. Enter the domain name in "Domain Name".**

**6. Select "EAP Type". Configurations differ according to the EAP Type.**

#### EAP-TLS

- Make the following settings according to the operating system you are using:
  - Select [On] or [Off] in "Authenticate Server Certificate".
  - Select [On] or [Off] in "Trust Intermediate Certificate Authority".
  - Enter the host name of the RADIUS server on "Server ID".
  - Select [On] or [Off] in "Permit Sub-domain".

#### LEAP

- Click [Change] in "Password", and then enter the password set in the RADIUS server.

#### EAP-TTLS

- Click [Change] in "Password", and then enter the password set in the RADIUS server.
- Click [Change] in "Phase 2 User Name", and then enter the user name set in the RADIUS server.
- Select [CHAP], [MSCHAP], [MSCHAPv2], [PAP], or [MD5] in "Phase 2 Method".  
Certain methods might not be available, depending on the RADIUS server you want to use.
- Make the following settings according to the operating system you are using:
  - Select [On] or [Off] in "Authenticate Server Certificate".
  - Select [On] or [Off] in "Trust Intermediate Certificate Authority".
  - Enter the host name of the RADIUS server in "Server ID".
  - Select [On] or [Off] in "Permit Sub-domain".

#### PEAP

- Click [Change] in "Password", and then enter the password set in the RADIUS server.  
If [TLS] is selected for "Phase 2 Method", you do not need to specify a password.
- Click [Change] on "Phase 2 User Name", and then enter the user name set in the RADIUS server.
- Select [MSCHAPv2] or [TLS] in "Phase 2 Method".  
When you select [TLS], you must install "IEEE 802.1X Client Certificate".
- Make the following settings according to the operating system you are using:
  - Select [On] or [Off] in "Authenticate Server Certificate".
  - Select [On] or [Off] in "Trust Intermediate Certificate Authority".
  - Enter the host name of the RADIUS server on "Server ID".
  - Select [On] or [Off] in "Permit Sub-domain".

**7. Click [OK].**

8. "Updating..." appears. Wait for about one or two minutes, and then click [OK].
9. Under "Interface", click [Interface Settings].
10. Select [Active] in "Ethernet Security".
11. Click [OK].
12. "Updating..." appears. Wait for about one or two minutes, and then click [OK].
13. Click [Logout].
14. Quit the Web Image Monitor.

#### ↓ Note

- If there is a problem with settings, you might not be able to communicate with the printer. To identify the problem, print a network summary.
- If you cannot identify the problem, reset the printer interface to normal, and then repeat the procedure from the beginning.

## Setting Items of IEEE 802.1X for Wireless LAN

1. Log in to Web Image Monitor as an administrator.
2. In the menu area, click [Configuration].
3. Under "Security", click [IEEE 802.1X].
4. In "User Name", enter the user name set in the RADIUS server.
5. Enter the domain name in "Domain Name".
6. Select "EAP Type". Configurations differ according to the EAP Type.

### EAP-TLS

- Make the following settings according to the operating system you are using:
  - Select [On] or [Off] in "Authenticate Server Certificate".
  - Select [On] or [Off] in "Trust Intermediate Certificate Authority".
  - Enter the host name of the RADIUS server on "Server ID".
  - Select [On] or [Off] in "Permit Sub-domain".

### LEAP

- Click Change in "Password", and then enter the password set in the RADIUS server.

### EAP-TTLS

- Click [Change] in "Password", and then enter the password set in the RADIUS server.
- Click [Change] in "Phase 2 User Name", and then enter the user name set in the RADIUS server.
- Select [CHAP], [MSCHAP], [MSCHAPv2], [PAP], or [MD5] in "Phase 2 Method".

Certain methods might not be available, depending on the RADIUS server you want to use.

- Make the following settings according to the operating system you are using:
  - Select [On] or [Off] in "Authenticate Server Certificate".
  - Select [On] or [Off] in "Trust Intermediate Certificate Authority".
  - Enter the host name of the RADIUS server in "Server ID".
  - Select [On] or [Off] in "Permit Sub-domain".

#### PEAP

- Click [Change] in "Password", and then enter the password set in the RADIUS server.  
If [TLS] is selected for "Phase 2 Method", you do not need to specify a password.
- Click [Change] on "Phase 2 User Name", and then enter the user name set in the RADIUS server.
- Select [MSCHAPv2] or [TLS] in "Phase 2 Method".  
When you select [TLS], you must install "IEEE 802.1X Client Certificate".
- Make the following settings according to the operating system you are using:
  - Select [On] or [Off] in "Authenticate Server Certificate".
  - Select [On] or [Off] in "Trust Intermediate Certificate Authority".
  - Enter the host name of the RADIUS server on "Server ID".
  - Select [On] or [Off] in "Permit Sub-domain".

## 5

7. Click [OK].
8. "Updating..." appears. Wait for about one or two minutes, and then click [OK].
9. Under "Interface", click [Wireless LAN Settings].
10. Select [Wireless LAN] in "LAN Type".
11. Select [Infrastructure Mode] in "Communication Mode".
12. Enter the alphanumeric characters (a-z, A-Z, or 0-9) in [SSID] according to the access point you want to use.
13. Select [WPA] in "Security Method".
14. Select [TKIP] or [CCMP (AES)] in "WPA Encryption Method" according to the access point you want to use.
15. Select [WPA] or [WPA2] in "WPA Authentication Method".
16. Click [OK].
17. "Updating..." appears. Wait for about one or two minutes, and then click [OK].
18. Click [Logout].
19. Quit the Web Image Monitor.

#### ↓ Note

- If there is a problem with settings, you might not be able to communicate with the printer. To identify the problem, print a network summary.



- If you cannot identify the problem, reset the printer interface to normal, and then repeat the procedure from the beginning.





# 6. Loading Paper

This chapter explains the paper sizes and types supported by this printer, and how to load paper into the paper trays.



## Supported Paper for Each Tray



The tables in this section provide details of the sizes, types, feed directions, and maximum number of sheets of paper that can be loaded in each of the printer's trays.

### Symbols

	In this manual	On the display
Short-edge feed direction	 (Feed direction)	A4 8 1/2 " × 11 "
Long-edge feed direction	 (Feed direction)	A5 8 1/2 " × 5 1/2 "





### Standard Paper Feed Tray

Paper types	Plain Paper, Middle Thick, Thick Paper 1, Thick Paper 2, Thick Paper 3, Thin Paper, Letterhead, Label Paper, Special Paper 1, Special Paper 2, Special Paper 3, Preprinted Paper, Color Paper, Recycled Paper
Automatically selected paper sizes	<p>The following paper sizes are supported by this printer's automatic paper size detection function:</p> <p> <b>Region A</b> A4, A5, B5, 8 1/2 " × 14 " (Legal), 8 1/2 " × 11 " (Letter)</p> <p> <b>Region B</b> A4, B5, 8 1/2 " × 14 " (Legal), 8 1/2 " × 11 " (Letter), 5 1/2 " × 8 1/2 " (Half Letter)</p> <p>For details about paper size settings, see p.121 "Specifying paper size automatically for a standard or optional paper feed tray".</p>

Paper sizes requiring manual settings	<p>The following sizes are supported, but they must be selected using the control panel. For details about paper size settings, see p.122 "Specifying standard size paper for a standard or optional paper feed tray".</p> <p> <b>Region A</b>  A5, A6, B6 JIS, 8 1/2" x 13" (Foolscap), 8 1/4" x 13" (Folio), 8" x 13" (F/GL), 7 1/4" x 10 1/2" (Executive), 5 1/2" x 8 1/2" (Half Letter), 4 1/8" x 9 1/2" (Com10), 3 7/8" x 7 1/2" (Monarch), C5 Env., C6 Env., DL Env., 16K, Custom Size</p> <p> <b>Region B</b>  A5, A6, B6 JIS, 8 1/2" x 13" (Foolscap), 8 1/4" x 13" (Folio), 8" x 13" (F/GL), 7 1/4" x 10 1/2" (Executive), 5 1/2" x 8 1/2" (Half Letter), 4 1/8" x 9 1/2" (Com10), 3 7/8" x 7 1/2" (Monarch), C5 Env., C6 Env., DL Env., 16K, Custom Size</p>
Custom paper size	<p>The following custom sizes are supported, but they must be selected using the control panel. For details about custom size paper settings, see p.123 "Specifying custom size paper for a standard or optional paper feed tray".</p> <ul style="list-style-type: none"> <li>• Approximately 98 - 216 mm (3.86 - 8.50 inches) in width</li> <li>• Approximately 140 - 356 mm (5.52 - 14.01 inches) in length</li> </ul>
Paper weight	52 to 220 g/m <sup>2</sup> (14 to 59 lb.)
Paper capacity	550 sheets (75 g/m <sup>2</sup> , 20 lb.) Do not load the paper so that the top of the stack exceeds the limit mark inside the tray.

### Optional Paper Feed Tray

Paper types	Plain Paper, Middle Thick, Thick Paper 1, Thick Paper 2, Thick Paper 3, Thin Paper, Letterhead, Label Paper, Special Paper 1, Special Paper 2, Special Paper 3, Preprinted Paper, Color Paper, Recycled Paper
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Automatically selected paper sizes	<p>The following paper sizes are supported by this printer's automatic paper size detection function:</p> <p> <b>Region A</b>  A4, A5, B5, 8 1/2" x 14" (Legal), 8 1/2" x 11" (Letter)</p> <p> <b>Region B</b>  A4, B5, 8 1/2" x 14" (Legal), 8 1/2" x 11" (Letter), 5 1/2" x 8 1/2" (Half Letter)</p> <p>For details about paper size settings, see p. 121 "Specifying paper size automatically for a standard or optional paper feed tray".</p>
Paper sizes requiring manual settings	<p>The following sizes are supported, but they must be selected using the control panel. For details about paper size settings, see p. 122 "Specifying standard size paper for a standard or optional paper feed tray".</p> <p> <b>Region A</b>  B6 JIS, 8 1/2" x 13" (Foolscap), 8 1/4" x 13" (Folio), 8" x 13" (F/GL), 7 1/4" x 10 1/2" (Executive), 5 1/2" x 8 1/2" (Half Letter), 4 1/8" x 9 1/2" (Com10), 3 7/8" x 7 1/2" (Monarch), C5 Env., C6 Env., DL Env., 16K, Custom Size</p> <p> <b>Region B</b>  A5, B6 JIS, 8 1/2" x 13" (Foolscap), 8 1/4" x 13" (Folio), 8" x 13" (F/GL), 7 1/4" x 10 1/2" (Executive), 4 1/8" x 9 1/2" (Com10), 3 7/8" x 7 1/2" (Monarch), C5 Env., C6 Env., DL Env., 16K, Custom Size</p>
Custom paper size	<p>The following custom sizes are supported, but they must be selected using the control panel. For details about custom size paper settings, see p. 123 "Specifying custom size paper for a standard or optional paper feed tray".</p> <ul style="list-style-type: none"> <li>• Approximately 98 - 216 mm (3.86 - 8.50 inches) in width</li> <li>• Approximately 160 - 356 mm (6.30 - 14.01 inches) in length</li> </ul>
Paper weight	52 to 220 g/m <sup>2</sup> (14 to 59 lb.)
Paper capacity	550 sheets (75 g/m <sup>2</sup> , 20 lb.) Do not load the paper so that the top of the stack exceeds the limit mark inside the tray.

## Bypass Tray

Paper types	Plain Paper, Middle Thick, Thick Paper 1, Thick Paper 2, Thick Paper 3, Thin Paper, Letterhead, Label Paper, Special Paper 1, Special Paper 2, Special Paper 3, Preprinted Paper, Color Paper, Recycled Paper, OHP (Transparency), Envelope
Paper sizes requiring manual settings	The following sizes are supported, but they must be selected using the control panel. For details about paper size settings, see p.127 "Specifying standard size paper for the bypass tray". A4, A5, A6, B5 JIS, B6 JIS, 8 1/2" x 14" (Legal), 8 1/2" x 13" (Foolscap), 8 1/2" x 11" (Letter), 8 1/4" x 13" (Folio), 8" x 13" (F/GL), 7 1/4" x 10 1/2" (Executive), 5 1/2" x 8 1/2" (Half Letter), 4 1/8" x 9 1/2" (Com 10), 3 7/8" x 7 1/2" (Monarch), C5 Env., C6 Env., DL Env., 16K, Custom Size
Custom paper size	The following custom sizes are supported, but they must be selected using the control panel. For details about custom size paper settings, see p.129 "Specifying custom size paper for the bypass tray". <ul style="list-style-type: none"> <li>• Approximately 64 - 216 mm (2.52 - 8.50 inches) in width</li> <li>• Approximately 140 - 900 mm (5.52 - 35.43 inches) in length</li> </ul>
Paper weight	52 to 220 g/m <sup>2</sup> (14 to 59 lb.)
Paper capacity	100 sheets (75 g/m <sup>2</sup> , 20 lb.) Do not load the paper so that the top of the stack exceeds the paper guides on the bypass tray.

### ↓ Note

- When a custom size is specified, duplex printing is possible on paper whose length is between 160 and 356 mm (6.3 and 14.1 inches).

## Supported Paper Types

The tables in this section provide details of the paper types supported by this printer. Use these tables when specifying a tray's paper settings and take note of the information under "Note".

### Plain Paper

Paper weight	60 to 90 g/m <sup>2</sup> (16 to 24 lb.)
Paper type setting using the control panel	The [Menu] key > [Paper Input] > [Paper Type: (tray name)] > [No Display (Plain Paper)] > the [OK] key
Paper type setting using the printer driver	[Plain & Recycled] or [Plain (60 to 90 g/m <sup>2</sup> )]
Supported input tray	Any input tray can be used.
Duplex printing	Supported
Maintenance	<ul style="list-style-type: none"> <li>[Plain Paper 1]: 60 to 69 g/m<sup>2</sup> (16 to 18 lb.)</li> <li>[Plain Paper 2]: 70 to 90 g/m<sup>2</sup> (19 to 24 lb.)</li> </ul> <p>Default: <b>[Plain Paper 2]</b></p> <p>If prints made using the paper tray show heavy smudging, use the following procedure to change the paper type setting from the control panel:</p> <ul style="list-style-type: none"> <li>Press the [Menu] key, select [Maintenance], [General Settings], and then select [Plain Paper Setting]. Select the paper tray, and then select [Plain Paper 1] or [Plain Paper 2].</li> </ul> <p>When specifying paper thickness, remember that a higher number indicates greater thickness. Also, because the paper thickness will normally be detected automatically, change this setting only if a print problem occurs.</p>
Note	<ul style="list-style-type: none"> <li>Tray 1: 550</li> <li>Tray 2 (Paper feed unit): 550</li> <li>Tray 3 (Paper feed unit): 550</li> <li>Tray 4 (Paper feed unit): 550</li> <li>Tray 5 (Paper feed unit): 550</li> <li>Bypass Tray: 100</li> </ul>

## Middle Thick

Paper weight	91 to 105 g/m <sup>2</sup> (24 to 28 lb.)
Paper type setting using the control panel	The [Menu] key > [Paper Input] > [Paper Type: (tray name)] > [Middle Thick] > the [OK] key
Paper type setting using the printer driver	[Middle Thick (91 to 105 g/m <sup>2</sup> )]
Supported input tray	Any input tray can be used.
Duplex printing	Supported

## Thick Paper

Paper weight	106 to 220 g/m <sup>2</sup> (28 to 59 lb.)
Paper type setting using the control panel	<ul style="list-style-type: none"> <li>The [Menu] key &gt; [Paper Input] &gt; [Paper Type: (tray name)] &gt; [Thick Paper 1] or [Thick Paper 2] or [Thick Paper 3] &gt; the [OK] key             <ul style="list-style-type: none"> <li>[Thick Paper 1]: 106 to 130 g/m<sup>2</sup> (28 to 35 lb.)</li> <li>[Thick Paper 2]: 131 to 163 g/m<sup>2</sup> (35 to 43 lb.)</li> <li>[Thick Paper 3]: 164 to 220 g/m<sup>2</sup> (44 to 59 lb.)</li> </ul> </li> </ul>
Paper type setting using the printer driver	<ul style="list-style-type: none"> <li>[Thick Paper 1]: [Thick 1 (106 to 130 g/m<sup>2</sup>)]</li> <li>[Thick Paper 2]: [Thick 2 (131 to 163 g/m<sup>2</sup>)]</li> <li>[Thick Paper 3]: [Thick 3 (164 to 220 g/m<sup>2</sup>)]</li> </ul>
Supported input tray	[Thick Paper 1], [Thick Paper 2], [Thick Paper 3]: Any input tray can be used.
Duplex printing	<ul style="list-style-type: none"> <li>[Thick Paper 1], [Thick Paper 2]: Supported</li> <li>[Thick Paper 3]: Not supported</li> </ul>
Note	Printing is slightly slower than when using plain paper.

## Thin Paper

Paper weight	52 to 59 g/m <sup>2</sup> (14 to 16 lb.)
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Paper type setting using the control panel	The [Menu] key > [Paper Input] > [Paper Type: (tray name)] > [Thin Paper] > the [OK] key
Paper type setting using the printer driver	[Thin (52 to 59 g/m <sup>2</sup> )]
Supported input tray	Any input tray can be used.
Duplex printing	Not supported

## Letterhead

Paper type setting using the control panel	The [Menu] key > [Paper Input] > [Paper Type: (tray name)] > [Letterhead] > the [OK] key
Paper type setting using the printer driver	[Letterhead]
Supported input tray	Any input tray can be used.
Maintenance	<p>Default: <b>[Letterhead 1]</b></p> <ul style="list-style-type: none"> <li>• [Letterhead 1]</li> <li>• [Letterhead 2]</li> <li>• [Letterhead 3]</li> </ul> <p>If prints made using the paper tray show heavy smudging, use the following procedure to change the paper type setting from the control panel:</p> <ul style="list-style-type: none"> <li>• Press the [Menu] key, select [Maintenance], [General Settings], and then select [Letterhead Setting]. Select the paper tray, and then select [Letterhead 1], [Letterhead 2], or [Letterhead 3].</li> </ul> <p>When specifying paper thickness, remember that a higher number indicates greater thickness. Also, because the paper thickness will normally be detected automatically, change this setting only if a print problem occurs.</p>
Duplex printing	Supported

## Label Paper

Paper type setting using the control panel	The [Menu] key > [Paper Input] > [Paper Type: (tray name)] > [Label Paper] > the [OK] key
Paper type setting using the printer driver	[Labels]
Supported input tray	Any input tray can be used.
Maintenance	<p>Default: [Label Paper 1]</p> <ul style="list-style-type: none"> <li>• [Label Paper 1]</li> <li>• [Label Paper 2]</li> <li>• [Label Paper 3]</li> <li>• [Label Paper 4]</li> </ul> <p>If prints made using the paper tray show heavy smudging, use the following procedure to change the paper type setting from the control panel:</p> <ul style="list-style-type: none"> <li>• Press the [Menu] key, select [Maintenance], [General Settings], [Label Paper Setting], and then select [Label Paper 1], [Label Paper 2], [Label Paper 3], or [Label Paper 4].</li> </ul> <p>When specifying paper thickness, remember that a higher number indicates greater thickness. Also, because the paper thickness will normally be detected automatically, change this setting only if a print problem occurs.</p>
Duplex printing	Not supported

## Special Paper

Paper weight	52 to 220 g/m <sup>2</sup> (14 to 59 lb.)
Paper type setting using the control panel	<ul style="list-style-type: none"> <li>• The [Menu] key &gt; [Paper Input] &gt; [Paper Type: (tray name)] &gt; [Special Paper 1] or [Special Paper 2] or [Special Paper 3] &gt; the [OK] key <ul style="list-style-type: none"> <li>• [Special Paper 1]: 52 to 105 g/m<sup>2</sup> (14 to 28 lb.)</li> <li>• [Special Paper 2]: 106 to 163 g/m<sup>2</sup> (28 to 43 lb.)</li> <li>• [Special Paper 3]: 164 to 220 g/m<sup>2</sup> (44 to 59 lb.)</li> </ul> </li> </ul>

Paper type setting using the printer driver	[Special 1], [Special 2], [Special 3]
Supported input tray	Any input tray can be used.
Duplex printing	<ul style="list-style-type: none"> <li>• [Special Paper 1], [Special Paper 2]: Supported</li> <li>• [Special Paper 3]: Not supported</li> </ul>
Note	When you cannot print successfully with other paper type settings, set special paper.

## Preprinted Paper

Paper type setting using the control panel	The [Menu] key > [Paper Input] > [Paper Type: (tray name)] > [Preprinted Paper] > the [OK] key
Paper type setting using the printer driver	[Preprinted]
Supported input tray	Any input tray can be used.
Duplex printing	Not Supported

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## Color Paper

Paper type setting using the control panel	The [Menu] key > [Paper Input] > [Paper Type: (tray name)] > [Color Paper] > the [OK] key
Paper type setting using the printer driver	[Color]
Supported input tray	Any input tray can be used.
Duplex printing	Supported

## Recycled Paper

Paper type setting using the control panel	The [Menu] key > [Paper Input] > [Paper Type: (tray name)] > [Recycled Paper] > the [OK] key
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Paper type setting using the printer driver	[Recycled] or [Plain & Recycled]
Supported input tray	Any input tray can be used.
Duplex printing	Supported

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### OHP transparencies

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Paper type setting using the control panel	The [Menu] key > [Paper Input] > [Paper Type: Bypass Tray] > [OHP (Transparency)] > the [OK] key
Paper type setting using the printer driver	[Transparency]
Supported input tray	This paper type can be printed only from the bypass tray.
Duplex printing	Not supported

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### Envelopes

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Paper type setting using the control panel	The [Menu] key > [Paper Input] > [Paper Type: Bypass Tray] > [Envelope] > the [OK] key
Paper type setting using the printer driver	[Envelope]
Supported input tray	This paper type can be printed only from the bypass tray.

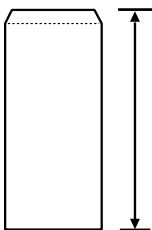
Maintenance	<p>Default: <b>[Envelope 3]</b></p> <ul style="list-style-type: none"><li>• [Envelope 1]</li><li>• [Envelope 2]</li><li>• [Envelope 3]</li><li>• [Envelope 4]</li></ul> <p>If prints made using the paper tray show heavy smudging, use the following procedure to change the paper type setting from the control panel:</p> <ul style="list-style-type: none"><li>• Press the [Menu] key, select [Maintenance], [General Settings], [Envelope Setting], and then select [Envelope 1], [Envelope 2], [Envelope 3], or [Envelope 4].</li></ul> <p>When specifying paper thickness, remember that a higher number indicates greater thickness. Also, because the paper thickness will normally be detected automatically, change this setting only if a print problem occurs.</p>
Duplex printing	Not supported

## Note

- Check there is no air in the envelopes before loading.
- Load only one size and type of envelope at a time.
- Some kinds of envelope might cause misfeeds, wrinkles or print poorly.
- Print quality on envelopes may be uneven if parts of an envelope have differing thicknesses. Print one or two envelopes to check print quality.
- In a hot and humid environment, the envelope might be output creased or improper printing quality.
- The number of envelopes that can be printed in one minute is approximately half that of Plain Paper 1.
- Paper can be loaded only up to the lower of the two paper limit marks of the bypass tray.
- If printed envelopes come out badly creased, load the envelopes in the opposite direction. Also, configure the printer driver to rotate the print object 180 degrees.
- Environmental factors can degrade the print quality on both recommend and non-recommended envelopes.
- After printing, envelopes sometimes have creases along their long edges and toner smear on their unprinted sides. Their print images might also be blurred. When printing large, black-solid areas, striping can occur as a result of the envelopes overlapping. If this occurs, use the envelope lever to resolve this problem. For more information about the envelope lever, see p.133 "Loading Envelopes".

 **Note**

- To correctly specify the length of an envelope whose flap opens along its short edge, be sure to include the open flap when measuring.



ASH125S

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## Storing Paper

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Take care when storing paper. Improperly stored paper might result in poor print quality, paper misfeeds, or printer damage. Recommendations are as follows:

- Avoid storing paper in humid areas.
- Avoid exposing paper to direct sunlight.
- Store on a flat surface.
- Keep paper in its original package until time to use it.

## Non-Recommended Paper Types

### ★ Important

- Do not use the following types of paper:

- Ink-jet printer paper
- GelJet special paper
- Bent, folded, or creased paper
- Curled or twisted paper
- Wet paper
- Paper that is dry enough to emit static electricity
- Paper that has already been printed onto, except a preprinted letterhead paper.

Malfunctions are especially likely when using paper printed on by other than a laser printer (e.g. monochrome and color copiers, ink-jet printers, etc.)

- Surface-processed paper (excluding specified paper)
- Special paper, such as thermal paper and carbon paper
- Paper whose weight is heavier or lighter than the limitation
- Perforated paper
- Adhesive label paper on which glue or base paper is exposed
- Paper with clips or staples
- Dirty or damaged paper

### ↓ Note

- Even if paper is adequate for the printer, poorly stored paper can cause paper misfeeds, print quality degradation, or malfunctions.

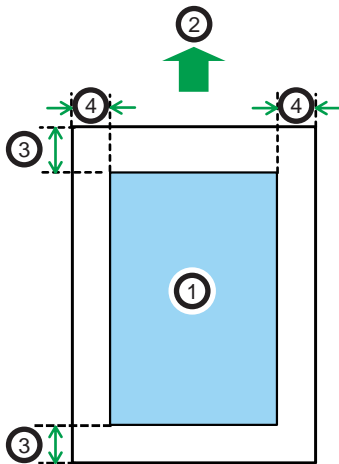


# Print Area

Be sure to set the print margins correctly by the application.

The following diagram shows the print area for this printer.

## Paper



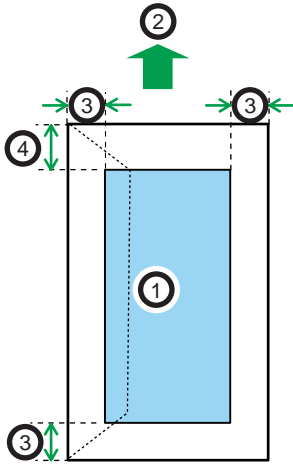
OEG244

- ① Print area
- ② Feed direction
- ③ Approx. 4.2 mm (0.2 inches)
- ④ Approx. 4.2 mm (0.2 inches)

### ↓ Note

- The print area may vary depending on the paper size, printer language and printer driver settings.

### Envelope



CEC245

- ① Print area
- ② Feed direction
- ③ Approx. 10 mm (0.4 inches)
- ④ Approx. 15 mm (0.6 inches)

**Note**

- The print area may vary depending on the paper size, printer language and printer driver settings.

# Loading Paper in Trays

## Loading Paper into a Standard or Optional Paper Feed Tray

### **⚠ WARNING**

- Do not put your hands inside the printer when the input tray is removed. Some internal parts become hot and are a burn hazard.

### **⚠ CAUTION**

- Do not pull out the paper tray forcefully. If you do, the tray might fall and cause an injury.

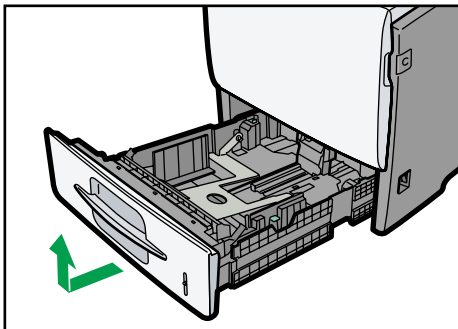
### **⚠ CAUTION**

- Take care to avoid cutting your hands when loading paper.

### **★ Important**

- Make sure paper is not stacked higher than the upper limit mark inside the paper feed tray. Excessive stacking can cause paper jams.
- Do not mix different types of paper in the same paper tray.
- First load the paper in the tray, and then specify the paper type and size using the control panel. When printing a document, specify the paper size and type in the printer driver to the same settings used in the control panel.
- Do not move the side paper guides and end paper guide forcefully. Doing so can damage the tray.
- Curled paper may jam, straighten curled paper before loading.
- When loading paper, take care not to touch the surface of the paper.
- During printing, do not pull out or push in the paper tray.

1. Lift and pull tray carefully, and then pull it out with both hands.

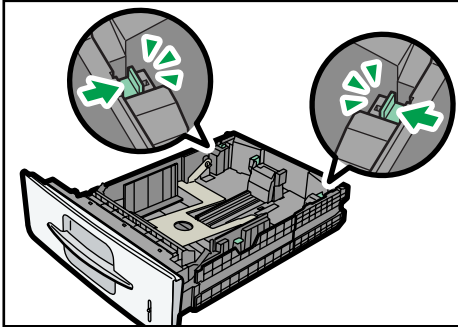


CEC031

Place the tray on a flat surface.

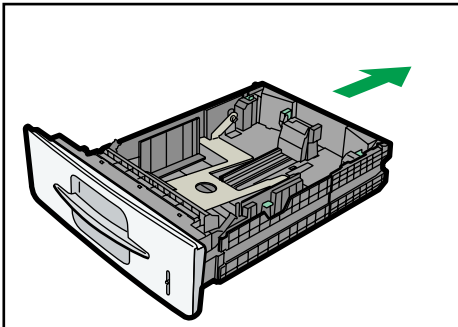
2. If you load paper larger than 8 1/2 " × 14 " (Legal) , you should extend the tray as follows:

1. Slide the catches inwards to unlock the tray.



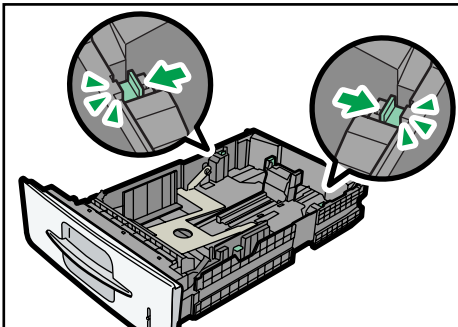
CEC007

2. Slide the tray until it stops.



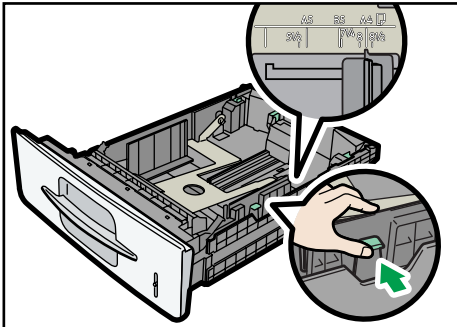
CEC008

3. Return the catches to their original positions.



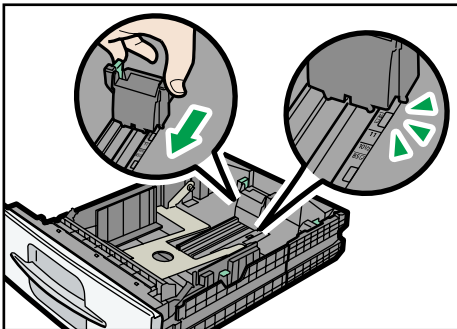
CEC009

3. Pinch the clip on the side paper guide and slide it to match the standard size.



CEC010

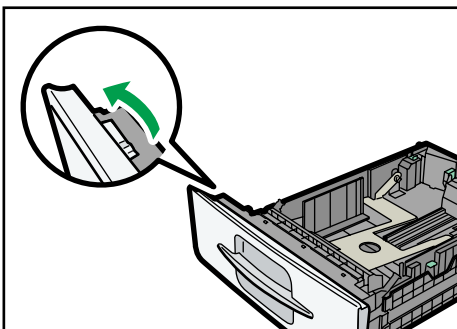
4. Pinch the end guide and slide it inward to match the standard size.



CEC011

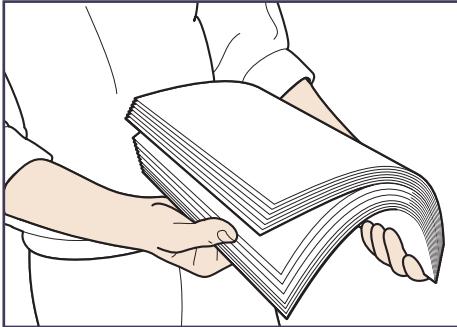
5. Set the paper thickness setting switch on the front side of the paper tray according to the type of the loaded paper.

When loading paper thicker than 105 g/m<sup>2</sup> (28 lb.), slide the switch to the left.



CEC253

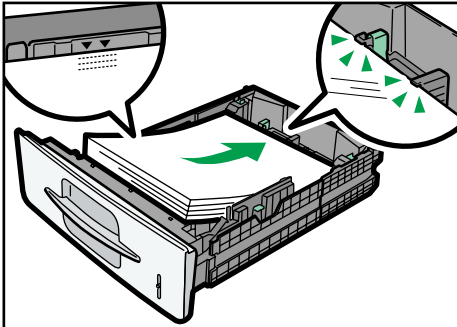
**6. Fan the paper before loading paper in the tray.**



CBK254

**7. Load the new paper stack print side down.**

Make sure paper is not stacked higher than the upper limit (upper line) marked inside the tray.



CEC006

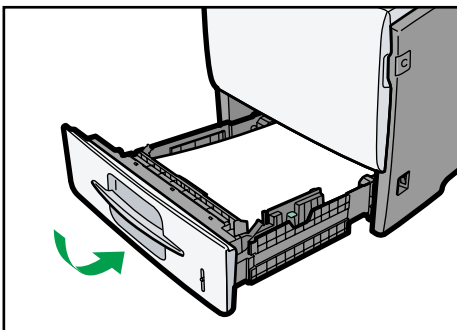
Slide the guides inward, until they are flush against the paper's sides.

**8. Adjust the paper guides to close any gaps.**

Do not move paper loaded in the tray more than a few millimeters.

Moving the loaded paper excessively can cause damage to paper edges on the openings of the tray's lifting plate, resulting in sheets being folded or becoming jammed.

**9. Hold the tray with both hands, slide it along the rails of the printer body, and then push it straight in.**

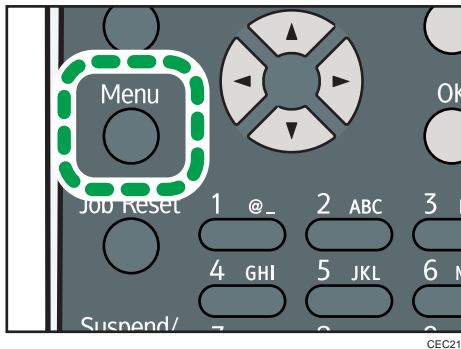


CEC032

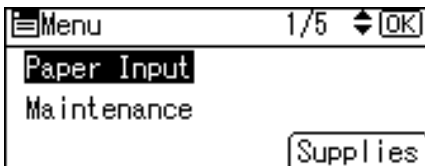
To avoid paper jams, make sure the tray is securely inserted.

## Specifying paper size automatically for a standard or optional paper feed tray

1. Press the [Menu] key.



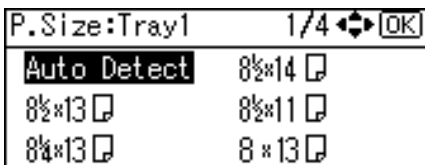
2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Paper Size: (tray name)], and then press the [OK] key.



4. Select [Auto Detect] using the scroll keys, and then press the [OK] key.



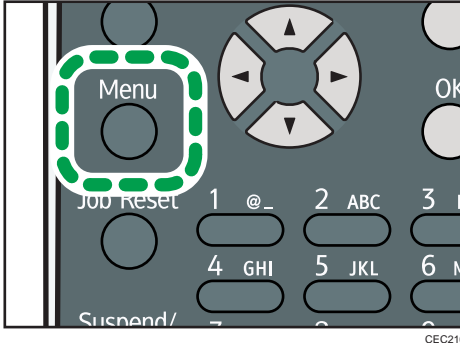
5. Press the [Menu] key to return to the initial screen.

### ↓ Note

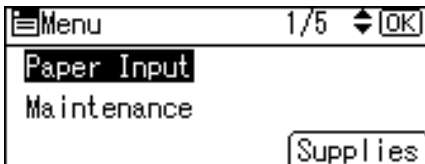
- For details about the available paper sizes, see p.101 "Supported Paper for Each Tray".

## Specifying standard size paper for a standard or optional paper feed tray

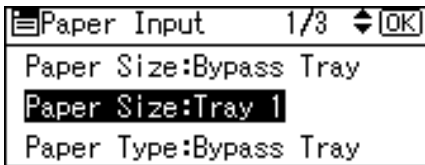
1. Press the [Menu] key.



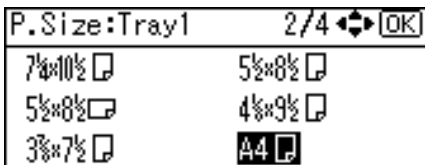
2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Paper Size: (tray name)], and then press the [OK] key.



4. Select the paper size you want to set using the scroll keys, and then press the [OK] key.



5. Press the [Menu] key to return to the initial screen.

### ↓ Note

- For details about the available paper size, see p.101 "Supported Paper for Each Tray".
- After specifying the paper size, specify a paper type using the control panel and printer driver. For details on specifying a paper type using the control panel, p.124 "Specifying a paper type for standard or optional paper feed tray".
- For details about the printer driver, see the printer driver Help.

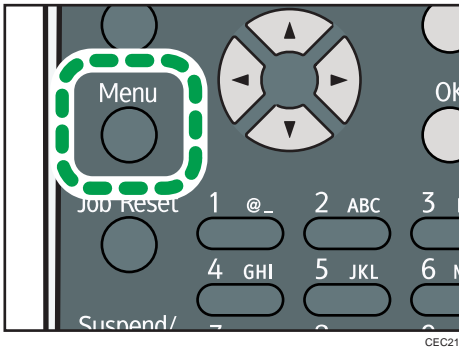


## Specifying custom size paper for a standard or optional paper feed tray

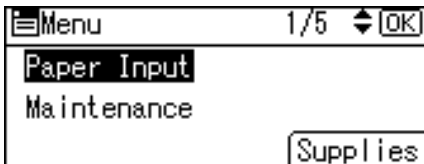
### ★ Important

- The printer cannot print from applications that do not support custom size paper.

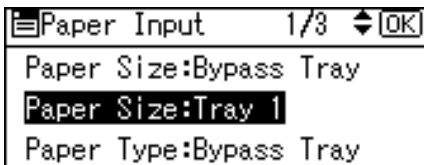
1. Press the [Menu] key.



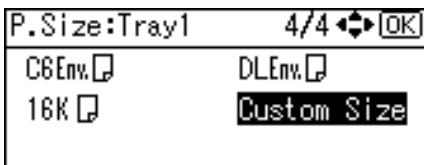
2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Paper Size: (tray name)], and then press the [OK] key.  
In the illustration below, [Paper Size:Tray 1] is selected for Tray 1.



4. Select [Custom Size] using the scroll keys, and then press the [OK] key.



5. Enter the horizontal value, and then press the [OK] key.

 **Region A** (mainly Europe and Asia)

Custom:Tray1	↕ [OK]
Enter with No. keys or ↕.	
Horiz.	<input type="text" value="215.9"/> mm
<98.0to216.0 by 0.1>	

 **Region B** (mainly North America)

Custom:Tray1	↕ [OK]
Enter with No. keys or ↕.	
Horiz.	<input type="text" value="8.50"/> inch
<3.86to8.50 by 0.01>	

6. Enter the vertical value, and then press the [OK] key.

 **Region A** (mainly Europe and Asia)

Custom:Tray1	↕ [OK]
Enter with No. keys or ↕.	
Vert.	<input type="text" value="279.4"/> mm
<140.0to356.0 by 0.1>	

 **Region B** (mainly North America)

Custom:Tray1	↕ [OK]
Enter with No. keys or ↕.	
Vert.	<input type="text" value="11.00"/> inch
<5.52to14.01 by 0.01>	

7. Press the [Menu] key to return to the initial screen.

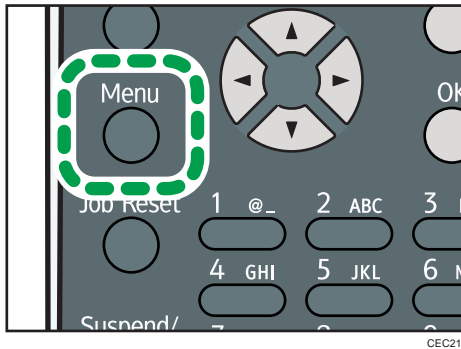
#### Note

- For details about the available paper size, see p.101 "Supported Paper for Each Tray".
- After specifying the paper size, specify a paper type using the control panel and printer driver. For details on specifying a paper type using the control panel, p.124 "Specifying a paper type for standard or optional paper feed tray".
- For details about the printer driver, see the printer driver Help.

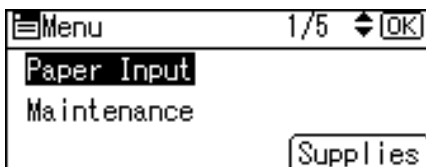
## Specifying a paper type for standard or optional paper feed tray

You can improve printer performance by selecting the optimum paper type for the tray.

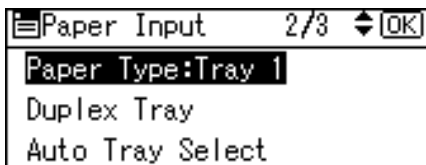
1. Press the [Menu] key.



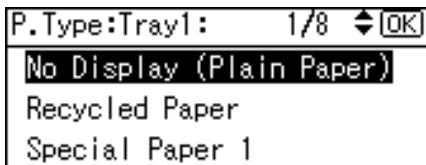
2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Paper Type: (tray name)], and then press the [OK] key.  
In the illustration below, [Paper Type:Tray 1] is selected for Tray 1.



4. Press the [▼] or [▲] key to select the paper type that is loaded, and then press the [OK] key.



About two seconds later, the display returns to the Paper Input screen.

5. Press the [Menu] key to return to the initial screen.

#### ↓ Note

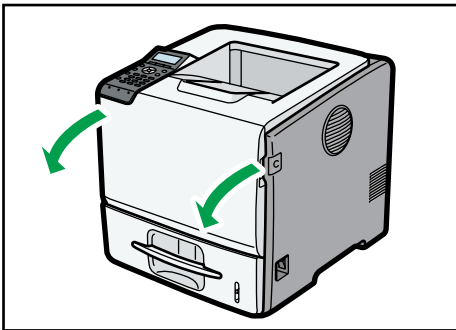
- If the printing result is badly smudged, change the setting on the printer's control panel. For details, see p.101 "Supported Paper for Each Tray".

## Loading Paper onto Bypass Tray

### ★ Important

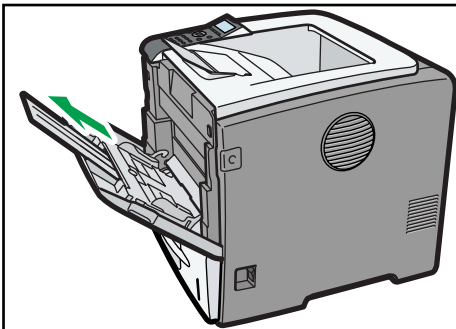
- Shuffle paper before loading the stack onto the tray, so multiple sheets are not fed in together.
- Set the size and direction of the loaded paper on the control panel or in the printer driver. Make sure the settings do not conflict. Otherwise, the paper may jam or the print quality may be affected.
- Load paper with the print side up.
- During printing, do not open or close the printer covers or bypass tray, or pull out or push in the paper tray.

1. Hold the both sides of the bypass tray and pull it toward you.



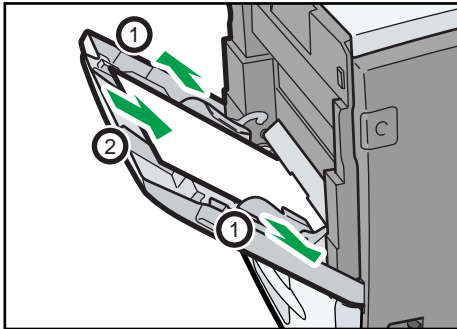
CEC217

If you load A4 and 8 1/2" x 11" (Letter) size paper or longer, pull out the bypass tray extension.



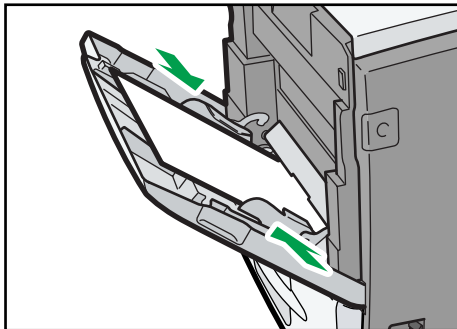
CEC023

- Slide the paper guide both sides outward, and then load paper print side up, until it stops.



CEC022

- Adjust the paper guide both sides to fit the paper width.



CEC024

#### ↓ Note

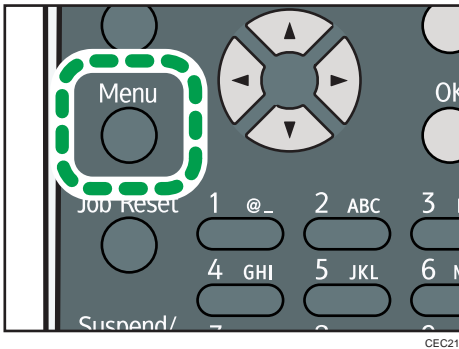
- When loading paper on the bypass tray, make sure the stack does not exceed the limit mark on the inner side of the paper guides. For details about the thicknesses of different paper types, see p. 105 "Supported Paper Types".

## Specifying standard size paper for the bypass tray

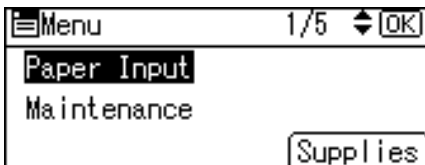
### ★ Important

- The standard size paper selected using the printer driver overrides that selected using the control panel, so do not make settings using the control panel if you have already made settings using the printer driver.
- When [Machine Setting(s)] is selected for [Tray Setting Priority] under [Machine Modes] in [Print Settings], any settings made using the printer's control panel have priority over any settings made using the printer driver.
- For details about the printer driver, see the printer driver Help.

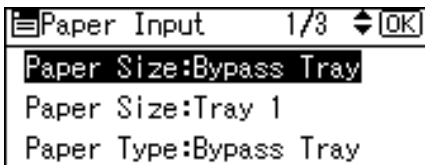
1. Press the [Menu] key.



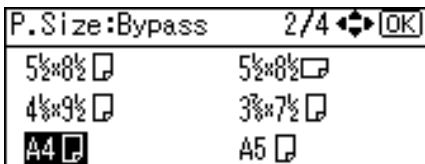
2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Paper Size:Bypass Tray], and then press the [OK] key.



4. Select the paper size you want to set using the scroll keys, and then press the [OK] key.



5. Press the [Menu] key to return to the initial screen.

#### ↓ Note

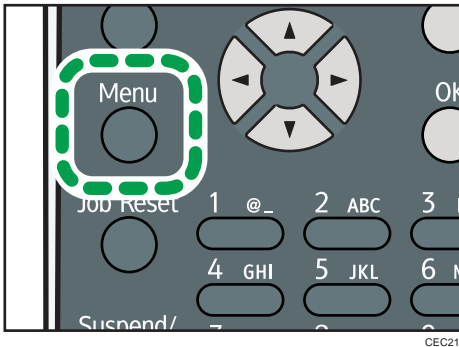
- After specifying the paper size, specify a paper type using the control panel or printer driver. For details on specifying a paper type using the control panel, see p.131 "Specifying a paper type for the bypass tray".
- The number of pages that can be loaded on the bypass tray differs depending on paper type.
- For details about the printer driver, see the printer driver Help.

## Specifying custom size paper for the bypass tray

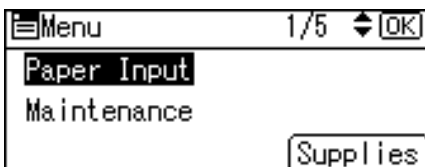
### ★ Important

- The custom size paper selected using the printer driver overrides that selected using the control panel, so do not make settings using the control panel if you have already made settings using the printer driver.
- When [Machine Setting(s)] is selected for [Tray Setting Priority] under [Machine Modes] in [Print Settings], any settings made using the printer's control panel have priority over any settings made using the printer driver.
- You cannot print on custom size paper with an application that does not support the custom size setting.
- For details about the printer driver, see the printer driver Help.

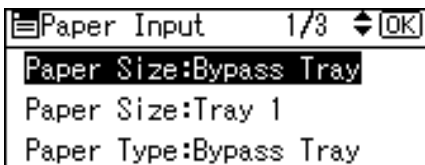
1. Press the [Menu] key.



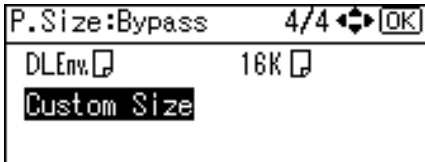
2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Paper Size:Bypass Tray], and then press the [OK] key.

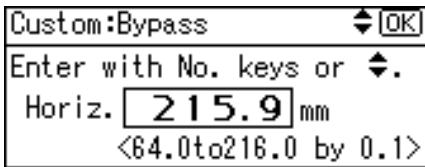


4. Select [Custom Size] using the scroll keys, and then press the [OK] key.

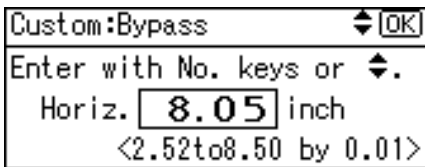


5. Enter the horizontal value, and then press the [OK] key.

 **Region A** (mainly Europe and Asia)

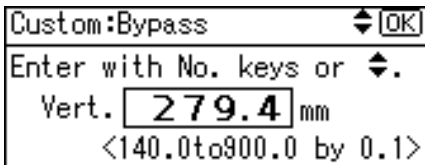


 **Region B** (mainly North America)

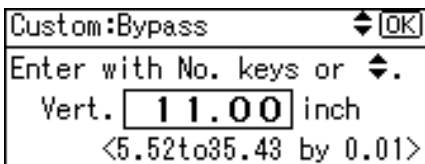


6. Enter the vertical value, and then press the [OK] key.

 **Region A** (mainly Europe and Asia)



 **Region B** (mainly North America)



7. Press the [Menu] key to return to the initial screen.

 **Note**

- After specifying the paper size, specify a paper type using the control panel or printer driver. For details on specifying a paper type using the control panel, see p.131 "Specifying a paper type for the bypass tray".
- For details about the printer driver, see the printer driver Help.

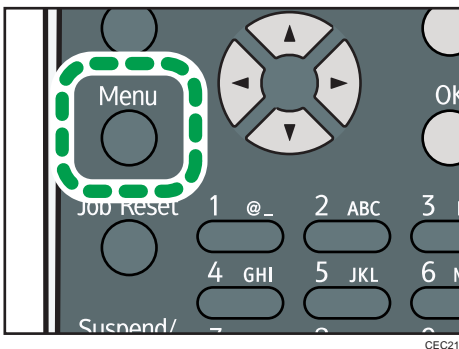


## Specifying a paper type for the bypass tray

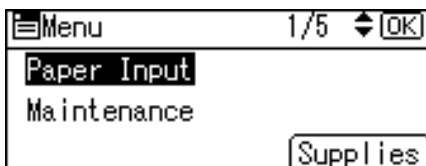
### ★ Important

- After loading paper on the tray, specify the paper type using the control panel or printer driver.
- The paper type selected using the printer driver overrides that selected using the control panel, so do not make settings using the control panel if you have already made settings using the printer driver.
- When [Machine Setting(s)] is selected for [Tray Setting Priority] under [Machine Modes] in [Print Settings], any settings made using the printer's control panel have priority over any settings made using the printer driver.
- For details about the printer driver, see the printer driver Help.

1. Press the [Menu] key.



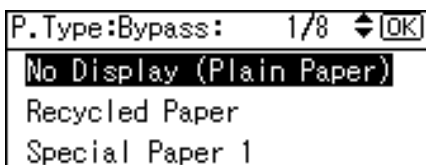
2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Paper Type:Bypass Tray] and then press the [OK] key.



4. Press the [▼] or [▲] key to select the paper type you want to use, and then press the [OK] key.



**5. Press the [Menu] key to return to the initial screen.**

**↓ Note**

- If the printing result is badly smudged, change the setting on the printer's control panel. For details, see p.101 "Supported Paper for Each Tray".

# Loading Envelopes

## ⚠ CAUTION

- The inside of the machine could be very hot. Do not touch the parts with a label indicating the "hot surface". Otherwise, an injury might occur.

## ⚠ CAUTION

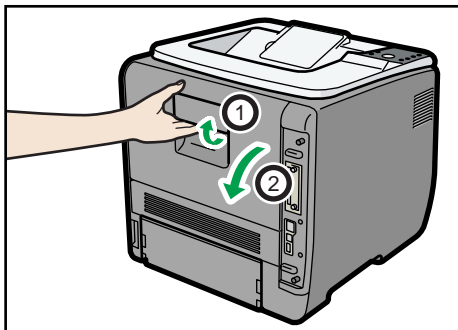
- Some of this machine's internal components get very hot. For this reason, take care when removing misfed paper. Not doing so could result in burns.

## ★ Important

- Check there is no air in the envelopes before loading.
- Load only one size and type of envelope at a time.
- Before loading envelopes, flatten their leading edges (the edge going into the printer) by running a pencil or ruler across them.
- Some kinds of envelope might cause misfeeds, wrinkles or print poorly.
- Print quality on envelopes may be uneven if parts of an envelope have differing thicknesses. Print one or two envelopes to check print quality.
- In a hot and humid environment, the envelope might be output creased or improper printing quality.

## Loading Envelopes onto Bypass Tray

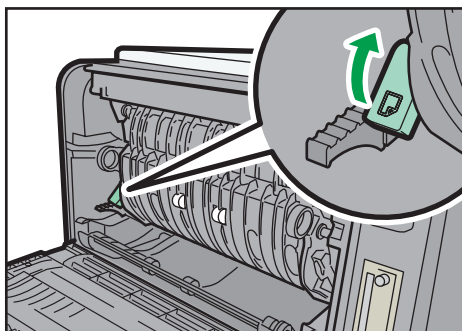
1. Open the rear cover.



CEC046

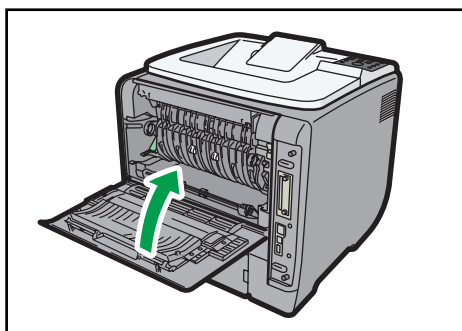
2. Use the envelope lever.

Raising the envelope lever reduces roller pressure.



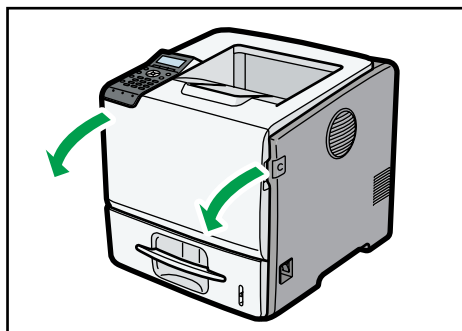
CEC033

3. Close the rear cover.



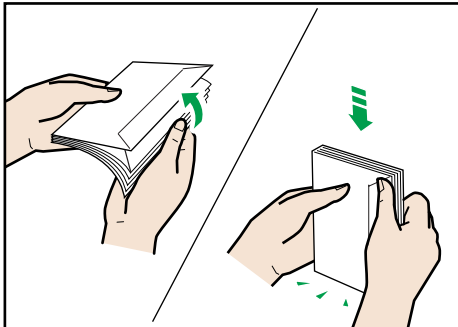
CEC049

4. Hold the both sides of the bypass tray and pull it toward you.



CEC217

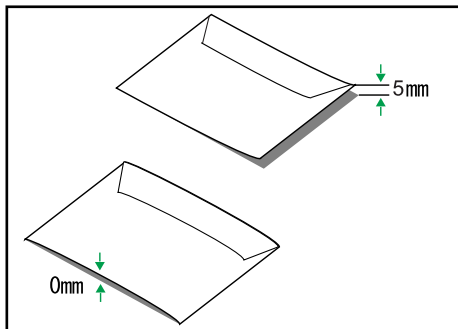
## 5. Fan envelopes, and then align their edges before loading.



CBK239

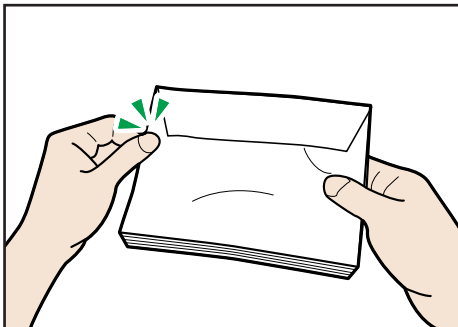
When fanning envelopes, make sure the envelope flaps are not stuck together. If they are stuck together, separate them.

Before loading envelopes, flatten them out so that their curl does not exceed that shown in the illustration below.



CBK240

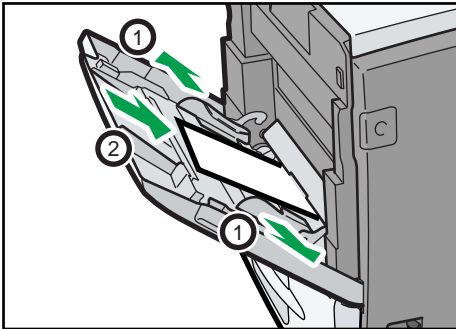
If the curl is severe, flatten out the envelopes using your fingers, as shown in the illustration below.



CBK241

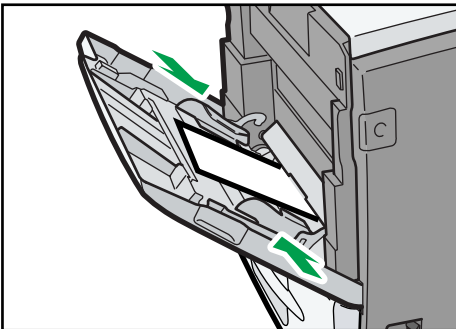
If envelopes are severely curled after printing, flatten them by bending them back against the curl.

6. Set the envelope in bypass tray with the printing side facing up.



CEC218

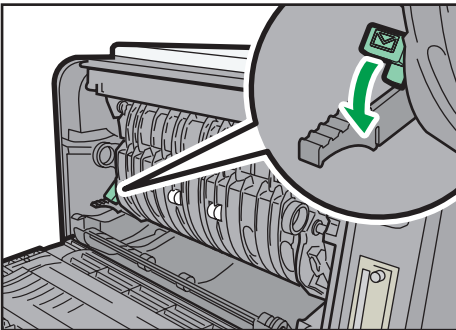
7. Adjust the paper guide both sides to fit the envelope width.



CEC219

↓ Note

- Keep the envelope lever lowered when printing normally.



CEC034

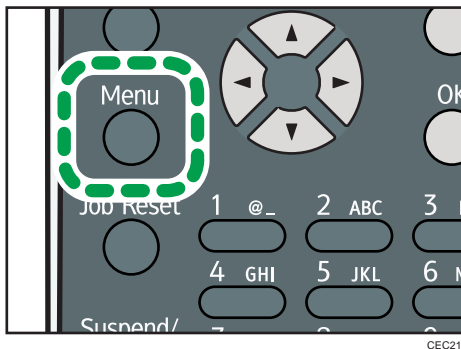
### Specifying envelope size for the bypass tray

★ Important

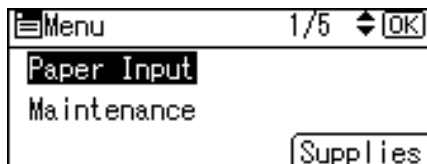
- The envelope size selected using the printer driver overrides that selected using the control panel, so do not make settings using the control panel if you have already made settings using the printer driver.

- When [Machine Setting(s)] is selected for [Tray Setting Priority] under [Machine Modes] in [Print Settings], any settings made using the printer's control panel have priority over any settings made using the printer driver.
- For details about the printer driver, see the printer driver Help.

1. Press the [Menu] key.



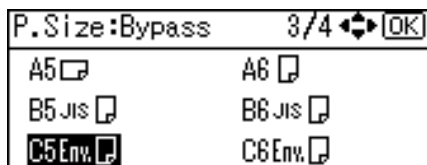
2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Paper Size:Bypass Tray], and then press the [OK] key.



4. Select the envelope type using the scroll keys, and then press the [OK] key.



5. Press the [Menu] key.

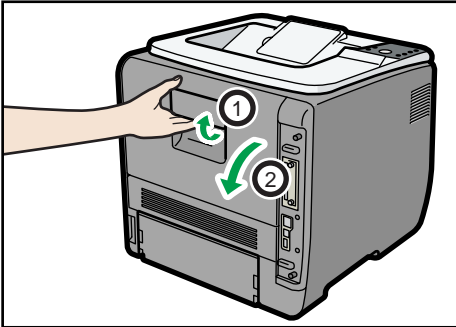
#### ↓ Note

- Confirm that the top of the stack is not higher than the limit mark on the side guides.
- Do not push the stack of envelopes with too much force.
- Confirm that the edges of envelopes fit under the side guides.

- After specifying the paper size, specify a paper type such as [Envelope] using the control panel or printer driver. For details on specifying a paper type using the control panel, see p.131 "Specifying a paper type for the bypass tray".
- For details about the printer driver, see the printer driver Help.

## Loading Envelopes into a Standard or Optional Paper Feed Tray

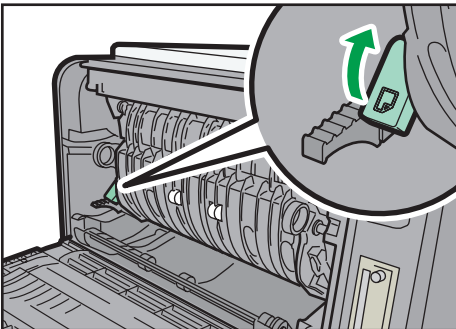
1. Open the rear cover.



CEC046

2. Use the envelope lever.

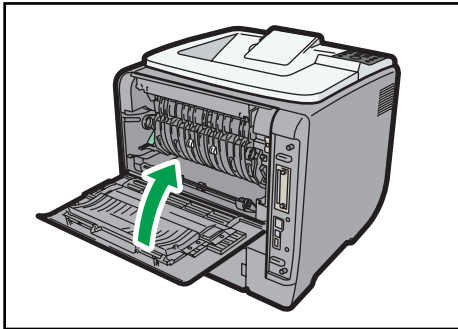
Raising the envelope lever reduces roller pressure.



CEC033

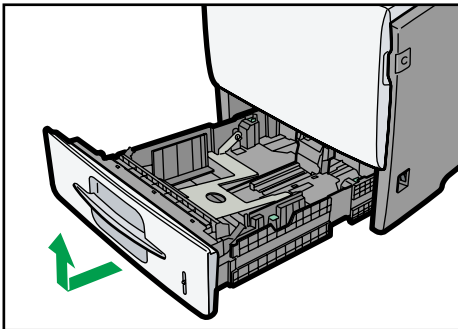


3. Close the rear cover.



CEC049

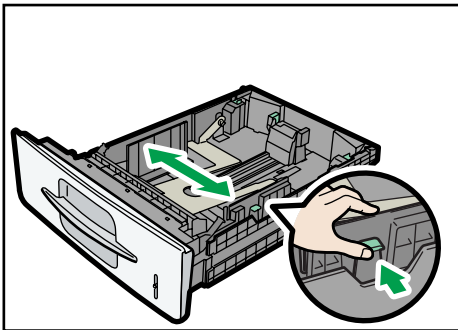
4. Lift and pull tray carefully, and then pull it out with both hands.



CEC031

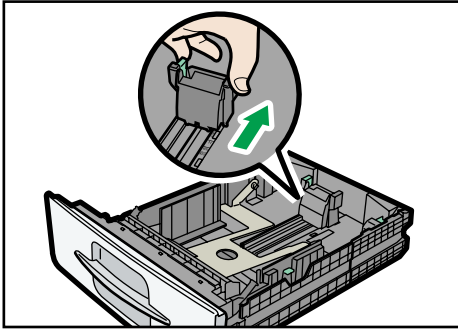
Place the tray on a flat surface.

5. Pinch the side guides, and then slide them outward until they stop.



CEC263

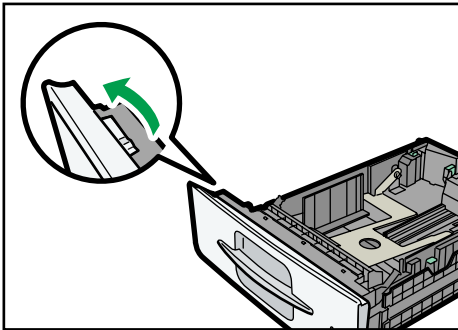
6. Pinch the rear guide, and then slide it toward the back.



CEC264

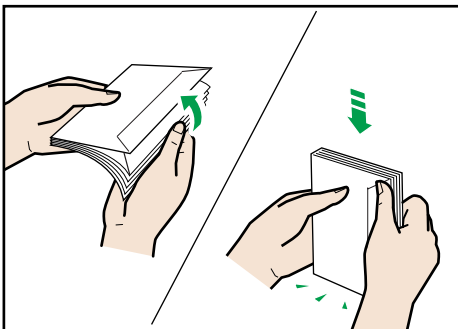
7. Set the paper thickness setting switch on the front side of the paper tray according to the type of the loaded paper.

When loading paper thicker than 105 g/m<sup>2</sup> (28 lb.), slide the switch to the left.



CEC253

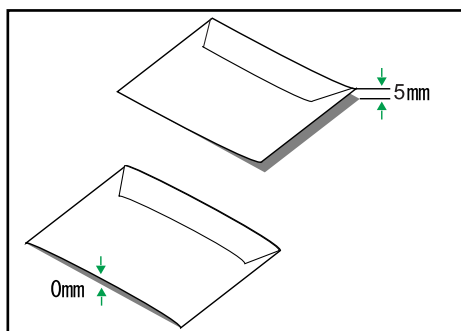
8. Fan envelopes, and then align their edges before loading.



CBK239

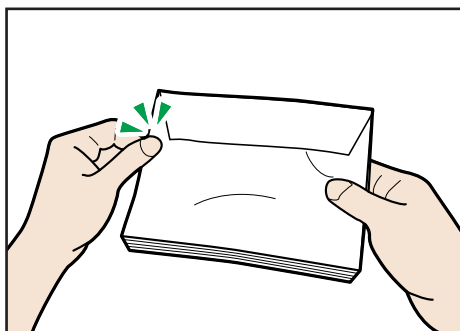
When fanning envelopes, make sure the envelope flaps are not stuck together. If they are stuck together, separate them.

Before loading envelopes, flatten them out so that their curl does not exceed that shown in the illustration below.



CBK240

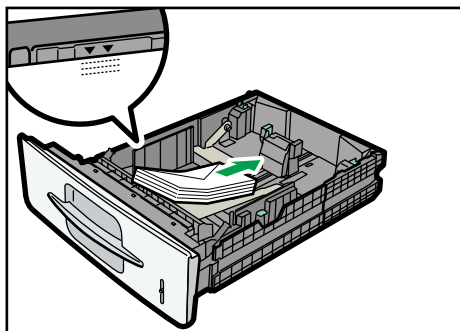
If the curl is severe, flatten out the envelopes using your fingers, as shown in the illustration below.



CBK241

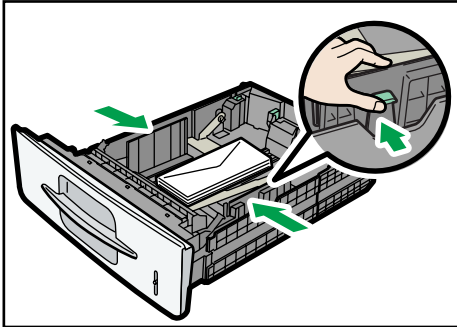
If envelopes are severely curled after printing, flatten them by bending them back against the curl.

9. Load envelopes into the paper tray, with the print side down and the flap on the left as shown in the illustration.

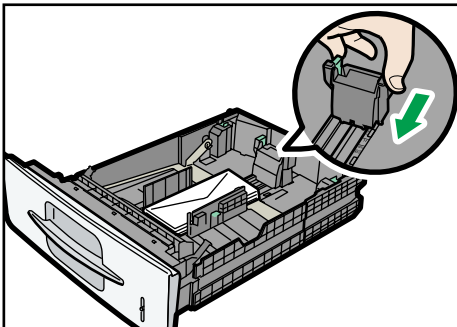


CEC262

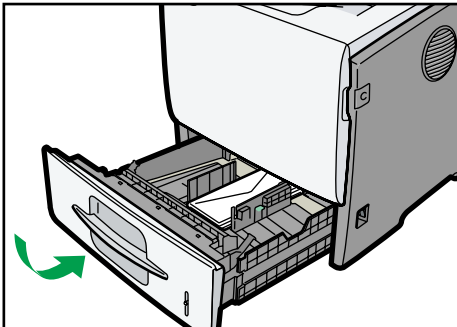
10. Pinch the side guides, and then slide them along the edge of the envelope stack.



11. Pinch the rear guide, and then slide it along the edge of the envelope stack.

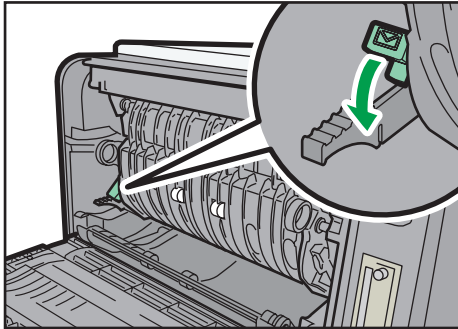


12. Hold the tray with both hands, slide it along the rails of the printer body, and then push it straight in.



**Note**

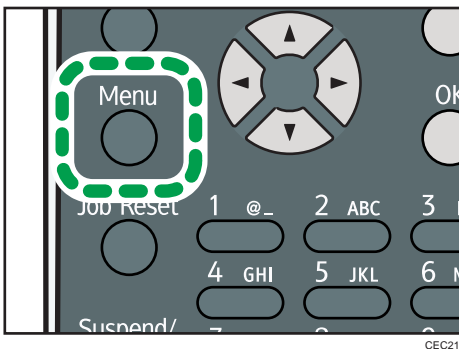
- Keep the envelope lever lowered when printing normally.



CEC034

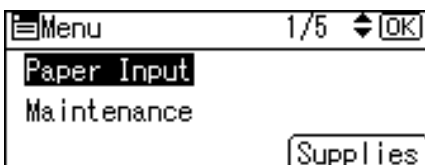
## Specifying envelope size for a standard or optional paper feed tray

1. Press the [Menu] key.



CEC216

2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Paper Size: (tray name)], and then press the [OK] key.



4. Select the envelope size you want to set using the scroll keys, and then press the [OK] key.
5. Press the [Menu] key to return to the initial screen.

### ↓ Note

- For details about the available paper size, see p.101 "Supported Paper for Each Tray".

- After specifying the paper size, specify a paper type such as [Thick Paper 2] using the control panel and printer driver. For details on specifying a paper type using the control panel, p.124 "Specifying a paper type for standard or optional paper feed tray".
- For details about the printer driver, see the printer driver Help.

# Printing on Fixed-Orientation Paper

This section explains how to print on paper whose orientation and printing side are unchangeable (letterhead paper, for example).

When loading paper with a fixed orientation, such as letterhead or letter paper, misprints may occur.

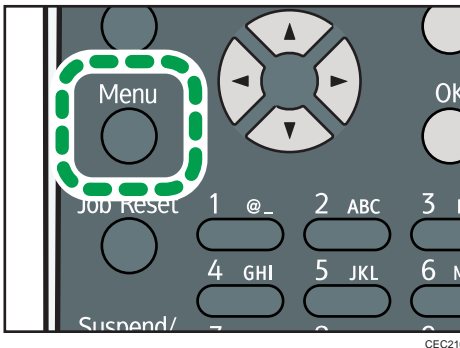
The following table shows the printout result according to the combination of paper feed direction and letterhead settings in the control panel and PCL printer driver.

Paper Orientation	Paper trays 1-5		Bypass Tray	
	Letterhead Setting [On]	Letterhead Setting [Off]	Letterhead Setting [On]	Letterhead Setting [Off]
1-sided print ☞				
2-sided print ☞				
1-sided print ☞				
2-sided print ☞				

6

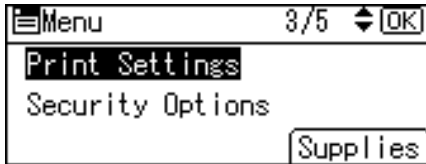
To make sure documents are printed correctly, follow the procedure to configure the print settings.

1. Press the [Menu] key.

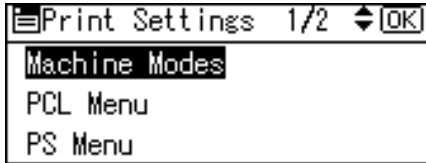


CEC216

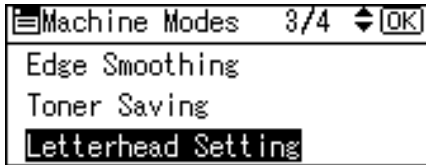
2. Press the [▼] or [▲] key to select [Print Settings], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Machine Modes], and then press the [OK] key.



4. Press the [▼] or [▲] key to select [Letterhead Setting], and then press the [OK] key.



5. Select one of the following settings, and then press the [OK] key.

On (Always)	The printer always prints on paper that has a fixed orientation
Auto Detect	The printer will print on paper that has a fixed orientation only if [Letterhead] or [Preprinted] is specified as the paper type in the printer driver's settings.
Off	The printer will print on paper in a fixed orientation, regardless of the specified paper type or the printer driver's settings.

6. Press the [Menu] key to return to the initial screen.



# Registering Unique Names to Paper Types

You can register a unique name to a paper type using Web Image Monitor. The name you register should reflect the paper's type or usage, as this will make recognizing the paper type easier.

## ★ Important

- This function can be used when the printer is operating in a network, and bidirectional communication is enabled.
- This function cannot be used with the printer driver's [Manage Preset List...] function.
- The printer's logs do not record names of user paper types.

---

## Registering Names to Paper Types

---

## ★ Important

- The printer driver might not display the paper type name correctly if it is registered using an unsupported language.
- The control panel might not display the paper type name correctly if it is registered using non-alphanumeric characters (i.e., other than a-z, A-Z, or 0-9).

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration].
3. Click [User Paper Type] in the [Device Settings] area, and then change the settings as necessary.

The screen for selecting [User Paper Type] appears.

4. Enter a descriptive name for easier recognition in Paper Name.
5. Select a suitable paper type from the Paper Type list.
6. Click [OK].
7. Click [Logout].
8. Quit the Web Image Monitor.

## ↓ Note

- You can register up to eight user paper types.

---

## Setting User Paper Types to Trays

---

Before printing, set the paper registered on the user paper type to the paper tray, and then set the paper type already registered. Paper types can be set either from Web Image Monitor or from the printer's control panel.

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration].
3. Click [Paper] in the [Device Settings] area.
4. Set the paper tray you want to use as a user paper type, and then select the registered paper type.
5. Click [OK].
6. Click [Logout].
7. Quit the Web Image Monitor.

---

## Printing Using Registered Paper Types

---

1. Select your application's print command.
2. On the tab in the properties dialog box that appears, select a registered paper type under [Paper Type:].
3. Execute the print command.

The preregistered settings are applied and print is performed.

### Note

- For details about printer driver settings, see the printer driver Help.

# 7. Maintaining the Printer

This chapter explains how to replace consumables, and clean the printer.

## Replacing the Print Cartridge

### **WARNING**

- Do not incinerate toner (new or used) or toner containers. Doing so risks burns. Toner will ignite on contact with naked flame.

### **WARNING**

- Keep the polythene materials (bags, gloves, etc.) supplied with this machine away from babies and small children at all times. Suffocation can result if polythene materials are brought into contact with the mouth or nose.

### **CAUTION**

- Store toner (new or used), toner containers, and components that have been in contact with toner out of reach of children.

### **CAUTION**

- If toner or used toner is inhaled, gargle with plenty of water and move into a fresh air environment. Consult a doctor if necessary.

### **CAUTION**

- If toner or used toner gets into your eyes, flush immediately with large amounts of water. Consult a doctor if necessary.

### **CAUTION**

- If toner or used toner is swallowed, dilute by drinking a large amount of water. Consult a doctor if necessary.

### **CAUTION**

- When removing jammed paper or replacing toner, avoid getting toner (new or used) on your clothing. If toner comes into contact with your clothing, wash the stained area with cold water. Hot water will set the toner into the fabric and make removing the stain impossible.

## CAUTION

- When removing jammed paper or replacing toner, avoid getting toner (new or used) on your skin. If toner comes into contact with your skin, wash the affected area thoroughly with soap and water.

## Important

- Actual printable numbers vary depending on image volume and density, number of pages printed at a time, paper type and size, and environmental conditions such as temperature and humidity. Toner quality degrades over time. Early replacement of the print cartridge might be necessary. Therefore, we recommend you always keep a new print cartridge ready.
- The print cartridge might need to be replaced even if there is toner remaining in it. This is due to depletion or wear of other components.
- Do not shake or shock the print cartridge.
- Do not allow paper clips, staples, or other small metallic objects to fall inside the printer.
- Do not expose the print cartridge without its cover to direct sunlight for a long time.
- When removing print cartridge, be careful not to drop it.
- Store print cartridges in a cool dark place.

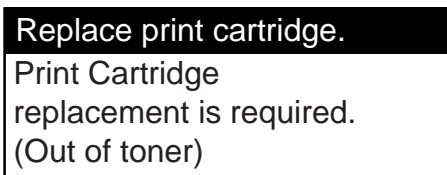
## Note

- If print cartridge are not changed when necessary, printing will become impossible. We recommend keeping a stock of print cartridge.
- Print cartridge (consumables) are not covered by warranty. However, if there is problem, contact the store where they were purchased.

Replace the print cartridge if the following message appears on the display:

"Replace print cartridge."

- This message appears when the toner has run out.  
"Replace print cartridge. /Print Cartridge replacement is required.(Out of toner)"



CEE107

- This message appears when the waste toner bottle is full.  
"Replace print cartridge. /Print Cartridge replacement is required.(Waste Toner Bottle full)"

<b>Replace print cartridge.</b>
Print Cartridge replacement is required. (Waste Toner Bottle full)

CEE108

When the following message appears on the display, the print cartridge should be replaced soon. Prepare a new print cartridge.

"Replace print cartrdg soon."

<b>Replace print cartrdg soon.</b>
Toner is almost empty. Contact your local vendor.
Option   Prt. Jobs   Supplies

CEE109

<b>Replace print cartrdg soon.</b>
Component at end of life. Replace if blurred/streaked
Option   Prt. Jobs   Supplies

CEE133

The print cartridge must be replaced when the life of the photoconductor unit is ending.

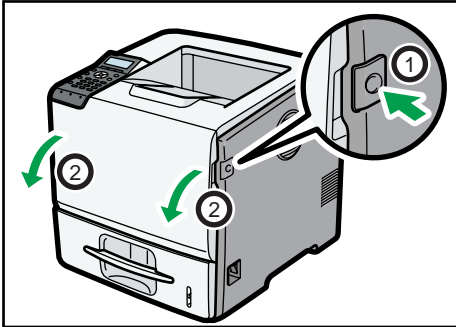
When the printer detects this condition, it will display the following message on the control panel.

"Prepare Replacement"

<b>Prepare Replacement</b>
Check print cartridge replacement(s).
Option   Prt. Jobs   Supplies

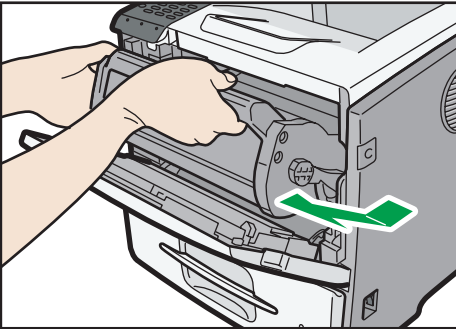
CEE134

1. Open the front cover by pushing the front cover release button.



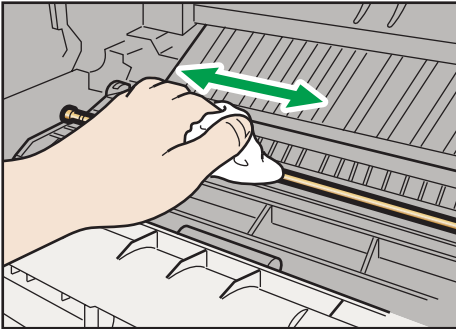
CEC025

2. Pull the print cartridge out of the printer by holding the grips of the cartridge.



CEC026

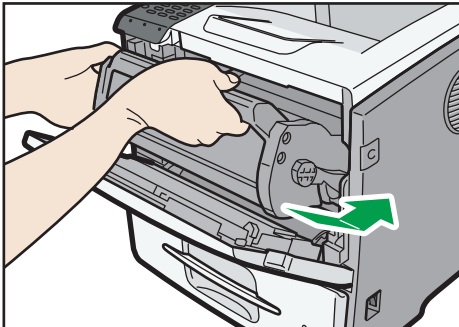
3. Be sure to put the print cartridge on a stable, flat surface.
4. Wipe around the metallic registration roller by turning with a soft damp cloth.



CEC040

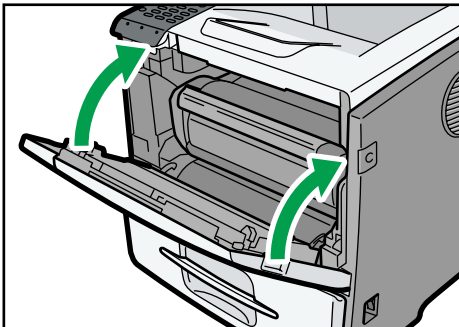
5. Take the new print cartridge from the box.

6. Hold the grips of the cartridge, and then insert it into the printer until it stops.



CEC028

7. Close the front cover.



CEC214

**Note**

- Do not close the front cover with excessive force. If you cannot close the cover easily, pull out the print cartridge from the printer and reinsert it again. After that, close the front cover again.

# Replacing the Maintenance Kit

Refer to the maintenance guide provided with the new items for the replacement maintenance kit.

## CAUTION

- The inside of the machine could be very hot. Do not touch the parts with a label indicating the "hot surface". Otherwise, an injury might occur.
- Grip the plug, not the cord, when pulling the plug from the socket. Pulling the cord causes wear and tear that can result in fire or electric shock.
- Wait at least one hour after power off before replacing parts. Not allowing the printer to cool may result in burns.

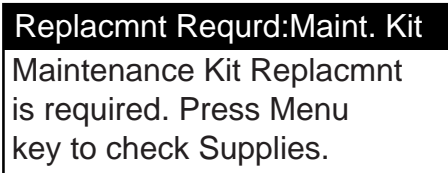
### When to replace the Maintenance Kit.

The maintenance kit contains parts for maintaining the printer.

Replace the maintenance kit if the following message appears on the display:

"Replacmnt Requird:Maint. Kit"

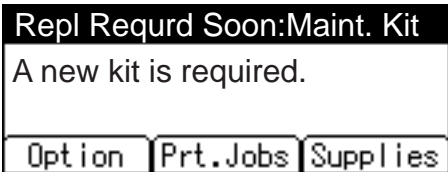
7



CEE120

When the following message appears on the display, the maintenance kit contains parts should be replaced soon. Prepare a new maintenance kit.

"Repl Requird Soon:Maint. Kit"



CEE119



# Cautions When Cleaning

## **WARNING**

- Do not remove any covers or screws other than those explicitly mentioned in this manual. Inside this machine are high voltage components that are an electric shock hazard and laser components that could cause blindness. Contact your sales or service representative if any of the machine's internal components require maintenance, adjustment, or repair.
- Do not attempt to disassemble or modify this machine. Doing so risks burns and electric shock. Note again that exposure to the laser components inside this machine risks blindness.

## **CAUTION**

- The inside of the machine could be very hot. Do not touch the parts with a label indicating the "hot surface". Otherwise, an injury might occur.

## **CAUTION**

- Be sure to disconnect the plug from the wall outlet and clean the prongs and the area around the prongs at least once a year. Allowing dust to build up on the plug constitutes a fire hazard.

## **CAUTION**

- If the machine's interior is not cleaned regularly, dust will accumulate. Fire and breakdown can result from heavy accumulation of dust inside this machine. Contact your sales or service representative for details about and charges for cleaning the machine's interior.

Clean the printer periodically to maintain fine printing.

Dry wipe the exterior with a soft cloth. If dry wiping is not enough, wipe with a soft, wet cloth that is wrung out well. If you still cannot remove the stain or dirt, apply a neutral detergent, and then wipe over with a well-wrung wet cloth, dry wipe, and then let it dry.

### **Important**

- To avoid deformation, discoloration, or cracking, do not use volatile chemicals, such as benzene and thinner, or spray insecticide on the printer.
- If there is dust or grime inside the printer, wipe with a clean, dry cloth.
- You must disconnect the plug from the wall outlet at least once a year. Clean away any dust and grime from the plug and outlet before reconnecting. Accumulated dust and grime pose a fire hazard.
- Do not allow paper clips, staples, or other small metallic objects to fall inside the printer.

# Cleaning the Friction Pad and the Paper Feed Roller

If the friction pad or paper feed roller is dirty, a multi-feed or misfeed might occur.

In this case, clean the friction pad and paper feed roller as follows:

## CAUTION

- When moving the machine, hold the inset grips at both sides, and then lift the printer slowly. Lifting it carelessly or dropping it may cause an injury.

## CAUTION

- When performing maintenance on the machine, always disconnect the power cord from the wall outlet.

## CAUTION

- When disconnecting the power cord from the wall outlet, always pull the plug, not the cord. Pulling the cord can damage the power cord. Use of damaged power cords could result in fire or electric shock.

7

## CAUTION

- Do not pull out the paper tray forcefully. If you do, the tray might fall and cause an injury.

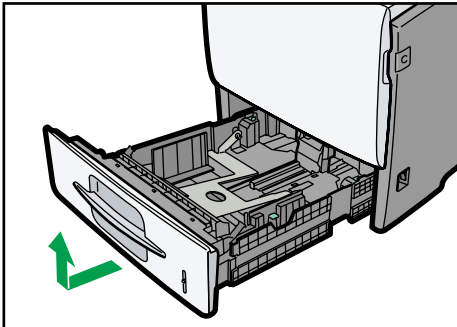
## CAUTION

- Do not put your hands inside the printer when the input tray is removed. Some internal parts become hot and are a burn hazard.

## Important

- Do not use chemical cleaners or organic solvents such as thinners or benzene.
1. Turn off the power switch.
  2. Pull out the plug from the socket. Remove all the cables from the printer.

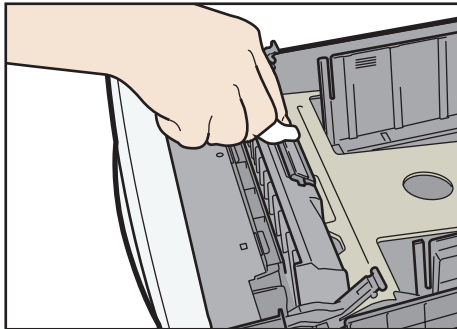
3. Lift and pull Tray 1 carefully, and then pull it out with both hands.



CEC031

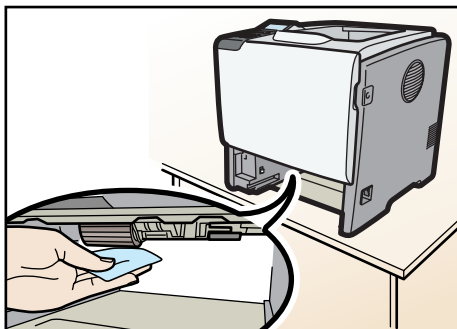
Place the tray on a flat surface. When there is paper in the tray, remove paper.

4. Wipe the friction pad with a damp cloth.



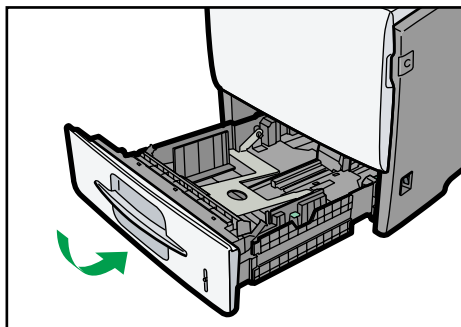
CEC041

5. Wipe the rubber part of the roller with a soft damp cloth. After that, wipe it with a dry cloth to remove the water.



CEC078

6. Slide Tray 1 along the rails, and push it carefully all the way into the printer.



CEC240

Do not slide the paper tray in with force. If you do, the front and side guides might move.

7. Insert the plug of the power cord into the wall socket securely. Connect all the interface cables that were removed.
8. Turn the power switch on.

**Note**

- If misfeeds or multi-feeds of paper occur after cleaning the friction pad and paper feed roller, contact your sales or service representative.
- If the optional paper feed unit is installed, clean its friction pad and paper feed roller in the same way as those of the main paper feed unit.

# Cleaning the Registration Roller

If the registration roller is dirty, a misfeed might occur. In this case, clean the roller as follows:

## **⚠ WARNING**

- Be sure to turn off the power switch and wait for about 15 minutes before cleaning the Registration roller. Not waiting for the printer to cool down can result in a burn.

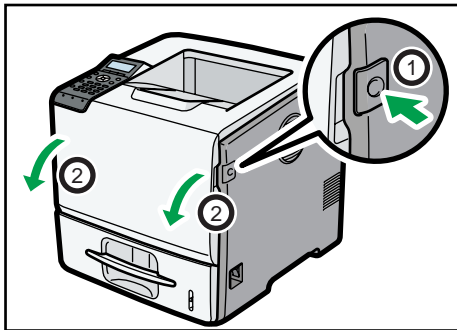
## **⚠ CAUTION**

- The inside of the machine could be very hot. Do not touch the parts with a label indicating the "hot surface". Otherwise, an injury might occur.

Clean the registration roller if dots (caused by specks of paper stuck to the roller) appear on printed OHP transparencies.

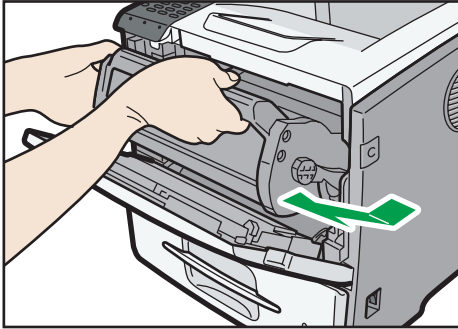
## **★ Important**

- Do not hold the print cartridge upside down or stand it vertically.
  - Do not put the print cartridge on an unstable or tilted surface.
  - Do not use chemical cleaners or organic solvents such as thinners or benzene.
1. Turn off the power, and then unplug the power cable.
  2. Open the front cover by pushing the front cover release button.



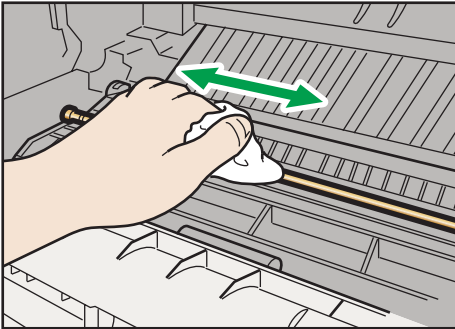
CEC025

- 3. Pull the print cartridge out of the printer by holding the grips of the cartridge.



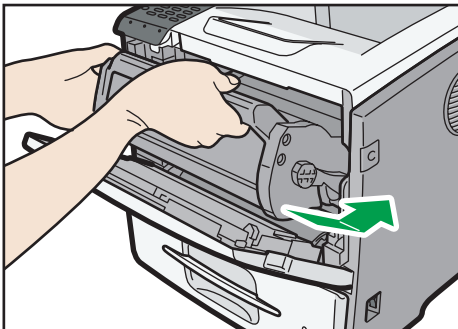
CEC026

- 4. Wipe around the metallic registration roller by turning with a soft damp cloth.



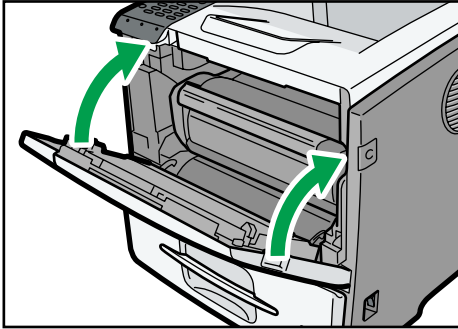
CEC040

- 5. Holding the grips of the print cartridge, push it into the printer until it stops.



CEC028

6. Close the front cover.



CEC214

**Note**

- Carefully close the front cover. If you cannot close the cover easily, pull the print cartridge out of the printer and insert it again. After that, close the front cover again.





# 8. Adjusting the Printer

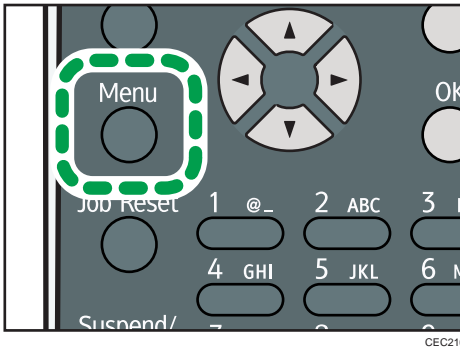
This chapter explains how to adjust the image density and print position.

## Adjusting the Image Density

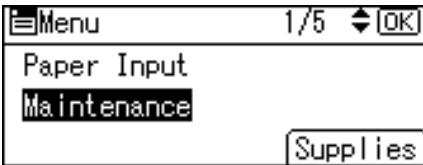
**★ Important**

- Maximized settings may produce smudged printouts.
- Image Density settings should be made from the application or the printer driver whenever possible.

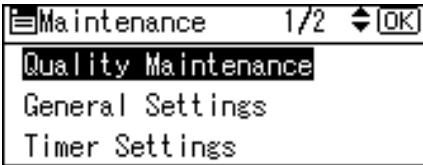
1. Press the [Menu] key.



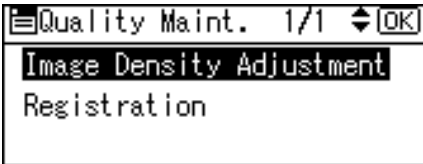
2. Press the [▼] or [▲] key to select [Maintenance], and then press the [OK] key.



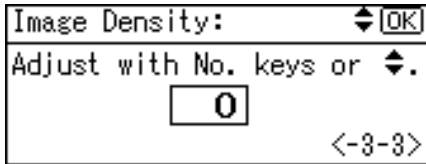
3. Press the [▼] or [▲] key to select [Quality Maintenance], and then press the [OK] key.



4. Press the [▼] or [▲] key to select [Image Density Adjustment], and then press the [OK] key.



5. Press the [▼] or [▲] key to specify the image density, and then press the [OK] key.



You can specify the image density in the range from -3 to +3.

6. Press the [Menu] key.

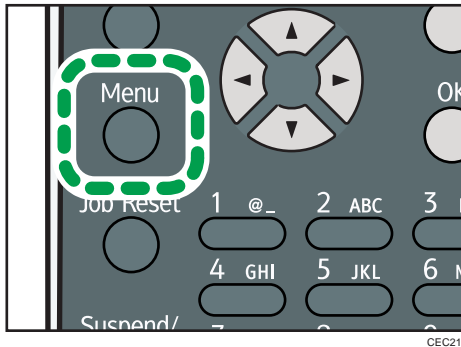
**Note**

- To maintain a darker image under high volume printing conditions, Selecting 3 from the control panel is highly recommended.
- You can adjust the image density in seven steps from -3 to +3. Increasing the value makes the printouts darker and decreasing the value makes the printouts lighter.

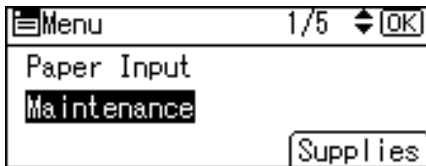
# Adjusting Printing Position

You can adjust the printing position for each tray. "Horizontal" means perpendicular to the feed direction. "Vertical" means it's parallel to the paper feed direction. Normally you do not need to update the printing position. However, updating is useful in some cases when the optional paper feed unit is installed.

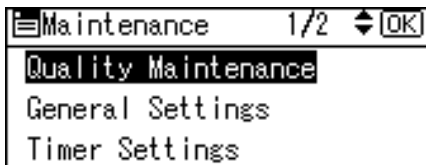
1. Press the [Menu] key.



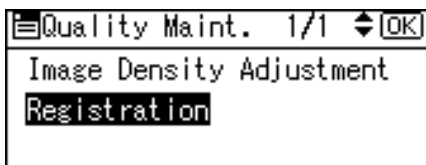
2. Press the [▼] or [▲] key to select [Maintenance], and then press the [OK] key.



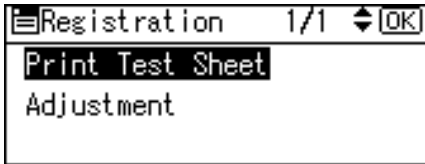
3. Press the [▼] or [▲] key to select [Quality Maintenance], and then press the [OK] key.



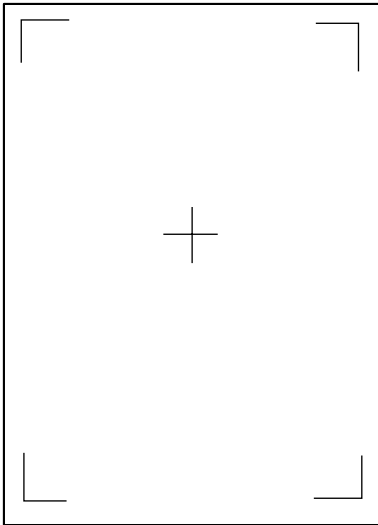
4. Press the [▼] or [▲] key to select [Registration], and then press the [OK] key.



- 5. Press the [▼] or [▲] key to select [Print Test Sheet], and then press the [OK] key.



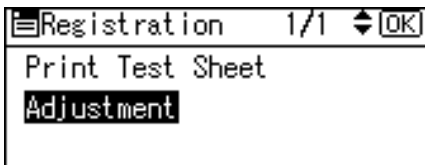
- 6. Press the [▼] or [▲] key to select the tray you want to adjust, and then press the [OK] key.
- 7. Confirm the position of the image on the test sheet, and then adjust the registration value.



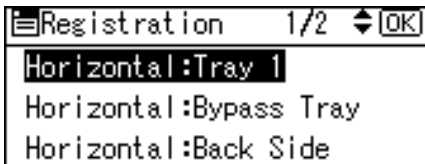
8

Use this sheet to confirm the current print position.

- 8. Press the [Escape] key until the screen returns to the [Registration] menu.
- 9. Press the [▼] or [▲] key to select [Adjustment], and then press the [OK] key.



- 10. Press the [▼] or [▲] key to select the parameter you want to adjust, and then press the [OK] key.

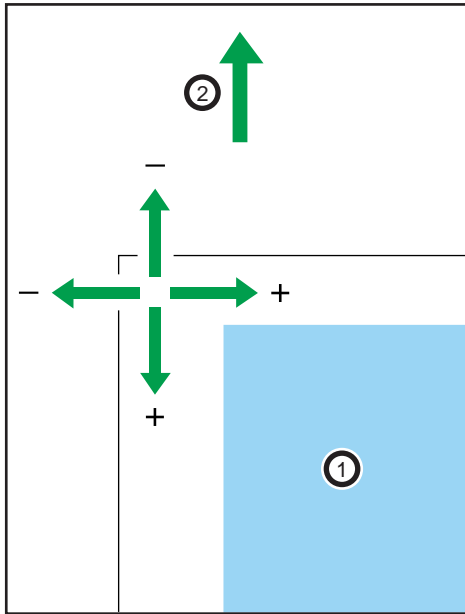


11. Enter the value (mm), and then press the [OK] key.

```

Reg.:Horiz.:Tray 1:  ⬆️⬆️ [OK]
Adjust with No. keys or ⬆️⬆️.
    0.0
    <-5.0to5.0 by 0.1>
  
```

Increase the value to shift the print area in the direction indicated by the "+" symbol in the diagram below. Decrease the value to shift the print area in the direction indicated by the "-" symbol.



CEC241

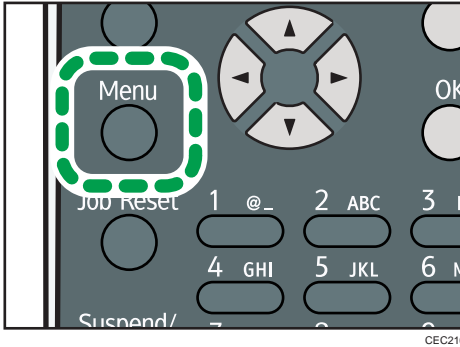
- ①: Print Area  
 ②: Paper Feed Direction

Pressing the [▼] or [▲] key adjusts the value up or down in 0.1 mm increments.

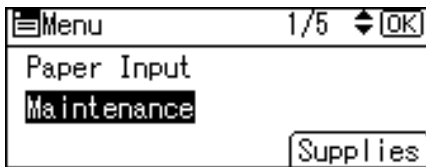
12. Press the [OK] key to return to the [Registration] menu.  
 13. Print the test sheet to confirm the adjustment result.  
 14. Press the [Menu] key to return to the initial screen.

# Adjusting the Paper Type

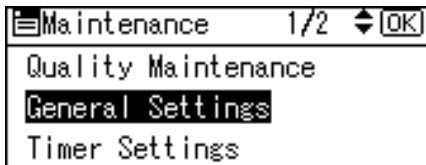
1. Press the [Menu] key.



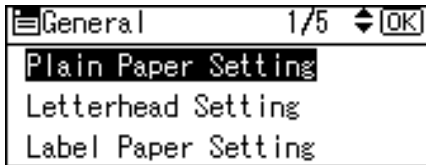
2. Press the [▼] or [▲] key to select [Maintenance], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [General Settings], and then press the [OK] key.

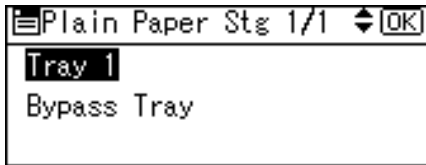


4. Press the [▼] or [▲] key to select the paper type you want to use, and then press the [OK] key.

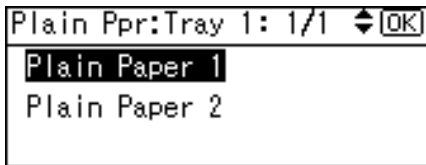


The following paper types are selectable:  
Plain Paper, Letterhead, Label Paper, Envelope.

5. If you have selected the [Plain Paper Setting], select the tray you want to set using the [▼] or [▲] key, and then press the [OK] key.



6. Press the [▼] or [▲] key to select the paper setting, and then press the [OK] key.



7. Press the [Menu] key to return to the initial screen.





# 9. Troubleshooting

This chapter provides solutions to common problems and it also explains how to correct unwanted print results.

## Error and Status Messages Appear on the Control Panel

This section explains what the messages that appear on the control panel mean and what to do when a particular message appears.

### Status Messages (in alphabetical order)

#### **@Remote Certif. updating...**

The printer is updating the @Remote certificate.

#### **Energy Saver Mode**

The printer is in Energy Saver mode. Press any key to recover to the normal mode.

#### **Hex Dump Mode**

In Hex Dump mode, the printer receives data in hexadecimal format. Turn off the printer after printing, and then turn back on.

#### **Job Suspended**

All jobs are suspended. Turn off the printer, and turn it on again to recover.

#### **Offline**

The printer is offline and cannot print.

#### **Please wait...**

This message may appear for a few seconds. It means the printer is initializing, replenishing toner, or executing maintenance operations. Wait a while.

#### **Printing...**

The printer is printing. Wait a while.

#### **Printing Suspended**

Printing is suspended. To resume printing, press the [Suspend/Resume] key.

#### **Ready**

This is the default ready message. The printer is ready for use. No action is required.

**Resetting Job...**

The printer is resetting the print job. Wait a while.

**Setting change...**

The printer is applying the changes made to its settings. Wait a while.

**Waiting for print data...**

The printer is waiting for the next data to print. Wait a while.

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## Alert Messages (in alphabetical order)

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**%r(A) Remove misfeed in Trays. Opn & cls Frt. Cov.**

Remove the jammed paper in the source tray, and then load the paper again. To reset the error, open the front cover and then close it. For details, see p.193 "Paper Misfeed Message (A)".

**%r(B)(C) Open Front/Rear Cover and remove misfeed.**

Open the front or rear cover, and then remove the jammed paper. For details, see p.197 "Paper Misfeed Message (B)(C)".

**%r(Y1) Remove misfeed in Tray 2. Opn & cls Frt. Cov.**

Remove the jammed paper in the source tray, and then load the paper again. To reset the error, open the front cover and then close it. For details, see p.202 "Paper Misfeed Message (Y1)(Y2)(Y3)(Y4)".

**%r(Y2) Remove misfeed in Tray 3. Opn & cls Frt. Cov.**

Remove the jammed paper in the source tray, and then load the paper again. To reset the error, open the front cover and then close it. For details, see p.202 "Paper Misfeed Message (Y1)(Y2)(Y3)(Y4)".

**%r(Y3) Remove misfeed in Tray 4. Opn & cls Frt. Cov.**

Remove the jammed paper in the source tray, and then load the paper again. To reset the error, open the front cover and then close it. For details, see p.202 "Paper Misfeed Message (Y1)(Y2)(Y3)(Y4)".

**%r(Y4) Remove misfeed in Tray 5. Opn & cls Frt. Cov.**

Remove the jammed paper in the source tray, and then load the paper again. To reset the error, open the front cover and then close it. For details, see p.202 "Paper Misfeed Message (Y1)(Y2)(Y3)(Y4)".

**%r(Z1)(Z2) Opn R.Cov/Tray1 & remove ppr. Opn & cls F.Cov**

Open the rear cover, or remove tray 1 and open the front cover, and then remove the paper. For details, see p.205 "Paper Misfeed Message (Z1)(Z2)".

**@Remote Cert. update failed**

Updating the @Remote certificate failed. Contact your sales or service representative.

**Cannot connect=>Comm.Serv. Check proxy user/password.**

The proxy user name or password is incorrect. Check the proxy server settings, and change the user name and/or password if they are incorrect.

**Cannot connect with DHCP server.(101/201)**

Cannot obtain IP address from DHCP server. Consult your network administrator.

**Cannot connect with NetWare print server. (107/207)**

Connection with NetWare print server is unavailable.

**Cannot connect with NetWare server.(106/206)**

Connection with NetWare server is unavailable. Consult your network administrator.

**Cannot print.**

Check the file you want to print is a supported file type. Check for misfeeds and ask your network administrator for help.

**Check network settings.(103/203)**

The IP address setting is incorrect. Check the IP address, subnet mask, and gateway address. For details, see p.75 "Ethernet Configuration".

**Classification Code Error**

A classification code is not specified for the print job. Enter a classification code using the printer properties and print the document again.

For details, see "Registering Classification Codes", Software Guide.

**Connect failed:WirelessCard Turn power off, check card.**

Check there is a Wireless LAN board installed.

Check that it is a supported board. If it is, check it is installed correctly.

Install the correct board properly. For details, see p.59 "Installing the Interface Units".

**Cover Open. Please close the indicated cover.**

Close the cover indicated on the control panel.

**Duplex mode is in off position for (tray name)**

The duplex mode for the indicated tray is off; you can only use one-sided printing. Press [Change] to change the tray's settings, press [JobReset] to reset the job, or press [Form Feed] to force printing.

**Ethernet Board Error**

An error on the Ethernet board is detected. Pull out and then re-install the controller board. If the problem persists, contact your sales or service representative.

**Failed to connect to server for Remote Diagnostics.**

The printer cannot communicate with Remote Communication Gate. Check the connection to the Remote Server Gate.

**Independent-supply toner**

Independent-supply toner is set. Use toner recommended for this printer.

**IPDS font error. Turn power switch off then on. Select Reset IPDS Fonts in Maintenance.**

IPDS font error has occurred. Perform the shutdown procedure, and then turn off the power of the machine. Turn on the power again, and then execute [Reset IPDS Fonts].

**IPv6 Address already exists Link-local Address(109/209)**

The same IPv6 address already exists. Consult your network administrator.

**IPv6 Address already exists Stateless Address(109/209)**

The same IPv6 address already exists. Consult your network administrator.

**IPv6 Address already exists Manual Config. Address(109/209)**

The same IPv6 address already exists. Consult your network administrator.

**Load paper in (tray name) or [Cancel] to FormFeed.**

There is no paper in the specified tray. Load the specified paper in the tray, press [JobReset] to reset the job.

**Option RAM Error**

The printer cannot detect an optional SDRAM module. It may be incorrectly installed.

Check if it is installed properly.

For details about installing the unit, see p.52 "Installing the Memory Expansion Units".

**Output tray is full.**

The output trays are full. Remove the paper.

**Parallel I/F Error**

The printer's self diagnostic test failed due to a loopback error. Replace the IEEE 1284 board that caused the error. For details, see p.59 "Installing the Interface Units".

**Prepare Replacement Check print cartridge replacement(s).**

The toner has run out, or the photo conductor unit has reached the end of its service life. Prepare a new print cartridge.

**Printer Font Error.**

There are problems with the printer's font file.

Contact your sales or service representative.

**Problem with Hard Disk Please call service.**

The printer cannot detect a hard disk. It may be incorrectly installed.

Check if it is installed properly or contact your sales or service representative.

For details about installing the unit, see p.52 "Installing the Memory Expansion Units".

**Problem:Wireless card Please call service.**

The printer cannot detect a Wireless LAN board. It may be incorrectly installed.

Check if it is installed properly or contact your sales or service representative.

For details about installing the unit, see p.59 "Installing the Interface Units".

**Repl Requird Soon:Maint. Kit**

You will need to replace the maintenance kit soon. Contact your sales or service representative to obtain a new maintenance kit. For details, see p.154 "Replacing the Maintenance Kit".

**Replace print cartridge. /Print Cartridge replacement is required.(Out of toner)**

The toner has run out. Replace the print cartridge. For details, see p.149 "Replacing the Print Cartridge".

**Replace print cartridge. /Print Cartridge replacement is required.(Waste Toner Bottle full)**

The waste toner bottle is full. Replace the print cartridge. For details, see p.149 "Replacing the Print Cartridge".

**Replacmnt Requird:Maint. Kit / Maintenance Kit Replacmnt is required. Press Menu key to check Supplies.**

You need to replace the Maintenance Kit. Contact your sales or service representative to obtain a new unit. For details, see p.154 "Replacing the Maintenance Kit".

**Replace print cartrdg soon./ Component at end of life. Replace if blurred/streaked**

Some parts inside the print cartridge have reached their end of life. Contact your sales or service representative to obtain a new print cartridge.

**Replace print cartrdg soon./ Toner is almost empty. Contact your local vendor.**

The toner is almost depleted. Contact your sales or service representative to obtain a new print cartridge.

**SD Card authenticatn.failed Error recurs, call service.**

Authentication from the SD card failed. Turn the power off, and then back on. If the error recurs, contact your sales or service representative.

**Set the Fusing Unit correctly.**

The fusing unit may not be installed correctly. Turn the printer off and re-install the fusing unit.

If the message is still displayed after re-installation, contact your sales or service representative.

For details, see the procedure for removing the Fusing unit in p.197 "Paper Misfeed Message (B)(C)" or the unit replacement procedure manual provided with the Fusing unit.

**Set the Print Cartridge correctly.**

The print cartridge may not be installed correctly. Turn the printer off and re-install the Print cartridge. If the message is still displayed after re-installation, contact your sales or service representative. For details, see p.149 "Replacing the Print Cartridge".

**Supply order has failed.**

The automatic supply order failed. The message indicates the supplies that the printer tried to order.

**This NetBIOS name is already in use.(108/208)**

The NetBIOS name specified for the printer is already in use by another device on the network. Consult your network administrator.

**The same IPv4 Address already exists.(102/202)**

The IPv4 address specified for the printer is already in use by another device on the network. Consult your network administrator.

**The selected job has already been printed or deleted.**

This message might appear if you print or delete a job from Web Image Monitor. Press Exit on the message screen.

**USB has a problem. Please call service.**

The printer has detected a USB board failure. Turn the power off, and then on again. If the problem persists, contact your sales or service representative.

**Values set for IPv6/Gateway addresses are invalid.(110/210)**

The IPv6 address or gateway address is invalid. Check the network settings.

**WPA Auth. incomplete.(211)**

WPA authentication could not complete. Consult your network administrator.

**Note**

- Confirm error details by printing the Error Log. For details, see p.44 "Test Printing".

## Panel Tones

The following table explains the meaning of the various tone patterns that the printer emits to alerts users about its condition.

Tone pattern	Meaning	Cause
Two long beeps.	Printer ready.	After cooling or being switched on, the printer has fully warmed up and is ready for use.
Single short beep.	Panel/screen input accepted.	A valid control panel or screen key was pressed. Single short beeps are produced only when valid keys are pressed.
Single long beep.	Job completed.	A Printer job has finished.
Four long beeps.	Printer initialized.	The screen is changing back to the initial screen after the printer came out of the energy-saving mode or was reset.
Five short beeps repeated five times.	Printer alert.	Printer requires user attention. Paper may have jammed or print cartridge may need replenishing.

### ↓ Note

- Users cannot mute the printer's tone alerts. When the printer beeps to alert users of a paper jam or toner request, if the printer's covers are opened and closed repeatedly within a short space of time, the tone alert might continue, even after normal status has resumed.

# Printer Does Not Print

## Is the power on?

Confirm that the cable is securely plugged into both the power outlet and the printer.  
Turn on the power.

## Does the Alert indicator stay red?

If so, check the error message on the display and take the required action.  
For details, see p.171 "Error and Status Messages Appear on the Control Panel".

## Is paper loaded?

Load paper into the paper tray or onto the bypass tray.  
For details, see p.101 "Supported Paper for Each Tray".

## Can you print a configuration page?

If you cannot print a configuration page, it probably indicates a printer malfunction. Contact your sales or service representative.  
For details, see p.44 "Test Printing".

## Is the interface cable connected securely to the printer and the computer?

Connect the interface cable securely. If it has a fastener, fasten it securely as well.

## Are you using the correct interface cable?

The type of interface cable you should use depends on the computer you use. Be sure to use the correct one.

If the cable is damaged or worn, replace it with a new one.  
For details, see p.213 "Specifications".

## Is the Data In indicator blinking or lit after starting a print job?

If not blinking or lit, the data is not being sent to the printer.

- If the printer is connected to the computer using the interface cable  
Check the port connection setting is correct. For details about checking the port connection, see p.179 "Checking the Port Connection".
- Network Connection  
Consult your network administrator.

## How is the signal strength when using the Wireless LAN?

- 802.11 Ad hoc Mode  
Either move to a location where the signal is good, or remove obstructions.



- Infrastructure Mode

Check the signal status in the [Wireless LAN] menu on the control panel. If the signal is poor, either move to a location where it is good, or remove obstructions.

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## Checking the Port Connection

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When the Data in indicator does not flash or light up, check the port connection as shown below to confirm the setting.

- For a parallel port connection, the port must be set to LPT 1 or LPT 2.
  - For a USB port connection, the port must be set to USB00(n)\*.
- \* (n) varies depending on the number of printers connected.

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## Windows

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### Windows XP Professional or Windows Server 2003/2003 R2

1. Click the [Start] button, and then click [Printers and Faxes].
2. Click the icon of the printer. On the [File] menu, click [Properties].
3. Click the [Ports] tab.
4. In the [Print to the following port(s)] list, confirm the correct port is selected.

### Windows XP Home Edition

1. Click the [Start] button, and then click [Control Panel].
2. Click [Printers and Other Hardware].
3. Click [Printers and Faxes].
4. Click the icon of the printer. On the [File] menu, click [Properties].
5. Click the [Ports] tab.
6. In the [Print to the following port(s)] list, confirm the correct port is selected.

### Windows Vista or Windows Server 2008

1. Click the [Start] button, and then click [Control Panel].
2. Click [Printer].
3. Click the icon of the printer. On the [File] menu, click [Properties].
4. Click the [Ports] tab.
5. In the [Print to the following port(s)] list, confirm the correct port is selected.

### Windows 7 or Windows Server 2008 R2

1. Click the [Start] button, and then click [Devices and Printers].
2. Right-click the printer icon you want to check, and then click [Printer Properties].
3. Click the [Ports] tab.
4. In the [Print to the following port(s)] list, confirm the correct port is selected.

### Mac OS X

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When the printer is connected to Mac OS X and the Ready indicator does not flash or light up, try the following procedures to check the port connection.

- Use [About This Mac] to check the USB information.
- Use the printer browser to check if the printer is displayed.

#### Using [About This Mac]

1. Click Apple Menu, and then select [About This Mac].
2. Click [More Info].
3. Under [Contents], for [Hardware], Select [USB].

#### Using the printer browser

1. Start [Printer Setup Utility] or [Printer Center] utility.

Under Mac OS X 10.5 or 10.6, start System Preferences and click [Print & Fax].

2. Click [Add] or [+] button.

The printer browser starts.

Confirm the printer is displayed on the browser.

# Other Printing Problems

## When You Cannot Print Properly

### **Toner smears appear on the print side of the page.**

- The paper setting may not be correct. For example, you are using thick paper but the setting for thick paper might not be set.
- Check the paper settings.
- Check the printer driver's paper settings. See the printer driver Help.
- Check that the paper is not curled or bent. Envelopes can easily become curled. For details, see p.105 "Supported Paper Types".

### **Photo images are coarse.**

- Some applications lower the resolution for making prints.  
Raise the resolution in the settings of the application.

### **Fine dot patterns do not print.**

- Change the [Dithering:] setting in the PostScript 3 printer driver's dialog box.  
For details, see the printer driver Help.

### **Solid lines are printed as broken lines.**

- Change the [Dithering:] setting in the PostScript 3 printer driver's dialog box.  
For details, see the printer driver Help.

### **The whole printout is blurred.**

- The paper is damp, probably due to improper storage. Use dry paper that has been stored properly.  
For details, see p.105 "Supported Paper Types".
- Toner is almost depleted. When the "Replace print cartridge." message appears on the display, replace the print cartridge. For details, see p.149 "Replacing the Print Cartridge".
- Condensation may have collected. If rapid change in temperature or humidity occurs, use this printer only after it has acclimatized.

### **White streaks or color streaks appear.**

- Toner is almost depleted. When the "Replace print cartridge." message appears on the display, replace the print cartridge. For details, see p.149 "Replacing the Print Cartridge".

**Images are not printed in the right position.**



- Adjust the printing position.

Adjust the printing position for each tray by specifying the adjustment values for [Registration] in [Quality Maintenance] under [Maintenance] using the control panel. For details, see p. 165 "Adjusting Printing Position".

- Adjust the end guide and both side paper guides to match the paper size. See p. 117 "Loading Paper in Trays".

**Images are printed at an angle.**



- Adjust the end guide and both side paper guides to match the paper size. See p. 117 "Loading Paper in Trays".

**White lines appear.**

Toner is almost depleted. When the "Replace print cartridge." message appears on the display, replace the print cartridge. For details, see p. 149 "Replacing the Print Cartridge".



**The backs of printed sheets are blemished.**

- When removing a jammed sheet, the inside of the printer may have become dirtied. Print several sheets until they come out clean.
- If document size is larger than paper size, e.g. A4 document on B5 paper, the back of the next printed sheet may be dirtied.

**If rubbed with your finger, it smears out.**

- The setting of the paper may not be correct. For example, although thick paper is used, the setting for thick paper may not be set.
  - Check the paper settings of this printer.  
For details, see p.105 "Supported Paper Types".
  - Check the paper settings of the printer driver.  
For details, see the printer driver Help.
  - Check the envelope lever settings.  
For details, see p.133 "Loading Envelopes".
- The fusing unit is deteriorated or damaged. Replace the unit.  
For details, see p.154 "Replacing the Maintenance Kit".

**When printing on OHP transparencies, black or white dots are obvious.**

The registration roller is dirty. Clean the registration roller. Contact your sales/service representatives. Image quality varies when printing on thick paper or on OHP transparencies. Switch to Thick Paper mode. For details, see "Making Printer Settings Using the Control Panel", Software Guide.

**When printing on plain paper, white dots are obvious.**

- The registration roller or the paper tray is dirty. Clean the registration roller or the paper tray.  
For details, see p.159 "Cleaning the Registration Roller".

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**Paper Misfeeds Occur Frequently**

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**Paper jams occur frequently.**

- Number of paper set in the tray exceeds the limit. Confirm that the top of the stack is not higher than the limit mark inside the tray.  
For details, see p.101 "Supported Paper for Each Tray".
- There may be a gap between the front guide and the paper, or between the side guides and the paper in the paper tray. Make sure there are no gaps.  
For details, see p.101 "Supported Paper for Each Tray".
- Paper is either too thick or too thin.

For details, see p.105 "Supported Paper Types".

- Paper is bent or wrinkled. Use paper that have no bents or wrinkles.  
For details, see p.105 "Supported Paper Types".
- Paper has already been printed on.  
For details, see p.105 "Supported Paper Types".
- Paper is damp. Use paper that has been stored properly.  
For details, see p.105 "Supported Paper Types".
- When loading paper, separate paper from each other.
- The friction pad or paper feed roller or registration roller may be dirty. Clean the pertinent section as necessary. See p.156 "Cleaning the Friction Pad and the Paper Feed Roller" and p.159 "Cleaning the Registration Roller".
- The paper setting may not be correct. For example, although you are using thick paper, the setting for thick paper may not be set.  
Check the printer driver's paper settings. See the printer driver Help.

#### **Multiple pages are fed at once.**

- There may be a gap between the end guide and the paper, or between the paper guides on both sides and the paper in the paper tray. Be sure to close any gaps by repositioning the guides. See p.117 "Loading Paper in Trays".
- Paper is either too thick or too thin.  
For details, see p.105 "Supported Paper Types".
- Paper has already been printed on.  
For details, see p.105 "Supported Paper Types".
- Number of paper set in the tray exceeds the limit. Confirm that the top of the stack is not higher than the limit mark inside the tray.  
For details, see p.101 "Supported Paper for Each Tray".
- Paper is static. Use paper that has been stored properly.  
For details, see p.105 "Supported Paper Types".
- When loading paper, separate paper from each other.
- The friction pad or paper feed roller may be dirty. Clean the pertinent section as necessary.  
See p.156 "Cleaning the Friction Pad and the Paper Feed Roller".
- Check that paper has not been added while there is still some left in the tray.  
Only add paper when there is none left in the tray.

#### **Paper gets wrinkles.**

- Paper is damp. Use paper that has been stored properly.

For details, see p.105 "Supported Paper Types".

- Paper is either too thick or too thin.

For details, see p.105 "Supported Paper Types".

- There may be a gap between the front guide and the paper, or between the side guides and the paper in the paper tray. Make sure there are no gaps.

For details, see p.101 "Supported Paper for Each Tray".

- The fusing unit is deteriorated or damaged. Replace the unit.

For details, see p.154 "Replacing the Maintenance Kit".

## The printed image is different from the image on the computer

### A printed image is different from the image on the computer's display.

- When you use some functions, such as enlargement or reduction, the layout of the image might be different from that displayed on the computer display.

### Images are cut off, or excess pages are printed.

- If you are using paper smaller than the paper size selected in the application, use the same size paper as that selected in the application. If you cannot load paper of the correct size, use the reduction function to reduce the image, and then print.

For details, see the printer driver Help.

### PDF Direct Print is not executed (PDF file is not printed).

- You must install an optional hard disk drive or set the value of [RAM Disk] in the System Menu to 2 MB or higher.

For details about [RAM Disk], see "System Menu", Software Guide.

- After adding a SDRAM module and setting the value of [RAM Disk] in the System Menu to 8 MB, value of [RAM Disk] returns to 0 MB if the SDRAM module is removed. If this happens, reset the value of [RAM Disk] to 2MB or higher.

For details about [RAM Disk], see "System Menu", Software Guide.

- When printing a PDF with a password set, set the password of the PDF file using the [Change PDF Password] menu in [PDF Menu] or Web Image Monitor. For details about [Change PDF Password], see "Print Settings Menu", Software Guide.

For details about Web Image Monitor, see Web Image Monitor Help.

- PDF files not allowed to be printed by the PDF file security setting cannot be printed.
- Highly compressed PDFs cannot be printed using PDF Direct Print.

Open the relevant application and print the PDF file using the printer driver.

Set the file format to standard PDF.

**As a result of printing using PDF Direct Printing, characters are missing or misshapen.**

- Before printing, embed the font in the PDF file to be printed.

**The paper size appears on the control panel and printing is not performed with PDF Direct Print.**

- When using PDF Direct Print, printout requires paper set within the PDF file. When a message indicating a paper size appears, either place the indicated size in the paper tray, or perform Form Feed.

Also, if [Sub Paper Size] in the [System] Menu is set to [Auto], printing is performed assuming letter size and A4 size to be the same size. For example, When a PDF file set to A4 size paper is printed using PDF Direct Print and letter size paper is loaded in the paper tray, the file will be printed out. This applies similarly to the opposite case.

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## When Printer is Not Functioning Properly

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**Paper is not fed from the selected tray.**

- When you are using a Windows operating system, the printer driver settings override those set using the control panel. Set the desired input tray using the printer driver.

For details, see the printer driver Help.

**Prints do not stack properly.**

- Paper is damp. Use paper that has been stored properly.  
See p.105 "Supported Paper Types".
- Pull out the extender.

**It takes too much time to turn on the printer.**

- If the printer is turned off while it is still accessing the hard disk (for example: during file deletion), the printer will require more time to power-up the next time it is turned on. To avoid this time delay, do not turn the power off while it is in operation.

**It takes too much time to resume printing.**

- The data is so large or complex that it takes time to process it. If the data in indicator is blinking, the data is being processed. Just wait until it resumes.
- The printer was in the Energy Saver mode. To resume from the Energy Saver mode, the printer has to warm up, and this takes time until printing starts. To disable the Energy Saver mode, select [Off] for [Auto Off On/Off] in the [System], [Auto Off] menu.

**It takes too much time to complete the print job.**

- Photographs and other data intensive pages take a long time for the printer to process, so simply wait when printing such data.

Changing the settings with printer driver may help to speed up printing.



For details, see the printer driver Help.

- The data is so large or complex that it takes time to process it. If the data in indicator is blinking, the data is being processed. Just wait until it resumes.
- If "Waiting for print data..." appears on the display, the printer is now warming up. Wait for a while.

#### **Attached options are not detected in the printer properties.**

- The computer and printer are not in two-way communication. You must configure attached options in the printer properties.

For details, see the printer driver Help.

If the problem cannot be solved, contact your sales or service representative.

#### **When doing aggregate prints or bound prints.**

- Check that the paper size and direction set in the printer driver are the same as those set in the application.

If the settings are not the same, change the settings of the printer driver.

#### **An empty tray is selected by Auto Tray Select, and the document does not print out due to out of paper error.**

- If a paper tray is opened and closed while the printer is in Energy Saver mode, the printer will initialize the tray upon recovery, but the tray will not be selectable by Auto Tray Select.

To print from a paper tray that you have opened and closed while the printer was in Energy Saver mode, you must manually specify the tray as the source paper tray before printing. When the printer recovers from Energy Saver mode and completes initialization, it will then print the document from the tray you have specified.

# Additional Troubleshooting

## Strange noise is heard.

- If a supply was recently replaced or an option attached in the area the strange noise is coming from, check the supply or option is properly attached. If the strange noise persists, contact your sales or service representative.

## No e-mail is received when an Alert occurs, and after resolving an Alert.

- Confirm [Auto E-mail Notify] is active in the [System] Menu on the Control Panel. See "System Menu", Software Guide.
- Access the printer through a Web browser, log in as an Administrator on Web Image Monitor, and then confirm the following settings in [Auto E-mail Notification]:
  - Device E-mail Address
  - Groups to Notify
  - Select Groups/Items to Notify

For details about the settings, see Web Image Monitor Help.

- Access the printer through the Web browser, log in as an Administrator on the Web Image Monitor, and then confirm the settings of the SMTP server in [E-mail]. For details about the settings, see Web Image Monitor Help.
- When the power is turned off before the e-mail is transmitted, the e-mail will not be received.
- Check the e-mail address set for the destination. Confirm the printer's operation history using Web Image Monitor's System Log menu in [Network]. If the e-mail was sent but not received, it is possible the destination was incorrect. Also check the information concerning error mail from the e-mail server.

9

## The setting for [Auto E-mail Notify] on the System Menu was changed from [Off] to [On], but e-mail is not arriving.

- After changing the setting, turn the printer's power off and then back on again.

## Error notification e-mail was received, but no error-solved e-mail is received.

- Check e-mail is set for sending using Web Image Monitor's [Auto E-mail Notification] at the time the error was fixed. You must click the [Edit] button of [Detailed Settings of Each Item] in [Auto E-mail Notification], and set [Notify when error:] to [Occurs & Fixed] on the displayed screen.

For details about the settings, see Web Image Monitor Help.

## Alert Resolving is set for sending e-mail, but no Alert-resolved e-mail is sent.

- If the power of the printer is turned off after an alert occurs, and the alert is resolved during the time the power is off, no Alert-resolved e-mail is sent.

**Alert Occurrence and Alert Resolving are set for sending e-mail, but while no Alert Occurrence mail is received, Alert-resolved e-mail is received.**

- Alert-notification e-mail is not sent if the problem is resolved before sending. However, an Alert-resolved e-mail is sent.

**Alert-notification level was changed, and e-mail stopped arriving.**

- If an Alert-notification e-mail, set with the earlier notification level, arrives, later e-mail will not be sent, even if the notification level is changed after.

**When no date information is included in sent e-mail, the mail server has a malfunction.**

- Configure the setting for obtaining time information from the SNTP server. Refer to Web Image Monitor's Help to the settings.

**Note**

- If the printer is still not operating satisfactorily, contact your sales or service representative. Consult with the store where the printer was purchased for information about the location of sales or service representatives.



# 10. Removing Misfed Paper

This chapter explains how to remove misfed paper.

## When Paper is Jammed

An error message appears if a paper misfeed occurs. The error message gives the location of the misfeed. Check the location and remove the paper.

### CAUTION

- The inside of the machine could be very hot. Do not touch the parts with a label indicating the "hot surface". Otherwise, an injury might occur.

### CAUTION

- Some of this machine's internal components get very hot. For this reason, take care when removing misfed paper. Not doing so could result in burns.

### CAUTION

- When removing jammed paper or replacing toner, avoid getting toner (new or used) on your clothing. If toner comes into contact with your clothing, wash the stained area with cold water. Hot water will set the toner into the fabric and make removing the stain impossible.

### CAUTION

- When removing jammed paper or replacing toner, avoid getting toner (new or used) on your skin. If toner comes into contact with your skin, wash the affected area thoroughly with soap and water.

### Important

- Forcefully removing misfed paper may cause paper to tear and leave scraps of paper in the printer. This might cause a misfeed and damage the printer.
- When paper is misfed a number of times, the following are possible causes.
  - The control panel settings do not match the size or orientation of the loaded paper.
  - The paper feed roller is dirty.
- For details about cleaning the paper feed roller, see p.156 "Cleaning the Friction Pad and the Paper Feed Roller".
- Misfed paper may be covered with toner. Be careful not to get toner on your hands or clothes.
- Toner on prints made after removing misfed paper may be loose (inadequately fused). Make a few test prints until smudges no longer appear.

- Paper jams can cause pages to be lost. Check your print job for missing pages and reprint any pages that did not print out.
- If paper is still misfed after you have checked the above-mentioned causes, contact your sales or service representative.

# Paper Misfeed Message (A)

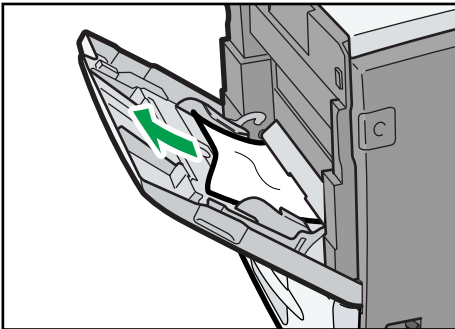
The "⚠ (A) Remove misfeed in Trays. Opn & cls Frt. Cov." error message appears when a paper misfeed occurs in the bypass tray, standard paper feed tray, or paper feed section.

## ★ Important

- Forcefully removing misfed paper may cause paper to tear and leave scraps of paper in the printer. This might cause a misfeed and damage the printer.
- Remove the paper from the bypass tray before opening the front cover.

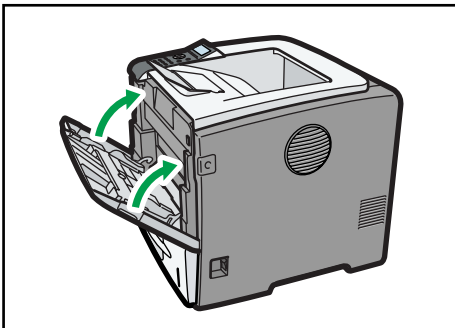
When the paper was fed from the bypass tray

1. Remove the misfed paper.



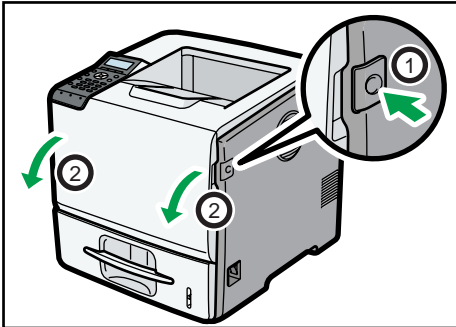
CEC251

2. Close the bypass tray.

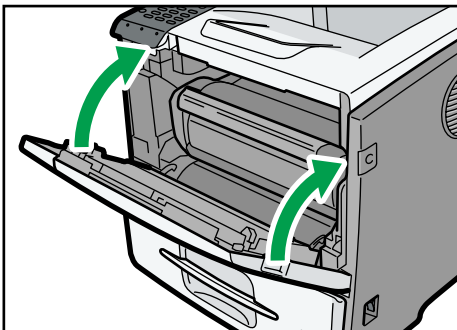


CEC252

3. Open the front cover by pushing the front cover release button, and then close it to reset the misfeed condition.



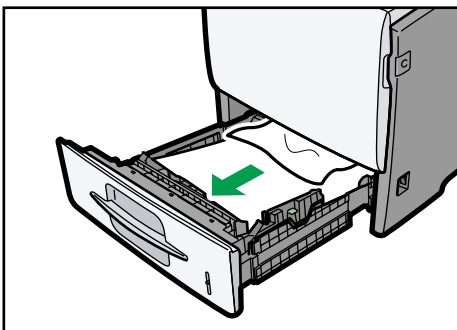
CEC025



CEC214

When the paper was fed from the standard paper feed tray or the optional paper feed tray

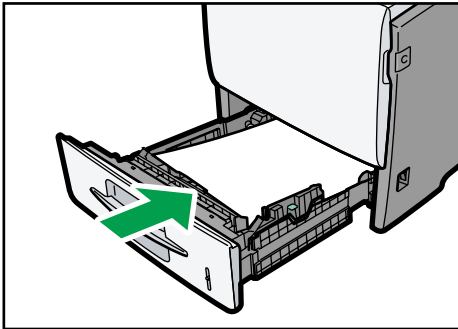
1. Pull out the paper tray until it stops, and then remove misfed paper.



CEC228

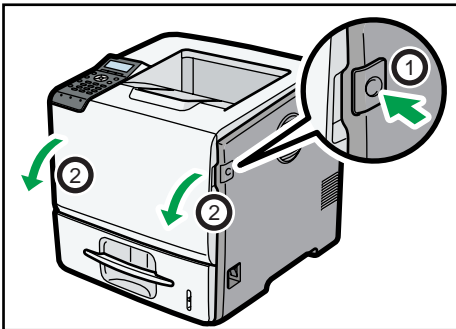


2. Carefully slide the paper tray into the printer until it stops.



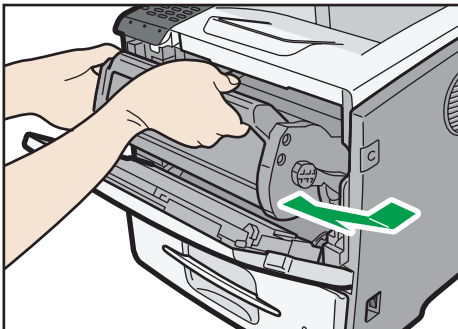
CEC229

3. Open the front cover by pushing the front cover release button.



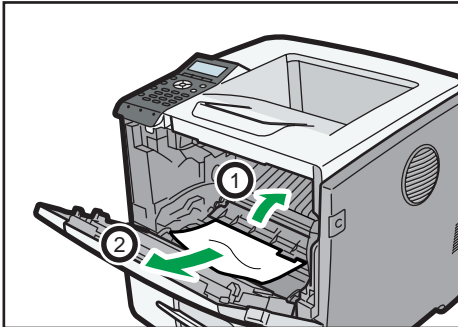
CEC025

4. Pull the print cartridge out of the printer by holding the grips of the cartridge.



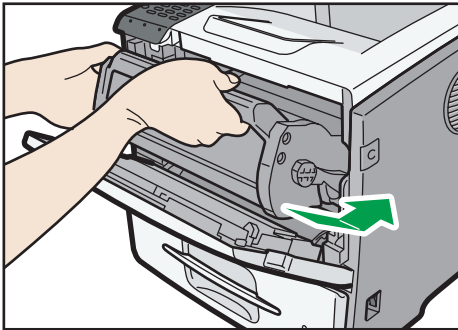
CEC026

5. Pull out the misfed paper by holding both sides of paper. Be careful not to get toner dust on your hands or clothes.



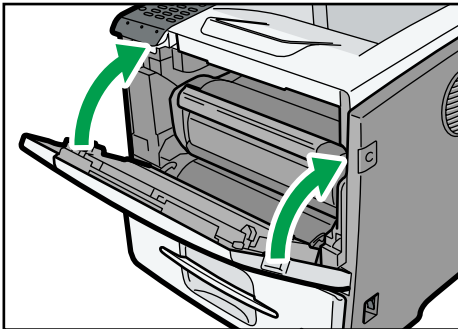
CEC080

6. Hold the grips of the print cartridge, and then push it into the printer until it stops.



CEC028

7. Close the front cover.



CEC214

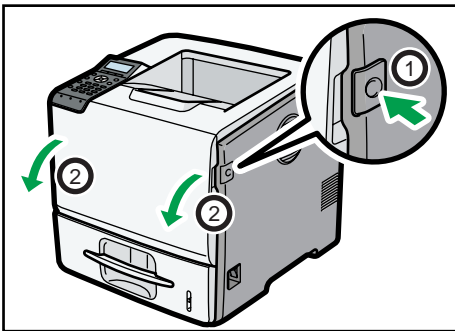
## Paper Misfeed Message (B)(C)

The "Error (B)(C) Open Front/Rear Cover and remove misfeed." error message appears when a paper misfeed occurs in the paper feed section.

### ★ Important

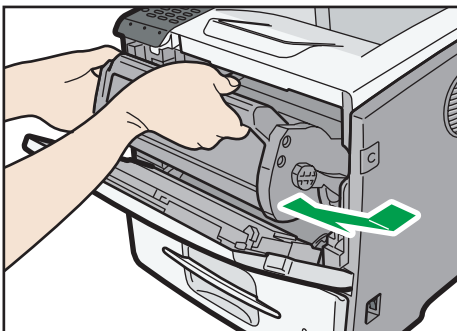
- Forcefully removing misfed paper may cause paper to tear and leave scraps of paper in the printer. This might cause a misfeed and damage the printer.
- If paper is fed from the bypass tray, be sure to remove all the paper from the bypass tray and close it before opening the front cover.
- Be sure to put the print cartridge on a stable, flat surface.
- Do not hold the print cartridge upside down or stand it vertically.

1. Open the front cover by pushing the front cover release button.



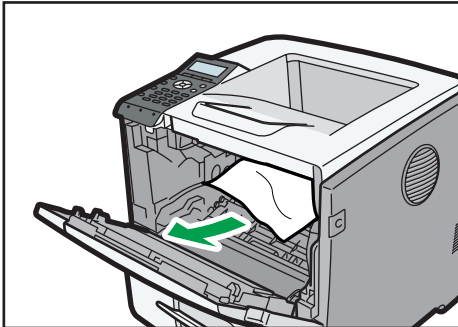
CEC025

2. Pull the print cartridge out of the printer by holding the grips of the cartridge.



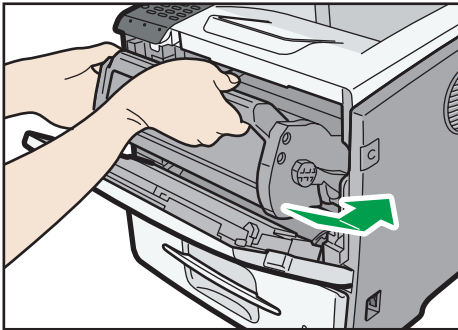
CEC026

3. Pull out the misfed paper by holding both sides of paper. Be careful not to get toner dust on your hands or clothes.



CEC246

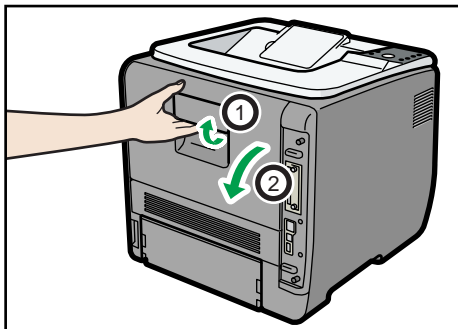
4. Hold the grips of the print cartridge, and then push it into the printer until it stops.



CEC028

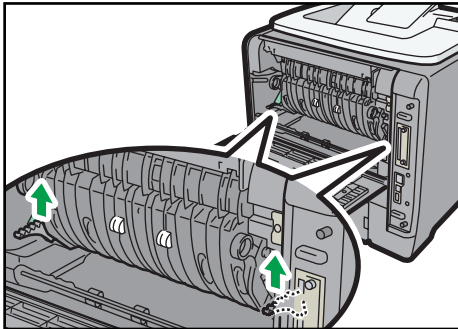
If the printer does not recover from the error, a paper jam may have occurred in another location. In that case, proceed to the following steps.

5. Open the rear cover.



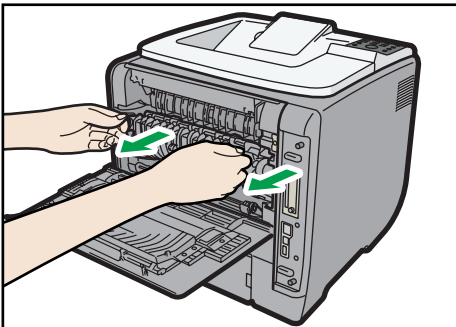
CEC046

6. Lift the lock levers of the fusing unit as shown in the illustration.



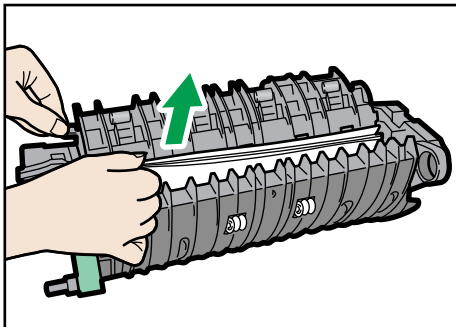
CEC050

7. Pull the fusing unit out.



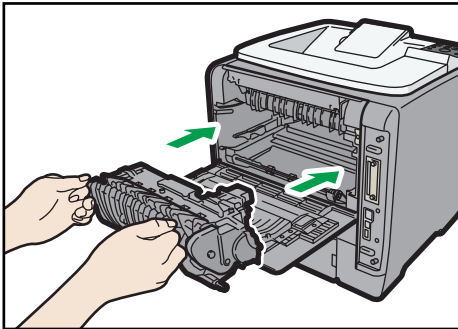
CEC052

8. Hold the tab, and then remove the misfed paper.



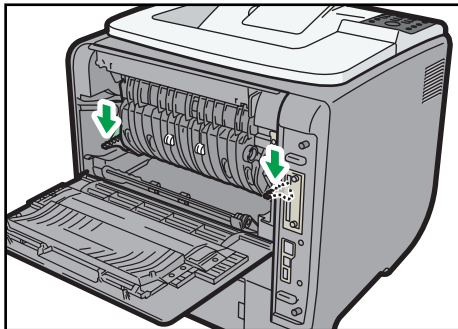
CEC087

**9. Push the fusing unit until it stops.**



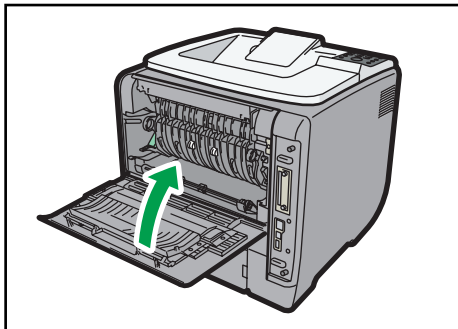
CEC053

**10. Push the lock levers of the fusing unit down until they click.**



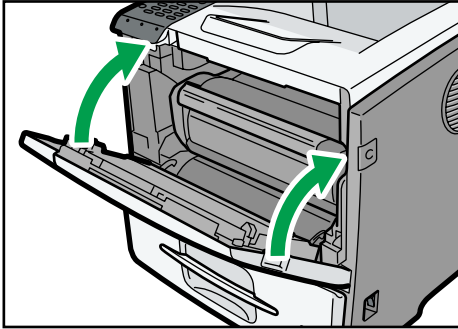
CEC051

**11. Close the rear cover.**



CEC049

12. Close the front cover.



CEC214

## Paper Misfeed Message (Y1)(Y2)(Y3)(Y4)

When a paper jam has occurred in one of the optional paper trays, "Tr(Y1)~(Y4) Remove misfeed in (Tray name). Opn & cls Frt. Cov." message appears. The optional paper trays to which this message applies to are as follow:

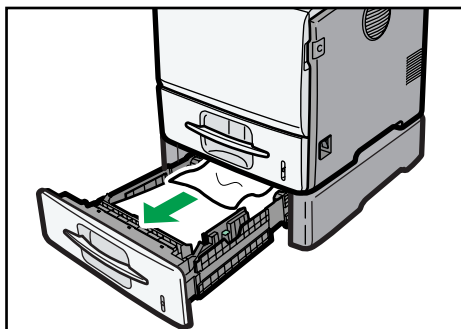
- (Y1): Tray 2
- (Y2): Tray 3
- (Y3): Tray 4
- (Y4): Tray 5

This section explains how to remove the jammed paper using tray 2 as an example. The same procedure can be used for the other optional trays.

### ★ Important

- Forcefully removing misfed paper may cause paper to tear and leave scraps of paper in the printer. This might cause a misfeed and damage the printer.

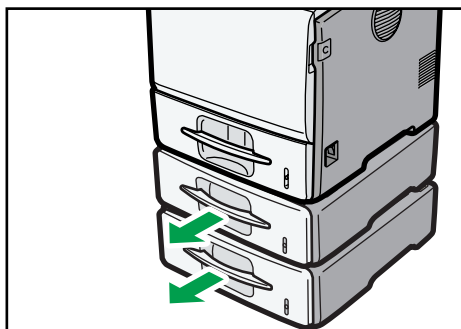
1. Pull out the paper tray until it stops, and then remove misfed paper.



CEC084

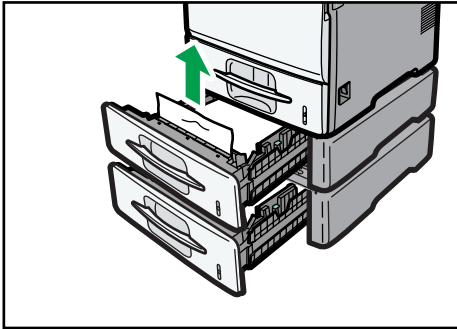
10

If paper jams occur in multiple trays, a message indicating multiple trays such as "(Y2) (Y3)" appears. Open all the trays indicated on the control panel, and then remove the jammed paper.



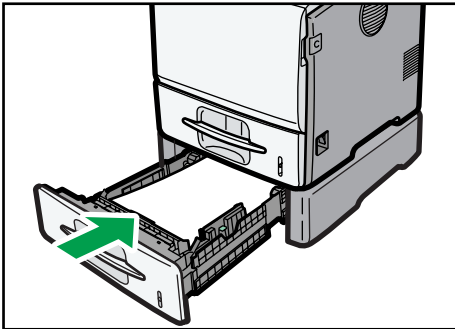
CEC085





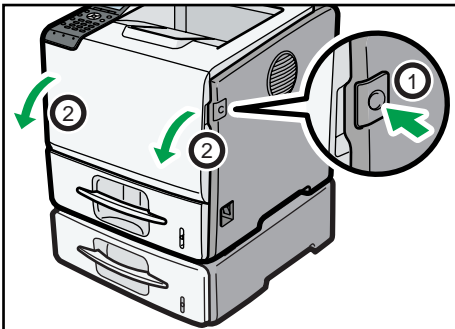
CEC086

2. Carefully slide the paper tray into the printer until it stops.

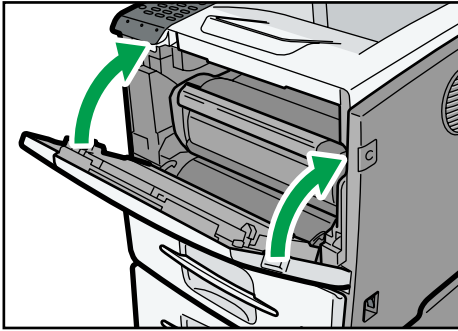


CEC083

3. Open the front cover by pushing the front cover release button, and then close it to reset the misfeed condition.



CEC081



CEC082

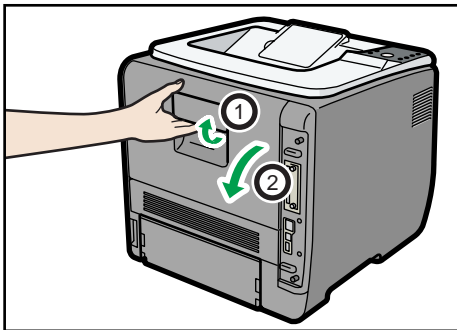
## Paper Misfeed Message (Z1)(Z2)

The "8r(Z1)(Z2) Opn R.Cov/Tray1 & remove ppr. Opn & cls F.Cov" error message appears when a paper misfeed occurs inside the duplex section.

### ★ Important

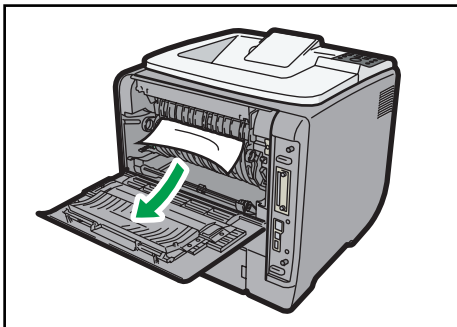
- Forcefully removing misfed paper may cause paper to tear and leave scraps of paper in the printer. This might cause a misfeed and damage the printer.
- If paper is fed from the bypass tray, be sure to remove all the paper from the bypass tray and close it before opening the front cover.

#### 1. Open the rear cover.



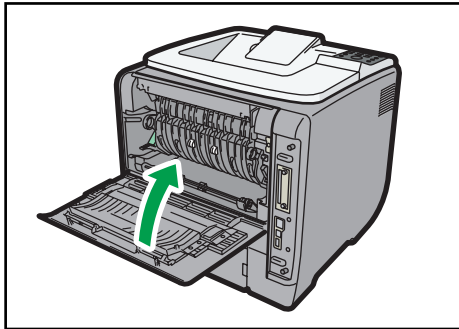
CEC046

#### 2. Remove the misfed paper.



CEC234

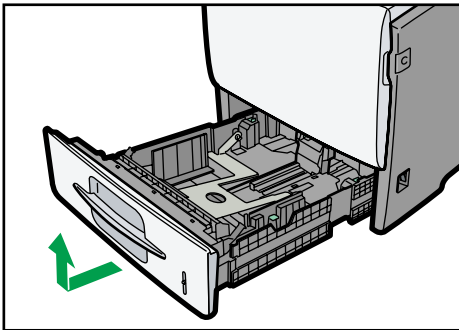
**3. Close the rear cover.**



CEC049

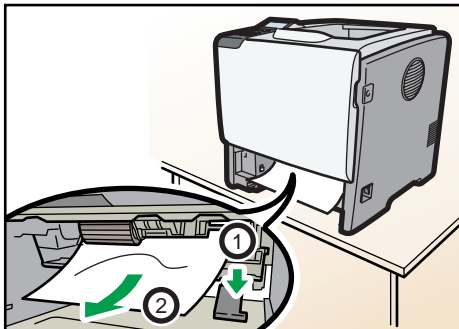
If the printer does not recover from the error, a paper jam may have occurred in another location. In that case, proceed to the following steps.

**4. Lift and pull Tray 1 carefully, and then pull it out with both hands.**



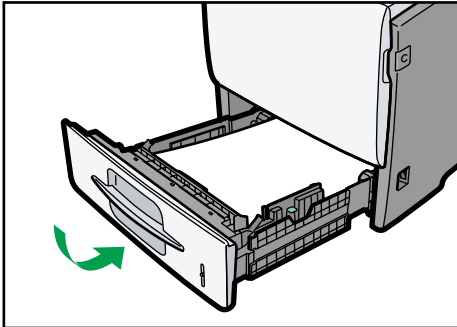
CEC031

**5. Push down on the Z2 lever, and remove the jammed paper.**



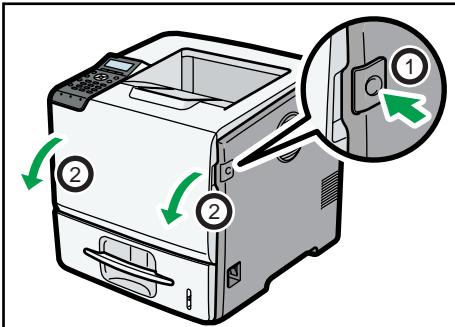
CEC079

6. Hold the tray with both hands, slide it along the rails of the printer body, and then push it straight in.

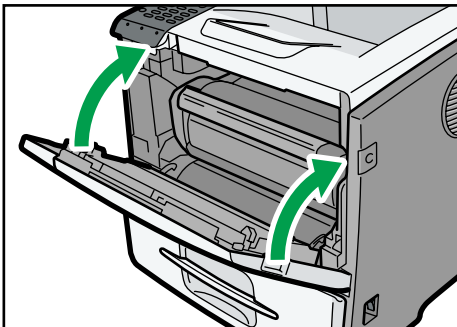


CEC032

7. Open the front cover by pushing the front cover release button, and then close it to reset the misfeed condition.



CEC025



CEC214



# 11. Appendix

This section explains maintenance and operation procedures for this printer. It also describes the specifications of the printer and its options.

## Moving and Transporting the Printer

### **WARNING**

- If the machine topples, or if a cover or other part gets broken, you must turn the power switch to off and disconnect the power cord plug from the wall outlet. Then contact your service representative and report the problem. Do not use the machine. Doing so could result in fire or electric shock.

### **CAUTION**

- The printer weighs approximately 23 kg (51 lb.). When moving the printer, use the inset grips on both sides, and lift slowly in pairs. The printer will break or cause injury if dropped.

### **CAUTION**

- When disconnecting the power cord from the wall outlet, always pull the plug, not the cord. Pulling the cord can damage the power cord. Use of damaged power cords could result in fire or electric shock.

### **CAUTION**

- Unplug the power cord from the wall outlet before you move the machine. While moving the machine, take care that the power cord is not damaged under the machine. Failing to take these precautions could result in fire or electric shock.

### **Important**

- Be sure to disconnect all cables from the printer before transporting it.
- The printer is a piece of precision machinery. Take care to avoid damage during transportation.
- If optional paper feed units are attached, remove them from the printer and move them separately.

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## Moving the Printer in a Short Distance

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### 1. Be sure to check the following points:

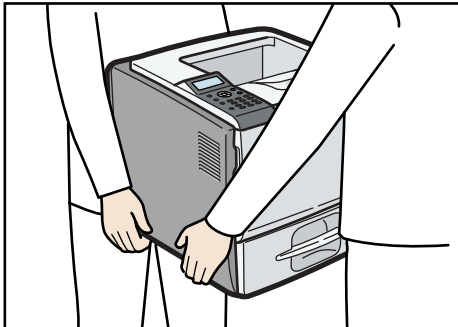
- The power switch is turned off.
- The power cord is unplugged from the wall outlet.

- The interface cable is unplugged from the printer.

**2. If any external options are attached, remove them.**

See the relevant sections in this manual and reverse the steps to remove options.

**3. Lift the printer with two people by using the inset grips on both side of the printer, and then move it horizontally to the place where you want to install it.**



CEC045

**4. If you removed options, reattach them.**

For details, see the relevant sections in this manual.

**↓ Note**

- Be sure to move the printer horizontally. To prevent toner from scattering, move the printer slowly.




# Consumables

## CAUTION

- Our products are engineered to meet the highest standards of quality and functionality. When purchasing expendable supplies, we recommend using only those specified by an authorized dealer.

## Print Cartridge

Print cartridge	Average number of pages printable per cartridge <sup>*1</sup>
 Region B Black	12,000 pages
Black (High yield)	25,000 pages

\*1 The printable number of pages is based on pages that are compliant with ISO/IEC 19752 and the image density set as the factory default. ISO/IEC 19752 is an international standard on measurement of printable pages, set by the International Organization for Standardization.

The number of printable pages varies depending on which of the two different types of print cartridge you have installed.

### Note

- If print cartridges are not changed when necessary, printing will become impossible. We recommend keeping a stock of cartridges or purchasing them soon.
- The actual number of printable pages varies depending on the image volume and density, number of pages to be printed at a time, paper type and paper size used, and environmental conditions such as temperature and humidity.
- Print cartridges may need to be changed sooner than indicated above due to deterioration over the period of use.
- Print cartridges (consumables) are not covered by warranty. However, if there is a problem, contact the store where they were purchased.
- Numbers of pages that can be printed using the print cartridge supplied with this printer are as follows:

Name	Average printable number of pages
Print Cartridge	6,000 pages

- This printer routinely performs cleaning and uses toner during operation to maintain quality.

- To prevent a cleaning malfunction, you may need to replace a print cartridge even if it is not empty.

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## Maintenance Kit

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Name	Average printable number of pages
Maintenance Kit SP 5200 (includes a fusing unit, transfer roller, and paper feed roller)	120,000 pages

**↓ Note**

- The actual number of printable pages varies depending on the image volume and density, number of pages to be printed at a time, paper type and paper size used, and environmental conditions such as temperature and humidity.
- The maintenance kit are not covered by warranty. However, if there is problem, contact the store where they were purchased.

# Specifications

## **WARNING**

- The supplied power cord is for use with this machine only. Do not use it with other appliances. Doing so could result in fire, electric shock, or injury.

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## Mainframe

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### Configuration:

Desktop

### Print Process:



Laser beam scanning & Electrophotographic printing

### First Print Speed:

7.5 sec or less (A4  or 8 1/2 " x 11 " (Letter) 

Note that if the printer has not been used for some time, there may be a short delay before the first page starts printing.

### Printing Speed:

Model types	Printing Speed: A4 	Printing Speed: 8 1/2 " x 11 " (Letter) 
Type 1	maximum 45 pages per minute	maximum 47 pages per minute
Type 2	maximum 50 pages per minute	maximum 52 pages per minute

### Resolution:

600 x 600 dpi

1200 x 600 dpi

### Paper Size:

For details, see p.101 "Supported Paper for Each Tray".

### Paper Weight:

For details, see p.101 "Supported Paper for Each Tray".

### Media Type:

For details, see p.105 "Supported Paper Types".



### Paper Output Capacity:

Standard 500 sheets (80 g/m<sup>2</sup>, 20 lb.)

## Paper Input Capacity

For details, see p.101 "Supported Paper for Each Tray".

### Power Source:

-  **Region A** (mainly Europe and Asia)  
220-240 V, 50/ 60 Hz, 6 A or less
-  **Region B** (mainly North America)  
120 - 127 V, 60 Hz, 11 A or less

### Power Consumption:

Printing	1400 W or less
Auto Off mode (sleep mode)	5 W or less

### Warm-up Time:

Less than 20 seconds (23 °C, 71.6 °F) \*1

\*1 When no error is occurred.

### Dimensions (W × D × H):

Printer only (tray not extended): 411 × 435 × 400 mm (16.2 × 17.1 × 15.8 inches)

### Weight:

Approximately 23 kg (51 lb.) (Toner included)

### Noise Emission: \*1

- Sound Power Level
  - Main unit only (Type 1)

Stand-by	Less than 46.5 dB (A)
Printing	Less than 71.8 dB (A)

- Main unit only (Type 2)

Stand-by	Less than 48.0 dB (A)
Printing	Less than 72.0 dB (A)

- Complete system (Type 1)

Stand-by	Less than 50.5 dB (A)
Printing	Less than 75.8 dB (A)

- Complete system (Type 2)

Stand-by	Less than 52.0 dB (A)
Printing	Less than 76.0 dB (A)

- Sound Pressure Level <sup>\*2</sup>

- Main unit only (Type 1)

Stand-by	Less than 40.5 dB (A)
Printing	Less than 65.8 dB (A)

- Main unit only (Type 2)

Stand-by	Less than 42.0 dB (A)
Printing	Less than 66.0 dB (A)

- Complete system (Type 1)

Stand-by	Less than 44.5 dB (A)
Printing	Less than 69.8 dB(A)

- Complete system (Type 2)

Stand-by	Less than 46.0 dB (A)
Printing	Less than 70.0 dB(A)

\*1 The preceding measurements made in accordance with ISO 7779 are actual values.

\*2 Measured at the position of a bystander.

### Memory:

Type 1:

Standard 256 MB, up to 768 MB (with the optional SDRAM module)

Type 2:

Standard 768 MB

### Hard disk:

Type 1:

80 GB (Optional)

Type 2:

80 GB (Standard)

**Interfaces:**

Standard:

- Ethernet (10BASE-T/100BASE-TX)
- USB 2.0

To use USB 2.0, a USB computer port and cable that support USB 2.0 are required.

- USB Host

Optional:

- IEEE 802.11 a/b/g (Wireless LAN)
- Parallel (Bidirectional IEEE 1284)
- Gigabit Ethernet (1000BASE-T)

**Printer Language:**

PCL5e/PCL6, PostScript 3/PDF

**Fonts:**

PCL 5e/PCL 6:

45 fonts, 13 International fonts

PostScript 3, PDF:

136 fonts

**Network:**

Topology: The physical or logical layout of the nodes (devices) in a network. (10BASE-T/100BASE-TX/1000BASE-T)

Protocol: TCP/IP, IPX/SPX, AppleTalk

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## Options

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### Paper Feed Unit TK1120

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**Paper Size:**

For details, see p.101 "Supported Paper for Each Tray".

**Dimensions (W × D × H):**

Less than 400 × 435 × 150 mm (15.8 × 17.1 × 5.9 inches)

**Paper weight:**

52 - 220 g/m<sup>2</sup> (14 - 59 lb.)

**Weight:**

Less than 7 kg (15.5 lb.)

## Paper Feed Unit TK1130

---

### Paper Size:

For details, see p.101 "Supported Paper for Each Tray".

### Dimensions (W × D × H):

Less than 755 × 725 × 215 mm (29.7 × 28.6 × 8.5 inches)

### Paper weight:

52 - 220 g/m<sup>2</sup> (14 - 59 lb.)

### Weight:

Less than 8 kg (17.7 lb.)

## Hard Disk Drive Type 2670

---

### Storage Capacity (Formatted):

80 GB

### Specifications:

- Spooling print data to collate
- Spooling Sample Print/Locked Print/Hold Print/Stored Print data
- Storing log data

### ↓ Note

- Storage capacity is subject to change without prior notice.
- The optional hard disk is provided with an SD card to enhance the security features. By using the provided SD card, the following security features to prevent data leaks become available: overwriting data on the optional hard disk, and encrypting the address book data, authentication information, and the data for stored prints.

## Memory Unit Type G 256 MB

---

### Module Type:

DIMM (Dual-in-line Memory Module)

### Memory Type:

DDR-SDRAM (Double Data Rate Synchronous Dynamic RAM)

### Number of Pins:

200 pins

## Memory Unit Type I 512 MB

---

### Module Type:

DIMM (Dual-in-line Memory Module)

### Memory Type:

DDR-SDRAM (Double Data Rate Synchronous Dynamic RAM)

### Number of Pins:

200 pins

## Gigabit Ethernet Board Type A

---

### Interface Connector:

Ethernet (10BASE-T, 100BASE-TX, 1000BASE-T)

USB 2.0

To use USB 2.0, a USB computer port and cable that support USB 2.0 are required.

Data Transmission Speed: Ethernet: 10 Mbps, 100 Mbps, 1000 Mbps

USB: 480 Mbps (High speed: USB 2.0), 12Mbps (Full speed)

### Protocol:

TCP/IP, IPX/SPX, AppleTalk

### Maximum Length of Cable Between Devices:

Ethernet: 100 m

USB: 5 m

## IEEE 802.11a/g Interface Unit Type M Region A (mainly Europe and Asia)

---

### Transmission Specification:

Based on IEEE 802.11a/b/g (Wireless LAN)

### Data Transfer Speed:

Auto select from the following speed:

1 Mbps, 2 Mbps, 5.5 Mbps, 6 Mbps, 9 Mbps, 11 Mbps, 12 Mbps, 18 Mbps, 24 Mbps, 36 Mbps, 48 Mbps, 54 Mbps

### Frequency Range:

2412 to 2472 Mhz (1 to 13 Channels)

5180 to 5240 Mhz (36, 40, 44 and 48 Channels)

The channel in use might differ depending on the country.

The following channels are available : 2412 - 2462 Mhz (1-11 Channels)



**Transmission Mode:**

- Ad hoc
- infrastructure mode

**IEEE 802.11 a/g Interface Unit Type L  Region B (mainly North America)**

---

**Transmission Specification:**

Based on IEEE 802.11 a/b/g (Wireless LAN)

**Data Transfer Speed:**

Auto select from the following speed:

1 Mbps, 2 Mbps, 5.5 Mbps, 6 Mbps, 9 Mbps, 11 Mbps, 12 Mbps, 18 Mbps, 24 Mbps, 36 Mbps, 48 Mbps, 54 Mbps

**Frequency Range:**

2412 to 2472 Mhz (1 to 13 Channels)

5180 to 5240 Mhz (36, 40, 44 and 48 Channels)

**Transmission Mode:**

- Ad hoc
- infrastructure mode

**IEEE 1284 Interface Board Type A**

---

**Transmission Specification:**

IEEE 1284

**Required Cable:**

Standard IEEE 1284-compliant Micro Centronics 36-pin cable

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The proper names of the Windows operating systems are as follows:

- The product names of Windows XP are as follows:
  - Microsoft® Windows® XP Professional Edition
  - Microsoft® Windows® XP Home Edition
- The product names of Windows Vista are as follows:
  - Microsoft® Windows Vista® Ultimate
  - Microsoft® Windows Vista® Business
  - Microsoft® Windows Vista® Home Premium
  - Microsoft® Windows Vista® Home Basic
  - Microsoft® Windows Vista® Enterprise
- The product names of Windows 7 are as follows:
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  - Microsoft® Windows® 7 Professional
  - Microsoft® Windows® 7 Ultimate
  - Microsoft® Windows® 7 Enterprise
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  - Microsoft® Windows Server® 2003 Standard Edition

Microsoft® Windows Server® 2003 Enterprise Edition

- The product names of Windows Server 2003 R2 are as follows:

Microsoft® Windows Server® 2003 R2 Standard Edition

Microsoft® Windows Server® 2003 R2 Enterprise Edition

- The product names of Windows Server 2008 are as follows:

Microsoft® Windows Server® 2008 Standard

Microsoft® Windows Server® 2008 Enterprise

Microsoft® Windows Server® 2008 Standard without Hyper-V™

Microsoft® Windows Server® 2008 Enterprise without Hyper-V™

- The product names of Windows Server 2008 R2 are as follows:

Microsoft® Windows Server® 2008 R2 Standard

Microsoft® Windows Server® 2008 R2 Enterprise



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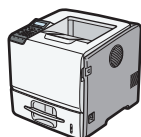
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# Operating Instructions

## Driver Installation Guide

- 
- 1 About Quick Install
  - 2 Network Connection
  - 3 Local Connection
  - 4 When Using the Printer under Mac OS X
  - 5 Appendix

## **Introduction**

This manual contains detailed instructions and notes on the operation and use of this machine. For your safety and benefit, read this manual carefully before using the machine. Keep this manual in a handy place for quick reference.

Do not copy or print any item for which reproduction is prohibited by law.

Copying or printing the following items is generally prohibited by local law:

bank notes, revenue stamps, bonds, stock certificates, bank drafts, checks, passports, driver's licenses.

The preceding list is meant as a guide only and is not inclusive. We assume no responsibility for its completeness or accuracy. If you have any questions concerning the legality of copying or printing certain items, consult with your legal advisor.

## **Important**

Contents of this manual are subject to change without prior notice.

In no event will the company be liable for direct, indirect, special, incidental, or consequential damages as a result of handling or operating the machine.

For good print quality, the manufacturer recommends that you use genuine toner from the manufacturer.

The manufacturer shall not be responsible for any damage or expense that might result from the use of parts other than genuine parts from the manufacturer with your office products.

Some illustrations in this manual might be slightly different from the machine.

Certain options might not be available in some countries. For details, please contact your local dealer.

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---

# Installing the Printer Drivers

This section provides a brief overview of the procedures for installing the printer drivers under Windows and Mac OS X.

## ★ Important

- You can install the printer driver from the CD-ROM provided with this printer or download it from the manufacturer's Web site.
- A Windows 64-bit driver for your particular printer might not be included on the supplied CD-ROM. If this is the case, visit the Web site of your printer's manufacturer and download the appropriate driver.
- The PCL printer driver installer included on the provided CD-ROM is not usable under a 64-bit Windows operating system.

## Windows Installation

- Quick Install

This method allows you to install the printer drivers easily from the CD-ROM provided.

If you select this installation method, the standard TCP/IP port will be automatically specified, and the PCL 6 driver will be installed across the network environment.

- Installation according to environment

You can manually specify which port you want to use, based on the configuration of your environment.

This method also allows you to configure the PCL and PostScript 3 drivers to print over a network or through a local connection.

If you install SmartDeviceMonitor for Client on your computer, the SmartDeviceMonitor for Client port will also be available. This port allows you to monitor the printer's status and check the results of its jobs.

Choose the installation method that is most appropriate for your environment, intended purpose, and connection type.

- Installation of 64-bit Drivers

This method allows you to manually install PCL and PostScript 3 printer drivers that are compatible with 64-bit Windows operating systems using the CD-ROM provided. For details about how to install 64-bit drivers, see p.49 "Installing Windows 64-bit Compatible Drivers".

## Mac OS X Installation

If you install the PPD file for this printer into a Mac OS X, you can print over a network (using Bonjour) or through a local connection.

## ↓ Note

- The printer drivers included on the provided CD-ROM differ depending on the model of your printer.

- 
- In this manual, "SmartDeviceMonitor for Client 2" is referred to as "SmartDeviceMonitor for Client".
  - To use SmartDeviceMonitor for Client, download the printer driver from the manufacturer's website, and install it on your computer.

---

# How to Read This Manual

---

## Symbols

---

This manual uses the following symbols:

 **Important**

Indicates points to pay attention to when using the machine, and explanations of likely causes of paper misfeeds, damage to originals, or loss of data. Be sure to read these explanations.

 **Note**

Indicates supplementary explanations of the machine's functions, and instructions on resolving user errors.

 **Reference**

This symbol is located at the end of sections. It indicates where you can find further relevant information.

**[ ]**

Indicates the names of keys on the machine's display or control panels.





# 1. About Quick Install

This chapter explains the "Quick Install" procedure. This installation method allows users to install the drivers easily, and requires minimal manual settings.

## Quick Install

You can install the printer drivers easily from the CD-ROM provided with this printer.

Using Quick Install, the PCL 6 printer driver is installed under network environment, and the Standard TCP/IP port will be set.

### ★ Important

- **Manage Printers permission is required to install the drivers. Log on as an Administrators group member.**
- **If you connect using USB, see p.35 "Installing the Printer Driver Using USB" and install the printer driver.**

- 1. Close all applications except this manual.**
- 2. Insert the CD-ROM into the CD-ROM drive.**

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

- 3. Select an interface language, and then click [OK].**

The default interface language is English.

- 4. On the CD-ROM menu, click [Quick Install].**

The software license agreement appears in the [License Agreement] window.

- 5. After reading the agreement, click [I accept the agreement.] and then click [Next].**

- 6. Select the printer model you want to use in the [Select Printer] window.**

For network connection via TCP/IP, select the printer whose IP address is displayed in [Connect To].

For parallel connection, select the printer whose printer port is displayed in [Connect To].

- 7. Click [Install].**

The printer driver installation starts.

The PCL 6 printer driver is installed in the language specified by your operating system.

- 8. Click [Finish].**

When you are prompted to restart your computer, restart it by following the instructions that appear.

- 9. Click [Exit] in the first window of the installer, and then take out the CD-ROM.**

 **Note**

- To stop installation of the selected software, click [Cancel] before the installation is complete.
- Quick Install is not available unless bidirectional communication between the printer and computer is enabled via parallel connection. For details about bidirectional communication between the printer and computer, see p.53 "Making Option Settings for the Printer".

# 2. Network Connection

This chapter explains how to install the printer driver under Windows for a network-connected printer. Before installing the printer driver, check how the printer is connected. Follow the driver installation procedure that is appropriate for the connection method.

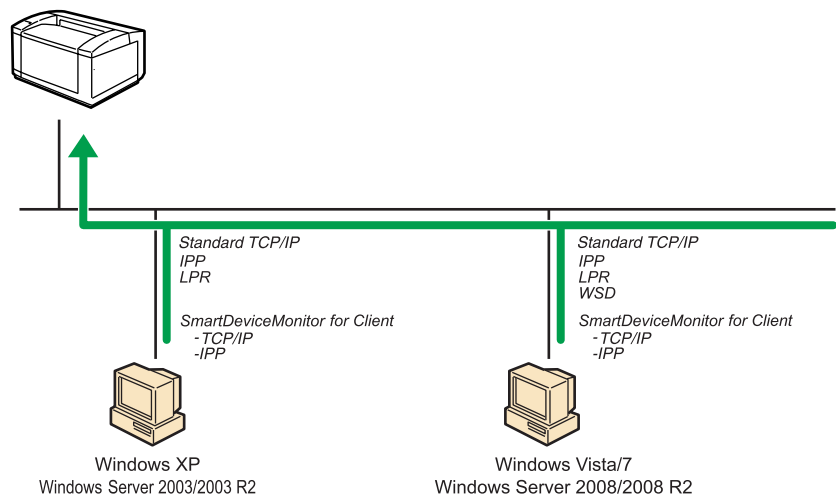
## Confirming the Connection Method

This printer can be used as the Windows printing port or network printer.

### Using This Printer as the Windows Printing Port

Network connections can be established through Ethernet and Wireless LAN.

Available ports are determined based on the combination of the Windows operating system version and connection method used.



CEC320

### Windows XP, Windows Server 2003/2003 R2

Connection Method	Available Ports
<ul style="list-style-type: none"><li>Ethernet</li><li>Wireless LAN</li></ul>	<ul style="list-style-type: none"><li>Standard TCP/IP port</li><li>IPP port</li><li>LPR port</li><li>SmartDeviceMonitor for Client port</li></ul>

### Windows Vista/7, Windows Server 2008/2008 R2

Connection Method	Available Ports
<ul style="list-style-type: none"><li>• Ethernet</li><li>• Wireless LAN</li></ul>	<ul style="list-style-type: none"><li>• Standard TCP/IP port</li><li>• IPP port</li><li>• LPR port</li><li>• WSD port</li><li>• SmartDeviceMonitor for Client port</li></ul>

**Note**

- See the explanation about how to install the printer driver for each type of ports.
- For details about the Standard TCP/IP port, see p.12 "Using the Standard TCP/IP Port".
- For details about the IPP port, see p.14 "Using the IPP Port".
- For details about the LPR port, see p.16 "Using the LPR Port".
- For details about the WSD port, see p.18 "Using the WSD Port".
- For details about the SmartDeviceMonitor for Client port, see p.21 "Using the SmartDeviceMonitor for Client Port".

---

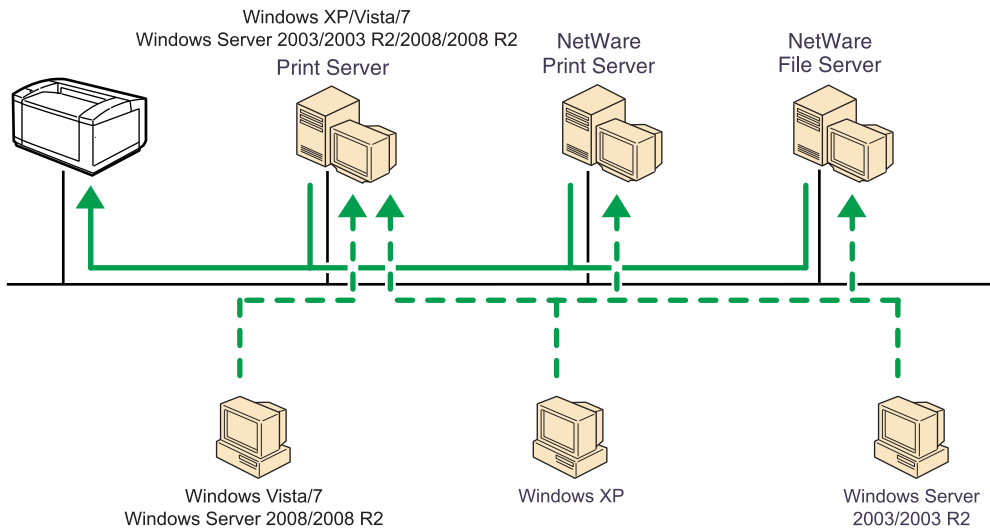
### Using as the Network Printer

---

This printer can be used as the Windows network printer, a NetWare print server, or a NetWare remote printer.

**Important**

- IPX/SPX (NetWare) cannot be used under Windows XP x64/Vista/7 and Windows Server 2003 x64/2003 R2 x64/2008/2008 R2.



**Note**

- In an IPv6 environment, NetWare servers cannot be used.
- See the explanation about how to install the printer driver for each type of network printers.
- For details about Windows network printer, see p.28 "Using as the Windows Network Printer".
- For details about a NetWare print server and remote printer, see p.31 "Using as the NetWare Print Server/Remote Printer".

CEC321

# Installing the Printer Driver for the Selected Port

You can install the appropriate driver according to the port you want to use.

## 2

---

### Using the Standard TCP/IP Port

---

This describes how to install the PCL or PostScript 3 printer drivers using the Standard TCP/IP port.

#### ★ Important

- **Manage Printers permission is required to install the drivers. Log on as an Administrators group member.**
- **In an IPv6 environment, you cannot use the Standard TCP/IP Port. Use the SmartDeviceMonitor for Client port.**

---

### Installing the PCL printer driver

---

1. **Close all applications except this manual.**
2. **Insert the CD-ROM into the CD-ROM drive.**

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

3. **Select an interface language, and then click [OK].**

The default interface language is English.

4. **Click [PCL Printer Drivers].**

The software license agreement appears in the [License Agreement] window.

5. **After reading the agreement, select the [I accept the agreement.] check box, and then click [Next].**

6. **In the [Select Program] window, select the check box of the printer driver you want to use.**

You can select several printer drivers.

The PCL 6 printer driver is installed in the language specified by your operating system.

7. **Click [Next].**

8. **Select the check box of the printer model you want to use.**

The printer name can be changed in the Change settings for 'Printer Name' box.

9. **Double-click the printer name to display the printer settings.**

The details shown in [Comment], [Driver], and [Port] vary depending on the operating system, printer model, and port.

10. Click **[Port]**, and then click **[Add]**.

11. Click **[Standard TCP/IP Port]**, and then click **[OK]**.

See Windows Help if [Standard TCP/IP Port] does not appear.

12. Click **[Next]**.

13. Enter the printer name or IP address in the **[Printer Name or IP Address]** box.

The [Port Name] text box automatically obtains a port name. Change this name if necessary.

When the device type selection appears, select "RICOH Network Printer C model".

14. Click **[Next]**.

15. Click **[Finish]**.

16. Check that the port of the selected printer is displayed in **[Port]**.

17. Configure the user code, default printer, and shared printer as necessary.

18. Click **[Continue]**.

19. Click **[Finish]**.

20. Click **[Finish]**.

When you are prompted to restart your computer, restart it by following the instructions that appear.

#### ↓ Note

- To stop installation of the selected driver, click **[Cancel]** before installation is complete.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use **[Add Printer]**. See p.51 "Messages Displayed When Installing the Printer Driver".

## Installing the PostScript 3 printer driver

1. Close all applications except this manual.

2. Insert the CD-ROM into the CD-ROM drive.

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

3. Select an interface language, and then click **[OK]**.

The default interface language is English.

The printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

4. Click **[PostScript 3 Printer Driver]**.

Under Windows Vista/7, and Windows Server 2008, proceed to step 6.

5. Click **[Next]**.

6. Click **[Local printer attached to this computer]**, and then click **[Next]**.

Under Windows Vista/7, and Windows Server 2008, click **[Add a local printer]**.

7. Click **[Create a new port:]**.

8. Select **[Standard TCP/IP Port]** and then click **[Next]**.

Under Windows Vista/7, and Windows Server 2008, proceed to step 10.

9. Click **[Next]** in the **[Add Standard TCP/IP Printer Port Wizard]** window.

10. Enter the printer name or IP address in the **[Printer Name or IP Address]** or **[Hostname or IP address]** box, and then click **[Next]** .

The **[Port Name]** text box automatically obtains a port name. Change this name if necessary.

When screen for device type selection appears, select "RICOH Network Printer C model".

Under Windows Vista/7, and Windows Server 2008, proceed to step 12.

11. Click **[Finish]**.

12. Make sure the brand name and model name of the printer whose driver you want to install are selected, and then click **[Next]**.

13. Follow the instructions that appear. Modify settings such as printer name, default printer, and printer sharing configuration, as necessary. You can also print the test page.

14. Click **[Finish]**.

#### Note

- To stop installation of the selected driver, click **[Cancel]** before installation is complete.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use **[Add Printer]**. See p.51 "Messages Displayed When Installing the Printer Driver".

---

## Using the IPP Port

---

This describes how to install the PCL or PostScript 3 printer driver using the IPP port.

#### Important

- **Manage Printers** permission is required to install the drivers. Log on as an Administrators group member.
- In an IPv6 environment, you cannot use the IPP Port. Use the SmartDeviceMonitor for Client port.
- Installation of the certificate is especially necessary for users who want to print via IPP-SSL from Windows Vista/7 or Windows Server 2008/2008 R2. For details, consult your administrator.
- If a certificate authority issues a certificate that must be authenticated by an intermediate certificate authority, and the certificate is installed on this printer, an intermediate certificate must be installed on the client computer. Otherwise, validation by the certificate authority will not be performed correctly. If validation cannot be performed properly, a warning message informing you that installation is not



possible might appear when you try to add a printer using IPP-SSL under Windows Vista/7 or Windows Server 2008/2008 R2. To enable authentication from the client computer, install the intermediate certificate on the client computer, and then reestablish connection.

- Intermediate certificates cannot be installed on this printer.
- To print via IPP-SSL, use the SmartDeviceMonitor for Client port.

1. Close all applications except this manual.
2. Open the window for configuring printers. For details, see your operating system's Help.
3. Click [Add a printer] or double-click the [Add Printer] icon.

Under Windows Vista/7, and Windows Server 2008, proceed to step 5.

4. Click [Next].
5. Select the [A network printer, or a printer attached to another computer] check box, and then click [Next].

Under Windows Vista/7, Windows Server 2008, click [Add a network, wireless or Bluetooth printer], and click [The printer that I want isn't listed].

6. Select [Browse for a printer], and then click [Next].
7. In the [Printer:] or [URL:] box, enter "http://(printer's IP address or host name)/printer (or ipp)" as the printer's address, and then click [Next] or [Select].
8. Click [Have Disk...].
9. Insert the provided CD-ROM into the computer's CD-ROM drive.

If the [AutoPlay] window appears, click the [Close] button.

10. Click [Browse...], and then specify the location of the INF file.

If the CD-ROM drive is D, the source files of the printer driver are stored in the following locations:

- PCL 5e  
D:\DRIVERS\PCL5E\XP\_VISTA or x64\((language)\DISK1
- PCL 5c  
D:\DRIVERS\PCL5C\XP\_VISTA or x64\((language)\DISK1
- PCL 6  
D:\DRIVERS\PCL6\XP\_VISTA or x64\MUI\DISK1
- PostScript 3  
D:\DRIVERS\PS\XP\_VISTA or x64\MUI or (language)\DISK1

If the file path of the printer driver contains the word "MUI", the driver will be installed in the language of the operating system.

The PostScript 3 printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

11. Click [OK] to close the [Install From Disk] window.
12. Select the brand name and model name of the printer you want to use, and then click [OK].
13. Check the printer name.  
Under Windows 7, click [Next].
14. Configure the default printer as necessary, and then click [Next].  
If the [Windows can't verify the publisher of this driver software] message appears, click [Install this driver software anyway].  
Under Windows 7, configure the default printer as necessary.
15. Click [Finish].  
If installation is successful, the icon of the printer connected to the IPP port will appear in the window for configuring printers.

 **Note**

- To stop installation of the selected driver, click [Cancel] before installation is complete.

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## Using the LPR Port

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This describes how to install the PCL or PostScript 3 printer drivers using the LPR port.

 **Important**

- **Manage Printers permission is required to install the drivers. Log on as an Administrators group member.**

---

## Installing the PCL printer driver

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1. Close all applications except this manual.
2. Insert the CD-ROM into the CD-ROM drive.  
The installer starts.  
Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.
3. Select an interface language, and then click [OK].  
The default interface language is English.
4. Click [PCL Printer Drivers].  
The software license agreement appears in the [License Agreement] window.
5. After reading the agreement, select the [I accept the agreement.] check box, and then click [Next].

**6. In the [Select Program] window, select the check box of the printer driver you want to use.**

You can select several printer drivers.

The PCL 6 printer driver is installed in the language specified by your operating system.

**7. Click [Next].****8. Select the check box of the printer model you want to use.**

The printer name can be changed in the Change settings for 'Printer Name' box.

**9. Double-click the printer name to display the printer settings.**

The details shown in [Comment], [Driver], and [Port] vary depending on the operating system, printer model, and port.

**10. Click [Port], and then click [Add].****11. Click [LPR Port], and then click [OK].**

If [LPR Port] does not appear, see Windows Help and install it.

**12. Enter the printer's IP address in the [Name or address of server providing lpd] box.****13. Enter "lp" in the [Name of printer or print queue on that server] box, and then click [OK].**

The port is added.

**14. Check that the port of the selected printer is displayed in [Port].****15. Configure the user code, default printer, and shared printer as necessary.****16. Click [Continue].****17. Click [Finish].****18. Click [Finish].**

When you are prompted to restart your computer, restart it by following the instructions that appear.

**↓ Note**

- To stop installation of the selected driver, click [Cancel] before installation is complete.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use [Add Printer]. See p.51 "Messages Displayed When Installing the Printer Driver".

## Installing the PostScript 3 printer driver

**1. Close all applications except this manual.****2. Insert the CD-ROM into the CD-ROM drive.**

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

**3. Select an interface language, and then click [OK].**

The default interface language is English.

The printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

**4. Click [PostScript 3 Printer Driver].**

Under Windows Vista/7, and Windows Server 2008, proceed to step 6.

**5. Click [Next].**

**6. Click [Local printer attached to this computer], and then click [Next].**

Under Windows Vista/7, and Windows Server 2008, click [Add a local printer].

**7. Click [Create a new port:].**

**8. Select [LPR Port], and then click [Next].**

**9. Enter the printer's IP address in the [Name or address of server providing lpd] box.**

**10. Enter "lp" in the [Name of printer or print queue on that server] box, and then click [OK].**

**11. Select the brand name and model name of the printer you want to use, and then click [Next].**

**12. Follow the instructions that appear. Modify settings such as printer name, default printer, and printer sharing configuration, as necessary. You can also print the test page.**

**13. Click [Finish].**

**↓ Note**

- To stop installation of the selected software, click [Cancel] before the installation is complete.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use [Add Printer]. See p.51 "Messages Displayed When Installing the Printer Driver".

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## Using the WSD Port

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This describes how to install the PCL or PostScript 3 printer drivers using the WSD port.

**★ Important**

- The WSD port can be used only under Windows Vista/7 or Windows Server 2008/2008 R2.
- Manage Printers permission is required to install the drivers. Log on as an Administrators group member.
- You can connect to the printer only if both the printer and computer are on the same network segment, or "Network discovery" is enabled. For details, see Windows Help.

## Windows Vista, Windows Server 2008 - WSD port

**1. Close all applications except this manual.**

**2. On the [Start] menu, click [Network].**

The [Network] window appears, and the device search begins automatically.

**3. Right-click the icon of the printer model you want to use, and then click [Install].**

If the [User Account Control] window appears, click [Continue].

The [Found New Hardware] window appears.

**4. Click [Locate and install driver software (Recommended)].**

If the [User Account Control] window appears, click [Continue].

**5. Click [Browse my computer for driver software (advanced)].**

**6. Insert the provided CD-ROM into the computer's CD-ROM drive.**

If the [AutoPlay] window appears, click the [Close] button.

**7. Click [Browse...], and then specify the location of the INF file.**

If the CD-ROM drive is D, the source files of the printer driver are stored in the following locations:

- PCL 5e  
D:\DRIVERS\PCL5E\XP\_VISTA or x64\((language)\DISK1
- PCL 5c  
D:\DRIVERS\PCL5C\XP\_VISTA or x64\((language)\DISK1
- PCL 6  
D:\DRIVERS\PCL6\XP\_VISTA or x64\MUI\DISK1
- PostScript 3  
D:\DRIVERS\PS\XP\_VISTA or x64\MUI or (language)\DISK1

If the file path of the printer driver contains the word "MUI", the driver will be installed in the language of the operating system.

The PostScript 3 printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

**8. Click [Next].**

If the [Windows can't verify the publisher of this driver software] message appears, click [Install this driver software anyway].

**9. Click [Close].**

If installation is successful, the icon of the printer connected to the WSD port will appear in the window for configuring printers.

**Note**

- The port name that follows "WSD" uses random character strings. It cannot be changed freely.
- To stop the installation, click [Cancel] before the installation is complete. When re-installing the WSD Port, right-click the printer's icon in the [Network] window, and then click [Uninstall].

**2**

**Windows 7, Windows Server 2008 R2 - WSD port**

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1. Close all applications except this manual.
2. On the [Start] menu, click [Computer].
3. Click [Network].
4. Right-click the icon of the printer model you want to use, and then click [Install].

Installation begins automatically. If the "Device driver software was not successfully installed" message appears, close the message and proceed to step 5.

5. On the [Start] menu, click [Devices and Printers].
6. Click [Add a printer].
7. Click [Add a local printer].
8. Select the [Use an existing port:] check box, and select the WSD port.
9. Click [Next].
10. Click [Have Disk...].
11. Insert the provided CD-ROM into the computer's CD-ROM drive.  
If the [AutoPlay] window appears, click the [Close] button.
12. Click [Browse...], and then specify the location of the INF file.

If the CD-ROM drive is D, the source files of the printer driver are stored in the following locations:

- PCL 5e  
D:\DRIVERS\PCL5E\XP\_VISTA or x64\((language)\DISK1
- PCL 5c  
D:\DRIVERS\PCL5C\XP\_VISTA or x64\((language)\DISK1
- PCL 6  
D:\DRIVERS\PCL6\XP\_VISTA or x64\MUI\DISK1
- PostScript 3  
D:\DRIVERS\PS\XP\_VISTA or x64\MUI or (language)\DISK1

If the file path of the printer driver contains the word "MUI", the driver will be installed in the language of the operating system.

The PostScript 3 printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

13. Click [OK] to close the [Install From Disk] window.
14. Select the brand name and model name of the printer you want to use, and then click [OK].
15. Follow the instructions that appear. Modify settings such as printer name, default printer, and printer sharing configuration, as necessary. You can also print the test page.
16. Click [Finish].

If installation is successful, the icon of the printer connected to the WSD port will appear in the window for configuring printers.

#### ↓ Note

- The port name that follows "WSD" uses random character strings. It cannot be changed freely.
- To stop the installation, click [Cancel] before the installation is complete. When re-installing the WSD Port, right-click the printer's icon in the [Network] window, and then click [Uninstall].

## Using the SmartDeviceMonitor for Client Port

This describes how to install the printer driver using the SmartDeviceMonitor for Client port.

To use this function, you must first download SmartDeviceMonitor for Client from the manufacturer's Web site and install it on your computer. Contact your local dealer for information on downloading SmartDeviceMonitor for Client.

#### ★ Important

- **Manage Printers permission is required to install the drivers. Log on as an Administrators group member.**

## Installing the PCL printer driver (TCP/IP)

1. Close all applications except this manual.
2. Insert the CD-ROM into the CD-ROM drive.

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

3. Select an interface language, and then click [OK].

The default interface language is English.

4. Click [PCL Printer Drivers].

The software license agreement appears in the [License Agreement] window.

5. After reading the agreement, select the [I accept the agreement.] check box, and then click [Next].
6. In the [Select Program] window, select the check box of the printer driver you want to use.  
You can select several printer drivers.  
The PCL 6 printer driver is installed in the language specified by your operating system.
7. Click [Next].
8. Select the check box of the printer model you want to use.  
The printer name can be changed in the Change settings for 'Printer Name' box.
9. Double-click the printer name to display the printer settings.  
The details shown in [Comment], [Driver], and [Port] vary depending on the operating system, printer model, and port.
10. Click [Port], and then click [Add].
11. Select [SmartDeviceMonitor for Client 2], and then click [OK].
12. Click [TCP/IP], and then click [Search].  
A list of printers using TCP/IP appears.
13. Select the printer you want to use, and then click [OK].  
Only printers that respond to a broadcast from the computer appear. To use a printer not listed here, click [Specify Address], and then enter the IP address or host name of the printer.
14. Configure the user code, default printer, and shared printer as necessary.
15. Click [Continue].
16. Click [Finish].
17. Click [Finish].

**Note**

- To stop installation of the selected software, click [Cancel] before the installation is complete.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use [Add Printer]. See p.51 "Messages Displayed When Installing the Printer Driver".
- A user code can be set after the printer driver installation. For information about user code, see the printer driver Help.

### Installing the PostScript 3 printer driver (TCP/IP)

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1. Close all applications except this manual.
2. Insert the CD-ROM into the CD-ROM drive.  
The installer starts.



Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

**3. Select an interface language, and then click [OK].**

The default interface language is English.

The printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

**4. Click [PostScript 3 Printer Driver].**

Under Windows Vista/7, and Windows Server 2008, proceed to step 6.

**5. Click [Next].**

**6. Click [Local printer attached to this computer], and then click [Next].**

Under Windows Vista/7, and Windows Server 2008, click [Add a local printer].

**7. Click [Create a new port:].**

**8. Click [SmartDeviceMonitor for Client 2], and then click [Next].**

**9. Click [TCP/IP], and then click [Search].**

A list of printers using TCP/IP appears.

**10. Select the printer you want to use, and then click [OK].**

Only printers that respond to a broadcast from the computer appear. To use a printer not listed here, click [Specify Address], and then enter the IP address or host name of the printer.

**11. Select the brand name and model name of the printer you want to use, and then click [Next].**

**12. Follow the instructions that appear. Modify settings such as printer name, default printer, and printer sharing configuration, as necessary. You can also print the test page.**

**13. Click [Finish].**

**Note**

- To stop installation of the selected software, click [Cancel] before the installation is complete.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use [Add Printer]. See p.51 "Messages Displayed When Installing the Printer Driver".
- A user code can be set after the printer driver installation. For information about user code, see the printer driver Help.

## Installing the PCL printer driver (IPP)

- 1. Close all applications except this manual.**
- 2. Insert the CD-ROM into the CD-ROM drive.**

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

**3. Select an interface language, and then click [OK].**

The default interface language is English.

**4. Click [PCL Printer Drivers].**

The software license agreement appears in the [License Agreement] window.

**5. After reading the agreement, select the [I accept the agreement.] check box, and then click [Next].**

**6. In the [Select Program] window, select the check box of the printer driver you want to use.**

The PCL 6 printer driver is installed in the language specified by your operating system.

**7. Click [Next].**

**8. Select the check box of the printer model you want to use.**

The printer name can be changed in the Change settings for 'Printer Name' box.

**9. Double-click the printer name to display the printer settings.**

The details shown in [Comment], [Driver], and [Port] vary depending on the operating system, printer model, and port.

**10. Click [Port], and then click [Add].**

**11. Click [SmartDeviceMonitor for Client 2], and then click [OK].**

**12. Click [IPP].**

**13. In the [Printer URL] box, enter "http://(printer's IP address or host name)/printer (or ipp)" as the printer's address.**

If the server authentication is issued, to enable SSL (a protocol for encrypted communication), enter "https://printer's IP address/printer" (Internet Explorer 5.01, or a higher version must be installed). (example IP address: 192.168.15.16)

http://192.168.15.16/printer

https://192.168.15.16/printer

You can enter "http://printer's IP address/ipp" as the printer's address.

**14. Enter a name for identifying the printer in [IPP Port Name]. Use a name different from the one of any existing ports.**

If a name is not specified here, the address entered in the [Printer URL] box becomes the IPP port name.

**15. Click [Detailed Settings] to make necessary settings.**

For details about the settings, see SmartDeviceMonitor for Client Help.

**16. Click [OK].**

**17. Check that the port of the selected printer is displayed in [Port].**

18. Configure the user code, default printer, and shared printer as necessary.

19. Click [Continue].

20. Click [Finish].

21. Click [Finish].

When you are prompted to restart your computer, restart it by following the instructions that appear.

**Note**

- To stop installation of the selected software, click [Cancel] before the installation is complete.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use [Add Printer]. See p.51 "Messages Displayed When Installing the Printer Driver".

2

## Installing the PostScript 3 printer driver (IPP)

1. Close all applications except this manual.

2. Insert the CD-ROM into the CD-ROM drive.

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

3. Select an interface language, and then click [OK].

The default interface language is English.

The printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

4. Click [PostScript 3 Printer Driver].

Under Windows Vista/7, and Windows Server 2008, proceed to step 6.

5. Click [Next].

6. Click [Local printer attached to this computer], and then click [Next].

Under Windows Vista/7, and Windows Server 2008, click [Add a local printer].

7. Click [Create a new port:].

8. Click [SmartDeviceMonitor for Client 2], and then click [Next].

9. Click [IPP].

10. In the [Printer URL] box, enter "http://(printer's IP address or host name)/printer (or ipp)" as the printer's address.

(example IP address: 192.168.15.16)

http://192.168.15.16/printer

If the server authentication is issued, to enable SSL (a protocol for encrypted communication), enter "https://(printer's IP address or host name)/printer" (Internet Explorer 5.01, or a higher version must be installed).

https://192.168.15.16/printer

You can enter "http://printer's IP address or host name/ipp" as the printer's address.

2

- 11. Enter a name for identifying the printer in [IPP Port Name]. Use a name different from the one of any existing port.**

If a name is not specified here, the address entered in the [Printer URL] box becomes the IPP port name.

- 12. Click [Detailed Settings] to make necessary settings.**
- 13. Click [OK].**
- 14. Select the brand name and model names of the printer you want to use, and then click [Next].**
- 15. Follow the instructions that appear. Modify settings such as printer name, default printer, and printer sharing configuration, as necessary. You can also print the test page.**
- 16. Click [Finish].**

 **Note**

- To stop installation of the selected software, click [Cancel] before the installation is complete.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use [Add Printer]. See p.51 "Messages Displayed When Installing the Printer Driver".

## Changing the port settings for SmartDeviceMonitor for Client

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Follow the procedure below to change the SmartDeviceMonitor for Client settings, such as TCP/IP protocol.

### Windows XP, Windows Server 2003/2003 R2:

- 1. On the [Start] menu, click [Printers and Faxes].**  
The [Printers and Faxes] window appears.
- 2. Click the icon of the printer you want to use. On the [File] menu, click [Properties].**
- 3. Click the [Ports] tab, and then click [Configure Port].**  
The [Port Configuration:] window appears.

### Windows Vista, Windows Server 2008:

- 1. On the [Start] menu, click [Control Panel].**  
The [Control Panel] window appears.

2. Click [Printer].

The [Printers] window appears.

3. Right-click the icon of the printer you want to use, and then click [Properties].

4. Click the [Ports] tab, and then click [Configure Port].

The [Port Configuration:] window appears.

### Windows 7, Windows Server 2008 R2:

1. On the [Start] menu, click [Devices and Printers].

The [Devices and Printers] window appears.

2. Right-click the icon of the printer you want to use, and then click [Printer Properties].

3. Click the [Ports] tab, and then click [Configure Port].

The [Port Configuration:] window appears.

#### Note

- User, proxy, and timeout settings can be configured for IPP.
- For details about these settings, see p.21 "Using the SmartDeviceMonitor for Client Port", or SmartDeviceMonitor for Client Help.

## Using as the Windows Network Printer

This describes how to install the PCL or PostScript 3 printer driver when using the printer as the Windows network printer.

To use the print server, install the printer driver by selecting "Network printer server", and then select the Windows shared printer.

This section assumes that the client has already been configured to communicate with a Windows print server. Do not begin the following procedure before the client is set up and configured correctly.

### ★ Important

- **Manage Printers permission is required to install the drivers. Log on as an Administrators group member.**

---

### Installing the PCL printer driver

---

1. **Close all applications except this manual.**
2. **Insert the CD-ROM into the CD-ROM drive.**

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

If the [User Account Control] window appears, click [Continue] or [Yes].

3. **Select an interface language, and then click [OK].**

The default interface language is English.

4. **Click [PCL Printer Drivers].**

The software license agreement appears in the [License Agreement] window.

5. **After reading the agreement, select the [I accept the agreement.] check box, and then click [Next].**

6. **In the [Select Program] window, select the check box of the printer driver you want to use.**

You can select several printer drivers.

The PCL 6 printer driver is installed in the language specified by your operating system.

7. **Click [Next].**

8. **Select the check box of the printer model you want to use.**

The printer name can be changed in the Change settings for 'Printer Name' box.

9. **Double-click the printer name to display the printer settings.**

The details shown in [Comment], [Driver], and [Port] vary depending on the operating system, printer model, and port.

10. Click [Port], and then click [Add].
11. Click [Network Printer], and then click [OK].
12. Double-click the computer name you want to use as the print server in the [Browse for Printer] window.
13. Select the printer you want to use, and then click [OK].
14. Check that the port of the selected printer is displayed in [Port].
15. Configure the user code, default printer, and shared printer as necessary.
16. Click [Continue].
17. Click [Finish].
18. Click [Finish].

When you are prompted to restart your computer, restart it by following the instructions that appear.

#### Note

- A user code can be set after the printer driver installation. For information about user code, see the printer driver Help.
- To stop installation of the selected software, click [Cancel] before the installation is complete.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use [Add Printer]. See p.51 "Messages Displayed When Installing the Printer Driver".

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## Installing the PostScript 3 printer driver

---

1. Close all applications except this manual.
2. Insert the CD-ROM into the CD-ROM drive.

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

If the [User Account Control] window appears, click [Continue] or [Yes].

3. Select an interface language, and then click [OK].

The default interface language is English.

The printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

4. Click [PostScript 3 Printer Driver].

Under Windows Vista/7, and Windows Server 2008, proceed to step 6.

5. Click [Next].

6. Select the [A network printer, or a printer attached to another computer] check box, and then click [Next].

Under Windows Vista/7, Windows Server 2008, click [Add a network, wireless or Bluetooth printer], and click [The printer that I want isn't listed].

7. Select [Browse for a printer], and then click [Next].
8. Double-click the computer name you want to use as the print server in the [Shared printers] window.
9. Select the brand name and printer names you want to use, and then click [OK].
10. Configure the default printer as necessary and then click [Next].
11. Click [Finish].

When you are prompted to restart your computer, restart it by following the instructions that appear.

**Note**

- A user code can be set after the printer driver installation. For information about user code, see the printer driver Help.
- To stop installation of the selected software, click [Cancel] before the installation is complete.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use [Add Printer]. See p.51 "Messages Displayed When Installing the Printer Driver".



# Using as the NetWare Print Server/Remote Printer

This describes how to set up the Windows computer used as the NetWare client.

## ★ Important

- Under Windows XP, and Windows Server 2003/2003 R2, **Manage Printers** permission is required to install the drivers. Log on as an **Administrators** group member.
- **IPX/SPX (NetWare)** cannot be used under Windows XP x64/Vista/7 and Windows Server 2003 x64/2003 R2 x64/2008/2008 R2.

The following explanation assumes NetWare Client is installed on the client computer and the NetWare server environment is correctly set up. Install all necessary client applications before following this procedure.

Set up the printer driver while logging on to the NetWare file server.

The following values are used in the example:

- NetWare version: 4.1
- File server name: CAREE
- Queue name: R-QUEUE

- 1. Close all applications except this manual.**
- 2. Insert the CD-ROM into the CD-ROM drive.**

The installer starts.

Auto Run may not work with certain operating system settings. In that case, launch "Setup.exe" on the CD-ROM root directory.

- 3. Select an interface language, and then click [OK].**

The default interface language is English.

- 4. Click [PCL Printer Drivers].**
- 5. The software license agreement appears in the [License Agreement] window.**

After reading the agreement, click [I accept the agreement.], and then click [Next].

- 6. Select the printer driver you want to use in the [Select Program] window.**

You can select several printer drivers.

The PCL 6 printer driver is installed in the language specified by your operating system.

- 7. Click [Next].**
- 8. Select the [Printer Name] check box to select the printer model you want to use.**

The printer name can be changed in the Change settings for 'Printer Name' box.

**9. Double-click the printer name to display the printer settings.**

The details shown in [Comment], [Driver], and [Port] vary depending on the operating system, printer model, and port.

**10. Click [Port], and then click [Add].**

**11. Click [Network Printer], and then click [OK].**

**12. Double-click the name of the NetWare file server on the network tree.**

The created queue is displayed.

**13. Select the print queue, and then click [OK].**

**14. Check that the port of the selected printer is displayed in [Port].**

**15. Click [Continue].**

The printer driver installation starts.

**16. Click [Finish] in the [Select Program] window.**

**17. After the installation is completed, select one of the options to restart the computer either now or later, and then click [Finish].**

Restart the computer to complete installation.

**18. After restarting the computer, open the printer properties from the [Printers and Faxes] window.**

Under Windows Server 2003/2003 R2, launch the [Printers] window, and then open the printer properties.

**19. Click the [NetWare setting] tab.**

Under Windows Server 2003/2003 R2, on the [Printer Settings] tab, clear the [Form Feed] and [Enable Banner] check boxes.

Do not select these check boxes since they are automatically selected by the printer driver. If you select the check boxes, the printer may not print correctly.

**20. Click [OK] to close the printer properties window.**

**Note**

- To stop installation of the selected software, click [Cancel] before the installation is complete.
- The protocol is set to inactive as default. Enable the protocol on the control panel, using Web Image Monitor, SmartDeviceMonitor or telnet.

---

## When using the PostScript 3 Printer Driver

---

**★ Important**

- In an IPv6 environment, NetWare servers cannot be used.

Follow the procedure below to set up the PostScript 3 printer driver.

1. In the [Printers] or [Printers and Faxes] window, open the printer properties.
2. Click the [PostScript] tab.  
When using Windows XP, and Windows Server 2003/2003 R2, click the [Device Settings] tab, and then proceed to step to clear the check box.
3. Click [Advanced].
4. Clear the [Send CTRL+D before job] and [Send CTRL+D after job] check boxes, and then click [OK].
5. Click [OK] to close the printer properties window.

---

## Form Feed

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Do not use NetWare to configure form feed. Form feed is controlled by the printer driver on Windows. If NetWare form feed is configured, the printer may not print properly.

Follow the procedure below to disable form feed according to the operating system used:

- Clear the [Form feed] check box on the [NetWare Settings] tab in the printer properties window.

---

## Banner Page

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Do not use NetWare to configure a banner page.

Follow the procedure below to disable banner pages according to the operating system used:

- Clear the [Enable banner] check box on the [NetWare Settings] tab in the printer properties dialog box.

---

## Printing after Resetting the Printer

---

Printer to print server connection requires 30 - 40 seconds to resume after the printer is reset. During this period, jobs may be accepted (depending on NetWare specifications) but not printed.

To print after resetting the printer as the remote printer, check on the print server that the remote printer is disconnected, or wait for two minutes before trying to print.



# 3. Local Connection

This chapter explains how to install the printer driver under Windows for through a local connected printer.

## Installing the Printer Driver Using USB

This section explains how to install printer drivers using USB.

Before installing, check that only the operating system is running on the computer and no print jobs are in progress.

### ★ Important

- **Manage Printers permission is required to install the drivers. Log on as an Administrators group member.**

If the printer driver has already been installed, and plug and play is enabled, the icon of the printer connected to the "USB" port is added to the [Printers], [Printers and Faxes], or [Devices and Printers] window.

If the printer driver is not installed, follow the plug-and-play instructions of the printer to install it from the CD-ROM provided with this printer.

---

### Windows XP, Windows Server 2003/2003 R2 - USB

---

1. **Close all applications except this manual.**
2. **Check that the power of the printer is off.**
3. **Connect the printer to your computer with a USB cable.**  
Connect the USB cable firmly.
4. **Turn on the power of the printer.**  
Found New Hardware Wizard starts, and USB Printing Support is installed automatically.
5. **Click [No, not this time], and then click [Next].**
6. **In the [Found New Hardware] window, click [Install from a list or specific location [Advanced]], and then click [Next].**
7. **Insert the CD-ROM into the CD-ROM drive.**  
If Auto Run starts, click [Cancel] and then [Exit].
8. **Select the [Search removable media (floppy, CD-ROM...)] check box under [Search for the best driver in these locations], and then click [Next].**
9. **Specify the location where the source files of the printer driver are stored.**  
If the CD-ROM drive is D, the source files of the printer driver are stored in the following locations:
  - PCL 5e  
D:\DRIVERS\PCL5E\XP\_VISTA or x64\(|language)\DISK1

- PCL 5c  
D:\DRIVERS\PCL5C\XP\_VISTA or x64\{(language)\DISK1
- PCL 6  
D:\DRIVERS\PCL6\XP\_VISTA or x64\MUI\DISK1
- PostScript 3  
D:\DRIVERS\PS\XP\_VISTA or x64\MUI or (language)\DISK1

If the file path of the printer driver contains the word "MUI", the driver will be installed in the language of the operating system.

The PostScript 3 printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

3

**10. Check the printer driver location, and then click [Next].**

**11. Click [Finish].**

If the printer driver has already been installed and plug and play is enabled, the icon of the printer connected to the "USB001" port is added to the [Printers], [Printers and Faxes], or [Devices and Printers] window.

**Note**

- To disable Auto Run, press the left Shift key when inserting the CD-ROM into the drive and keep it pressed until the computer finishes reading from the CD-ROM.
- The number after "USB" varies depending on the number of printers connected.

---

## Windows Vista, Windows Server 2008 - USB

---

1. Close all applications except this manual.
2. Check that the power of the printer is off.
3. Connect the printer to your computer with a USB cable.  
Connect the USB cable firmly.
4. Turn on the power of the printer.  
Found New Hardware Wizard starts, and USB Printing Support is installed automatically.
5. In the [Found New Hardware] window, click [Locate and install driver software (recommended)].  
If the [User Account Control] window appears, click [Yes] or [Continue].
6. Insert the CD-ROM into the CD-ROM drive.  
If Auto Run starts, click [Cancel] and then [Exit].

### 7. Specify the location where the source files of the printer driver are stored.

If the CD-ROM drive is D, the source files of the printer driver are stored in the following locations:

- PCL 5e  
D:\DRIVERS\PCL5E\XP\_VISTA or x64\((language)\DISK1
- PCL 5c  
D:\DRIVERS\PCL5C\XP\_VISTA or x64\((language)\DISK1
- PCL 6  
D:\DRIVERS\PCL6\XP\_VISTA or x64\MUI\DISK1
- PostScript 3  
D:\DRIVERS\PS\XP\_VISTA or x64\MUI or (language)\DISK1

If the file path of the printer driver contains the word "MUI", the driver will be installed in the language of the operating system.

The PostScript 3 printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

### 8. Check the printer driver location, and then click [Next].

### 9. Click [Close].

If the installation is successful, the icon of the printer connected to the "USB001" port is added to the [Printers], [Printers and Faxes], or [Devices and Printers] window.

#### ↓ Note

- To disable Auto Run, press the left Shift key when inserting the CD-ROM into the drive and keep it pressed until the computer finishes reading from the CD-ROM.
- The number after "USB" varies depending on the number of printers connected.

## Windows 7, Windows Server 2008 R2 - USB

1. Close all applications except this manual.
2. Check that the power of the printer is off.
3. Connect the printer to your computer with a USB cable.  
Connect the USB cable firmly.
4. Turn on the power of the printer.  
Found New Hardware Wizard starts, and USB Printing Support is installed automatically.
5. Click [Devices and Printers].
6. Double-Click the icon of printer you want to use in the [Unspecified] category.
7. Click the [Hardware] tab.

3

- 8. Click [Properties].
- 9. Click the [General] tab.
- 10. Click [Change settings].
- 11. Click [Driver] tab.
- 12. Click [Update Driver...].
- 13. Click [Browse my computer for driver software].
- 14. Insert the CD-ROM into the CD-ROM drive.

If Auto Run starts, click [Cancel] and then click [Exit].

- 15. Click [Browse...], and then select the printer driver location.

If the CD-ROM drive is D, the source files of the printer driver are stored in the following locations:

- PCL 5e  
D:\DRIVERS\PCL5E\XP\_VISTA or x64\{(language)\DISK1
- PCL 5c  
D:\DRIVERS\PCL5C\XP\_VISTA or x64\{(language)\DISK1
- PCL 6  
D:\DRIVERS\PCL6\XP\_VISTA or x64\MUI\DISK1
- PostScript 3  
D:\DRIVERS\PS\XP\_VISTA or x64\MUI or (language)\DISK1

If the file path of the printer driver contains the word "MUI", the driver will be installed in the language of the operating system.

The PostScript 3 printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

- 16. Check the printer driver location, and then click [Next].
- 17. Click [Close].

If the installation is successful, the icon of the printer connected to the "USB001" port is added to the [Devices and Printers] window.

 **Note**

- To disable Auto Run, press the left Shift key when inserting the CD-ROM into the drive and keep it pressed until the computer finishes reading from the CD-ROM.
- The number after "USB" varies depending on the number of printers connected.



## Troubleshooting USB

Problem	Solutions
The printer is not recognized automatically.	Turn off the power of this printer, and then reconnect the USB cable. Make sure the cable is securely connected to the USB ports, and then turn on the power again.
Windows has already configured the USB settings.	Open Windows' Device Manager, and then, under [Universal Serial Bus controllers], remove any conflicting devices. Conflicting devices have a [!] or [?] icon by them. Take care not to accidentally remove required devices. For details, see Windows Help.

# Installing the Printer Driver Using Parallel Cable

This describes how to install the PCL or PostScript 3 printer driver when using a parallel port.

To use a printer connected using a parallel interface, click [LPT1] when installing the printer driver.

## ★ Important

- **Manage Printers permission is required to install the drivers. Log on as an Administrators group member.**

## 3

---

### Installing the PCL Printer Driver

---

This describes how to install the PCL printer driver when using a parallel port.

1. **Close all applications except this manual.**
2. **Insert the CD-ROM into the CD-ROM drive.**

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory.

3. **Select an interface language, and then click [OK].**

The default interface language is English.

4. **Click [PCL Printer Drivers].**

The software license agreement appears in the [License Agreement] window.

5. **After reading the agreement, select the [I accept the agreement.] check box, and then click [Next].**

6. **Select the printer driver you want to use in the [Select Program] window.**

You can select several printer drivers.

The PCL 6 printer driver is installed in the language specified by your operating system.

7. **Click [Next].**

8. **Select the check box of the printer model you want to use.**

The printer name can be changed in the [Change settings for 'Printer Name'] box.

9. **Double-click the printer name to display the printer settings.**

The details shown in [Comment], [Driver], and [Port] vary depending on the operating system, printer model, and port.

10. **Check that [LPT1:] is shown in [Port].**

11. **Configure the user code, default printer, and shared printer as necessary.**

12. **Click [Continue].**

13. Click [Finish].

14. Click [Finish].

When you are prompted to restart your computer, restart it by following the instructions that appear.

#### ↓ Note

- To stop installation of the selected software, click [Cancel] before installation is complete.
- A user code can be set after the printer driver installation. For information about user code, see the printer driver Help.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use [Add Printer]. See p.51 "Messages Displayed When Installing the Printer Driver".

3

## Installing the PostScript 3 Printer Driver

This describes how to install the PostScript 3 printer driver when using a parallel port.

1. Close all applications except this manual.
2. Insert the CD-ROM into the CD-ROM drive.

The installer starts.

Auto Run may not work with certain operating system settings. If this happens, launch "Setup.exe" on the CD-ROM root directory. If the [User Account Control] window appears, click [Continue] to allow the auto play program to run.

3. Select an interface language, and then click [OK].

The printer driver with the selected language will be installed. The English printer driver is installed when the following language is selected: Suomi, Magyar, Cestina, Polski, Portugues, Russian.

4. Click [PostScript 3 Printer Driver].

Under Windows Vista/7, and Windows Server 2008, proceed to step 6.

5. Click [Next].

6. Click [Local printer attached to this computer], and then click [Next].

Under Windows Vista/7, and Windows Server 2008, click [Add a local printer].

7. Select the port you want to use, and then click [Next].

8. Select the brand name and model name of the printer you want to use, and then click [Next].

9. Follow the instructions that appear. Modify settings such as printer name, default printer, and printer sharing configuration, as necessary. You can also print the test page.

10. Click [Finish].

#### ↓ Note

- To stop installation of the selected software, click [Cancel] before installation is complete.

- A user code can be set after the printer driver installation. For information about user code, see the printer driver Help.
- A message appears if there is a newer version of the printer driver already installed. If there is, you cannot install the printer driver using Auto Run. If you still want to install the printer driver, use [Add Printer]. See p.51 "Messages Displayed When Installing the Printer Driver".

# 4. When Using the Printer under Mac OS X

This chapter explains how to install and configure the printer drivers for use on the Mac OS X operating system.

## Installing the Printer

This section explains how to configure a Mac OS X to use EtherTalk, USB, and TCP/IP.

Follow the procedure below to configure Mac OS X 10.3.8. If you are not using Mac OS X 10.3.8, see the manual of the Mac OS X you are using for details.

### ★ Important

- Mac OS X 10.2 or higher is required.

### ↓ Note

- The PPD files are stored in the following folder on the CD-ROM: MacOSX PPD Installer
- If you want to use AppleTalk, use the control panel or Web Image Monitor to enable it. (The default is **Inactive**.) AppleTalk cannot be used under Mac OS X 10.6.

## Installing the PPD Files

Follow the procedure below to install a PPD file to print from Mac OS X.

### ★ Important

- You need an administrator name and a password (phrase). For details, consult your administrator.
1. Insert the CD-ROM into the CD-ROM drive.
  2. Double-click the CD-ROM drive icon.
  3. Double-click the [Mac OS X] folder.
  4. Double-click the [(brand name)] folder.
  5. Double-click the [Mac OS X 10.2 or later] or [Mac OS X 10.5 or later] folder, depending on your operating system.
  6. Double-click the [MacOSX PPD Installer] folder.
  7. Double-click the package file icon.
  8. Follow the instructions on the screen.

---

## Setting Up the PPD File

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**1. Start Printer Setup Utility or Print Center utility.**

Under Mac OS X 10.5 or 10.6, start System Preferences and click [Print & Fax].

**2. Click [Add] or [+].**

**Mac OS X 10.5 or 10.6**

Click [Default]. If the printer name is not displayed, select the icon that corresponds to your network environment.

Under Mac OS 10.5, if several AppleTalk zones exist on the network, select the zone the printer belongs to.

**Mac OS X 10.4**

Click [More Printers...]. Then select the zone from the second pop-up menu.

**Mac OS X 10.3 or lower**

Click [AppleTalk] on the first pop-up menu.

**3. Select the printer, and then select its brand name from the [Printer Model:] pop-up menu.**

**Mac OS X 10.5 or 10.6**

Select the printer you are using from the [Printer Name] list.

**Mac OS X 10.4**

Select the printer you are using from the [Print Using] pop-up menu.

**4. Select the PPD file for the model you are using, and then click [Add].**

Under Mac OS X 10.5 or 10.6, click [Add].

**5. Quit Printer Setup Utility, Print Center utility or System Preferences.**

---

## Setting Up Options for Mac OS X

---

This section explains how to configure the printer driver.

**1. Start Printer Setup Utility or Print Center utility.**

Under Mac OS X 10.5 or 10.6, start System Preferences and click [Print & Fax].

**2. Select the printer you are using, and then click [Show Info].**

Under Mac OS X 10.5 or 10.6, select the printer you are using, and then click [Options & Supplies...].

**3. Select [Installable Options] in the drop-down menu, and then configure settings as needed.**

Under Mac OS X 10.5 or 10.6, click [Driver], and then configure settings as needed.

**4. Click [Apply Changes].**

Under Mac OS X 10.5 or 10.6, click [OK].

### ↓ Note

- If the option you want to select is not displayed, PPD files may not be set up correctly. To complete the setup, check the name of the PPD file displayed in the window.

## Using USB Interface

Follow the procedure below to setup USB connection.

### ★ Important

- **USB2.0 can be used only with Mac OS X 10.3.3 or higher.**
1. **Check that the power of the printer is off.**
  2. **Connect the printer to your computer with a USB cable.**  
Connect the USB cable firmly.
  3. **Turn on the power of the printer.**
  4. **Start Printer Setup Utility or Print Center utility.**  
Under Mac OS X 10.5 or 10.6, start System Preferences and click [Print & Fax].
  5. **Click [Add] or [+].**
    - Mac OS X 10.5 or 10.6**  
Click [Default].
    - Mac OS X 10.4**  
Click a printer that has "USB" indicated in the "Connection" column.
    - Mac OS X 10.3 or lower**  
Click [USB] on the pop-up menu.  
The connected printer appears.
  6. **Select the printer, and then select its brand name from the [Printer Model:] pop-up menu.**
    - Mac OS X 10.5 or 10.6**  
Select the printer you are using from the [Printer Name] list, and [kind] of USB.
    - Mac OS X 10.4**  
Select the printer you are using from the [Print Using] pop-up menu.  
A list of printer types appears.
  7. **Select the connected printer from the list of printer models, and then click [Add].**
  8. **Quit Printer Setup Utility, Print Center utility or System Preferences.**

**Note**

- When printing with a USB connection to a Macintosh computer, printer language does not change automatically. Use the control panel on this printer to change printer language to [Auto Detect] or [PS] before printing.

---

## Using Bonjour

---

Follow the procedure below to print using Bonjour under Mac OS X 10.2.3 or higher. Ethernet, wireless LAN connections can also be used.

4

**1. Start Printer Setup Utility or Print Center utility.**

Under Mac OS X 10.5 or 10.6, start System Preferences and click [Print & Fax].

**2. Click [Add] or [+].**

**Mac OS X 10.5 or 10.6**

Click [Default].

**Mac OS X 10.4**

Click a printer that has "Bonjour" indicated in the "Connection" column.

**Mac OS X 10.3 or lower**

Click [Rendezvous] on the pop-up menu.

**3. Select the name of the connected printer from the list of printer models.**

**Mac OS X 10.5 or 10.6**

Select the printer you are using from the [Printer Name] list, and [kind] of Bonjour.

**Mac OS X 10.4**

Select the printer you are using from the [Print Using] pop-up menu.

A list of printer types appears.

**4. Click [Add].**

Under Mac OS X 10.4, click [Add], and then click [Continue].

**5. Quit Printer Setup Utility, Print Center utility or System Preferences.**

**Note**

- When printing with a Bonjour connection to a Macintosh computer, printer language does not change automatically. Use the control panel on this printer to change printer language to [Auto Detect] or [PS] before printing.



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## Changing to EtherTalk

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Follow the procedure below to configure a Mac OS X to use EtherTalk.

### ★ Important

- You need an administrator name and a password (phrase). For details, consult your administrator.

1. Start System Preferences, and then click the [Network] icon.
2. Click [Built-in Ethernet] or [Ethernet] in the list box.

#### Mac OS X 10.5 or 10.6

Click [Advanced...].

#### Mac OS X 10.3 or 10.4

Select [Built-in Ethernet] or [Ethernet], and then click [Configure...]

3. Click the [AppleTalk] tab.
4. Select the [Make AppleTalk Active] check box.
5. To change AppleTalk zones, select a name from the [AppleTalk Zone:] pop-up menu.
6. When the settings are made, click [Apply Now].

Under Mac OS X 10.5, click [OK], and then click [Apply].

### ↓ Note

- For information about installing applications required for EtherTalk, see the Mac OS manuals.



# 5. Appendix

## Installing Windows 64-bit Compatible Drivers

This section describes how to install the PCL and PostScript 3 printer drivers that are compatible with 64-bit Windows operating systems.

### ★ Important

- **Manage Printers permission is required for driver installation.** Log on as an Administrators group member.
- If you want to use the WSD port, see p.18 "Using the WSD Port" and install the printer driver using the procedure shown.
- If the printer is connected to your computer via USB, see p.35 "Installing the Printer Driver Using USB" and install the printer driver using the procedure shown.
- The PostScript 3 printer driver for a 64-bit Windows operating system can be installed using the installer. Launch the dedicated .exe file included on the provided CD-ROM, and then follow the instructions that appear on the screen. If the CD-ROM drive is D, the .exe file will be stored in the following location: D:\DRIVERS\PS\x64\MUI or (language)\SETUP.EXE

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### Windows XP, Windows Server 2003/2003 R2

Use the following procedure to install the PCL/PostScript 3 driver under the 64-bit version of Windows XP or Windows Server 2003/2003 R2.

1. On the [Start] menu, click [Printers and Faxes].
2. Click [Add a printer], or double-click the [Add Printer] icon.
3. Follow the instructions that appear in the "Add Printer" wizard.

If the printer driver is on the CD-ROM, the location of the driver will be \DRIVERS\ (PCL6, PCL5C, PCL5E, or PS)\x64\ (language) or MUI\DISK1. If the installer starts automatically, click [Cancel] to stop it.

4. Specify a port.

### ↓ Note

- Availability of ports will vary depending on your operating system and the type of interface you are using for connection to the printer. For details, see p.9 "Network Connection" or p.35 "Local Connection".

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## Windows Vista, Windows Server 2008

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Use the following procedure to install the PCL/PostScript 3 driver under the 64-bit version of Windows Vista or Windows Server 2008.

1. On the [Start] menu, click [Control Panel].
2. Click [Hardware and Sound].
3. Click [Printers].
4. Click [Add a printer].
5. Follow the instructions that appear in the "Add Printer" wizard.

If the printer driver is on the CD-ROM, the location of the driver will be \DRIVERS\{PCL6, PCL5C, PCL5E, or PS}\x64\{language} or MUI\DISK1. If the installer starts automatically, click [Cancel] to stop it.

6. Specify a port.

### ↓ Note

- Availability of ports will vary depending on your operating system and the type of interface you are using for connection to the printer. For details, see p.9 "Network Connection" or p.35 "Local Connection".

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## Windows 7, Windows Server 2008 R2

---

Use the following procedure to install the PCL/PostScript 3 driver under the 64-bit version of Windows 7 or Windows Server 2008 R2.

1. On the [Start] menu, click [Devices and Printers].
2. Click [Add a printer].
3. Follow the instructions that appear in the [Add Printer] window.

If the printer driver is on the CD-ROM, the location of the driver will be \DRIVERS\{PCL6, PCL5C, PCL5E, or PS}\x64\{language} or MUI\DISK1. If the installer starts automatically, click [Cancel] to stop it.

4. Specify a port.

### ↓ Note

- Availability of ports will vary depending on your operating system and the type of interface you are using for connection to the printer. For details, see p.9 "Network Connection" or p.35 "Local Connection".

# Messages Displayed When Installing the Printer Driver

This section describes what to do if a message appears when installing the printer driver.

Message number 58 or 34 indicates that the printer driver cannot be installed using Auto Run. Install the printer driver using [Add Printer] or [Add a Printer].

Message number 58 appears if there is a newer version of the printer driver already installed.

---

## Windows XP, Windows Server 2003/2003 R2

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This section describes the procedure under Windows XP or Windows Server 2003/2003 R2.

1. On the [Start] menu, click [Printers and Faxes].

Under Windows XP Home Edition, on the [Start] menu, click [Control Panel].

2. Click or double-click [Add a printer] or the [Add Printer] icon.

3. Follow the instructions in Add Printer Wizard.

If the printer driver is on the CD-ROM, the location of the driver is \DRIVERS\{PCL6, PCL5C, PCL5E, or PS}\XP\_VISTA\{language} or MUI\DISK1. If the installer starts, click [Cancel] to quit.

4. Specify a port.

### ↓ Note

- Available ports vary according to your Windows operating system or the type of interface. For details, see p.9 "Network Connection" or p.35 "Local Connection".

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## Windows Vista, Windows Server 2008

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This section describes the procedure under Windows Vista and Windows Server 2008.

1. On the [Start] menu, click [Control Panel].
2. Click [Hardware and Sound].
3. Click [Printers].
4. Click [Add a printer].
5. Follow the instructions in Add Printer Wizard.

If the printer driver is on the CD-ROM, the location of the driver is \DRIVERS\{PCL6, PCL5C, PCL5E, or PS}\XP\_VISTA\{language} or MUI\DISK1. If the installer starts, click [Cancel] to quit.

6. Specify a port.

**Note**

- Available ports vary according to your Windows operating system or the type of interface. For details, see p.9 "Network Connection" or p.35 "Local Connection".

---

## Windows 7

---

This section describes the procedure under Windows 7.

1. On the [Start] menu, click [Devices and Printers].
2. Click [Add a printer].
3. Follow the instructions in [Add Printer] Window.

If the printer driver is on the CD-ROM, the location of the driver is \DRIVERS\{PCL6, PCL5C, PCL5E, or PS}\XP\_VISTA\{language} or MUI\DISK1. If the installer starts, click [Cancel] to quit.

4. Specify a port.

**Note**

- Available ports vary according to your Windows operating system or the type of interface. For details, see p.9 "Network Connection" or p.35 "Local Connection".

# Making Option Settings for the Printer

When bidirectional communication works correctly, your computer obtains information about option, paper size and paper feed direction settings from the printer automatically. Bidirectional communication also allows you to monitor printer status.

When bidirectional communication is disabled, you have to set up option, paper size and paper feed direction settings on your computer manually.

## Conditions for Bidirectional Communication

To support bidirectional communication, the following conditions must be met:

### When connected with parallel cables

- The computer must support bidirectional communication.
- The interface cable must support bidirectional communication.
- The printer must be connected to the computer using the standard parallel cables and parallel connectors.

### When connected with the network

- The Standard TCP/IP port must be used.
- In addition to the above, one of the following conditions must also be met:
  - The TCP/IP protocol or the IPP protocol is used. (When using the IPP protocol, the IPP port name must include the IP address.)

### When connected with USB

- The printer must be connected to the computer's USB port using the USB interface cable.
- The computer must support bidirectional communication.
- [Enable bidirectional support] must be selected, and [Enable printer pooling] must not be selected on the [Ports] tab with the printer driver.

#### Note

- The PCL 6 and PostScript 3 printer drivers support bidirectional communication and automatic printer status updates.
- To obtain printer information automatically using the bidirectional communication function of the PCL 6 or PostScript 3 printer driver, you must select the [Automatically Update Printer Information] check box on the [Accessories] tab in the printer driver's properties window.
- The PCL 5e/5c printer driver supports bidirectional communication. You can update the printer status manually.

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## If Bidirectional Communication Is Disabled

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This section describes how to set up option, paper size and paper feed direction settings on your computer manually.

 **Important**

- **Manage Printers permission is required to install the drivers. Log on as an Administrators group member.**

**1. On the [Start] menu, click [Printers and Faxes].**

When using Windows Vista or Windows Server 2008, click [Control Panel] on the [start] menu, and then click [Printer]. The [Printers] window appears.

When using Windows 7 or Windows Server 2008 R2, click the [Start] menu, and then click [Devices and Printers].

**2. Click the icon of the printer you want to use.**

**3. On the [File] menu, click [Properties].**

When using Windows Vista or Windows Server 2008, right-click the icon of the printer you want to use, and then click the [Properties].

When using Windows 7 or Windows Server 2008 R2, right-click the icon of the printer you want to use, and then click [Printer properties].

**4. Click the [Accessories] tab.**

If options in the [Accessories] tab are disabled, bidirectional connection is enabled. In this case, no change is necessary for option settings.

**5. Select options installed from the [Options] area, and then make the necessary settings.**

**6. In [Input Tray:] select which trays to use, and then, in [Paper Size:] select the size of the paper that you want to load in each tray.**

Click [Update] in the [Input Tray Settings] area to apply the setting for each tray.

**7. Click [OK] to close the printer properties window.**



# Installing Font Manager

## ★ Important

- Manage Printers permission is required to install the drivers. Log on as an Administrators group member.
- The operating systems compatible with Font Manager are Windows XP/Vista.

1. Close all applications except this manual.
2. Insert the CD-ROM into the CD-ROM drive.  
The installer starts.
3. Select an interface language, and then click [OK].
4. Click [Font Manager].
5. Follow the instructions on the display.

# Using Adobe PageMaker Version 6.0, 6.5, or 7.0

Under Windows XP with Adobe PageMaker, you need to copy PPD files to the PageMaker folder.

PPD files have the .ppd extension in the folder "DRIVERS\PS\PM6\{Language}" on the CD-ROM.

The "PM6" folder inside the "PS" folder is for Windows XP. Use the folder that is appropriate for the operating system you are currently using.

The third folder "{Language}" may be substituted by an appropriate language name.

Copy the .ppd file to the PageMaker folder.

- **For PageMaker 6.0 default installation**

The directory is "C:\PM6\RSRC\PPD4".

- **For PageMaker 6.5 default installation**

The directory is "C:\PM65\RSRC\USENGLISH\PPD4".

The "USENGLISH" may vary depending on your language selection.

- **For PageMaker 7.0 default installation**

The directory is "C:\PM7\RSRC\USENGLISH\PPD4".

The "USENGLISH" may vary depending on your language selection.

## ↓ Note

- If the driver is not set correctly after copying the ".ppd" file, printing may not be performed properly.
- When using PageMaker, the optional features that can be selected by the printer driver will not be active. The following procedure describes how to activate the optional printer features.
  1. On the [File] menu, click [Print].

The [Print Document] window appears.
  2. Make the necessary settings in the [Features] box.

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The proper names of the Windows operating systems are as follows:

- The product names of Windows XP are as follows:
  - Microsoft® Windows® XP Professional Edition
  - Microsoft® Windows® XP Home Edition
  - Microsoft® Windows® XP Professional x 64 Edition
- The product names of Windows Vista are as follows:
  - Microsoft® Windows Vista® Ultimate
  - Microsoft® Windows Vista® Business
  - Microsoft® Windows Vista® Home Premium
  - Microsoft® Windows Vista® Home Basic
  - Microsoft® Windows Vista® Enterprise
- The product names of Windows 7 are as follows:
  - Microsoft® Windows® 7 Home Premium
  - Microsoft® Windows® 7 Professional
  - Microsoft® Windows® 7 Ultimate
  - Microsoft® Windows® 7 Enterprise
- The product names of Windows Server 2003 are as follows:
  - Microsoft® Windows Server® 2003 Standard Edition
  - Microsoft® Windows Server® 2003 Enterprise Edition

- The product names of Windows Server 2003 R2 are as follows:  
Microsoft® Windows Server® 2003 R2 Standard Edition  
Microsoft® Windows Server® 2003 R2 Enterprise Edition
- The product names of Windows Server 2008 are as follows:  
Microsoft® Windows Server® 2008 Standard  
Microsoft® Windows Server® 2008 Enterprise  
Microsoft® Windows Server® 2008 Standard without Hyper-V™  
Microsoft® Windows Server® 2008 Enterprise without Hyper-V™
- The product names of Windows Server 2008 R2 are as follows:  
Microsoft® Windows Server® 2008 R2 Standard  
Microsoft® Windows Server® 2008 R2 Enterprise

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MEMO



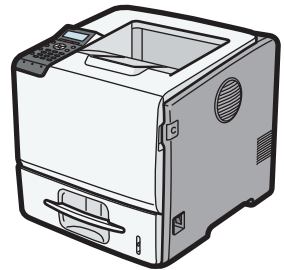
# Operating Instructions Driver Installation Guide







# Operating Instructions Software Guide



- 
- 1** Preparing for Printing
  - 2** Printing Documents
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  - 4** Making Printer Settings Using the Control Panel
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  - 6** Using a Printer Server
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  - 8** Appendix

## **Introduction**

This manual contains detailed instructions and notes on the operation and use of this machine. For your safety and benefit, read this manual carefully before using the machine. Keep this manual in a handy place for quick reference.

Do not copy or print any item for which reproduction is prohibited by law.

Copying or printing the following items is generally prohibited by local law:

bank notes, revenue stamps, bonds, stock certificates, bank drafts, checks, passports, driver's licenses.

The preceding list is meant as a guide only and is not inclusive. We assume no responsibility for its completeness or accuracy. If you have any questions concerning the legality of copying or printing certain items, consult with your legal advisor.

## **Important**

Contents of this manual are subject to change without prior notice.

In no event will the company be liable for direct, indirect, special, incidental, or consequential damages as a result of handling or operating the machine.

For good print quality, the manufacturer recommends that you use genuine toner from the manufacturer.

The manufacturer shall not be responsible for any damage or expense that might result from the use of parts other than genuine parts from the manufacturer with your office products.

Some illustrations in this manual might be slightly different from the machine.

Certain options might not be available in some countries. For details, please contact your local dealer.

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# How to Read This Manual

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## Symbols

---

This manual uses the following symbols:

 **Important**

Indicates points to pay attention to when using the machine, and explanations of likely causes of paper misfeeds, damage to originals, or loss of data. Be sure to read these explanations.

 **Note**

Indicates supplementary explanations of the machine's functions, and instructions on resolving user errors.

 **Reference**

This symbol is located at the end of sections. It indicates where you can find further relevant information.

[ ]

Indicates the names of keys on the machine's display or control panels.

 **Region A** (mainly Europe and Asia)

 **Region B** (mainly North America)

Differences in the functions of Region A and Region B models are indicated by two symbols. Read the information indicated by the symbol that corresponds to the region of the model you are using. For details about which symbol corresponds to the model you are using, see p.9 "Model-Specific Information".

---

## About IP Address

---

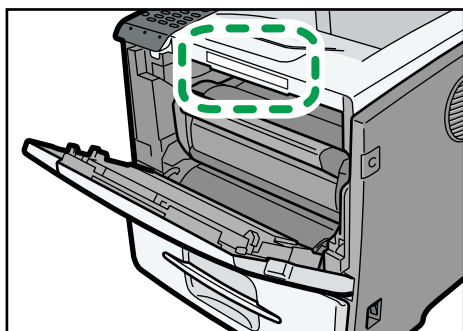
In this manual, "IP address" covers both IPv4 and IPv6 environments. Read the instructions that are relevant to the environment you are using.

---

## Model-Specific Information

This section explains how you can identify the region your machine belongs to.

There is a label on the front cover of the printer, and it is located in the position shown below. The label contains details that identify the region your machine belongs to. Read the label.



CEC247

The following information is region-specific. Read the information under the symbol that corresponds to the region of your machine.

 **Region A** (mainly Europe and Asia)

If the label contains the following, your machine is a region A model:

- CODE XXXX -22, -27
- 220-240V

 **Region B** (mainly North America)

If the label contains the following, your machine is a region B model:

- CODE XXXX -1 1
- 120-127V

### **Note**

- Dimensions in this manual are given in two units of measure: metric and inch. If your machine is a Region A model, refer to the metric units. If your machine is a Region B model, refer to the inch units.

---

## Machine Types

---

This printer comes in two models that have different printing speeds.

When describing procedures that are model-specific, this manual refers to the different printer models as Type 1 or Type 2. The following table describes the model types.

---

### Model types

Model types	Model name
Type 1	SP 5200DN
Type 2	SP 5210DN

---

# Manuals for This Printer

Read this manual carefully before you use this printer.

Refer to the manuals that are relevant to what you want to do with the printer.

## ★ Important

- Media differ according to manual.
- The printed and electronic versions of a manual have the same contents.
- Adobe Acrobat Reader/Adobe Reader must be installed in order to view the manuals as PDF files.
- A Web browser must be installed in order to view the html manuals.

## Safety Information

Contains information about safe usage of this printer.

To avoid injury and prevent damage to the printer, be sure to read this.

## Quick Installation Guide

Contains procedures for removing the printer from its box, and connecting it to a computer.

## Hardware Guide

Contains information about paper; names and functions of the parts of this printer; and procedures such as installing options, replacing consumables, responding to error messages, and resolving jams.

## Driver Installation Guide

Contains procedures for installing the printer driver. This manual is included on the driver CD-ROM.

## Software Guide (This manual)

Contains information about using this printer, its software, and its security functions.

## Security Guide

This manual is for administrators of the printer. It explains security functions that you can use to prevent unauthorized use of the printer, data tampering, or information leakage. Be sure to read this manual when setting the enhanced security functions, or user and administrator authentication.

## VM Card Extended Feature Settings Web Reference

Contains information about setting up the extended features settings using Web Image Monitor.

## UNIX Supplement

Contains information about the usage of commands to operate this printer.

To obtain the "UNIX Supplement", visit our Web site or consult an authorized dealer.

This manual includes explanations of functions and settings that might not be available on this printer.

This manual is provided in English only.

## ↓ Note

- Manuals provided are specific to printer types.

- 
- The following software products are referred to as using general names:



Product name	General name
DeskTopBinder Lite and DeskTopBinder Professional* <sup>1</sup>	DeskTopBinder
SmartDeviceMonitor for Client 2	SmartDeviceMonitor for Client
Enhanced Locked Print NX	ELP-NX

\* 1 Optional

---

# List of Options

This section provides a list of options for this printer, and how they are referred to as in this manual.

Option List	Referred to as
Hard Disk Drive Type 2670	Hard disk
Memory Unit Type G 256 MB	SDRAM module
Memory Unit Type I 512 MB	SDRAM module
Gigabit Ethernet Board Type A	Gigabit Ethernet board
 <b>Region B</b> IEEE 802.11a/g Interface Unit Type L	Wireless LAN interface unit
 <b>Region A</b> IEEE 802.11a/g Interface Unit Type M	Wireless LAN interface unit
IEEE 1284 Interface Board Type A	IEEE 1284 interface board
SD card for NetWare printing Type E	NetWare card
VM CARD Type O	VM card
IPDS Unit Type 5200	IPDS card

 **Note**

- For details about the specifications of each option, see "Specifications", Hardware Guide.





# 1. Preparing for Printing

---

This chapter explains the preparation procedure to use this printer.

## Before Using the Printer

This section explains the settings, procedures, items, and other information on which the user is recommended to check before you can use this printer.

---

### Drivers and Utilities

---

To use this printer, you must install its driver on your computer.

For details about the procedure for installing the printer driver, see Driver Installation Guide on the driver CD-ROM.

This printer comes with two CD-ROMs: a driver CD-ROM and a manual CD-ROM.

For details about the contents of the drivers CD-ROM, see p.17 "Software Included on the CD-ROM".

Besides drivers, there are other useful utilities available for this printer.

For details about these utilities, see p.19 "Downloading Utility Software".

---

### Using User Authentication

---

Using authentication, administrators manage the printer and its users. To enable authentication, information about both administrators and users must be registered in order to authenticate users via their login user names and passwords.

There are four kinds of administrator. Each administrator manages a specific area of printer usage, such as settings or user registration.

Access limits for each user are specified by the administrator responsible for user access to printer functions and documents and data stored in the printer.

When authentication is set on the printer, see p.21 "If User Authentication is Specified".

---

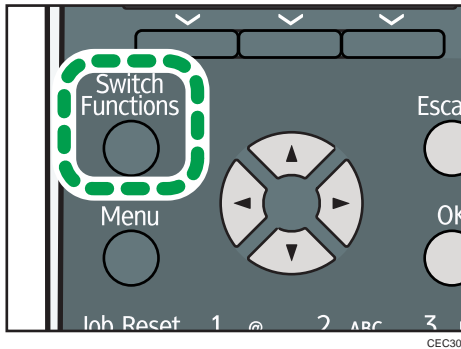
### Accessing the Extended Features

---

Various functions besides printing can be accessed using the [Switch Functions] key on this printer.

Use the following procedure to switch between applications.

1. Press the [Switch Functions] key.



2. Press the [▼] or [▲] key to select the [Java™/X].

3. Press the [OK] key.

4. If more than one extended feature is installed, use the [▼] or [▲] key to select the extended feature you want to access.

5. Press the [OK] key.

↓ **Note**

- On Type 1 models, function switching is possible only when the VM card is installed.
- This manual explains the procedure for changing settings when 'Printer' is selected as the application.

# Software Included on the CD-ROM

This section explains the software included on the "Printer Drivers" CD-ROM that comes with this printer.

1

## Viewing the Contents of the CD-ROM

This section explains how to view the contents of the CD-ROM.

1. Insert the CD-ROM into the CD-ROM drive.
2. Select a language, and then click [OK].
3. Click [Browse This CD-ROM].

Explorer starts and displays the contents of the CD-ROM.

## Printer Drivers for This Printer

This section explains printer drivers for this printer.

### ★ Important

- You can install the PCL printer drivers (PCL 5e and PCL 6), and the PostScript 3 printer driver from the CD-ROM provided with this printer or download them from the manufacturer's Web site.
- The provided CD-ROM contains printer drivers for Windows XP x64/Vista x64/7 x64 and Windows Server 2003 x64/2003 R2 x64/2008 x64/2008 R2.

Printing requires installation of the printer driver that is correct for your operating system. The following drivers are included on the CD-ROM labeled "Printer Drivers".

Operating System	PCL 5e	PCL 6	PostScript 3
Windows XP <sup>*1</sup>	OK	OK	OK
Windows Vista <sup>*2</sup>	OK	OK	OK
Windows 7 <sup>*3</sup>	OK	OK	OK
Windows Server 2003 <sup>*4</sup>	OK	OK	OK
Windows Server 2008 <sup>*5</sup>	OK	OK	OK
Mac OS X <sup>*6</sup>	—	—	OK

\*1 Microsoft Windows XP Professional Edition/Microsoft Windows XP Home Edition

\*2 Microsoft Windows Vista Ultimate/Microsoft Windows Vista Enterprise/Microsoft Windows Vista Business/  
Microsoft Windows Vista Home Premium/Microsoft Windows Vista Home Basic

- \*3 Microsoft Windows 7 Home Premium/Microsoft Windows 7 Professional/Microsoft Windows 7 Ultimate/Microsoft Windows 7 Enterprise
- \*4 Microsoft Windows Server 2003 Standard Edition/Microsoft Windows Server 2003 Enterprise Edition/Microsoft Windows Server 2003 R2 Standard Edition/Microsoft Windows Server 2003 R2 Enterprise Edition
- \*5 Microsoft Windows Server 2008 Standard /Microsoft Windows Server 2008 Enterprise/Microsoft Windows Server 2008 Standard without Hyper-V/Microsoft Windows Server 2008 Enterprise without Hyper-V/Microsoft Windows Server 2008 R2 Standard/Microsoft Windows Server 2008 R2 Enterprise
- \*6 Mac OS X 10.2 later

### **PCL Printer Drivers**

Two kinds of PCL printer drivers (PCL 5e and PCL 6) are included. These drivers allow your computer to communicate with this printer using a printer language.

### **PostScript 3 Printer Driver**

PostScript 3 printer driver allows the computer to communicate with the printer using a printer language.

### **PPD files**

PPD files allow the printer driver to enable specific printer functions.

### **Font Manager**

For installing new screen fonts, or organizing and managing fonts already in the system. For details about Font Manager, see the manual on the CD-ROM labeled "Printer Drivers".

#### **Note**

- Some applications may require installation of the PCL 5e printer driver.
- For details about installation procedure, see Driver Installation Guide.

# Downloading Utility Software

This section explains the utility software for this printer.

1

---

## SmartDeviceMonitor for Admin

---

This section describes the functions available with SmartDeviceMonitor for Admin.

SmartDeviceMonitor for Admin is an application that monitors network printers. It can monitor multiple network printers using IP address. We recommend that network administrators use this application.

SmartDeviceMonitor for Admin has the following functions:

- Group management for the machines
- Monitoring the machines
- Operation restriction
- Managing the Address Book
- Per-user counters
- User restriction

SmartDeviceMonitor for Admin with full functionality can be purchased from your local dealer. Contact your local dealer for information on purchasing the software.

SmartDeviceMonitor for Admin with limited functionality is available as a free download. Contact your local dealer for information on downloading the software.

### Note

- For details about the functionality, see the manual for SmartDeviceMonitor for Admin.

---

## DeskTopBinder

---

This section describes the functions available with DeskTopBinder.

DeskTopBinder is to be installed on the client computers for integration and management of various kinds of files such as scan files, files created with applications, and existing scan files. This software allows you to use various functions for stored scan files such as viewing stored files. Also, with the ScanRouter delivery software, you can view the files stored in in-trays of the delivery server, or use other functions for stored files.

DeskTopBinder Professional provides the full functionality of the software. Contact your local dealer for information on purchasing the software.

DeskTopBinder Lite with limited functionality is available as a free download. Contact your local dealer for information on downloading the software.

**Note**

- For details about the functionality, see Help of DeskTopBinder.

**1**

---

## **SmartDeviceMonitor for Client**

---

This section describes the functions available with SmartDeviceMonitor for Client.

SmartDeviceMonitor for Client allows you to manage and print various data such as files created with an application, images scanned with a scanner, and existing images as one document.

SmartDeviceMonitor for Client has the following functions:

- Checking printer supplies such as paper or toner
- Checking results of print jobs executed from the computer

SmartDeviceMonitor for Client is available as a free download. Contact your local dealer for information on downloading the software.

**Note**

- For details about the functionality, see Help of SmartDeviceMonitor for Client.

## If User Authentication is Specified

When user authentication (User Code Authentication, Basic Authentication, Windows Authentication, LDAP Authentication, or Integration Server Authentication) is specified, an authentication screen appears whenever a user attempts to use the printer. The printer is usable only if the user enters a valid login user name and password on this screen.

When authentication is specified, users must log in to use the printer and log out when they have finished using it. Logging out prevents unauthorized usage of the printer, so users must be sure to log out.

### Note

- Consult the User Administrator about your login user name, password, and user code.
- For user code authentication, enter a number registered in the Address Book as User Code.

---

### User Code Authentication (Using the Printer Driver)

---

To specify User Code using the printer driver, you must specify a user code in the printer Printing Preference of the printer driver. The following procedure explains how to configure the printer driver settings under Windows XP. If you are using another operating system, the procedure might vary slightly.

1. On the [Start] menu, click [Printers and Faxes].
2. Click the icon of the printer you want to use.
3. On the [File] menu, click [Printing Preferences...].
4. Click the [Detailed Settings] tab.
5. In the [Menu:] box, click the [Job Setup] icon.
6. Enter the user code in [User Code:], using up to 8 numeric characters.
7. Click [OK].

---

### Log in (Using the Control Panel)

---

Use the following procedure to log in when Basic Authentication, Windows Authentication, LDAP Authentication, or Integration Server Authentication is enabled.

1. Press the [Menu] key.
2. Press [Login].
3. Enter the login user name, and then press the [OK] key.
4. Enter the login password, and then press the [OK] key.

When the user is authenticated, the screen for the function you are using appears.

---

## Log out (Using the Control Panel)

---

Use the following procedure to log out when Basic Authentication, Windows Authentication, or LDAP Authentication is set.

1. Press the [Menu] key.
2. Press [Logout].
3. Press [Yes].

### ↓ Note

- Users who log in using the printer driver do not have to log out.

---

## Log in (Using the Printer Driver)

---

When Basic Authentication, Windows Authentication, or LDAP Authentication is set, users must enter a login user name and password to use the printer and/or print an individual job. The following procedure explains how to configure the printer driver settings under Windows XP. If you are using another operating system, the procedure might vary slightly.

### Setting Authentication

1. On the [Start] menu, click [Printers and Faxes].
2. Click the icon of the printer you want to specify authentication for.
3. On the [File] menu, click [Properties].
4. Click the [Advanced Options] tab.
5. On the [Authentication] menu, select [User Authentication].
6. Click [OK].

### Setting Authentication for individual print jobs

1. On the [Start] menu, click [Printers and Faxes].
2. Click icon of the printer you want to specify authentication for.
3. On the [File] menu, click [Printing Preferences...].
4. Click the [Detailed Settings] tab.
5. In the [Menu:] box, click the [Job Setup] icon.
6. Click [Authentication...].
7. In [Login User Name:], enter a login user name using up to 32 characters.
8. In [Login Password:], enter a login password using up to 128 characters. Then, in [Reenter the confirmation password:], enter the login password again, and then click [OK].



---

## Log in (Using Web Image Monitor)

---

Use the following procedure to log in to the printer via Web Image Monitor.

1. Click **[Login]** in the Header area of Web Image Monitor.
2. Enter a login user name and password, and then click **[Login]**.

Depending on the configuration of your Web browser, the login user name and password might be saved. If you do not want to save them, configure your Web browser's settings so that this information is not saved.

### ↓ Note

- If User Code Authentication is used, Web Image Monitor cannot be used to log in to the printer.
- The procedure may differ depending on Web Image Monitor used.
- For details about the login user name and password, consult your network administrator.

---

## Log out (Using Web Image Monitor)

---

Use the following procedure to log out of Web Image Monitor.

1. Click **[Logout]** to log out.

### ↓ Note

- Delete the cache memory in Web Image Monitor after logging out.



## 2. Printing Documents

This chapter explains how to print documents using the printer driver. It also describes the procedure for configuring PDF Direct Print and other printing functions.

### Displaying the Printer Driver Settings Screen

2

This section explains how to open and configure the printer driver properties.

The following procedure explains how to configure the printer driver settings under Windows XP. If you are using another operating system, the procedure might vary slightly.

#### Making Printer Default Settings - The Printer Properties

##### ★ Important

- To change the printer's default settings (including settings for options), log on using an account that has Manage Printers permission. Members of the Administrators group have Manage Printers permission by default.
- You cannot change the printer default settings for individual users. Settings made in the [Printer Properties] dialog box are applied to all users.

1. On the [Start] menu, click [Printers and Faxes].
2. Click the icon of the printer you want to use.
3. On the [File] menu, click [Properties].
4. Make the settings you require, and then click [OK].

##### ↓ Note

- Depending on the applications, the settings you make here may not be used as the default settings.
- For details, see the printer driver Help.

#### Making Printer Default Settings - Printing Preferences

##### ★ Important

- When the printer driver is distributed from the print server, the setting values specified by the server are displayed as the default for [Printing Defaults...].
1. On the [Start] menu, click [Printers and Faxes].
  2. Click the icon of the printer you want to use.
  3. On the [File] menu, click [Printing Preferences...].

#### 4. Make the settings you require, and then click [OK].

The setting is temporarily registered as [Unregistered] in the [One Click Preset List:] area.

#### ↓ Note

- Depending on the applications, the settings you make here may not be used as the default settings.
- The [Unregistered] setting is invalid if the other [One Click Presets] icon is selected. If you wish to confirm the [Unregistered] setting, click [Register Current Settings...]. For details about confirming the setting, see p.26 "Making Printer Settings - One Click Presets".
- For details, see the printer driver Help.

---

## Making Printer Settings from an Application

---

You can make printer settings for a specific application.

To make printer settings for a specific application, open the [Printing Preferences] dialog box from that application. The following procedure explains how to make printer settings for a specific application using Windows XP WordPad as an example.

1. On the [File] menu, click [Print...].
2. In the [Select Printer] list, select the printer you want to use.
3. Click [Preferences].
4. Make the settings you require, and then click [OK].

#### ↓ Note

- Procedures for opening the [Printing Preferences] dialog box vary depending on the application. For details, see the manuals provided with the application.
- Any settings you make using this procedure apply to the current application only.
- General users can change the properties displayed in the print dialog box of an application. Settings made here are used the defaults when printing from the application.
- For details, see the printer driver Help.

---

## Making Printer Settings - One Click Presets

---

This section explains how to register and use one click presets.

Each function explained in this section is preconfigured and registered under [One Click Preset List:] on the [One Click Presets] tab.

You can apply the relevant setting simply by clicking on the one click preset name. This helps to avoid incorrect settings and misprints.

One click presets can be added, modified, and deleted as required. By using registered one click presets, users without in-depth knowledge of the printer driver can utilize advanced printing functions easily.

Follow the procedure to register one click presets.

1. In the application, on the [File] menu, click [Print].
2. Select the printer, and then open the [Printing Preferences] dialog box in the document's native application.
3. Make the settings you require.
4. Click [Register Current Settings...].

Enter a name and comment that describe the setting, and then click [OK]. The newly registered icon appears with its registered name in the [One Click Preset List:] area.

5. Click [OK].

 **Note**

- Under Windows operating systems, this function is available through the PCL 6 or PostScript 3 printer driver.
- For details about modifying and deleting one click presets, see the printer driver Help.

# Frequently Used Print Methods

This section explains how to use the various printing functions including normal printing, duplex printing, and combine printing.

Each function described in this section is configured and registered under "One Click Presets". You can also change the parameters for each function by modifying "One Click Presets". For details about custom settings, see p.26 "Making Printer Settings - One Click Presets".

## Standard Printing

Use the following procedure to print documents using the normal printing function with the printer driver.

### ★ Important

- If you are using a Type 2 model with ELP-NX installed, all print jobs for which "Normal Print" or "Locked Print" is specified are stored in ELP-NX when user authentication is set. After issuing the print command from the printer driver, log in to ELP-NX and print the job.
- If you are using a Type 2 model with ELP-NX installed, all print jobs for which "Locked Print" is specified are stored in ELP-NX when user authentication is not set. Also note that any jobs for which "Locked Print" is not specified will be deleted according to the default setting of ELP-NX.
- For details about how to print using ELP-NX, see the manuals provided with the application.
- For details about the option settings of ELP-NX, consult your administrator.
- Before printing, make sure that the settings for the installed options and loaded paper are correctly configured.

For the PCL 6 printer driver:

1. In the application, on the [File] menu, click [Print].
2. Select the printer, and then open the [Printing Preferences] dialog box in the document's native application.
3. Click the [One Click Presets] tab, if it is not already selected.
4. In the [Job Type:] list, select [Normal Print].  
If you want to print multiple copies, specify a number of sets in the [Copies:] box.
5. In the [Document Size:] list, select the size of the original to be printed.
6. In the [Orientation:] list, select [Portrait] or [Landscape] as the orientation of the original.
7. In the [Input Tray] list, select the paper tray that contains the paper you want to print onto.

If you select [Auto Tray Select] in the [Input Tray] list, the source tray is automatically selected according to the paper size and type specified.

8. In the [Paper Type:] list, select the type of paper that is loaded in the paper tray.
9. To save current setting in the One Click Preset List, click [Register Current Settings...].  
Enter a name and comment that describe the setting, and then click [OK]. The newly registered icon appears in the [One Click Preset List:] area.
10. Click [OK] to close the Printing Preferences dialog box.
11. Print the document using the print function in the document's native application.

**For the PCL 5e printer driver:**

1. In the application, on the [File] menu, click [Print].
2. Select the printer, and then open the [Printing Preferences] dialog box in the document's native application.
3. In the [Job Type:] list, select [Normal Print].  
If you want to print multiple copies, specify a number of sets in the [Copies:] box.
4. In the [Orientation:] list, select [Portrait] or [Landscape] as the orientation of the original.
5. Click the [Paper] tab.
6. In the [Document Size:] list, select the size of the original to be printed.
7. In the [Input Tray:] list, select the paper tray that contains the paper you want to print onto.  
If you select [Auto Tray Select] in the [Input Tray:] list, the source tray is automatically selected according to the paper size and type specified.
8. In the [Type:] list, select the type of paper that is loaded in the paper tray.
9. Click [OK] to close the Printing Preferences dialog box.
10. Print the document using the print function in the document's native application.

**↓ Note**

- The types of paper loaded in the paper trays are indicated on the printer's display. This allows you to see which tray the selected paper type is loaded in. However, the paper type setting available in the printing preference dialog box might be different from the type indicated on the printer's display.
- If a warning message appears notifying you of a paper type or size mismatch see p.60 "If Errors Occur with the Specified Paper Size and Type".

## Performing Duplex or Booklet Printing

This section explains how to print on both sides of each page using the printer driver.

**For the PCL 6 printer driver:**

1. In the application, on the [File] menu, click [Print].
2. Select the printer, and then open the [Printing Preferences] dialog box in the document's native application.
3. To use an existing One Click Presets, click the [One Click Presets] tab, and then click the icon in the [One Click Preset List:] box.

If you do not wish to modify a custom setting that is already registered in the printer driver, change settings such as paper size and source tray as required, and then proceed to step 9.

4. Click the [Detailed Settings] tab.
5. In the [Menu:] box, click the [Edit] icon.
6. Select duplex or booklet printing.

When duplex printing is specified, select the method for binding the output pages in the [2 sided:] list. For details, see p.32 "Types of duplex printing".

When booklet printing is specified, select the method for binding the output pages in the [Booklet:] list. For details, see p.32 "Types of booklet printing".

7. Change any other print settings if necessary.
8. To save current setting in the One Click Preset List, click [Register Current Settings...].

Enter a name and comment that describe the setting, and then click [OK]. The newly registered icon appears in the [One Click Preset List:] area.

9. Click [OK] to close the Printing Preferences dialog box.
10. Print the document using the print function in the document's native application.

**For the PCL 5e printer driver:**

1. In the application, on the [File] menu, click [Print].
2. Select the printer, and then open the [Printing Preferences] dialog box in the document's native application.
3. Select duplex or booklet printing in the [Duplex:] list.

For details about the different methods of binding that can be selected, see p.32 "Types of duplex printing" or p.32 "Types of booklet printing".

4. Change any other print settings if necessary.
5. Click [OK] to close the Printing Preferences dialog box.
6. Print the document using the print function in the document's native application.

**Note**

- If the document contains pages with different original sizes, page breaks may occur.



## Paper sizes and types supported by duplex printing function

This section explains the paper sizes and types that can be used with the duplex printing function.

### Paper sizes supported by duplex printing function

- A4
- A5
- B5
- B6
- 8<sup>1</sup>/<sub>2</sub> " × 14 "
- 8<sup>1</sup>/<sub>2</sub> " × 13 "
- 8<sup>1</sup>/<sub>2</sub> " × 11 "
- 8<sup>1</sup>/<sub>4</sub> " × 13 "
- 8 " × 13 "
- 7<sup>1</sup>/<sub>4</sub> " × 10<sup>1</sup>/<sub>2</sub> "
- 5<sup>1</sup>/<sub>2</sub> " × 8<sup>1</sup>/<sub>2</sub> "
- 16K
- Custom Paper Size

#### Note

- Tray 1 - 5 supports custom size paper approximately 98 - 216 mm (3.86 - 8.5 inches) in width and 160 - 356 mm (6.3 - 14.01 inches) in length. When loading custom size paper in tray 1 - 5, be sure to specify the custom size using both the control panel and the printer driver.
- Bypass Tray supports custom size paper approximately 64 - 216 mm (2.52 - 8.5 inches) in width and 160 - 356 mm (6.3 - 14.01 inches) in length. When loading custom size paper on the bypass tray, be sure to specify the custom size using the control panel or the printer driver.

### Paper types supported by duplex printing function

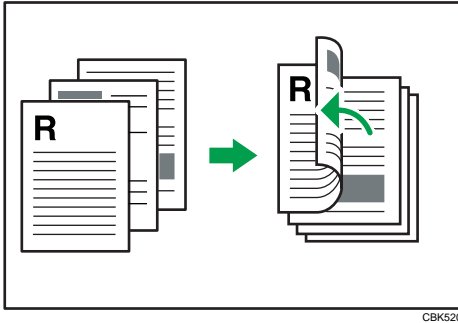
- Plain
- Middle Thick
- Thick 1
- Thick 2
- Letterhead
- Special 1
- Special 2
- Color
- Recycled

## Types of duplex printing

This section explains the page binding methods available when using the duplex printing function. When using the duplex printing function, you can select whether to bind pages by the left or top edge.

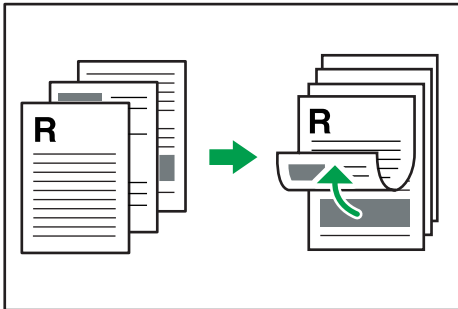
### 2 sided:

- Open to Left



CBK520

- Open to Top



CBK521

### ↓ Note

- To specify duplex printing in the PCL 5e printer driver, select [Open to Left] or [Open to Top] in the [Duplex:] list in the printer properties dialog box.

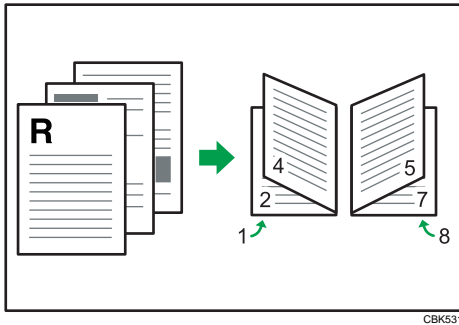
## Types of booklet printing

This section explains the page binding methods available when using the booklet printing function. When using the booklet printing function, you can select the direction to which the pages open.

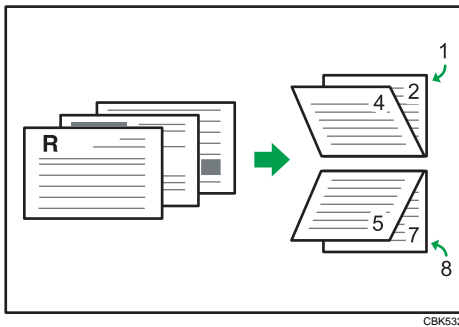
### Booklet:

- Magazine

When [Portrait] is selected in the [Orientation:] list in the printer properties dialog box. For details, see the printer driver Help.



When [Landscape] is selected in the [Orientation:] list in the printer properties dialog box. For details, see the printer driver Help.



#### ↓ Note

- To specify booklet printing in the PCL 5e printer driver, select [Booklet] in the [Duplex:] list in the printer properties dialog box.

## Combining Multiple Pages into Single Page

This section explains how to print multiple pages onto a single sheet. The combine printing function allows you to economize on paper by printing multiple sheets at reduced size onto a single sheet.

#### ★ Important

- The combine printing function is not available on a custom size paper. To use the combine printing function, specify a standard size paper.

For the PCL 6 printer driver:

1. In the application, on the [File] menu, click [Print].
2. Select the printer, and then open the [Printing Preferences] dialog box in the document's native application.

3. To use an existing One Click Presets, click the [One Click Presets] tab, and then click the icon in the [One Click Preset List:] box.

If you do not wish to modify a custom setting that is already registered in the printer driver, change settings such as paper size and source tray as required, and then proceed to step 9.

4. Click the [Detailed Settings] tab.
5. In the [Menu:] box, click the [Edit] icon.
6. Select the combination pattern in the [Layout:] list, and then specify the method for combining pages in the [Page Order:] list.

To draw a border line around each page, select [Draw Border].

7. Change any other print settings if necessary.
8. To save current setting in the One Click Preset List, click [Register Current Settings...].  
Enter a name and comment that describe the setting, and then click [OK]. The newly registered icon appears in the [One Click Preset List:] area.
9. Click [OK] to close the Printing Preferences dialog box.
10. Print the document using the print function in the document's native application.

**For the PCL 5e printer driver:**

1. In the application, on the [File] menu, click [Print].
2. Select the printer, and then open the [Printing Preferences] dialog box in the document's native application.
3. Select the combination pattern in the [Layout:] list, and then specify the method for combining pages in the [Page Order:] list.  
To draw a border line around each page, select [Draw Frame Border].
4. Change any other print settings if necessary.
5. Click [OK] to close the Printing Preferences dialog box.
6. Print the document using the print function in the document's native application.

**Note**

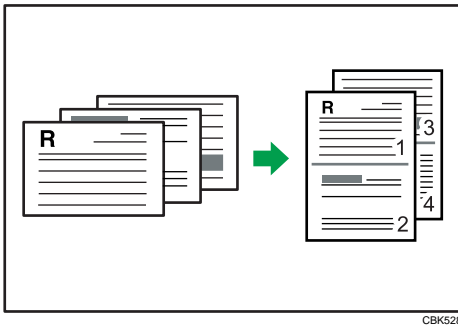
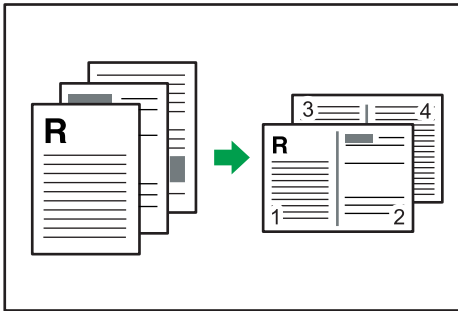
- If the document contains pages with different original sizes, page breaks may occur.
- If the application you are using also has a combine function, disable it. If the application's combine function is also enabled when the driver's combine function enabled, incorrect printing is likely.
- For details about combining pages with different orientations and other advanced functions, see the printer driver Help.

## Types of combine printing

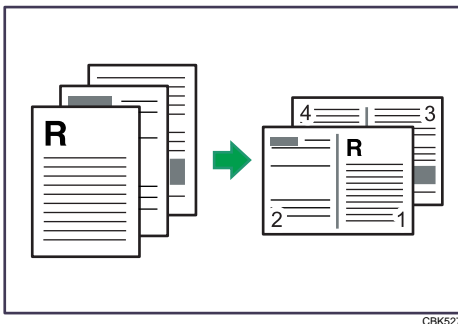
This section explains the different methods of combine printing that are available. Combine printing allows you to print 2, 4, 6, 9, or 16 pages at reduced size onto a single sheet and to specify a page ordering pattern for the combination. For 2 pages per sheet combine, you can select from two patterns. When combining 4 or more pages onto a single sheet of paper, four patterns are available. The following illustrations show example page ordering patterns for 2- and 4-page combinations.

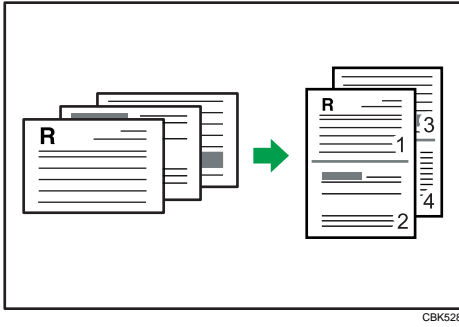
### 2 Pages per Sheet

- From Left to Right/Top to Bottom



- From Right to Left/Top to Bottom





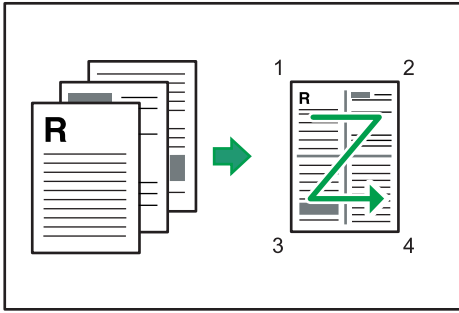
CBK528

When using the PCL 5e printer driver, select one of the following four patterns:

[Right, then Down], [Left, then Down], [Down, then Right], [Down, then Left]

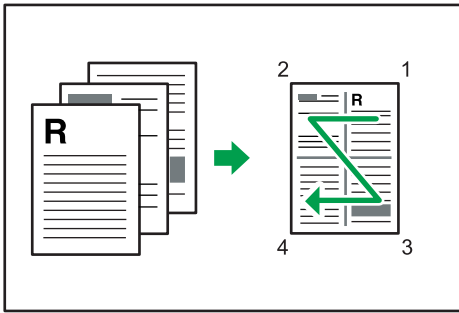
**4 Pages per Sheet**

- Right, then Down



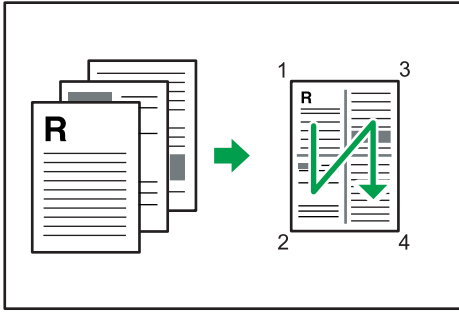
CBK523

- Left, then Down



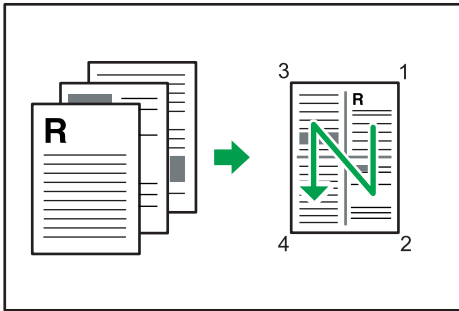
CBK524

- Down, then Right



CBK525

- Down, then Left



CBK526

# Advanced Printing

This section explains the printer's advanced printing functions.

Other than the functions that can be configured in the [One Click Presets] tab, various print functions can be setup from each [Menu:] icon in the [Detailed Settings] tab. The settings for each function described in this section can be changed by using the following menus.

2

Using the PCL6 printer driver as an example, the following procedure explains how to configure the printer's advanced printing functions.

---

## Menu Names and Brief Overview of Each Function

---

The following is an overview of the settings that are available on the [Basic], [Paper], and [Effects] menus.

### [Basic] menu

You can specify the type of the paper you want to print on.

- Document Size:

If the printer's trays do not contain paper matching the settings of the print job, you can proceed with printing by using the bypass tray.

For details about this function, see p.39 "Specifying Printer Driver or Print Command Priority".

### [Paper] menu

You can enable/disable the cover and slip sheets function.

- Paper Type:

You can specify the type of the paper you want to print on. If the printer's trays do not contain paper matching the settings of the print job, you can proceed with printing by using the bypass tray.

For details about this function, see p.39 "Specifying Printer Driver or Print Command Priority".

- Front Cover

Using this function, you can insert cover sheets fed from a different tray to that of the main paper, and print on them. For details, see p.41 "Printing on Cover Sheet".

- Slip Sheet

Using this function, you can insert slip sheets fed from a different tray to that of the main paper, and print on them. For details, see p.42 "Inserting Slip Sheets".

### [Effects] menu

You can enable/disable the Watermark function.



The Watermark function prints text under the main content of every page of a document. For details about this function, see p.44 "Printing with Watermarks".

#### ↓ Note

- For details about the menu items not explained in this section, see the printer driver Help.

## Specifying Printer Driver or Print Command Priority

2

If you select [Any Size/Type] or [Any Custom Size/Type] for [Bypass Tray] in [Tray Setting Priority] under [Print Settings] using the control panel, you can print onto a specified paper without changing or confirming the paper settings for print jobs.

If the printer's trays do not contain paper matching the settings of the print job, you can proceed with printing by applying the paper settings specified in the print job to paper fed from the bypass tray. You do not need to change the paper settings using the control panel, even if you frequently use paper of different sizes, or if you are printing onto an unusual type of paper.

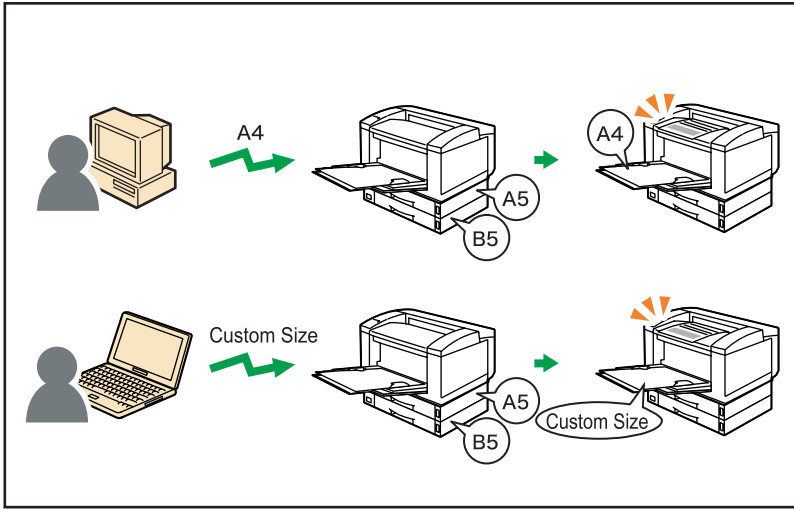
#### ★ Important

- To continue printing from the bypass tray onto all paper sizes, select [Any Size/Type] for [Bypass Tray] in [Tray Setting Priority] under [Print Settings]. To continue printing from the bypass tray onto custom size paper only, select [Any Custom Size/Type] for [Bypass Tray] in [Tray Setting Priority] under [Print Settings]. For details about each setting on the Print Settings menu, see p.111 "Print Settings Menu Parameters".
- Select [Auto Tray Select] in the printer driver. If [Auto Tray Select] is specified when a job is sent to the printer, the matching tray will be detected in the order specified in [Tray Priority] under [Paper Input]. If you select [Bypass Tray] for [Tray Priority], paper will always be fed from the bypass tray, as long as paper is loaded there. For details about printer driver settings, see p.38 "Menu Names and Brief Overview of Each Function". For details about the [Tray Priority] setting, see p.92 "Paper Input Menu Parameters".

If you select [Any Size/Type] or [Any Custom Size/Type] for the bypass tray, jobs will be printed in the following manner.

### Any Size/Type

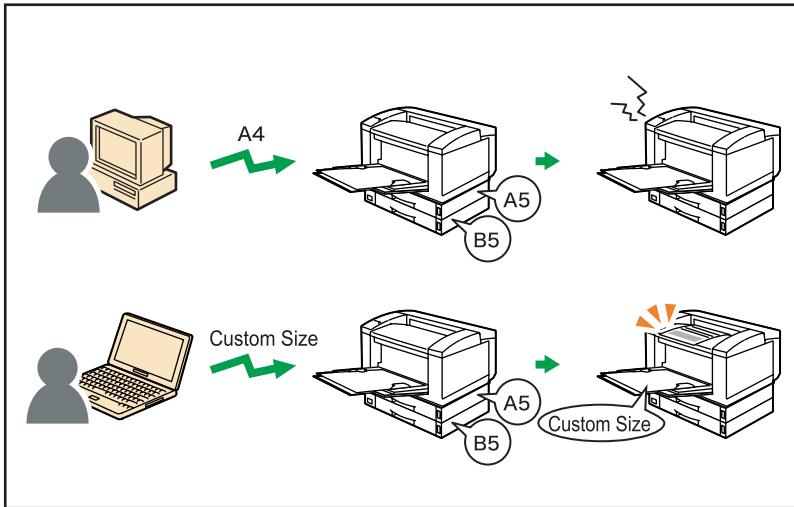
If the printer's trays do not contain paper matching the settings of the print job, printing can proceed from the bypass tray with the job's settings applied.



CBK507

**Any Custom Size/Type**

If the printer's trays do not contain paper matching the settings of the print job but custom paper was specified using the printer driver or by print command, printing can proceed from the bypass tray with the job's settings applied.



CBK508

**Note**

- When this function is enabled, printing may be slower than usual.
- If paper is not loaded in the bypass tray when a job is received, a message prompting you to load paper will appear on the control panel. When this message appears, load paper of the indicated size and type print side down on the bypass tray.

- When printing a job that consists of pages of different sizes and the sheets of corresponding sizes are not loaded in any of the printer's paper trays, each of these pages will be printed on the sheets fed from the bypass tray. Only the pages for which the matching paper sizes are loaded in the printer's paper trays will be printed on the sheets fed from the printer's paper trays.
- If the paper size or type specified for the print job does not match the paper loaded on the bypass tray, a message warning you of the mismatch will appear on the control panel. For the procedure to resolve this problem, see p.62 "Proceeding with Printing Using the Bypass Tray".

## Printing on Cover Sheet

Using this function, you can insert cover sheets fed from a different tray to that of the main paper, and print on them.

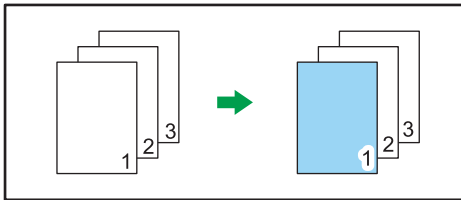
### ★ Important

- To use this function, **Collate must be set**.

Prints the first page of the document on the sheet for the cover page.

#### Print on one side

Prints on one side of the cover sheet only, even when duplex printing is selected.

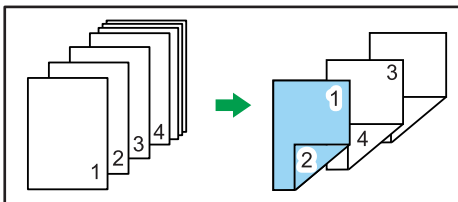


CBK512

#### Print on both sides

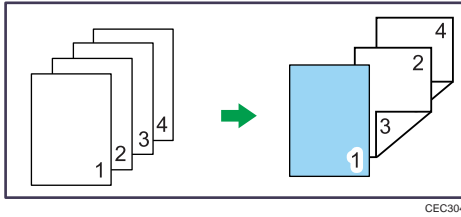
Prints on both sides of the cover sheet when duplex printing is selected.

- Cover sheet printed on both sides



CBK513

- Cover sheet printed on one side

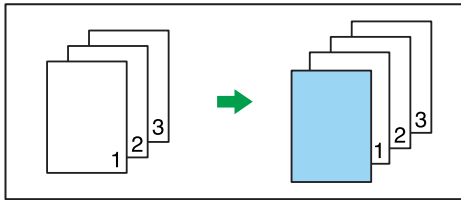


CEC304

2

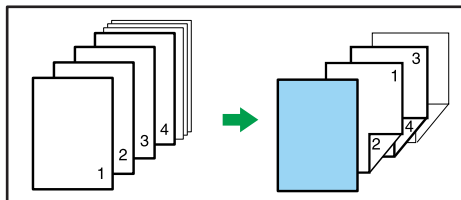
**Blank**

- When printing one side



CEC303

- When printing both side



CEC305

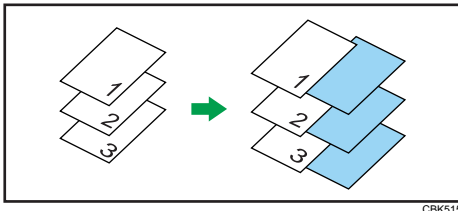
**Note**

- The cover sheets should be the same size and orientation as the body of the paper.
- If "Auto Tray Select" is set for the body paper feed tray, body paper will be delivered from a tray that contains paper set in portrait orientation. Therefore, if the cover paper is set to landscape orientation, the orientation of the cover and body paper will be different.
- For printing methods, see the printer driver Help.

**Inserting Slip Sheets**

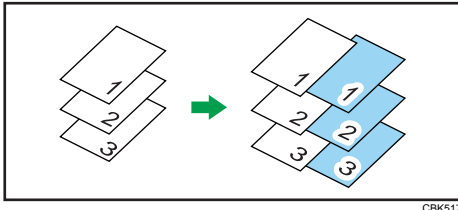
**Inserting a slip sheet between each page**

- Leave Blank



CBK515

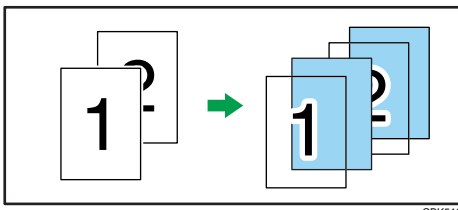
- Print on Slip Sheet



CBK517

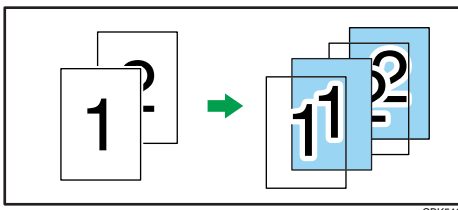
### Inserting a slip sheet between OHP transparencies

- Leave Blank





CBK516

- Print on Slip Sheet



CBK518

#### ↓ Note

- Collate cannot be set when using slip sheets.
- When the duplex printing or cover printing is set, you cannot insert slip sheets.
- The slip sheet should be the same size and orientation as the body paper.
- If "Auto Tray Select" has been set as the paper feed tray for the body paper, the paper will be delivered from a tray containing paper in  orientation. Therefore, when the slip sheet has been set to  orientation, the orientation of the output slip sheet and body paper will be different.
- The same paper feed tray cannot be set for the body of the document and slip sheets.

---

## Printing with Watermarks

---

Using this function, you can print documents with text watermarks.

This function increases a document's security and identifiability by embedding a specified text (watermark) on every page. You can specify only one type of watermark at a time.

2

**Note**

- You can create and apply custom watermarks. For details about creating original watermarks, see the printer driver Help.

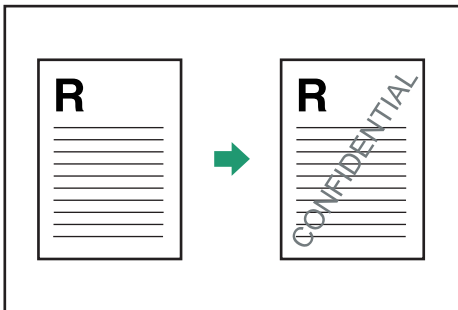
### Types of watermarks

---

This section explains the types of watermarks available.

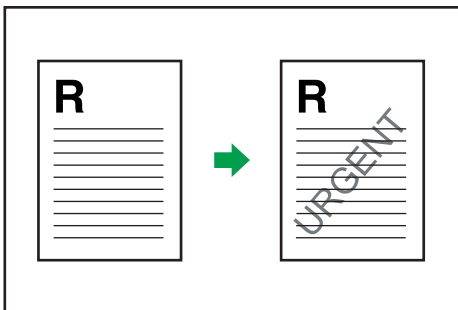
Following are the pre-registered text watermarks that are available:

- CONFIDENTIAL



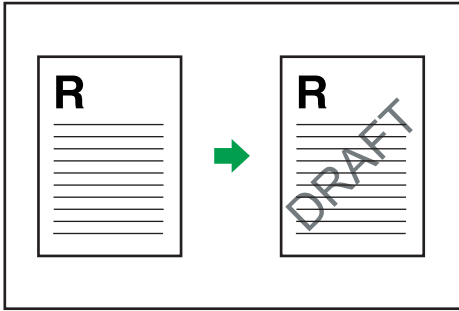
CBK503

- URGENT



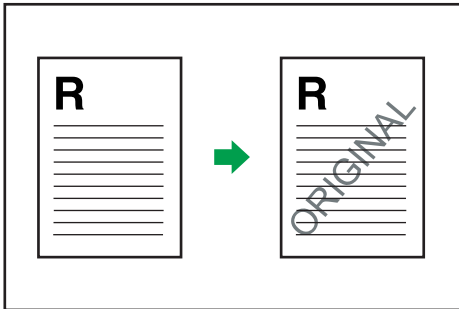
CBK502

- DRAFT



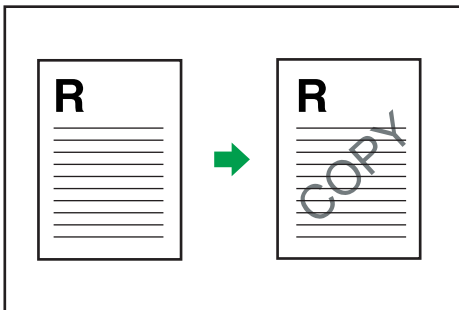
CBK504

- ORIGINAL



CBK505

- COPY



CBK501

# Collate Function

This section explains the printer's Collate function.

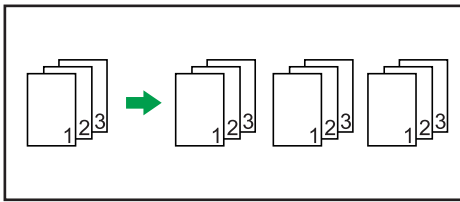
The Collate function allows you to print while sorting printouts into page-ordered sets, such as when printing multiple copies of meeting materials.

2

**★ Important**

- Up to 150 pages can be stored in the printer's RAM. If the hard disk is installed, up to 1,000 pages can be stored.
- Collate will be canceled if an error occurs during printing of the first set.

Output can be assembled as sets in sequential order.



CBK511

**↓ Note**

- For printing methods, see the printer driver Help.



# Spool Printing

Spool Printing allows print jobs transferred from a computer to be temporarily stored, and then prints them after they are transferred. This shortens printing time as it maximizes printer efficiency.

With Spool Printing, the print data is saved in the hard disk before printing.

## ★ Important

- This function is available only if the hard disk is installed on the printer.
- Use the "spoolsw clear job" telnet command to clear a spooled print job. Do not turn off the printer or computer while a print job is being spooled and the Data In is flashing. Print jobs that are interrupted in this way remain on the printer's hard disk and will finish printing out when the printer is turned back on.
- The Spool Printing function is available for data received using "diprint", "lpr", "ipp", "ftp", "sftp (TCP/IP (IPv6))", and "wsd (printer)".
- When using diprint, the Spool Printing function cannot be used with bi-directional communication.
- The domain reserved for spool printing is about 1 GB.
- When Spool Printing is on, the size of a single print job cannot exceed 500 MB.
- When receiving jobs from multiple computers, the printer can spool a maximum of ten lpr jobs, and only one "diprint", "ipp", "ftp", "sftp", "smb", or "wsd (printer)" job. If the printer's spooling capacity is exceeded, newer jobs cannot be printed. You must wait before sending further jobs.

## ↓ Note

- Printing the first page with Spool Printing will be slow.
- The computer requires less print processing time when large amounts of data are spooled.
- Stored spool jobs can be viewed or deleted using Web Image Monitor.
- The list of spool jobs cannot be viewed from the printer's control panel.
- For information about the "spoolsw clear job" command on the telnet, see UNIX Supplement.

## Setting Spool Printing

Spool printing settings can be made using control panel or telnet or Web Image Monitor.

- Using control panel  
In [System] menu, select [On] in [Spool Printing]. For details about control panel, see p. 107 "System Menu".
- Using Web Image Monitor  
Click [Configuration] in the menu area, and then set [Spool Printing] in [System] under "Device Settings" to [Active].

- Using telnet  
Enter "spoolsw spool on".

**Note**

- For details about Web Image Monitor, see Web Image Monitor Help.
- For details about "Using telnet", see UNIX Supplement.

**2**

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## Viewing or Deleting Spooled Jobs Using Web Image Monitor

---

Follow the procedure below to check or delete spooled jobs using Web Image Monitor.

**1. Log in to Web Image Monitor as an administrator.**

For details about logging in, see p. 143 "Access in the Administrator Mode".

**2. In the menu area, click [Job].**

**3. On the [Printer] menu, click [Spool Printing].**

**4. To delete a job, select the check box of the job you want to delete, and then click [Delete].**

The selected job is deleted.

**5. Click [Logout].**

**6. Quit Web Image Monitor.**

**Note**

- For details about Web Image Monitor, see Web Image Monitor Help.

# Printing a PDF File Directly

This section explains how to print PDF files directly without having to open a PDF application by using DeskTopBinder or UNIX commands.

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## Using DeskTopBinder

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2

This section explains how to print PDF files directly without having to open a PDF application by using DeskTopBinder. To use this function, you must first download DeskTopBinder from the manufacturer's Website and install it on your computer. Contact your local dealer for information on downloading DeskTopBinder.

### ★ Important

- This function is possible for genuine Adobe PDF files only.
- PDF files that are Version 1.7 or earlier are compatible.
- PDF files created using PDF version 1.5 Crypt Filter functions or more than eight DeviceN Color Space components cannot be printed.
- PDF files created using PDF version 1.6 watermark note functions, or extended optional contents cannot be printed.
- AcroForm is a function specific to PDF version 1.7 and is not supported.
- If the document contains transparency function data, it may fail to print. When this happens, use the printer driver to print the document.
- Large PDF files might not be printable using the PDF direct print function.

### ↓ Note

- Paper size errors may occur when printing on custom size paper.

---

## Expanding DeskTopBinder features

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This section explains how to extending the features of DeskTopBinder.

To extend a feature, click on its icon in the [Type:] list.

The following procedure explains how to use the extended features Wizard to print PDF files directly.

1. On the [Start] menu, point to [All Programs], [DeskTopBinder], and then click [Extended Features Wizard].
2. Select [Easy settings], then click [Start] and then, click [Next] repeatedly until the [Printing Function2] dialog box appears.

If you have selected [All function settings], click [Start], and then click the [Output] icon in the [Type:] list. Select [PDF Direct Print] in [Selectable function(s):], and then click [Add].

3. In the [Printing Function2] dialog box, click [Add...].
4. Click [Specify...], and then enter the IP address or host name of the printer.
5. Click [OK].
6. Click [OK].
7. Click [Next] repeatedly until [Finish] appears.
8. Click [Finish].

---

## Function palette

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The Function Palette contains buttons for functions that are already configured through expanded DeskTopBinder functions. Using these buttons, you can print Windows files, preview printouts, convert images, and register scanners for documents without having to open DeskTopBinder. You can also use these functions simply by dragging a target file to the button corresponding to the required function and dropping it there.

1. On the [Start] menu, point to [All Programs], [DeskTopBinder], and then click [Function Palette].  
An icon for the Function palette is added to the task tray displayed at the bottom right of the screen.
2. Right-click the new icon that has been added to the task tray, and then click [Properties...].
3. Click the [Contents] tab, select the [PDF Direct Print] check box at the center, and then click [OK].

The [Properties] screen closes and the [PDF Direct Print] icon is added to the palette.

---

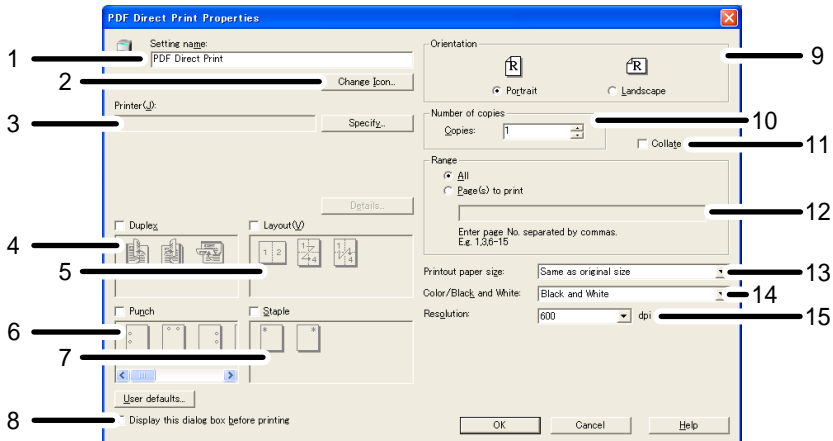
## PDF Direct Printing Using Function Palette

---

Follow the procedure below to print PDF files directly.

1. Drag the PDF file you want to print to the PDF Direct Printing icon on the Function Palette and drop it there.
2. Highlight the PDF file you want to print, and then click [OK].

## PDF Direct Print Properties



CEC306

### 1. Setting name:

Displays the plug-in configuration name (up to 63 single byte characters)

### 2. Change Icon...

Changes the icon displayed on the tool bar.

### 3. Printer:

Displays printer's IP address or hostname.

### 4. Duplex

Prints on both sides of sheets.

### 5. Layout

Prints multiple pages on a single sheet.

### 6. Punch (not supported for this printer)

Punches holes in printed sheets.

### 7. Staple (not supported for this printer)

Staples together printed sheets.

### 8. Display this dialog box before printing

Appears in PDF direct printing mode if this check box is selected.

### 9. Orientation:

Specify the original's orientation.

### 10. Number of copies

Specify the number of copies to print.

### 11. Collate

Sorts printed sheets.

**12. Range:**

Specify which paper to print.

**13. Printout paper size:**

Specify the paper size you want copies to be printed onto.

**14. Color/Black and White:**

Specify [Black and White] printing for this printer.

**15. Resolution:**

Specify a print resolution.

---

## Using Commands to Print

---

This section explains how to print PDF files directly using printing commands, such as "lpr", "rcp", "ftp", and "sttp".

### Sending a PDF file

---

Use the following procedure to send a PDF file to this printer using printing commands.

Following is an example when using the "lpr" command to print a PDF file by specifying the printer's IP address.

```
c:\> lpr -S printer's IP address -P printer name [-o l] \path\ PDF file name
```

 **Note**

- Entering the text enclosed in brackets [ ] is optional.
- For details about printing PDF files directly, see UNIX Supplement.

### Entering the PDF password

---

Use the following procedure to print a password protected PDF file directly.

To print a PDF file that is protected by a password, enter the password using the control panel or Web Image Monitor.

#### Using the Control Panel

To enter a PDF password using the control panel, select [Change PDF Password] on [PDF Menu] under [Print Settings].

#### Using Web Image Monitor

To enter a PDF password using Web Image Monitor, click [Configuration] in the menu area, and then select [PDF Temporary Password] under "Printer".

 **Note**

- For details about Web Image Monitor, see Web Image Monitor Help.

# Specifying the Classification Code for a Print Job

When printing in an environment where classification codes are required, a classification code must be specified for each print job.

## ★ Important

- The PostScript 3 printer driver does not support the classification codes and it cannot be used to print under environment which the classification codes are required.

**For the PCL 6 printer driver:**

1. In the application, on the [File] menu, click [Print].
2. Select the printer, and then open the [Printing Preferences] dialog box in the document's native application.
3. Click the [Detailed Settings] tab.
4. In the [Menu:] box, click the [Job Setup] icon.
5. Enter the classification code in the [Classification Code:] box.  
This code identifies the user. The classification code can contain up to 32 alphanumeric (a-z, A-Z, 0-9, "-") characters.
6. Make any other necessary print settings, and then click [OK].
7. Execute the print command.
8. The print job is sent to the printer.

**For the PCL 5e printer driver:**

1. In the application, on the [File] menu, click [Print].
2. Select the printer, and then open the [Printing Preferences] dialog box in the document's native application.
3. Click the [Valid Access] tab.
4. Enter the classification code in the [Classification Code:] box.  
This code identifies the user. The classification code can contain up to 32 alphanumeric (a-z, A-Z, 0-9, "-") characters.
5. Make any other necessary print settings, and then click [OK].
6. Execute the print command.
7. The print job is sent to the printer.

## ↓ Note

- The specified classification code is stored in the printer driver.



- To switch between different classification codes, install the printer driver under different names, and specify different classification code for each driver.
- For details about how to view the log collected using Classification Code, see the manual for the external log collection system.

## Using the Virtual Printer

A virtual printer is a pseudo printer that can only be recognized on a network. The virtual printer has various print options, such as feeding tray selection and duplex printing, which you can set in advance. You can also use the interrupt printing function. This function suspends the ongoing job and gives priority to a new job.

This function is available only if the hard disk is installed on the printer.

If you use the virtual printer under UNIX, Solaris, and other operating systems, various print functions are possible without having you manually enter usual print commands.

---

### Adding a Virtual Printer

---

#### ★ Important

- Adding a virtual printer requires Administrators privilege. Log in using an account that has Administrators privilege.
- The following Virtual Printer protocols are available: "TCP/IP (Unspecified, Normal)", "TCP/IP (Unspecified, Priority)", "TCP/IP (DIPRINT)", "TCP/IP (RHPP)", "TCP/IP (IPDS)", "AppleTalk", and "NetWare".

#### 1. Log in to Web Image Monitor as an administrator.

For details about logging in, see p.143 "Access in the Administrator Mode".

2. In the menu area, click [Configuration], and then click [Virtual Printer Settings] in the "Printer" category.
3. Click [Add].
4. In [Virtual Printer Name], enter a name for the new printer, and then select the protocol in the [Protocol] list.
5. Click [OK].

#### ↓ Note

- If you select [TCP/IP (DIPRINT)], [TCP/IP (IPDS)], [AppleTalk], or [NetWare] in the [Protocol] list, you cannot specify a virtual printer name.
- You can specify a virtual printer name using up to 47 characters.
- You can add up to 50 virtual printers. After 50 virtual printers have been added, [Add] will no longer be displayed.

---

## Changing a Virtual Printer Configuration

---

### ★ Important

- You must have Administrators privilege to change the configuration of a virtual printer. Log in using an account that has Administrators privilege.
1. Log in to Web Image Monitor as an administrator.  
For details about logging in, see p.143 "Access in the Administrator Mode".
  2. In the menu area, click [Configuration], and then click [Virtual Printer Settings] in the "Printer" category.
  3. Select the virtual printer whose configuration you want to change, and then click [Change].  
If you want to configure this virtual printer for an interrupt printer, select [TCP/IP (Unspecified, Priority)] in the protocol list.
  4. Change the configuration as required.
  5. Click [OK].

### ↓ Note

- For details about virtual printer configuration, see Web Image Monitor Help.

---

## Confirming a Virtual Printer Configuration

---

1. Start Web Image Monitor.
2. In the menu area, click [Configuration], and then click [Virtual Printer Settings] in the "Printer" category.
3. Select the virtual printer whose configuration details you want to confirm, and then click [Details].

### ↓ Note

- [Details] is not displayed if you log in to Web Image Monitor as an administrator. To confirm a virtual printer configuration, click [Change].
- When the virtual printer function is disabled, the list of virtual printers is not displayed if you are using Web Image Monitor in guest mode. For details about enabling the virtual printer function, see p.58 "Printing Using a Virtual Printer".

## Deleting a Virtual Printer

### ★ Important

- You must have Administrators privilege to delete a virtual printer. Log in using an account that has Administrators privilege.

#### 1. Log in to Web Image Monitor as an administrator.

For details about logging in, see p.143 "Access in the Administrator Mode".

#### 2. In the menu area, click [Configuration], and then click [Virtual Printer Settings] in the "Printer" category.

#### 3. Select the virtual printer that you want to delete, and then click [Delete].

#### 4. Click [OK].

### ↓ Note

- You cannot delete this printer's default virtual printer.
- [Delete] appears only if you have already added a virtual printer.

## Printing Using a Virtual Printer

To print directly from a specified virtual printer, assign the virtual printer in the print command. If you use the interrupt printing function, enter the name of the virtual printer that you configured for interrupt printing. Before printing for the first time, specify the virtual printer you want to use.

#### 1. Log in to Web Image Monitor as an administrator.

For details about logging in, see p.143 "Access in the Administrator Mode".

#### 2. In the menu area, click [Configuration], and then click [Basic Settings] in the "Printer" category.

#### 3. Select [Active] in [Virtual Printer], and then click [OK].

#### 4. Send a command from your computer.

Following is an example when using the "lpr" command to print a file.

```
c:\> lpr -S printer's IP address -P virtual printer name [-o l] \path\file name
```

### ↓ Note

- When the ongoing job meets any of the following conditions, interrupt printing is not possible even if you print with the virtual printer that is configured for interrupt printing. The printer waits to print a new job until it finishes printing the current job.
  - When the ongoing print job is performed using the bypass tray
  - When a function related to cover or slip paper is specified for the ongoing print job

- If a large amount of memory is used for the ongoing print job or a large number of sheets are being printed, there may not be enough memory to process an interrupt print job, or only part of the interrupt job may be printed. If this happens, certain functions for the interrupt job, such as stapling or storing data onto the printer, can be canceled or sheets can be sorted in a number smaller than the standard maximum capacity.
- For details about printing PDF files directly, see UNIX Supplement.

# If Errors Occur with the Specified Paper Size and Type

If the paper size or type specified for the print job does not match the paper loaded in the paper tray or on the bypass tray, a message warning you of the mismatch will appear on the control panel. Resolve the mismatch by following the instructions in the message.

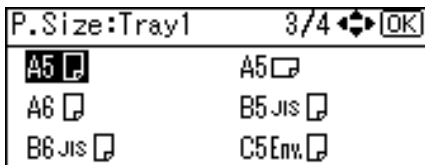
## Changing the Paper Tray Settings

Use the following procedure to change the paper size and type specified for a tray and continue printing.

1. On the warning screen, press [Change].



2. Press the [▼] or [▲] key to select the tray whose paper size setting you want to change, and then press the [OK] key.
3. Press the [▼] or [▲] key to select the paper size you require, and then press the [OK] key.



4. Press the [▼] or [▲] key to select the tray whose paper type you want to change, and then press the [OK] key.
5. Press the [▼] or [▲] key to select the paper type you require, and then press the [OK] key.
6. Press the [Escape] key

Printing starts if the selected tray contains paper matching the size and type settings specified in the print job.

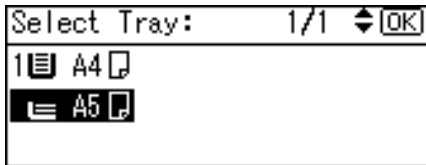
## Printing from a Selected Tray

If the printer does not have a tray for the selected paper size or paper type, or if the selected paper loaded in the printer has run out, a caution message appears. If this message appears, do the following procedure.

1. When the caution message appears, press [FormFeed].



2. Press the [OK] key.
3. Select the tray for form feed using the [▼] or [▲] key from those that appear on the display panel, and then press the [OK] key.



#### ↓ Note

- If a tray with a smaller paper size is selected, the print job may be cut short, or other problems may occur.

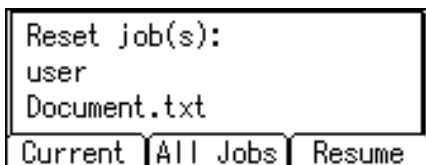
## Canceling a Print Job

Follow this procedure for canceling the print job if the message prompting form feed appears.

1. Press [JobReset].

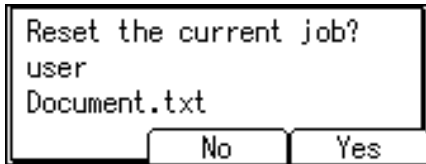


2. Press [Current].



To resume printing jobs, press [Resume].

### 3. Press [Yes] to cancel the print job.



### 4. Press [No] to return to the previous display.

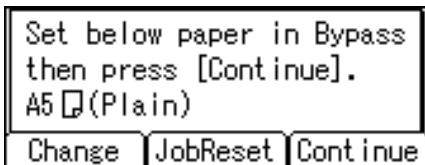
#### ↓ Note

- If the printer is shared by multiple computers, be careful not to accidentally cancel someone else's print job.
- Under Windows, if the printer is connected to the computer using a parallel cable, sent print jobs may be canceled if the [Job Reset] key is pressed while "Please wait..." is displayed on the control panel. After the interval set in [I/O Timeout] in [Host Interface] has passed, the next print job can be sent. A print job sent from a different client computer will not be canceled in this case.
- You cannot stop printing data that has already been processed. For this reason, printing may continue for a few pages after you press the [Job Reset] key.
- A print job containing a large volume of data may take considerable time to stop.
- To stop data printing, see p.81 "Canceling a Print Job".

## Proceeding with Printing Using the Bypass Tray

If you select [Any Size/Type] or [Any Custom Size/Type] for the bypass tray, a warning message will appear whenever the paper fed from the source tray does not match the size specified in the print job.

When this warning message appears, check the size of the loaded paper and do the following.



1. Load paper of the size/type indicated in the message onto the bypass tray.
2. Press [Continue].

Printing resumes from the page in which the error occurred.

#### ↓ Note

- For details about [Any Size/Type] or [Any Custom Size/Type], see p.39 "Specifying Printer Driver or Print Command Priority" and p.111 "Print Settings Menu".



# 3. Printing Stored Documents

This chapter explains how to print documents stored in the printer.

## Using the Print Job Function

This describes how to print or delete files stored in the printer. There are following types of print files: Sample Print, Locked Print, Hold Print, and Stored Print.

Print files sent from computers can be stored in the hard disk of the printer. Using the Print Job function, you can print or delete the print files.

3

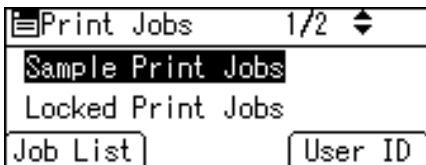
### ★ Important

- This function is available only if the hard disk is installed on the printer.

### Print Job Screen



If you press [Prt.Jobs] on the initial screen, a screen prompting to select the type of print job appears.

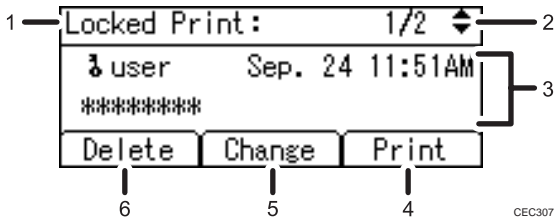


After selecting a type, you can select print files in the list by pressing:

- [Job List]  
Displays the Job List screen.
- [User ID]  
Displays the User ID screen.

If you select Sample Print, Locked Print, or Hold Print, the print files saved in the printer are deleted after printing is completed. If you select Stored Print, the files remain in the printer even after printing is finished.

## Job List Screen



### 1. The type of print jobs

Displays the type of the print job you select.

### 2. Page number

Displays the current page number. Each time pressing the [▼] or [▲] key, the screen switches.

### 3. User ID, Date/Time, and File Name display

- User ID shows the user's ID set by the printer driver.
- Date and Time show the time at which the print job was stored in the printer.
- File name shows the name of the file. However, "\*\*\*\*\*" is shown instead of the file name for a Locked Print file.

### 4. [Print]

Prints a selected file.

### 5. [Change]

Changes or clears the password of a file if a password is set. To change the password of a Locked/Stored Print job, press [Change], enter the current password, and then enter the new password on the confirmation screen. To clear the password for the Stored Print Job, press [Change], enter the current password, and then press the [OK] key in the confirmation screen without entering anything in the new password box.

You can also set passwords to the Stored Print files that do not currently have passwords.

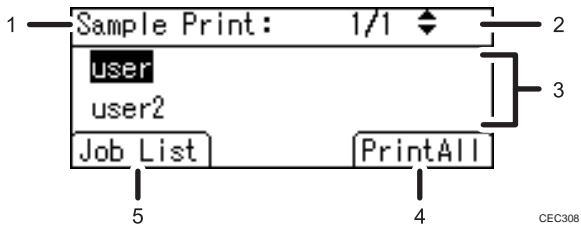
### 6. [Delete]

Deletes a selected file.

### ↓ Note

- When you press [Change] to change or clear a password, you must first enter the existing password. If the password you entered is incorrect, you cannot change or clear any current passwords.
- You can use [Change] to set or clear passwords only when Stored Print files are stored in the printer.

## User ID Screen



### 1. The type of print jobs

Displays the type of the print job you select.

### 2. Page number

Displays the current page number. Each time pressing the [▼] or [▲] key, the screen switches.

### 3. User ID

- User ID shows the ID of the user who stored the selected type of files.
- User ID set by the printer driver is shown.

### 4. [PrintAll]

Prints all files stored by the user whose user ID has been selected.

### 5. [Job List]

Switches the screen to the [Job List] screen.

Displays the print jobs of the selected user only.

#### ↓ Note

- To cancel selecting a file, press the [Escape] key.
- The display is not updated if a new file is stored while the list of stored files is displayed. To update the display, press the [Menu] or [Escape] key to return to the initial screen, and then press [Prt.Jobs] again.
- If a large number of print jobs are stored in the printer, processing may slow temporarily, depending on which functions are used.

## Printing from the Print Job Screen

This section gives instruction about Sample Print, Locked Print, Hold Print, and Stored Print.

### ★ Important

- If you are using a Type 2 model with ELP-NX installed, all print jobs for which "Normal Print" or "Locked Print" is specified are stored in ELP-NX when user authentication is set. After issuing the print command from the printer driver, log in to ELP-NX and print the job.
- If you are using a Type 2 model with ELP-NX installed, all print jobs for which "Locked Print" is specified are stored in ELP-NX when user authentication is not set. Also note that any jobs for which "Locked Print" is not specified will be deleted according to the default setting of ELP-NX.
- For details about how to print using ELP-NX, see the manuals provided with the application.
- For details about the option settings of ELP-NX, consult your administrator.
- This function is available only if the hard disk is installed on the printer.

### Sample Print

Use this function to print only the first set of a multiple-set print job. After you have checked the result, remaining sets can be printed or canceled using the printer's control panel. This can reduce misprints due to mistakes in content or settings.

### ★ Important

- A Sample Print file cannot be stored if:
  - the hard disk is not installed in the printer.
  - the total number of Sample Print, Locked Print, Hold Print, and Stored Print files in the printer is over 100. (The maximum number varies depending on the volume of data in files.)
  - the file contains over 1,000 pages.
  - sent or stored files in the printer contain over 9,000 pages in total.

### ↓ Note

- If a Sample Print file has not been stored properly, check the error log in the control panel.
- Even after you turn off the printer, stored documents in the printer remain. However, the [Auto Delete Temporary Jobs] or [Auto Delete Stored Jobs] settings are applied first.
- If the application has a collate option, make sure it is not selected before sending a print job. By default, Sample Print jobs are automatically collated by the printer driver. If a collate option is selected from the application's print dialog box, more prints than intended may be produced.
- If the first set of the Sample Print files is not as you expected and you do not want to print remaining sets, delete the Sample Print file using the display panel. If you print the remaining sets of the Sample Print file, the job in the printer is deleted automatically.

- Sample Print files printed or deleted using Web Image Monitor, after you select [Sample Print] using the control panel will appear on the display panel. However, an error message will appear if you try to print or delete those Sample Print files.
- If stored files have similar and long file names, recognizing the file you want to print on the display panel may be difficult. Print the file you want to print either by checking the user ID or the time the file is sent, or by changing the file name to something that can be recognized easily.
- For details about the error log in the display panel, see p.136 "Checking the Error Log".
- For details about [Auto Delete Temporary Jobs] and [Auto Delete Stored Jobs], see p.96 "Maintenance Menu".

## Sending a Sample Print file

The following procedure describes how to print a Sample Print file with the PCL 6/PCL 5e or PostScript 3 printer driver.

### ★ Important

- Applications with their own drivers, such as PageMaker, do not support this function.
1. **Configure the Sample Print in the printer driver's properties.**  
For details about configuring the printer drivers, see the relevant Help files.
  2. **Click [Details...], and then enter a user ID in the [User ID:] box.**
  3. **Click [OK] to close [Details...], and then click [OK] to close the printer driver's properties.**
  4. **Start printing from the application's print dialog box.**

Make sure to set more than two copies.

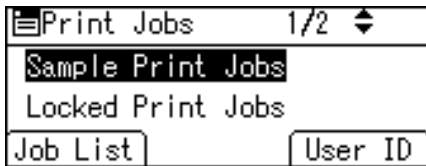
The Sample Print job is sent to the printer, and the first set is printed.

## Printing a Sample Print file using the control panel

1. On the printer's control panel, press [Prt.Jobs].



2. Select [Sample Print Jobs] using the [▼] or [▲] key, and then press [Job List].

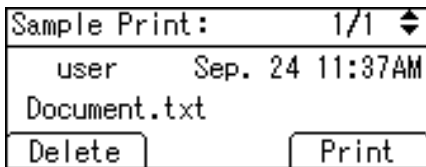


Depending on the security settings, certain print jobs may not be displayed.

You can print files also by pressing [User ID].

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3. Select the file you want to print using the [▼] or [▲] key, and then press [Print].



If you want to print multiple copies, specify a number of sets in the [Quantity] box. Press the [Clear] key to correct any entry mistakes.

4. Press [Print].

To cancel printing, press [Cancel].

#### ↓ Note

- If the set quantity is changed when [User ID] is pressed in step 2, the changed quantity is applied to all selected files.
- When printing is completed, the stored file will be deleted.
- To stop printing after printing has started, press the [Job Reset] key. The file will be deleted.
- For details about [User ID], see p.79 "Printing from the User ID Screen".

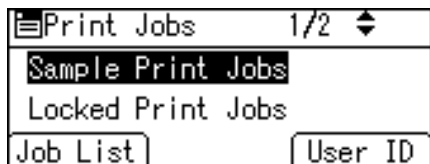
## Deleting Sample Print files

If you are not satisfied with the Sample printout, you can delete the Sample Print file, revise it and print it again until the settings are suitable.

1. Press [Prt.Jobs].

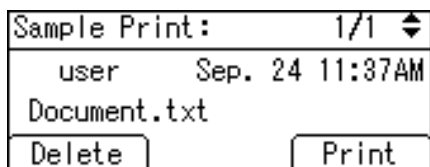


2. Select [Sample Print Jobs] using the [▼] or [▲] key, and then press [Job List].



Depending on the security settings, certain print jobs may not be displayed.

3. Select the file you want to delete using the [▼] or [▲] key, and then press [Delete].



4. Press [Delete].

To cancel deleting, press [Cancel].

## Locked Print

Use this function to maintain privacy when printing confidential documents on the printer over a shared network. Usually, it is possible to print data using the display panel once it is stored in this printer. When using Locked Print, it is not possible to print unless a password is entered on the printer's display panel. Your confidential documents will be safe from being viewed by other people.

### ★ Important

- If you are using a Type 2 model with ELP-NX installed, all print jobs for which "Normal Print" or "Locked Print" is specified are stored in ELP-NX when user authentication is set. After issuing the print command from the printer driver, log in to ELP-NX and print the job.
- If you are using a Type 2 model with ELP-NX installed, all print jobs for which "Locked Print" is specified are stored in ELP-NX when user authentication is not set. Also note that any jobs for which "Locked Print" is not specified will be deleted according to the default setting of ELP-NX.
- For details about how to print using ELP-NX, see the manuals provided with the application.
- For details about the option settings of ELP-NX, consult your administrator.
- A Locked Print file cannot be stored if:
  - the hard disk is not installed in the printer.
  - the total number of Sample Print, Locked Print, Hold Print, and Stored Print files in the printer is over 100. (The maximum number varies depending on the volume of data in files.)
  - the file contains over 1,000 pages.
  - sent or stored files in the printer contain over 9,000 pages in total.

### ↓ Note

- If a Locked Print file has not been stored properly, check the error log in the control panel.
- Even after you turn off the printer, stored documents remain. However, the [Auto Delete Temporary Jobs] or [Auto Delete Stored Jobs] settings are applied first.
- If the application has a collate option, make sure it is not selected before sending a print job. Locked Print jobs are automatically collated by the printer driver as default. If a collate option is selected in the application print dialog box, more sets than intended may be printed.
- After the Locked Print file is printed, the job is automatically deleted.
- Locked Print files printed or deleted using Web Image Monitor, after you select [Locked Print] using the control panel will appear on the display panel. However, an error message will appear if you try to print or delete those Locked Print files.
- For details about the error log in the display panel, see p.136 "Checking the Error Log".
- For details about [Auto Delete Temporary Jobs] and [Auto Delete Stored Jobs], see p.96 "Maintenance Menu".

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## Sending a Locked Print file

The following procedure describes how to print a Locked Print file with the PCL 6/PCL 5e or PostScript 3 printer driver.

### ★ Important

- Applications with their own drivers, such as PageMaker, do not support this function.
1. **Configure the Locked Print in the printer driver's properties.**  
For details about configuring the printer drivers, see the relevant Help files.
  2. **Click [Details...], and then enter a user ID in the [User ID:] box, and then enter a password in the [Password:] box.**
  3. **Click [OK] to close [Details...], and then click [OK] to close the printer driver's properties.**
  4. **Start printing from the application's print dialog box.**  
The Locked Print job is sent to the printer and stored.

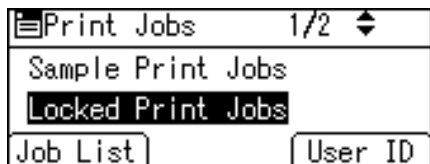
## Printing a Locked Print file using the control panel

1. On the printer's control panel, press [Prt.Jobs].





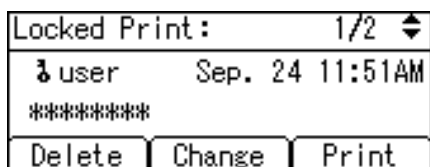
2. Select [Locked Print Jobs] using the [▼] or [▲] key, and then press [Job List].



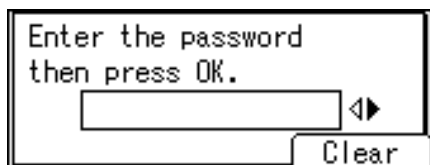
Depending on the security settings, certain print jobs may not be displayed.

You can print files also by pressing [User ID].

3. Select the file you want to print using the [▼] or [▲] key, and then press [Print].



4. Enter the password, and then press the [OK] key.



A confirmation screen will appear if the password is not entered correctly. Press [Clear] or the [Clear] key to enter the password again.

If you forget your password, contact your administrator for help.

5. Press [Print].

To cancel printing, press [Cancel].

#### ↓ Note

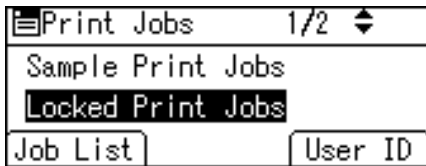
- When printing is completed, the stored file will be deleted.
- To stop printing after printing has started, press the [Job Reset] key. The file will be deleted.
- For details about [User ID], see p.79 "Printing from the User ID Screen".

## Deleting Locked Print files

1. Press [Prt.Jobs].

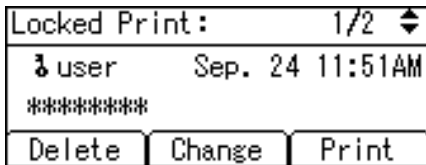


2. Select [Locked Print Jobs] using the [▼] or [▲] key, and then press [Job List].

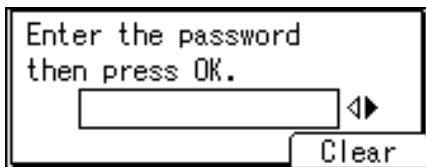


Depending on the security settings, certain print jobs may not be displayed.

3. Select the file you want to delete using the [▼] or [▲] key, and then press [Delete].



4. Enter the password, and then press the [OK] key.



A confirmation screen will appear if the password is not entered correctly. Press [Clear] or the [Clear] key to enter the password again.

If you forget your password, contact your administrator for help.

5. Press [Delete].

To cancel deleting, press [Cancel].

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## Hold Print

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Use this function to temporarily hold a file in the printer, and print it from the computer or the printer's control panel later.

### ★ Important

- A Hold Print file cannot be stored if:
  - the hard disk is not installed in the printer.
  - the total number of Sample Print, Locked Print, Hold Print, and Stored Print files in the printer is over 100. (The maximum number varies depending on the volume of data in files.)
  - the file contains over 1,000 pages.
  - sent or stored files in the printer contain over 9,000 pages in total.

**Note**

- If a Hold Print file has not been stored properly, check the error log in the control panel.
- Even after you turn off the printer, stored documents in the printer remain. However, the [Auto Delete Temporary Jobs] or [Auto Delete Stored Jobs] settings are applied first.
- If the application has a collate option, make sure it is not selected before sending a print job. By default, Hold Print jobs are automatically collated by the printer driver. If a collate option is selected from the application's print dialog box, more prints than intended may be produced.
- Hold Print files printed or deleted using Web Image Monitor, after you select [Hold Print] using the control panel will appear on the display panel. However, an error message will appear if you try to print or delete those Hold Print files.
- If stored files have similar and long file names, recognizing the file you want to print on the display panel may be difficult. Print the file you want to print either by checking the user ID or the time the file is sent, or by changing the file name to something that can be recognized easily. If you enter the document name on the printer driver's [Details...], that name appears on the display panel.
- It is possible, but not required, to set a file name or a password to a Hold Print file.
- For details about the error log in the display panel, see p.136 "Checking the Error Log".
- For details about [Auto Delete Temporary Jobs] and [Auto Delete Stored Jobs], see p.96 "Maintenance Menu".

**Sending a Hold Print file**

The following procedure describes how to print a Hold Print file with the PCL 6/PCL 5e or PostScript 3 printer driver.

**★ Important**

- **Applications with their own drivers, such as PageMaker, do not support this function.**
- 1. Configure the Hold Print in the printer driver's properties.**  
For details about configuring the printer drivers, see the relevant Help files.
  - 2. Click [Details...], and then enter a user ID in the [User ID:] box.**  
A file name can also be entered arbitrarily.
  - 3. Click [OK] to close [Details...], and then click [OK] to close the printer driver's properties.**
  - 4. Start printing from the application's print dialog box.**  
The Hold Print job is sent to the printer and stored.

## Printing a Hold Print file using the control panel

1. On the printer's control panel, press [Prt.Jobs].



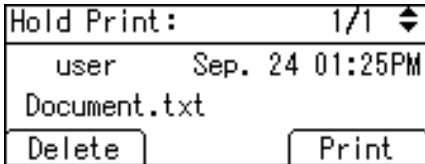
2. Select [Hold Print Jobs] using the [▼] or [▲] key, and then press [Job List].



Depending on the security settings, certain print jobs may not be displayed.

You can print files also by pressing [User ID].

3. Select the file you want to print using the [▼] or [▲] key, and then press [Print].



4. Press [Print].

To cancel printing, press [Cancel].

### Note

- When printing is completed, the stored file will be deleted.
- To stop printing after printing has started, press the [Job Reset] key. The file will be deleted.
- For details about setting printer drivers, see the printer driver Help. You can also print or delete a Hold Print file from Web Image Monitor. For details, see Web Image Monitor Help.
- For details about [User ID], see p.79 "Printing from the User ID Screen".

## Deleting Hold Print files

1. Press [Prt.Jobs].

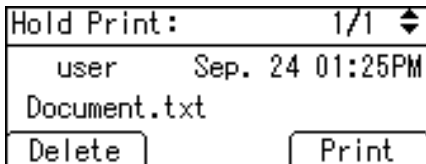


2. Select [Hold Print Jobs] using the [▼] or [▲] key, and then press [Job List].



Depending on the security settings, certain print jobs may not be displayed.

3. Select the file you want to delete using the [▼] or [▲] key, and then press [Delete].



4. Press [Delete].

To cancel deleting, press [Cancel].

## Stored Print

Use this function to store a file in the printer, and then print it from the computer or the printer's control panel later.

Jobs are not deleted after they are printed, so the same job need not be resent in order to print multiple copies.

### ★ Important

- A Stored Print file cannot be stored if:
  - the hard disk is not installed in the printer.
  - the total number of Sample Print, Locked Print, Hold Print, and Stored Print files in the printer is over 100. (The maximum number varies depending on the volume of data in files.)
  - the file contains over 1,000 pages.
  - sent or stored files in the printer contain over 9,000 pages in total.

**Note**

- If a Stored Print file has not been stored properly, check the error log in the control panel.
- Even after you turn off the printer, stored documents in the printer remain. However, the [Auto Delete Temporary Jobs] or [Auto Delete Stored Jobs] settings are applied first.
- If the application has a collate option, make sure it is not selected before sending a print job. By default, Stored Print jobs are automatically collated by the printer driver. If a collate option is selected from the application's print dialog box, more prints than intended may be produced.
- Stored Print files printed or deleted using Web Image Monitor, after you select [Stored Print] using the control panel will appear on the display panel. However, an error message will appear if you try to print or delete those Stored Print files.
- If stored files have similar and long file names, recognizing the file you want to print on the display panel may be difficult. Print the file you want to print either by checking the user ID or the time the file is sent, or by changing the file name to something that can be recognized easily.
- If you enter the document name on the printer driver's [Details...], that name appears on the display panel.
- For details about the error log in the display panel, see p.136 "Checking the Error Log".
- For details about [Auto Delete Temporary Jobs] and [Auto Delete Stored Jobs], see p.96 "Maintenance Menu".

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### Sending a Stored Print file

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The following procedure describes how to print a Stored Print file with the PCL 6/ PCL 5e or PostScript 3 printer driver.

**★ Important**

- **Applications with their own drivers, such as PageMaker, do not support this function.**

**1. Configure the Stored Print in the printer driver's properties.**

You can select two ways for Stored Print:

- [Stored Print]  
Stores the file in the printer and print it later using the control panel.
- [Store and Print] (or [Store and Normal Print])  
Prints the file at once and also stores the file in the printer.

For details about configuring the printer drivers, see the relevant Help files.

**2. Click [Details...], and then enter a user ID in the [User ID:] box.**

You can also set a file name and a password. The same password must be entered when printing or deleting.

**3. Click [OK] to close [Details...], and then click [OK] to close the printer driver's properties.**

#### 4. Start printing from the application's print dialog box.

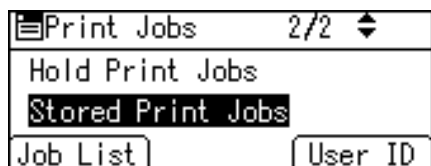
The Stored Print job is sent to the printer and stored.

### Printing a Stored Print file using the control panel

#### 1. On the printer's control panel, press [Prt.Jobs].

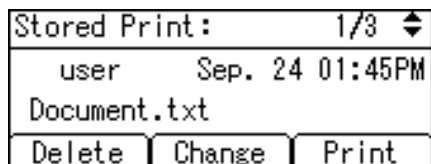


#### 2. Select [Stored Print Jobs] using the [▼] or [▲] key, and then press [Job List].



You can print files also by pressing [User ID].

#### 3. Select the file you want to print using the [▼] or [▲] key, and then press [Print].



If you set a password in the printer driver, a password confirmation screen appears. Enter the password.

If you want to print multiple copies, specify a number of sets in the [Quantity] box. Press the [Clear] key to correct any entry mistakes.

#### 4. Press [Print].

To cancel printing, press [Cancel].

#### ↓ Note

- When multiple files are selected without setting a quantity, one set less than the minimum number of all settings is applied. If the least number of settings is one set, all selected files will be printed at one set.
- If the number of set quantity is changed when [User ID] is pressed in step 2, the changed quantity is applied to all selected files.
- To stop printing after printing has started, press the [Job Reset] key. A Stored Print file is not deleted even if the [Job Reset] key is pressed.

- The Stored Print file that sent to the printer is not deleted unless you delete a file or select [Auto Delete Stored Jobs].
- You can set or delete a password after sending files to the printer. Select the file and press [Change] in the Print Job List screen. To set a password, enter the new password. To delete the password, leave the password box blank on entering or confirming the new password, and press the [OK] key.
- For details about the [Auto Delete Stored Jobs], see p.96 "Maintenance Menu".
- For details about [User ID], see p.79 "Printing from the User ID Screen".

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**Deleting Stored Print files**

1. Press [Prt.Jobs].

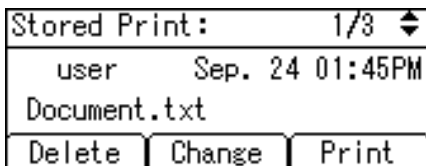


2. Select [Stored Print Jobs] using the [▼] or [▲] key, and then press [Job List].



Depending on the security settings, certain print jobs may not be displayed.

3. Select the file you want to delete using the [▼] or [▲] key, and then press [Delete].



If you set the password in the printer driver, enter the password to delete.

If you forget your password, contact your administrator for help.

4. Press [Delete].

To cancel deleting, press [Cancel].



# Printing from the User ID Screen

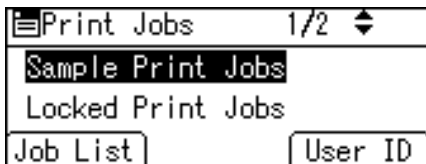
This describes how to print the files saved in the printer from the User ID screen.

## Printing the Selected Print Job

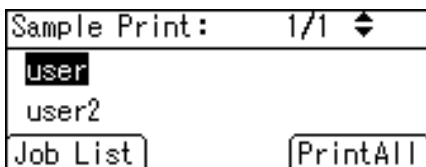
1. On the initial screen, press [Prt.Jobs].



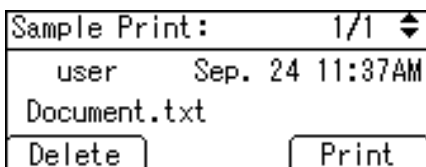
2. Press [User ID].



3. Select the user ID whose file you want to print using the [▼] or [▲] key, and then press [Job List].



4. Select the file you want to print using the [▼] or [▲] key, and then press [Print].



5. Press [Print].

To cancel printing, press [Cancel].

### Note

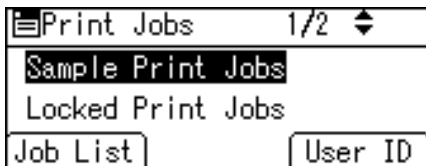
- If you print a Sample, Locked, or Hold Print file, the print file saved in the printer is deleted after printing is completed.

## Printing All Print Jobs

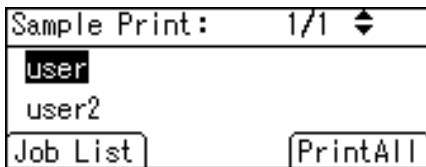
1. On the initial screen, press [Prt.Jobs].



2. Select a type of print jobs you want to print using the [▼] or [▲] key, and then press [User ID].



3. Select the user ID whose file you want to print using the [▼] or [▲] key, and then press [PrintAll].



4. Press [Print].

To cancel printing, press [Cancel].

### ↓ Note

- If you print a Sample, Locked, or Hold Print file, the print file saved in the printer is deleted after printing is completed.
- You cannot select a print job that is not stored under the selected user ID.
- When printing multiple Sample Print files without specifying the number of sets on the confirmation screen, one set less than the least number of set specified on the computer is applied for every selected document. If the number of sets specified on the computer is "1", one set each is printed for every document.
- When printing multiple Stored Print files without specifying the number of sets on the confirmation screen, the least number of set specified on the computer is applied for every selected document.
- If you select [Locked Print Jobs], enter the correct password. If there are multiple passwords, the printer prints only files that correspond to the entered password.
- If you select Stored Print files, and some of these require a password, the printer prints files that correspond to the entered password and files that do not require a password.

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# Canceling a Print Job

You can cancel printing from either the printer or a client computer. Since canceling procedures vary depending on the print job status, check the job status and cancel printing according to the following procedure.

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## If Printing Has Not Yet Started

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You can cancel a print job from the computer.

 **Note**

- If the printer is shared by multiple computers, be careful not to accidentally cancel someone else's print job.
- A print job containing a large volume of data may take considerable time to stop.

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## Windows

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**1. Double-click the printer icon on the Windows task tray.**

A window appears, showing all print jobs currently queued for printing. Check the current status of the job you want to cancel.

- 2. Select the name of the job you want to cancel.**
- 3. On the [Document] menu, click [Cancel].**

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## Mac OS X

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**1. Click the printer icon on the dock.**

A window appears showing all print jobs that are currently queuing to be printed. Check the current status of the job you want to cancel.

- 2. Select the name of the job you want to cancel.**
- 3. In the application, on the [Jobs] menu, click [Delete Job].**

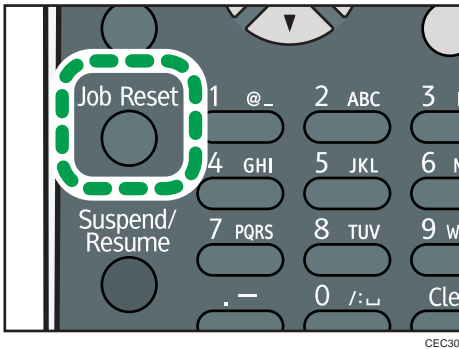
---

## If Printing Has Already Started

---

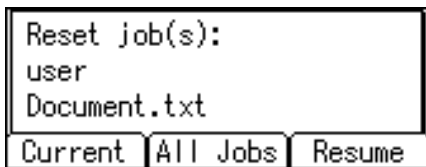
You can cancel a print job from the printer's control panel.

1. Press the [Job Reset] key.



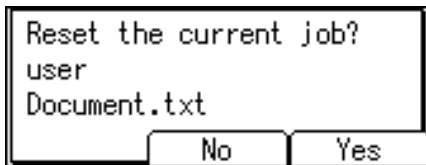
3

2. Press [Current].



To resume printing jobs, press [Resume].

3. Press [Yes] to cancel the print job.



Press [No] to return to the previous display.

↓ **Note**

- If the printer is connected to the computer using a parallel cable, sent print jobs may be canceled if the [Job Reset] key is pressed while "Please wait..." is displayed on the control panel. After the interval set in [I/O Timeout] in Printer Features has passed, the next print job can be sent. A print job sent from a different client computer will not be canceled in this case.
- You cannot stop printing data that has already been processed. For this reason, printing may continue for a few pages after you press the [Job Reset] key.

# 4. Making Printer Settings Using the Control Panel

This chapter explains the menu displayed on the control panel and how to change the printer's settings.

## Menu Chart

This section explains how to change the default settings of the printer and provides information about the parameters included in each menu.

### Memory Erase Status

Displays data status inside the memory.

This menu can be displayed only if all the following conditions are met:

- The optional hard disk and the SD card provided with the hard disk are installed (Type 1 model only).
- [Auto Erase Memory Setting] is enabled.

### Paper Input

Menu
Paper Size: Bypass Tray
Paper Size: Tray 1
Paper Size: Tray 2
Paper Size: Tray 3
Paper Size: Tray 4
Paper Size: Tray 5
Paper Type: Bypass Tray
Paper Type: Tray 1
Paper Type: Tray 2
Paper Type: Tray 3
Paper Type: Tray 4
Paper Type: Tray 5
Duplex Tray

Menu
Auto Tray Select
Tray Priority

**Note**

- Only installed trays appear on the display panel.

**Maintenance**

Menu
Quality Maintenance
General Settings
Timer Settings
HDD Management
Machine Settings Export

**Note**

- [HDD Management] appears only when the hard disk is installed.

**List/Test Print**

Menu
Multiple Lists
Config. Page
Error Log
Network Summary
Supply Info List
Menu List
PCL Config./Font Page
PS Config./Font Page
PDF Config./Font Page

Menu
IPDS Font List
Hex Dump

## System

Menu
Print Error Report
Auto Continue
Memory Overflow
Printer Language
Sub Paper Size
Default Printer Lang.
Auto Off
Print Compressed Data
Memory Usage
Spool Printing
RAM Disk
Auto E-mail Notify

### ↓ Note

- [Spool Printing] appears only when the hard disk is installed.
- [RAM Disk] appears only when the hard disk is not installed.

## Print Settings

Menu
Machine Modes
PCL Menu
PS Menu

Menu
PDF Menu
IPDS Menu

**Security Options**

Menu
Extended Security
Service Mode Lock
Firmware Version
Network Security Level
Auto Erase Memory Setting
Erase All Memory
Transfer Log Setting
Machine Data Encryption

**Note**

- [Service Mode Lock] may not appear depending on the setting of the printer.
- If you are using the Type 1 model, [Auto Erase Memory Setting] and [Erase All Memory] will appear when the optional hard disk and the SD card provided with the hard disk are installed.
- If you are using the Type 1 model, [Machine Data Encryption] will appear when the optional hard disk and the SD card provided with the hard disk are installed, and you have logged on as the machine administrator.

**Host Interface**

Menu
I/O Buffer
I/O Timeout
Network
Parallel Interface
Wireless LAN



Menu
USB Settings

↓ **Note**

- [Parallel Interface] appears when the optional IEEE 1284 interface board is installed.
- [Wireless LAN] appears when the optional Wireless LAN interface unit is installed.

### Shutdown

Prepares the printer for power off. To prevent damage to the hard disk or memory leading to malfunction, be sure to shutdown the printer properly before turning off the power switch.

↓ **Note**

- For details about shutting down the printer, see "Turning off the Power", Hardware Guide.

### Language

Menu
English
French
German
Italian
Spanish
Dutch
Norwegian
Danish
Swedish
Polish
Portuguese
Hungarian
Czech
Finnish
Russian

### **Extended Features**

This menu is not available on the printer you are using.

# Applying the Machine Settings to Other Printers

## About the Machine Settings Export Function

Use this function to store the printer's configuration settings on an SD card. Information stored on the card can be used to restore the printer's configuration. The card can also be used to export this printer's configuration settings to other printers of the same manufacturer.

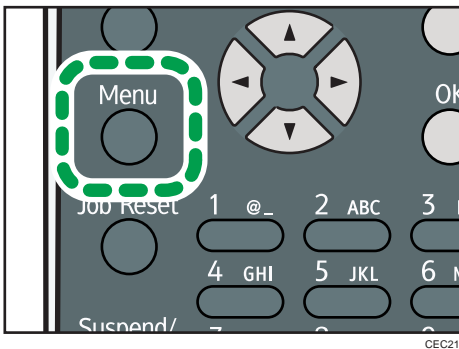
The following settings are exportable:

- All settings under the [System] menus
- All settings under the [Print Settings] menus
- [Machine IPv4 Address] under [Network] on the [Host Interface] menu
- [Fixed USB Port] under [USB Settings] on the [Host Interface] menu

4

## Exporting the Machine Settings to a SD Card

1. Make sure the printer is turned off.
2. Insert the SD card in the SD card slot.
3. Turn the printer on.
4. Press the [Menu] key.



5. Press the [▼] or [▲] key to select [Maintenance], and then press the [OK] key.
6. Press the [▼] or [▲] key to select [Machine Settings Export], and then press the [OK] key.
7. When the confirmation screen appears, press [Yes].
8. Make sure the message regarding that the exporting process being successfully completed appears, and then press [Exit].
9. Turn the printer off, and then remove the SD card on which the exported settings are stored.

**Note**

- For details about inserting the SD card and the slot location, see "Installing the SD Memory Card Options", Hardware Guide.

---

## Importing the Machine Settings Stored on the SD Card into Other Printers

---

4

1. Make sure the printer to which the settings will be imported is turned off.
2. Insert the SD card in the SD card slot.
3. Turn the printer on while pressing and holding down the [Job Reset] key.
4. When the confirmation screen appears, press [Yes].
5. When the message regarding the completion of the import process appears, turn off the printer.
6. Remove the SD card.
7. Turn on the printer.
8. Make sure the settings have been imported properly. Modify the settings if necessary.

**Note**

- The SD card installation procedure and the SD card slot location differ depending on the machine you are using.

# Memory Erase Status Menu

Displays data status inside the memory.

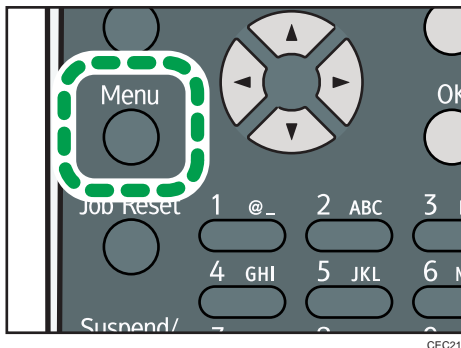
## ★ Important

- The Memory Erase Status menu can be displayed only if all the following conditions are met:
  - The optional hard disk and the SD card provided with the hard disk are installed (Type 1 model only).
  - [Auto Erase Memory Setting] is enabled.

## Viewing the Status of Remaining Data in Memory

4

1. Press the [Menu] key.



2. Press the [▼] or [▲] key to select [Memory Erase Status], and then press the [OK] key.
3. The current memory status is displayed.
  - [Data to erase remaining.] : Data remain inside the memory.
  - [Currently no data to erase.] : No data remain inside the memory.
  - [Erasing Data...] : Data are being deleted.
4. Press the [OK] key.
5. Press the [Menu] key.

# Paper Input Menu

This section explains about paper settings on the paper input menu such as paper sizes and types on each tray.

---

## Paper Input Menu Parameters

---

This section explains about parameters that can be set on the paper input menu.


### ★ Important


- Only installed trays appear on the display panel.
- Be sure to set a paper type using the control panel. If you do not set it, the printing result might not be proper.

#### Paper Size: Bypass Tray

You can specify the paper size for Bypass Tray.

Default:

 **Region A** (mainly Europe and Asia)  
A4


 **Region B** (mainly North America)  
8 1/2 × 11

#### Paper Size: Tray 1 to 5

You can specify the paper size for Tray 1 to 5.

Default:

 **Region A** (mainly Europe and Asia)  
[Auto Detect]

 **Region B** (mainly North America)  
[Auto Detect]

#### Paper Type: Bypass Tray

You can specify the paper type for Bypass Tray.

Default: [No Display (Plain Paper)]

#### Paper Type: Tray 1 to 5

You can specify the paper type for Tray 1 to 5.

Default: [No Display (Plain Paper)]

#### Duplex Tray

You can set each tray for duplex printing. Only installed trays appear on the display panel.

- Tray 1 to 5, Bypass Tray

Default: **[On]**

- On
- Off

### Auto Tray Select

You can select whether to assign each tray to automatically print the paper size and type set by printer driver.

When using custom size paper, if automatic tray selection is enabled, the size selected on the control panel has priority. If this setting is disabled, the size selected from the printer driver has priority.

You can select multiple trays.

If you need to have a tray locked, you must select the tray using both printer driver and control panel.

- Tray 1 to 5, Bypass Tray

Default: **[On]**

- On
- Off

### Tray Priority

You can set a tray to be checked first when automatic tray selection is enabled from the printer driver. The tray selected here is used when no tray is selected for a print job.

It is recommended that you load paper of the size and orientation you use most frequently in the tray selected in this setting.

Default: **[Tray 1]**

- Tray 1
- Tray 2
- Tray 3
- Tray 4
- Tray 5
- Bypass Tray

#### Note

- For details about which paper sizes can be specified, see "Supported Paper for Each Tray", Hardware Guide.
- For details about which paper types can be specified, see "Supported Paper Types", Hardware Guide.

---

## Changing the Paper Input Menu

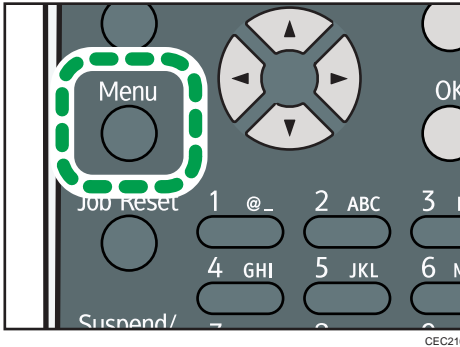
---

### Automatic tray selection

---

Follow the procedure below to change the automatic tray selection setting.

1. Press the [Menu] key.



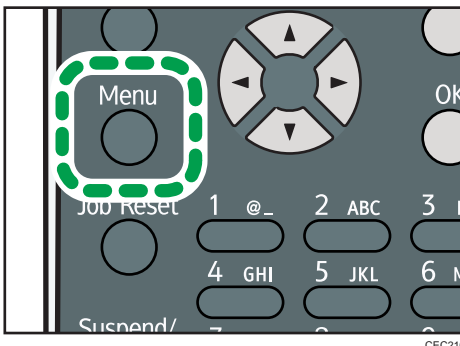
2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.
3. Press the [▼] or [▲] key to select [Auto Tray Select], and then press the [OK] key.
4. Press the [▼] or [▲] key to select the tray you want to print from, and then press the [OK] key.
5. Press the [▼] or [▲] key to select [On], and then press the [OK] key.
6. Press the [Menu] key.

### Tray priority

---

Follow the procedure below to change the tray priority.

1. Press the [Menu] key.



2. Press the [▼] or [▲] key to select [Paper Input], and then press the [OK] key.



3. Press the [▼] or [▲] key to select [Tray Priority], and then press the [OK] key.
4. Press the [▼] or [▲] key to select a tray you want to use, and then press the [OK] key.
5. Press the [Menu] key.

# Maintenance Menu

You can set printing conditions such as density and calibration, and printer management such as deleting temporary print jobs from the hard disk.

---

## Maintenance Menu Parameters

---

This section explains about parameters that can be set on the maintenance menu.

### Quality Maintenance

---

4

#### Image Density Adjustment

Adjusting the print image density can prevent faint spots or smears appearing on printed pages. You can specify a density value between **-3** and **+3**.

Only change this setting from its default value if necessary. For details about adjusting the print image density, see "Adjusting the Image Density", Hardware Guide.

#### Registration

You can adjust the starting position of the printing page. For details, see "Adjusting Printing Position", Hardware Guide.

- Print Test Sheet

You can print the registration test sheet.

Only the installed trays appear on the display panel.

- Tray 1
- Tray 2
- Tray 3
- Tray 4
- Tray 5
- Bypass Tray
- Duplex Unit

- Adjustment

You can select the start position for printing on a page.

Only the installed trays appear on the display panel.

- Horizontal: Tray 1
- Horizontal: Tray 2
- Horizontal: Tray 3

- Horizontal: Tray 4
- Horizontal: Tray 5
- Horizontal: Bypass Tray
- Horizontal: Back Side
- Vertical: Tray 1
- Vertical: Tray 2
- Vertical: Tray 3
- Vertical: Tray 4
- Vertical: Tray 5
- Vertical: Bypass Tray
- Vertical: Back Side

## General Settings

---

### Plain Paper Setting

You can select the type of plain paper.

- Tray 1 to 5, Bypass Tray

Default: [**Plain Paper 2**]

- Plain Paper 1
- Plain Paper 2

### Letterhead Setting

You can select the type of letterhead paper.

- Tray 1 to 5, Bypass Tray

Default: [**Letterhead 1**]

- Letterhead 1
- Letterhead 2
- Letterhead 3

### Label Paper Setting

You can select the type of label paper.

Default: [**Label Paper 1**]

- Label Paper 1
- Label Paper 2
- Label Paper 3
- Label Paper 4

### Envelope Setting

You can select the type of envelope.

Default: **[Envelope 3]**

- Envelope 1
- Envelope 2
- Envelope 3
- Envelope 4

### Replacement Alert

Use this function to specify the timing of when the Alert Indicator will light up to prompt the user to replace supplies.

- Print Cartridge/Maint. Kit

Default: **[Normal]**

- Notify Sooner
- Normal
- Notify Later

### Display Supply Info

You can select whether or not the amount of toner is displayed on the initial screen.

Default: **[On]**

- On
- Off

### Menu Protect

You can select whether or not to protect the menu settings. If you enable this setting, you must specify a protection level.

If you would like to lower the protection level, disable this setting or select **[Level 1]**.

You may not be able to change this setting depending on the setting of the printer.

Default: **[Level 2]**

- Level 1
- Level 2
- Off

### List/Test Print Lock

You can select whether or not to prohibit List/Test printing.

You may not be able to change this setting depending on the setting of the printer.

Default: **[Off]**

- On

- Off

### Unit of measure

You can specify the unit for measurement.

Default:

 **Region A** (mainly Europe and Asia)

[mm]

 **Region B** (mainly North America)

[inch]

- mm
- inch

### Panel Key Sound

You can select whether or not to enable the panel key sound.

Default: [On]

- On
- Off

### Warm-up Beeper

You can select whether or not to sound the beeper when the printer has completed a warm-up process.

Default: [Off]

- On
- Off

### Display Contrast

You can specify the density of the display by selecting one of seven levels.

### Key Repeat

You can specify whether or not to scroll the display panel when the [▼] or [▲] key is held down. When you enable this setting, specify the scroll speed. (If repeat time is set to "Long", scroll speed becomes slow.)

Default: [Normal]

- Do not Repeat
- Normal
- Repeat Time: Medium
- Repeat Time: Long

### Function Priority

Specify the function that is selected by default whenever the printer is turned on or leaves Energy Saver mode.

The order of the items on this menu reflects the order of the functions that appear when [Switch Functions] is pressed.

Default: **[Printer]**

- Printer
- Extended Features 1
- Extended Features 2
- Extended Features 3

## Timer Settings

---

### 4

### Auto Reset Timer

Specify how long the printer waits before it displays the initial screen following last usage (auto resets). This function will be active when the printer is in the following conditions:

- Performing normal menu operations.
- When displaying a warning message regarding authentication.

If you suspend printing by pressing the [Suspend/Resume] key, the machine will resume printing when the period of time specified by this setting has passed.

If you enable this setting, you can specify the number of seconds the printer waits before it auto resets. Specify a wait time of between 10 and 999 seconds (in steps of one second). The default wait time is 60 seconds.

Default: **[On]**

- On
- Off

### Set Date

Set the date for the printer's internal clock.

### Set Time

Set the time for the printer's internal clock.

## HDD Management

---

Specify the settings related to deletion of data saved on the hard disk. This menu appears only if the hard disk is installed.

### Delete All Temporary Jobs

Use this function to delete all temporary documents saved on the hard disk (Sample Print, Locked Print, and Hold Print data) at once.

---

### Delete All Stored Jobs

Use this function to delete all Stored Print data saved on the hard disk at once.

### Auto Delete Temporary Jobs

Specify whether or not to automatically delete temporary documents saved on the hard disk (Sample Print, Locked Print, and Hold Print data). If you enable this setting, you can specify the number of hours the printer waits before it deletes documents. Specify a wait time of between one and 200 hours (in steps of one hour). The default wait time is eight hours.

Default: [Off]

- On
- Off

### Auto Delete Stored Jobs

Specify whether or not to automatically delete Stored Print data saved on the hard disk. If you enable this setting, you can specify the number of days the printer waits before it deletes documents. Specify a wait time of between one and 180 days (in steps of one day). The default wait time is three days.

Default: [On]

- On
- Off

### Reset IPDS Fonts

Use this function to delete all IPDS captured fonts. This menu appears only when the optional IPDS card is installed.

## Machine Settings Export

---

Use this function to store the settings of this printer on an SD card. The stored information can then be used to restore the settings of this printer, or carried over to other printers of the same manufacturer. For details, see p.89 "Applying the Machine Settings to Other Printers".

---

## Changing the Maintenance Menu

---

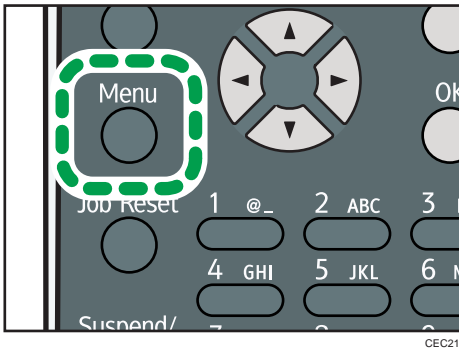
This section explains changing the maintenance menu using examples.

### Automatic deletion of temporary jobs in the hard disk

---

Follow the procedure below to set automatic deletion of temporary jobs stored in the hard disk.

1. Press the [Menu] key.



4

2. Press the [▼] or [▲] key to select [Maintenance], and then press the [OK] key.
3. Press the [▼] or [▲] key to select [HDD Management], and then press the [OK] key.
4. Press the [▼] or [▲] key to select [Auto Delete Temporary Jobs], and then press the [OK] key.
5. Press the [▼] or [▲] key to select [On], and then press the [OK] key.
6. Press the [▼] or [▲] key to set automatic deletion timer in hours between 1 through 200.
7. Press the [OK] key.
8. Press the [Menu] key.



# List/Test Print Menu

The list/test print menu allows you to print lists showing the printer configuration and the setting status of print-related conditions.

---

## List/Test Print Menu Parameters

---

This section explains about parameters that can be set on the list/test print menu.

### Multiple Lists

You can print the configuration page and error log, network summary and supply list.

### Config. Page

You can print the current configuration of the printer. For details, see p.104 "Interpreting the Configuration Page".

### Error Log

You can print an error report.

### Network Summary

You can print the network device status.

### Supply Info List

You can print the supply status.

### Menu List

You can print a menu list showing all available menus.

### PCL Config./Font Page

You can print the current configuration and installed PCL font list.

### PS Config./Font Page

You can print the current configuration and installed PostScript font list.

### PDF Config./Font Page

You can print the current configuration and installed PDF font list.

### IPDS Font List

You can print a list of IPDS-supported fonts. This menu appears only when the optional IPDS card is installed.

### Hex Dump

You can print the data sent by the computer using Hex Dump.

---

## Test Printing

---

Follow the procedure below to print the configuration page.

**★ Important**

- The configuration page is printed on A4 or Letter (8 1/2"×11") size paper, so load them in the same paper tray.

---

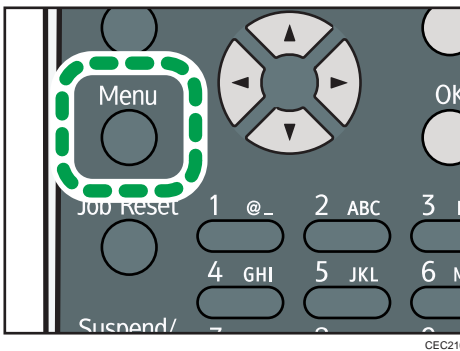
### Printing a Configuration Page

---

Use the following procedure to print the Configuration Page.

4

1. Press the [Menu] key.



2. Press the [▼] or [▲] key to select [List/Test Print], and then press the [OK] key.
3. Press the [▼] or [▲] key to select [Config. Page], and then press the [OK] key.  
After the configuration page is printed out, the screen returns to List/Test print menu.
4. Press the [Menu] key.

---

### Interpreting the Configuration Page

---

The meanings of the items on the Configuration Page are as follows:

#### System Reference

##### Machine ID

Shows the serial number assigned to the board by its manufacturer.

##### Total Memory

Shows the total memory status.

##### Total Counter

Shows the total number of pages printed by the printer to date.

**Firmware Version**

- **Printer**  
Shows the version number of the printer controller firmware.
- **System**  
Displays the version number of the system firmware.
- **Engine**  
Shows the version number of the printer engine firmware.
- **NIB**  
Shows the version number of the network interface board.

**Device Connection**

Shows the names of device options installed in the printer.

**HDD: Font/Macro Download**

Shows the hard disk status.

**Printer Language**

Shows the version number of the printer language.

**Attached Equipment**

Shows the options attached to the printer.

**Paper Input**

Shows the current Paper Input settings. For details, see p.92 "Paper Input Menu".

**Maintenance**

Shows the current Maintenance settings. For details, see p.96 "Maintenance Menu".

**System**

Shows the current System settings. For details, see p.107 "System Menu".

**Machine Modes**

Shows the current machine modes settings. For details, see p.111 "Print Settings Menu".

**PCL Menu**

Shows the current PCL settings. For details, see p.111 "Print Settings Menu".

**PS Menu**

Shows the current PS settings. For details, see p.111 "Print Settings Menu".

**PDF Menu**

Shows the current PDF settings. For details, see p.111 "Print Settings Menu".

**IPDS Menu**

Shows the current IPDS settings. For details, see p.111 "Print Settings Menu".

### **Host Interface**

Shows the current Host Interface settings. When DHCP is active on the network, the IPv4 address, subnet mask, and gateway address appear in parentheses. For details, see p.128 "Host Interface Menu".

### **Interface Information**

Interface information is displayed.

### **User Paper Type**

Registered user paper types are displayed.

# System Menu

The system menu allows you to set the printer's basic functions. Although you can operate the printer using the default settings, you can also change its settings to better suit your printing needs. Changes made to settings remain effective after power off.

---

## System Menu Parameters

---

This section explains about parameters that can be set on the system menu.

### Print Error Report

Select whether or not to print an error report when a printer error or memory error occurs.

Default: [Off]

- On
- Off

### Auto Continue

Specify whether or not to continue printing after a system error. When you enable this setting, specify how long the printer is to display error before resuming print.

When [Auto Continue] is set to on, and a certain error occurs in the printer while printing, the job might be cancelled, or printing will not be as intended. When a job is cancelled due to error, the printer automatically begins the next job in the queue.

Default: [Off]

- Off
- Immediate
- 1 minute
- 5 minutes
- 10 minutes
- 15 minutes

### Memory Overflow

You can specify whether or not to print a memory overflow error report.

Default: [Do not Print]

- Do not Print
- Error Information

### Printer Language

You can specify the printer language.

Default: [Auto]

- Auto
- PCL
- PS
- PDF

### Sub Paper Size

Specify whether or not the paper size switches automatically when if paper of the specified size is not loaded in the tray.

This feature supports automatic switching between A4 and Letter (8 1/2" x 11") size paper only.

Paper switching can cause page edges to be cropped and other undesirable print results. This is due to the difference between A4 and Letter (8 1/2" x 11") in maximum printable area.

Default: [Auto]

- Auto
- Off

### Default Printer Lang.

Select the printer language to use when the printer fails to detect the printer language.

Default: [PCL]

- PCL
- PS
- PDF

### Auto Off

Use this function to reduce the power consumption of the printer when the printer is not in use.

#### Auto Off On/Off

You can select whether or not to enable Auto Off Mode.

Default: [On]

- On
- Off

#### Auto Off Timer

You can specify the duration the printer waits before entering Auto Off Mode. The printer enters Auto Off Mode if no user input has been made during the specified duration. When the printer is in Auto Off Mode, it takes longer for the printer to start printing.

Default: [1 minute]

- 1 minute
- 5 minutes
- 15 minutes

- 30 minutes
- 45 minutes
- 60 minutes

### Print Compressed Data

Specify whether or not to print compressed data. The supported compression format is GZIP.

Default: [**Off**]

- On
- Off

### Memory Usage

Select memory to be used from Font Priority or Frame Priority.

Default: [**Frame Priority**]

- Font Priority  
Allocates more memory to the PDL work area. Select this setting if printing fails due to insufficient memory.
- Frame Priority  
Allocates more memory for image processing. Select this setting to increase print speed. Depending on the document you are printing, this setting might not be effective.

### Spool Printing

Specify whether or not to complete spooling before starting to print. Spooling stores a sent print job temporarily in the printer, and then prints it. This function is available only if the hard disk is installed on the printer.

Default: [**Off**]

- On
- Off

### RAM Disk

If the hard disk is not installed for PDF Direct Print, select a value of 2 MB or higher. This function is displayed only if no hard disk is installed. For details about the optional SDRAM module, see Hardware Guide.

Default: [**4 MB**]

- 0 MB
- 2 MB
- 4 MB
- 8 MB

### Auto E-mail Notify

Specify whether or not to send an error message to a preset e-mail address when an error occurs in the printer. After changing the setting, turn off the power of the printer briefly, and then turn it on again. For information, see Web Image Monitor Help.

Default: [On]

- On
- Off

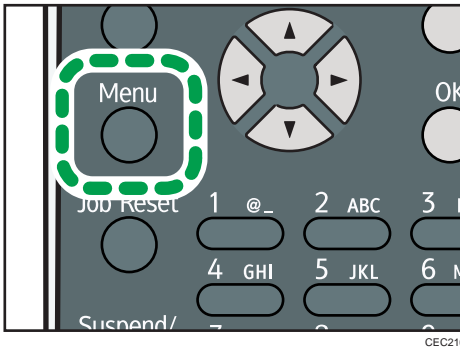
---

## Changing the System Menu

---

**4** Follow the procedure below to change the settings for Auto Off Timer.

1. Press the [Menu] key.



2. Press the [▼] or [▲] key to select [System], and then press the [OK] key.
3. Press the [▼] or [▲] key to select [Auto Off], and then press the [OK] key.
4. Press the [▼] or [▲] key to select [Auto Off Timer], and then enter the [OK] key.
5. Press the [▼] or [▲] key to select the lead time needed to switch to auto off mode.
6. Press the [OK] key.
7. Press the [Menu] key.



# Print Settings Menu

The System Menu allows you to set conditions for printing.

## Print Settings Menu Parameters

This section explains about parameters that can be set on the print settings menu.

### Machine Modes

#### Copies

Specify the number of copies to print.

If the number of copies to print is specified by command or the printer driver, this setting is overridden.

Default: 1

- 1 to 999

#### Page Size

Specify the default paper size. The default paper size is used when the paper size is not specified in the print data.



Default:

 **Region A** (mainly Europe and Asia)

**A4**

 **Region B** (mainly North America)

**8<sup>1</sup>/<sub>2</sub> × 11**

-  **Region A** (mainly Europe and Asia)  
A4, A5, A6, B5 JIS, B6 JIS, C5 Env., C6 Env., DL Env., 8<sup>1</sup>/<sub>2</sub> × 14, 8<sup>1</sup>/<sub>2</sub> × 13, 8<sup>1</sup>/<sub>2</sub> × 11, 8<sup>1</sup>/<sub>4</sub> × 13, 8 × 13, 7<sup>1</sup>/<sub>4</sub> × 10<sup>1</sup>/<sub>2</sub>, 5<sup>1</sup>/<sub>2</sub> × 8<sup>1</sup>/<sub>2</sub>, 4<sup>1</sup>/<sub>8</sub> × 9<sup>1</sup>/<sub>2</sub>, 3<sup>7</sup>/<sub>8</sub> × 7<sup>1</sup>/<sub>2</sub>, 16K, Custom Size
-  **Region B** (mainly North America)  
8<sup>1</sup>/<sub>2</sub> × 14, 8<sup>1</sup>/<sub>2</sub> × 13, 8<sup>1</sup>/<sub>2</sub> × 11, 8<sup>1</sup>/<sub>4</sub> × 13, 8 × 13, 7<sup>1</sup>/<sub>4</sub> × 10<sup>1</sup>/<sub>2</sub>, 5<sup>1</sup>/<sub>2</sub> × 8<sup>1</sup>/<sub>2</sub>, 4<sup>1</sup>/<sub>8</sub> × 9<sup>1</sup>/<sub>2</sub>, 3<sup>7</sup>/<sub>8</sub> × 7<sup>1</sup>/<sub>2</sub>, A4, A5, A6, B5 JIS, B6 JIS, C5 Env., C6 Env., DL Env., 16K, Custom Size

#### Edge to Edge Print

Select to whether or not to print using the whole area of paper, leaving no edge borders.

Default: [Off]

- On
- Off

### Duplex

Select whether or not to print on both sides of a sheet. If you specify duplex printing, you must also specify the binding method.

Default: **[Off]**

- Off
- Long Edge Bind
- Short Edge Bind

### Rotate by 180 Degrees

Select whether or not to rotate the print image by 180 degrees.

Default: **[Off]**

- On
- Off

### Blank Page Print

Select whether or not to print blank pages.

Default: **[On]**

- On
- Off

### Edge Smoothing

Select whether or not to smooth the edges of texts and images when printing. When this setting is enabled, gradation in images may be degraded.

Default: **[On]**

- On
- Off

### Toner Saving

Reduces toner consumption when printing. When this setting is enabled, print quality may be degraded.

Default: **[Off]**

- On
- Off

### Letterhead Setting

Select whether or not to print on paper that has a fixed print side or print direction (letterhead paper, for example). For details, see "Printing on Fixed-Orientation Paper", Hardware Guide.

Default: **[Auto Detect]**

- Off

Not printing with the letterhead printing mode.

- Auto Detect

Select whether or not to print using letterhead mode whenever a page that has a fixed print side or print direction is specified as the first page.

- On (Always)

Print with the letterhead printing mode regularly.

### Tray Setting Priority

Specify whether the paper size and type settings that are applied are those specified using the control panel, printer driver, or print command.

- Bypass Tray

Specify whether the paper size and type settings applied for bypass Tray are those specified using the control panel, printer driver, or print command.

Default: [**Driver/Command**]

- Driver/Command

When the source paper tray is specified for a print job, the paper settings specified using the printer driver or by print command are applied, regardless of any settings specified using the control panel.

- Machine Setting(s)

The paper settings specified on the printer's control panel are applied to all print jobs. An error will occur if the paper settings specified using the printer driver or by print command do not match those specified using the control panel.

- Any Size/Type

If the printer's trays do not contain paper matching the settings of the print job, printing can proceed from the bypass tray with the job's settings applied.

- Any Custom Size/Type

If the printer's trays do not contain paper matching the settings of the print job but custom paper was specified using the printer driver or by print command, printing can proceed from the bypass tray with the job's settings applied.

- Tray 1 to 5

Specify whether the paper size and type settings applied for Tray 1 to 5 are those specified using the control panel, printer driver, or print command.

Default: [**Machine Setting(s)**]

- Driver/Command

- Machine Setting(s)

### Tray Switching

You can specify whether or not the printer automatically switches paper trays if paper of the specified size and type is not loaded in the driver-designated tray.

Default: [Off]

- On
- Off

### Extend Auto Tray Switching

This setting enables the printer to switch paper trays automatically, regardless of whether the tray is manually or automatically selected.

Default: [Off]

- On
- Off

### PCL Menu

You can set conditions when using PCL for printing.

#### Orientation

Select the page orientation.

Default: [Portrait]

- Portrait
- Landscape

#### Form Lines

Specify the number of lines per page between 5 to 128. The default paper size is used when the paper size is not specified in the print data.

Default:

 Region **A** (mainly Europe and Asia)

64

 Region **B** (mainly North America)

60

#### Font Source

Specify the location of the default font.

When you select [RAM], you can select only fonts downloaded to the printer RAM.

When you select [HDD], you can select only fonts downloaded to the hard disk.

When you select [SD Font Download], you can select only fonts downloaded to the SD card.

Default: [Resident]

- Resident

- RAM
- HDD
- SD
- SD Font Download

### Font Number

Specify the ID of the default font you want to use.

Default: **0**

- 0 to 63 (Resident)
- 1 to X (Download; "X" is the number of downloaded fonts)

### Point Size

Specify the point size you want to use for the default font between 4 to 999.75 in 0.25 increments. This setting is effective only for a variable-space font.

Default: **12.00 points**

### Font Pitch

Specify the number of characters per inch you want to use for the default font between 0.44 to 99.99 in 0.01 increments. This setting is effective only for fixed-space fonts.

Default: **10.00 pitches**

### Symbol Set

You can specify the character set for the default font.

Default: **[PC-8]**

Available sets are as follows:

Roman-8, Roman-9, ISO L1, ISO L2, ISO L5, ISO L6, ISO L9, PC-775, PC-8, PC-8 D/N, PC-850, PC-852, PC-858, PC8-TK, PC-1004, Win L1, Win L2, Win L5, Win Baltic, Desktop, PS Text, MS Publ, Math-8, PS Math, Pifont, Legal, ISO 4, ISO 6, ISO 11, ISO 15, ISO 17, ISO 21, ISO 60, ISO 69, Win 3.0, MC Text, UCS-2, PC-864, Arabic-8, Win Arabic, PC-866, PC-866U, ISO Cyrillic, Win Cyrillic, PC-851, Greek-8, ISO Greek, PC-8 Greek, Win Greek, PC-862, Hebrew-7, Hebrew-8, ISO Hebrew

### Courier Font

Select the type of courier font.

Default: **[Regular]**

- Regular
- Dark

### Ext. A4 Width

Select whether or not to extend the width of the printable area of A4 sheets, by reducing side margins.

Default: [Off]

- On
- Off

### Append CR to LF

Select whether or not to append a CR code to each LF code to print text data clearly.

Default: [Off]

- On
- Off

### Resolution

You can specify the print resolution in dots per inch.

Default: [600dpi]

- 300dpi
- 600dpi

### PS Menu

You can set conditions when using PostScript for printing.

#### Job Timeout

You can specify how long the printer waits (in seconds) before canceling the current job when the job is interrupted while being processed. If you select Use Machine Setting(s), enter a value between 0 to 999. (Default: 0)

Default: [Use Driver/Command]

- Use Driver/Command
- Use Machine Setting(s)

#### Wait Timeout

You can specify how long the printer waits (in seconds) before it cancels receiving a job when the printer cannot detect the end of the job. If you select Use Machine Setting(s), enter a value between 0 to 999. (Default: 300)

Default: [Use Driver/Command]

- Use Driver/Command
- Use Machine Setting(s)

#### Data Format

Select the data format from Binary Data or TBCP.

This setting is ineffective when using a parallel or EtherTalk connection.

When using a parallel or USB connection, the print job is canceled if binary data is sent from the printer driver.

Default: **[TBCP]**

When using an Ethernet connection, the print job is canceled if:

- The printer driver data format is TBCP and the data format selected using the control panel is Binary Data.
- The printer driver data format is binary and the data format selected using the control panel is TBCP.

### Resolution

Select the resolution.

Default: **[600dpi Fast]**

- 300dpi
- 600dpi Fast
- 600dpi Standard

### Orientation Auto Detect

Specify the orientation auto detect.

Default: **[On]**

- On
- Off

## PDF Menu

You can set conditions when using PDF for printing.

### Change PDF Password

Specify the password for the PDF file executing PDF Direct Print. If you do not set a PDF password, this menu does not appear. The password can be set using Web Image Monitor, but must be sent through the network. For increased security, use this menu on the control panel to set the password directly.

### PDF Group Password

This setting is not available on this printer.

### Reverse Order Printing

This setting enables printing to start from the last page of the document. Use this function when prints come out face up in the output tray. This allows a printed document to be assembled in page order.

Default: **[Off]**

- On
- Off

### Resolution

Specify the resolution for the PDF file executing PDF Direct Print.

Default: **[600dpi Fast]**

- 300dpi
- 600dpi Fast
- 600dpi Standard

#### **Orientation Auto Detect**

Specify the orientation auto detect for the PDF file executing PDF Direct Print.

Default: **[On]**

- On
- Off

## **4**

### **IPDS Menu**

You can set conditions when using IPDS for printing.

#### **Tray Form**

Specify an IPDS form for each paper tray. For each paper tray, select the IPDS form you want to allocate to it. Only installed trays appear on the display panel.

- Tray 1
- Tray 2
- Tray 3
- Tray 4
- Tray 5
- Bypass Tray

#### **Emulation Mode**

Specify the emulation mode.

Default: **[Native]**

- Native
- 4028

#### **Print Mode**

Specify the print mode.

Default: **[Enhanced]**

- Standard
- Enhanced

#### **Def. Code Page**

Specify the default code page.

Default: **37**



37, 38, 260, 273, 274, 276, 277, 278, 280, 281, 284, 285, 286, 287, 288, 290, 297, 420, 423, 424, 500, 870, 871, 875, 880, 892, 893, 905, 1025, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149

### Default FGID

Specify the default FGID (Font Typeface Global Identifier), which identifies the printer's default resident font.

Default: **416**

3, 11, 12, 18, 19, 46, 85, 86, 92, 111, 112, 159, 164, 203, 221, 223, 254, 256, 281, 283, 290, 304, 305, 306, 318, 319, 400, 404, 416, 420, 424, 428, 432, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 5687, 5707, 5815, 5835, 20224

### Chara. Per Inch

Specify the number of characters per inch (pitch) for the default font. Valid values are 5.0 to 30.0 in units of one tenth of an inch.

Default: **10.0**

### Valid Prnt.Area

Enable or disable valid printable area checking.

Default: **[On]**

- On
- Off

### Page

Specify how data is positioned on the page.

Default: **[Whole]**

- Whole
- Comp 1
- Comp2
- Print

### Edge to Edge

Enable or disable "Edge to Edge" printing.

Default: **[Off]**

- On
- Off

### Font Substitution

Enables or disables font substitution.

Default: **[Off]**

- On

- Off

### **Caching**

Specify whether or not to apply caching for repeated overlays.

Default: [**Off**]

- On
- Off

### **Font Capture**

Enable or disable font capturing. This menu appears only when the hard disk is installed.

Default: [**On**]

- On
- Off

### **Resolution**

Specify the resolution reported to the host in the "IPDS XEOAOPC" command for raster coded fonts and IM1 image support.

Default: [**Auto**]

- Auto
- 240dpi
- 300dpi
- 600dpi

### **Graph.Char.Str.**

Specify the Graphic Character String (Graphic Character Sizing) processing method.

Default: [**Auto**]

- Auto
- Character Scale
- Font Activation

### **Bar Code**

Specify the barcode level protocol.

Default: [**Auto**]

- Auto
- 4028
- Native

### **Box Draw**

Specify the Box Draw processing.

Default: [**Off**]

- On
- Off

### Clr. Simulation

Specify how color specification controls are processed on a monochrome printer.

Default: [**Fidelity**]

- Fidelity
- Legacy

### Text Color Simulation

Specify how text color specification controls are processed on a monochrome laser printer.

Default: [**On**]

- On
- Off

### Tray Mapping

Map the media source (input tray) to an ID the host uses for the media source.

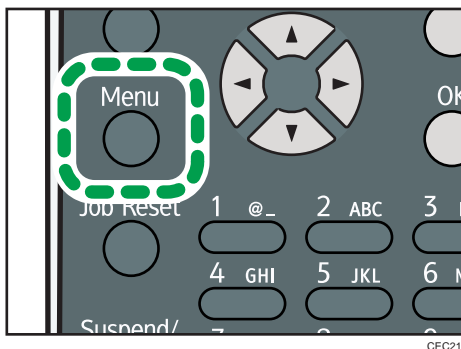
Default: [**Auto**]

- IPDS Tray
- Auto

## Changing the Print Settings Menu

Follow the procedure below to change Tray Setting Priority.

1. Press the [Menu] key.



2. Press the [▼] or [▲] key to select [Print Settings], and then press the [OK] key.
3. Press the [▼] or [▲] key to select [Machine Modes], and then press the [OK] key.

4. Press the [▼] or [▲] key to select [Tray Setting Priority], and then enter the [OK] key.
5. Press the [▼] or [▲] key to select the tray whose paper type or size you want to change, and then press the [OK] key.
6. Press the [▼] or [▲] key to select the desired setting item, and then press the [OK] key.
7. Press the [Menu] key.

# Security Options Menu

The system menu allows you to set conditions for printing.

---

## Security Options Menu Parameters

---

This section explains about parameters that can be set on the security options menu.

### Extended Security

Depending on the setting of the printer, some of the settings listed below may not appear.

#### Driver Encryption Key

Specify the driver encryption key.

#### Encrypt Address Book

Select whether or not to encrypt the printer's address book data.

Default: [Off]

- On
- Off

#### Restrict User Info.Display

Select whether or not to display user information as "\*\*\*\*\*" when checking job information without being authenticated through user authentication.

Default: [Off]

- On
- Off

#### Enhance File Protection

Select whether or not to automatically lock password-protected print files if an invalid password is entered ten times. When a file is locked, you cannot select them even if the correct password is entered.

Default: [Off]

- On
- Off

#### Settings by SNMPv1 and v2

Select whether or not to prohibit changes to the printer settings through access using SNMPv1, v2 protocol.

Default: [Do not Prohibit]

- Prohibit

- Do not Prohibit

### Simple Encryption

Select whether or not to use apply simple encryption (restrict usage) when enhanced encryption cannot be used.

Default: [**Do not Restrict**]

- Restrict
- Do not Restrict

### Authenticate Current Job

Select whether or not authentication is required for operations such as canceling jobs. If set to [Login Privilege], only authorized users or your administrator can operate the printer. If set to [Access Privilege], users who sent a print job or your administrator can operate the printer.

Default: [**Off**]

- Login Privilege
- Access Privilege
- Off

### Password Policy

Specify the format of passwords: types of characters to be used and minimum length.

Valid characters for passwords are upper-case letters, lower-case letters, decimal numbers, and symbols such as #. If complexity is set to [Level 1], passwords must use two types of these characters; if set to [Level 2], three types.

- Complexity Setting

Default: [**Do not Restrict**]

- Level 2
- Level 1
- Do not Restrict
- Minimum Character No.

If set to 0, minimum length is not specified.

Default: **0**

- Between 0 to 32

### @Remote Service

Select whether or not to prohibit @Remote Service. If you would like to set to Prohibit, contact your service representative.

Default: [**Do not Prohibit**]

- Prohibit
- Do not Prohibit

### Update Firmware

Select whether or not to prohibit Update Firmware. If you would like to set to Prohibit, contact your service representative.

Default: [**Do not Prohibit**]

- Prohibit
- Do not Prohibit

### Change Firmware Structure

Select whether or not to prohibit Change Firmware Structure. If you would like to set to Prohibit, contact your service representative.

Default: [**Do not Prohibit**]

- Prohibit
- Do not Prohibit

4

### Service Mode Lock

Select whether or not to prohibit entering service mode. This setting appears only when the user has logged in as the machine administrator.

Default: [**Off**]

- On
- Off

### Firmware Version

Display the firmware version of the printer.

### Network Security Level

Specify the network security level.

Default: [**Level 0**]

- Level 0
- Level 1
- Level 2

### Auto Erase Memory Setting

Select whether or not to automatically delete memory. When set to on, specify the overwrite times. To specify the number of memory overwrites, select [Random Numbers]. If you are using the Type 1 model, this setting appears only when the optional hard disk and the SD card provided with the hard disk are installed.

Default: [**Off**]

- On
- HDDErase
- NSA

- DoD
- Random Numbers  
Number of Erase: Between 1 to 9

- Off

### Erase All Memory

Select to delete all data inside the memory. When deleting memory, specify the overwrite times. To specify the number of memory overwrites, select [Random Numbers]. If you are using the Type 1 model, this setting appears only when the optional hard disk and the SD card provided with the hard disk are installed.

Default: [Random Numbers]

HDDErase

- NSA
- DoD
- Random Numbers  
Number of Erase: Between 1 to 9

### Transfer Log Setting

You can select whether or not to send log information to the log collection server.

Default: [Off]

- On (Only available from the log collection server.)
- Off

### Machine Data Encryption

Encrypt data stored on the hard disk. Once you encrypt the data, the following menus appear on the control panel display. If you are using the Type 1 model, this setting appears only when the optional hard disk and the SD card provided with the hard disk are installed.

- Update Encryption Key  
Update the encryption key.
- Cancel Encryption  
Cancel the encryption settings.
- Print Encryption Key  
Print the encryption key.

---

## Changing the Security Options Menu

---

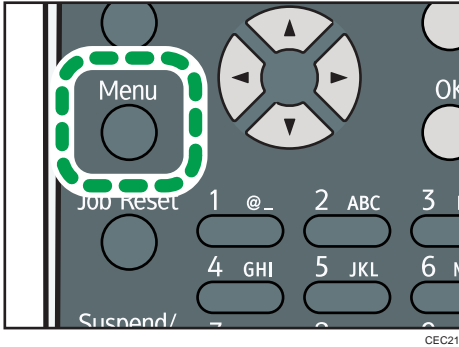
Follow the procedure below to erase data inside memory.



**★ Important**

- If you are using the Type 1 model, this setting appears only when the optional hard disk and the SD card provided with the hard disk are installed.

1. Press the [Menu] key.



2. Press the [▼] or [▲] key to select [Security Options], and then press the [OK] key.
3. Press the [▼] or [▲] key to select [Extended Security], and then press the [OK] key.
4. Press the [▼] or [▲] key to select [Erase All Memory], and then press the [OK] key.
5. Press the [▼] or [▲] key to select [On], and then press [EraseNo.].
6. Press the [▼] or [▲] key to enter overwrite times, and then press the [OK] key.
7. Press the [▼] or [▲] key to select [On], and then press the [OK] key.
8. Press the [Menu] key.

# Host Interface Menu

You can set configurations about network connections and communication when using parallel connection between the printer and the computer. The changed configuration holds even if the printer is turned off.

---

## Host Interface Menu Parameters

---

This section explains parameters that can be set on the host interface menu.

### I/O Buffer

Select the size of I/O Buffer. Normally it is not necessary to change this setting.

Default: [128 KB]

- 128 KB
- 256 KB

### I/O Timeout

Specify how many seconds the printer should wait before ending a print job. If printing operation is frequently interrupted by data from other ports, you can increase the timeout period.

Default: [15 seconds]

- 10 seconds
- 15 seconds
- 20 seconds
- 25 seconds
- 60 seconds

### Network

You can make network-related settings. For details, see "Configuration", Hardware Guide.

#### Machine IPv4 Address

Select whether to set the IPv4 address automatically or manually.

Default: [Auto-Obtain (DHCP)]

- Auto-Obtain (DHCP)

When DHCP is set to on, the IPv4 address, subnet mask address, and gateway address cannot be changed. To change them, set DHCP to off. Contact your administrator for information about the network configuration.

- Specify

- IP Add.

Manually specify the IPv4 address.

Default: **11.22.33.44**

- Subnet M

Manually specify the subnet mask.

Default: **0.0.0.0**

- Gateway

Manually specify the gateway address.

Default: **0.0.0.0**

### IPv6 Stateless Setting

Select whether to enable or disable stateless IPv6 address auto configuration.

Default: [**Active**]

- Active
- Inactive

### IPsec

This is a security function. For details, contact your administrator.

Default: [**Inactive**]

- Active
- Inactive

### NW Frame Type

Specify the frame type for NetWare.

Default: [**Auto Select**]

- Auto Select
- Ethernet II
- Ethernet 802.2
- Ethernet 802.3
- Ethernet SNAP

### Effective Protocol

Specify the effective protocol.

- IPv4

Default: [**Active**]

- Active
- Inactive

- IPv6

Default: [**Inactive**]

- Active
- Inactive
- NetWare  
Default: [**Inactive**]
  - Active
  - Inactive
- SMB  
Default: [**Active**]
  - Active
  - Inactive
- AppleTalk  
Default: [**Inactive**]
  - Active
  - Inactive

### Ethernet Speed

Specify the network speed to operate the printer.

Default: [**Auto Select**]

- Auto Select
- 10Mbps Half Duplex
- 10Mbps Full Duplex
- 100Mbps Half Duplex
- 100Mbps Full Duplex

### IEEE802.1X Auth.(Ethernet)

Specify IEEE 802.1X Ethernet authentication. For details about IEEE 802.1X authentication, see "Configuration", Hardware Guide.

Default: [**Inactive**]

- Active
- Inactive

### Restr.IEEE802.1X Auth.Def.

Restore the default IEEE 802.1X setting.

### LAN Type

Select Ethernet or Wireless LAN. This menu appears only when the optional Wireless LAN interface unit is installed.

Default: [**Ethernet**]

- Ethernet
- Wireless LAN

**Permit SSL/TLS Comm.**

Set the encrypted communication for SSL/TLS. If you set to [Ciphertext Only], you need to install the SSL certificate for the printer.

Default: [**Ciphertext Priority**]

- Ciphertext Only
- Ciphertext Priority
- Ciphertext/Cleartext

**Parallel Interface**

Specify parallel interface settings. This menu appears when the IEEE 1284 interface board is installed.

4

**Parallel Timing**

Specify the parallel interface timing.

Default: [**ACK outside**]

- ACK inside
- ACK outside
- STB down

**Parallel Comm. Speed**

Specify whether or not to use DMA transfer for receiving data.

Default: [**High Speed**]

- High Speed
- Standard

**Selection Signal Status**

Specify the selection signal level of the parallel interface.

Default: [**High**]

- High
- Low

**Input Prime**

You usually do not need to change this setting.

Default: [**Inactive**]

- Active
- Inactive

### Bidirectional Comm.

Specify whether to enable or disable bi-directional communication.

Default: **[On]**

- On
- Off

### Wireless LAN

Configure settings for Wireless LAN. This menu appears only when the optional Wireless LAN interface unit is installed.

#### Communication Mode

Specify the transmission mode for Wireless LAN.

Default: **[Infrastructure Mode]**

- 802.11 Ad-hoc Mode
- Infrastructure Mode

#### SSID Setting

Specifies SSID to distinguish the access point in **[Infrastructure Mode]** or **[802.11 Ad-hoc Mode]**.


The characters that can be used are ASCII 0x20-0x7e (32 bytes).

If blank is specified in **[802.11 Ad-hoc Mode]**, "ASSID" appears.

#### Ad-hoc Channel

Specify the channel to use when **[802.11 Ad-hoc Mode]** has been selected. Set the channel that matches the type of wireless LAN being used. The channel in use might differ depending on the country.

The following channels are available:

 **Region A** (mainly Europe and Asia)

- IEEE 802.11a/b/g Wireless LAN

Frequency range:

2412 - 2472 MHz (1 - 13 channels)

5180 - 5240 MHz (36, 40, 44, and 48 channels)

In some countries, only the following channels are available:

- IEEE 802.11b/g Wireless LAN

Frequency range:

2412 - 2462 MHz (1 - 11 channels)

Default: **[11]**

 **Region B** (mainly North America)

- IEEE 802.11a/b/g Wireless LAN

Frequency range:

2412 - 2462 MHz (1 - 11 channels)

5180 - 5240 MHz (36, 40, 44, and 48 channels)

Default: [11]

### Security Method

Select whether to enable encryption and specify the security type when the encryption is enabled. WPA appears only when the optional Wireless LAN interface unit is installed.

Default: [Off]

- Off
- WEP

Press [Details], and then enter the WEP key using hexadecimal and ASCII characters.

- WPA

Press [Details], and then select the Encryption and Authentication Methods.

Select one of the following Encryption Methods:

TKIP, CCMP(AES)

Select one of the following Authentication Methods:

WPA-PSK, WPA, WPA2-PSK, WPA2

### Wireless LAN Signal

You can check the signal strength when using Wireless LAN.

### Restore Defaults

Reset the Wireless LAN to default.

## USB Settings

Configure the communication parameters for computer-to-printer connection via USB.

### USB Speed

Default: [Auto Select]

- Auto Select
- Full Speed

### Fixed USB Port

Default: [Off]

- Level 1
- Level 2
- Off

**Note**

- For details about how to configure the settings using Web Image Monitor, see p.139 "Using Web Image Monitor" and Web Image Monitor Help.

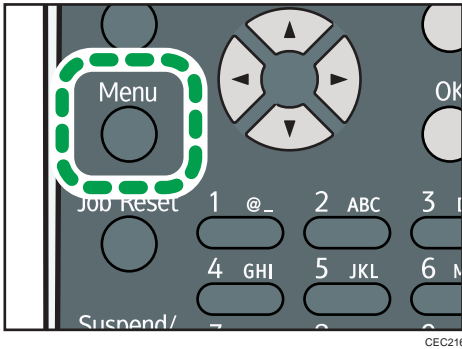
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## Changing the Host Interface Menu

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Follow the procedure below to change the I/O Timeout setting.

1. Press the [Menu] key.



2. Press the [▼] or [▲] key to select [Host Interface], and then press the [OK] key.
3. Press the [▼] or [▲] key to select [I/O Timeout], and then press the [OK] key.
4. Press the [▼] or [▲] key to select the lead time needed to end a printing operation, and then press the [OK] key.
5. Press the [Menu] key.



# Language Menu

You can set a language to be displayed on the menu.

## Language Menu Parameters

You can select the language you use.

Default: [English]

Available languages are as follows:

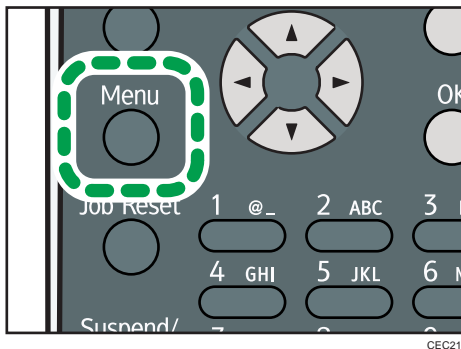
English, French, German, Italian, Spanish, Dutch, Norwegian, Danish, Swedish, Polish, Portuguese, Hungarian, Czech, Finnish, Russian.

4

## Changing the Language Menu

Follow the procedure below to change the interface language.

1. Press the [Menu] key.



2. Press the [▼] or [▲] key to select [Language], and then press the [OK] key.
3. Press the [▼] or [▲] key to select the language, and then press the [OK] key.
4. Press the [Menu] key.

# Options Menu

Using the options menu, you can configure settings related to form feeding and error logs. This section provides a list of the configurable settings and explains how to check error logs.

---

## Options Menu Parameters

---

### Form Feed

Outputs data that are unprintable, due to errors such as the absence of a line-feed code.

### Error Log

If a document cannot be printed due to errors or other reasons, an error log is created. You can check the error log using the control panel.

- All
- Sample Print Jobs
- Locked Print Jobs
- Hold Print Jobs
- Stored Print Jobs

---

## Checking the Error Log

---

If a document could not be printed due to a printing error, identify the cause of the error by checking the error log in the control panel.

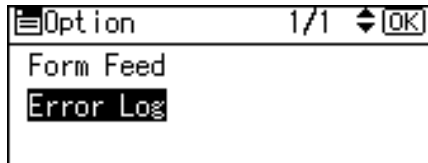
### Important

- The most recent 30 errors are stored in the error log. If a new error is added when there are 30 errors already stored, the oldest error is deleted. However, if the oldest error belongs to one of the following print jobs, it is not deleted. The error is stored separately until the number of those errors reaches 30. You can check any of these print jobs for error log information.
  - Sample Print Jobs
  - Locked Print Jobs
  - Hold Print Jobs
  - Stored Print Jobs
- If the power switch is turned off, the log is deleted.

1. Press [Option].

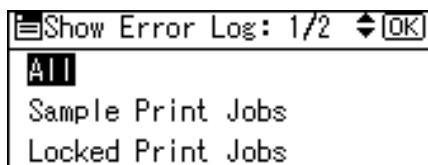


2. Select [Error Log] using the [▼] or [▲] key, and then press the [OK] key.



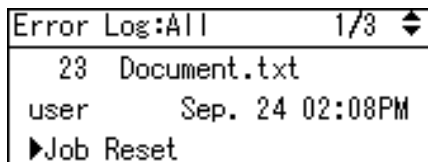
3. Select a type of print jobs using the [▼] or [▲] key, and then press the [OK] key.

If you select [All], all error logs appears.



4. Select the error log you want to check using the [▼] or [▲] key.

Press the [Menu] key until the initial screen appears after checking the log.



#### ↓ Note

- To print files that appear in the error log, resend them after stored files have been printed or deleted.



# 5. Monitoring and Configuring the Printer

---

This chapter explains how to use Web Image Monitor and other applications to monitor the printer or change its settings.

## Using Web Image Monitor

Using Web Image Monitor, you can check the printer status and change settings.

---

### Introduction to Web Image Monitor

---

#### Available operations

The following operations can be remotely performed using Web Image Monitor from a client computer.

- Displaying printer status or settings
- Checking the print job status or history
- Interrupting currently printing jobs
- Resetting the printer
- Managing the Address Book
- Making printer settings
- Making network protocol settings
- Making security settings

#### Configuring the printer

To perform the operations from Web Image Monitor, TCP/IP is required. After the printer is configured to use TCP/IP, operations from Web Image Monitor become available.

#### Recommended Web browser

- Windows:
  - Internet Explorer 6.0 or higher
  - Firefox 2.0 or higher
- Mac OS X:
  - Firefox 2.0 or higher
  - Safari 3.0 or higher

Web Image Monitor supports screen reader software. We recommend JAWS 7.0 or a later version.

**Note**

- Web Image Monitor does not support Safari running under Mac OS X 10.4.1.
- Display and operation problems can occur if you do not enable JavaScript and cookies, or if you are using a non-recommended Web Browser.
- If you are using a proxy server, change the Web browser settings. Contact your administrator for information about the settings.
- If you click your browser's back button but the previous page does not appear, click the browser's refresh button and try again.
- Printer information is not automatically updated. To perform an update, click [Refresh] in the display area.
- We recommend using Web Image Monitor in the same network.
- If the printer is firewall-protected, it cannot be accessed from computers outside the firewall.
- When using the printer under DHCP, the IP address may be automatically changed by the DHCP server settings. Enable DDNS setting on the printer, and then connect using the printer's host name. Alternatively, set a static IP address to the DHCP server.
- If the HTTP port is disabled, connection to the printer using the printer's URL cannot be established. SSL setting must be enabled on this printer. For details, contact your administrator.
- When using the SSL encryption protocol, enter "https://(printer's IP address)/".
- When you are using Firefox, fonts and colors may be different, or tables may be out of shape.
- When using a host name under Windows Server 2003/2003 R2/2008/2008 R2 with IPv6 protocol, perform host name resolution using an external DNS server. The host file cannot be used.
- To use JAWS 7.0 under Web Image Monitor, you must be running Windows OS and Microsoft Internet Explorer 5.5 SP2, or a later version.
- If you are using Internet Explorer 8, downloading will be slower than with other browsers. To download faster with Internet Explorer 8, open the browser's [Internet Options] menu and register the printer's URL as a trusted site. Then disable SmartScreen filter for trusted sites. For details about these settings, see the Internet Explorer 8 Help files.
- The process of opening Web Image Monitor can be simplified by adding the URL of Web Image Monitor to the bookmarks of your Web browser. When adding a bookmark, do so in the top page before logging in to Web Image Monitor. If the bookmark is added after the user has logged in the top page, it may not display correctly.

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## Displaying Top Page

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This section explains the Top Page and how to display Web Image Monitor.

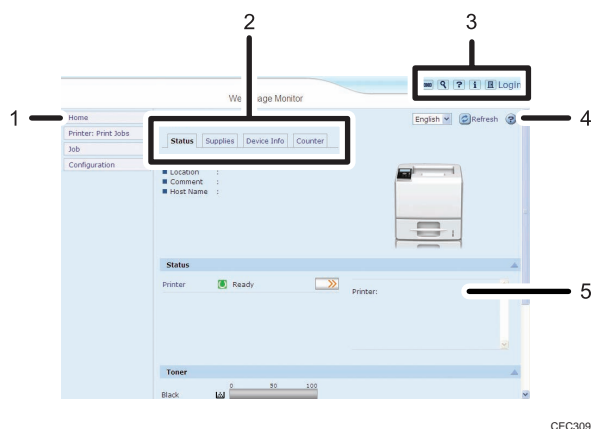
### 1. Start your Web browser.

## 2. Enter "http://(printer's IP address or host name)/" in your Web browser's URL bar.

If the printer's host name has been registered on the DNS or WINS server, you can enter it.

When setting SSL, a protocol for encrypted communication, under environment which server authentication is issued, enter "https://(printer's IP address or host name)/".

Every Web Image Monitor page is divided into the following areas:



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### 1. Menu area

If you select menu, its content will be shown on the work area, or the sub area.

### 2. Tab area

Details about each menu appear.

### 3. Header area

The dialog box for switching to the user mode and administrator mode appears, and each mode's menu will be displayed.

The link to help and dialog box for keyword search appears.

### 4. Help

Use Help to view or download Help file contents.

### 5. Display area

Displays the contents of the item selected in the menu area.

Printer information in the display area is not automatically updated. Click [Refresh] at the upper right in the display area to update the printer information. Click the Web browser's [Refresh] button to refresh the entire browser screen.

## When User Authentication is Set

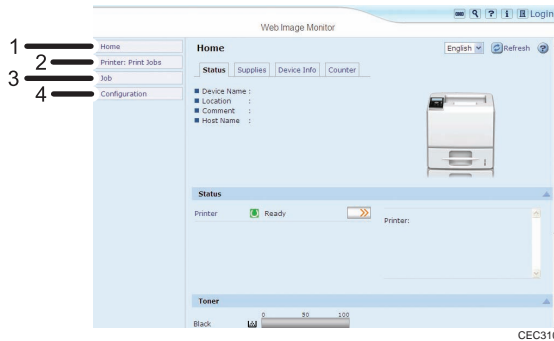
For details about logging in to and out of Web Image Monitor, see p.21 "If User Authentication is Specified".

## About Menu and Mode

There are two modes available with Web Image Monitor: guest mode and administrator mode.

### Guest mode

In the guest mode, printer status, settings, and print job status can be viewed, but the printer settings cannot be changed.



#### 1. Home

The [Status], [Supplies], [Device Info], and [Counter] tab are displayed. Details of the tab menu are displayed on the work area.

#### 2. Printer: Print Jobs

Allows you to display a list of Sample Print, Locked Print, Hold Print, and Stored Print jobs.

#### 3. Job

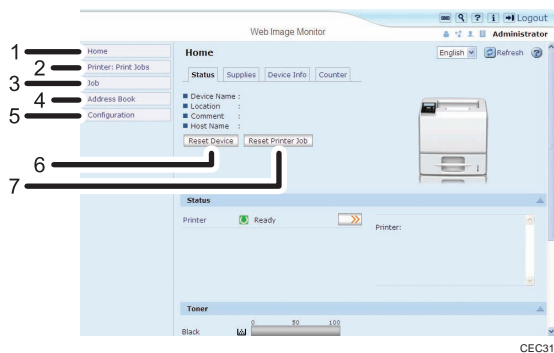
Display all print files.

#### 4. Configuration

Display current printer and network settings.

### Administrator mode

In the administrator mode, you can configure various printer settings.





**1. Home**

The [Status], [Supplies], [Device Info], and [Counter] tab are displayed. Details of the tab menu are displayed on the work area.

**2. Printer: Print Jobs**

Allows you to display a list of Sample Print, Locked Print, Hold Print, and Stored Print jobs.

**3. Job**

Display all print files.

**4. Address Book**

User information can be registered, displayed, changed, and deleted.

**5. Configuration**

Make system settings for the printer, interface settings, and security.

**6. Reset Device**

Click to reset the printer. If a print job is being processed, the printer will be reset after the print job is completed. This button is located on Top Page.

**7. Reset Printer Job**

Click to reset current print jobs and print jobs in queue. This button is located on Top Page.

**Note**

- For details about messages and settings, see Web Image Monitor Help.

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## Access in the Administrator Mode

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Follow the procedure below to access Web Image Monitor in the administrator mode.

**1. Click [Login] in the Header area of Web Image Monitor.****2. Enter a login user name and password, and then click [Login].**


For details about the login user name and password, consult your network administrator.

Depending on the configuration of your Web browser, the login user name and password might be saved. If you do not want to save them, configure your Web browser's settings so that this information is not saved.

---

## Displaying Web Image Monitor Help

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When using Help for the first time, clicking the icon marked "?" () makes the following screen appear, in which you can view Help in two different ways, as shown below:

**Viewing Help on our Web site**

Viewing Help to your computer.

## Downloading and checking Help

You can download Help to your computer. As the Help URL, you can specify the path to the local file to view the Help without connecting to the Internet.

### ↓ Note

- By clicking "?" (🔍) in the header area, the contents of Help appear.
- By clicking "?" (🔍), the Help icon in the display area, Help for the setting items in the display area appears.

## Downloading Help

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1. In the [OS] list, select the operating system.
2. In the [Language] list, select the language.
3. Click [Download].
4. Download Help by following the instructions on the screen.
5. Store the downloaded compressed file in a given location, and then decompress the file.

To create a link for the Help button (🔍🔍), save the downloaded Help files on a Web server.

## Linking the URL of the downloaded Help

You can link the URL of the help file on a Web server to the "?" button.

1. Log in to Web Image Monitor as an administrator.

For details about logging in, see p.143 "Access in the Administrator Mode".

2. In the menu area, click [Configuration].
3. Click [Webpage].
4. In the [Set Help URL Target] box, enter the URL of the help file.

If you saved the help file to "C:\HELP\EN", enter "file://C:/HELP/". For example, if you saved the file to a Web server, and the URL of the index file is "http:// a.b.c.d/HELP/EN/index.html", enter "http://a.b.c.d/HELP/".

5. Click [OK].

### ↓ Note

- If you save the Help files on your hard disk, you must access them directly - you cannot link to them using the Help button (🔍🔍).

# Registering Classification Codes

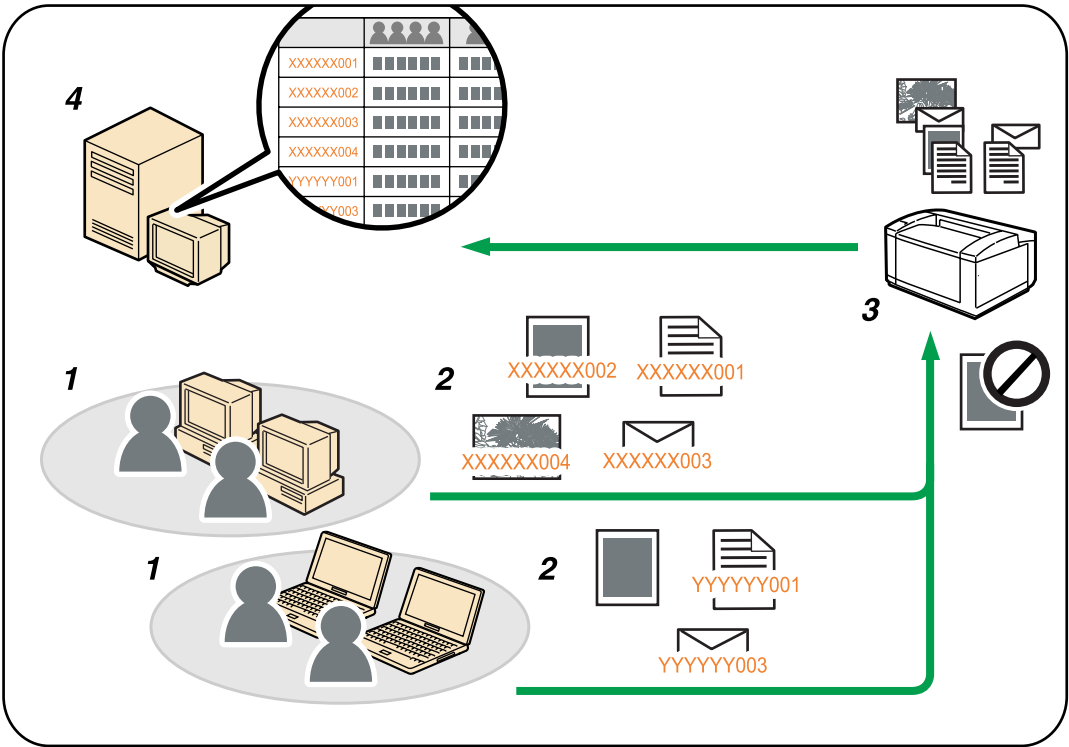
This section explains classification codes.

If you register classification codes, the printer logs the number of prints made under each code.

You can register classification codes to individual users and specified purposes, enabling you to monitor printer usage by each.

For example, you can manage accounts according to individual clients or account titles.

## Classification Code - Based Process (example)



CBK519

1. Divisions, sections, departments, project teams, users, etc., to be managed.
2. The appropriate classification code for the print job is entered.
3. The job is printed.
4. Classification codes are collected and managed by an external log collection system.

**Note**

- For details about how to enter classification codes, see p.54 "Specifying the Classification Code for a Print Job".

- When printing in an environment where classification codes are required, print jobs that do not have a classification code cannot be printed. For details, see p.146 "Configuring Classification Codes".

---

## Configuring Classification Codes

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Use Web Image Monitor to specify whether or not to apply classification code requirement to print jobs.

 **Important**

- The configuration page can be printed at any time.
- The default setting for classification code requirement is "Optional".

**1. Log in to Web Image Monitor as an administrator.**

For details about logging in, see p.143 "Access in the Administrator Mode".

**2. Click [Configuration] in the menu area, and then click [Logs].**

**3. Select that [Required] or [Optional] is selected for [Classification Code] in the [Common Settings for All Logs] column.**

If "Required" is selected for the classification code requirement setting in Web Image Monitor, any print job without a classification code specified will not be printed.

**4. Click [OK].**

**5. Click [Logout].**

**6. Quit Web Image Monitor.**

# Address Book Backup and Restore

Using Web Image Monitor, you can save or restore the printer's address book data.

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## Backing Up Address Book Data

---

Follow the procedure below to save a copy of the printer's address book data.

1. **Log in to Web Image Monitor as an administrator.**

For details about logging in, see p. 143 "Access in the Administrator Mode".

2. **Click [Address Book].**

3. **Click [Maintenance].**

4. **Enter the encryption key and click [Backup].**

Enter the encryption key that was set when the address book was encrypted. For details, contact your administrator.

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## Restoring Address Book Data

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Follow the procedure below to restore previously saved address book data to the printer.

1. **Log in to Web Image Monitor as an administrator.**

For details about logging in, see p. 143 "Access in the Administrator Mode".

2. **Click [Address Book].**

3. **Click [Maintenance].**

4. **Click [Restore].**

5. **Select the file to be restored by following the on-screen instructions.**

6. **Click [OK].**

7. **Confirm the message, and then click [OK].**

8. **Click [Back].**

9. **Click [Logout].**

 **Note**

- The restore will overwrite any address data currently on the printer. The restore will also reset all user counters.
- For details about restoring the address book data, see Web Image Monitor Help.

## Using SmartDeviceMonitor for Admin

Using SmartDeviceMonitor for Admin, you can monitor and manage multiple devices connected to the network. Use of this software is recommended for administrators only.

You can download SmartDeviceMonitor for Admin from the manufacturer's Web site.

For details about SmartDeviceMonitor for Admin, see the manual supplied with the software.

# When Using IPP with SmartDeviceMonitor for Client

When using IPP with SmartDeviceMonitor for Client, note the following:

- To use this function, you must first download SmartDeviceMonitor for Client from the manufacturer's Web site and install it on your computer. Contact your local dealer for information on downloading SmartDeviceMonitor for Client.
- Documents cannot be printed if the user logs on to Windows using a user name that has characters other than single byte alphanumeric letters.
- The names of the IPP port for SmartDeviceMonitor for Client and the standard IPP port for the operating system must be different from each other.
- When setting SSL, a protocol for encrypted communication, under the environment where the device certificate is installed, enter "https://( printer's IP address)/ ". Internet Explorer must be installed on your computer. Use the highest version. Internet Explorer 6.0 or higher is recommended.
- If the [Security Alert] dialog box appears when accessing the printer using IPP to create or configure an IPP port, or when printing, install the certificate. To select the certificate store location when using Certificate Import Wizard, click [Place all certificates in the following store], and then click [Local Computer] under [Trusted Root Certification Authorities].

## ↓ Note

- For details about SSL settings, consult your network administrator.

## Printer Status Notification by E-Mail

Whenever a paper tray becomes empty or paper is jammed, an e-mail alert is issued to the registered addresses to notify the printer status.

For this notification, you can make the e-mail notification settings.

Notification timing and e-mail content can be set.

### ★ Important

- **Depending on your e-mail application, a phishing warning might appear after you receive an e-mail message. To prevent phishing warnings appearing after you receive e-mail from a specified sender, you must add the sender to your e-mail application's exclusion list. For details about how to do this, see your e-mail application's Help.**

The e-mail notification functions you can set are as follows:

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- Auto e-mail notification

Information including the printer status is automatically sent by e-mail. Before you use this function, register the e-mail address to be used.

- On-demand e-mail notification

Information including the printer status is sent by e-mail when a request e-mail from the administrator is received.

The information that can be notified by auto e-mail notification is as follows:

- Call Service
- Out of Toner
- Toner Almost Empty
- Paper Misfeed
- Cover Open
- Out of Paper
- Almost Out of Paper
- Paper Tray Error
- Output Tray Full
- Unit Connection Error
- Waste Toner Bottle is Full
- Waste Toner Bottle is Almost Full
- File Storage Memory Full Soon
- Device Access Violation
- Replacement Required: Unit



- Replacement Required Soon: Unit
  - Replacement Required: Print Cartridge
  - Replacement Required Soon: Print Cartridge
  - Toner Almost Empty (Remaining Level Selectable)
1. Under **[System] Menu**, set **[Auto E-mail Notify]** to **[On]**, using the printer's control panel. (The default setting is **[On]**.)
  2. Log in to **Web Image Monitor** as an administrator.  
For details about logging in, see p.143 "Access in the Administrator Mode".
  3. In the menu area, click **[Configuration]**.
  4. Under "Device Settings", click **[E-mail]**.
  5. Make the following settings:
    - Items in the Reception column: Make the necessary settings for sending and receiving e-mail.
    - Items in the SMTP column: Configure the SMTP server. Check your mailing environment, and then specify the necessary items. You can also perform mail authentication for the SMTP server.
    - Items in the POP before SMTP column: Configure the POP server. Check your mailing environment, and then specify the necessary items. You can also perform mail authentication for the POP server.
    - Items in the POP3/IMAP4 column: Configure the POP3 or IMAP4 server. Check your mailing environment, and then specify the necessary items.
    - Items in the E-mail Communication Port column: Configure the port to be used for access to the mail server.
    - Items in the E-mail Notification Account column: Specify these items If you want to use e-mail notification.
  6. Click **[OK]**.
  7. Click **[Logout]**.
  8. Quit **Web Image Monitor**.

#### Note

- For details about Web Image Monitor, see p.139 "Using Web Image Monitor".
- For details about the settings, see Web Image Monitor Help.

## Setting the Account for E-mail Notification

Before you use Auto E-mail Notification or On-demand E-mail notification, setup an e-mail account to be used for the function. Perform the following configuration task in Web Image Monitor.

**1. Log in to Web Image Monitor as an administrator.**

For details about logging in, see p.143 "Access in the Administrator Mode".

**2. In the menu area, click [Configuration].**

**3. Under "Device Settings", click [E-mail].**

**4. Make the following settings in E-mail Notification Account:**

- E-mail Notification E-mail Address: Enter the address using alphanumeric characters. This will appear as the sender (From:) of the e-mail notification. Send requests for e-mail notification to this address.
- Receive E-mail Notification: Specify whether to use on-demand e-mail notification.
- E-mail Notification User Name: Enter the specified user name for the e-mail account in "E-mail Notification E-mail Address".
- E-mail Notification Password: Enter the specified password for the e-mail account in "E-mail Notification E-mail Address".

**5. Click [OK].**

**6. Click [Logout].**

**7. Quit Web Image Monitor.**

**Note**

- The user name and e-mail address that is already registered as e-mail destination cannot be specified as the recipient of e-mail notification.

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## Mail Authentication

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You can configure mail authentication to prevent illegal use of the mail server.

### SMTP Authentication

Specify SMTP authentication.

When mail is sent to the SMTP server, authentication is performed using the SMTP AUTH protocol by prompting the mail originator to enter the user name and password. This prevents illegal use of the SMTP server.

**1. Log in to Web Image Monitor as an administrator.**

For details about logging in, see p.143 "Access in the Administrator Mode".

**2. In the menu area, click [Configuration].**

**3. Under "Device Settings", click [E-mail].**

**4. Make the following settings in SMTP column:**

- SMTP Server Name: Enter the IP address or host name of the SMTP server.
- SMTP Port No.: Enter the port number used when sending e-mail to the SMTP server.

- SMTP Authentication: Enable or disable SMTP authentication.
- SMTP Auth. E-mail Address: Enter the e-mail address.
- SMTP Auth. User Name: Enter the SMTP account name.
- SMTP Auth. Password: To set or change the password for SMTP AUTH.
- SMTP Auth. Encryption: Select whether to encrypt the password or not.  
 [Auto Select]: If the authentication method is PLAIN, LOGIN, CRAM-MD5, or DIGEST-MD5.  
 [Active]: If the authentication method is CRAM-MD5 or DIGEST-MD5.  
 [Inactive]: If the authentication method is PLAIN or LOGIN.

5. Click [OK].
6. Click [Logout].
7. Quit Web Image Monitor.

### POP before SMTP Authentication

Select whether to log in to the POP3 server before sending e-mail.

1. Log in to Web Image Monitor as an administrator.  
 For details about logging in, see p.143 "Access in the Administrator Mode".
2. In the menu area, click [Configuration].
3. Under "Device Settings", click [E-mail].
4. Make the following settings in POP before SMTP column:
  - POP before SMTP: Enable or disable POP before SMTP.
  - POP E-mail Address: Enter the e-mail address.
  - POP User Name: Enter the POP account name.
  - POP Password: To set or change the POP password.
  - Timeout setting after POP Auth.: Enter the time available before connecting to the SMTP server after logging in to the POP server.
5. Click [OK].
6. Click [Logout].
7. Quit Web Image Monitor.

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### Auto E-mail Notification

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#### 1. Log in to Web Image Monitor as an administrator.

For details about logging in, see p.143 "Access in the Administrator Mode".

#### 2. In the menu area, click [Configuration].

**3. Under "Device Settings", click [Auto E-mail Notification].**

The dialog box for making notification settings appears.

**4. Make the following settings:**

- Notification Message: You can set this according to your needs, for example, the printer's location, service representative contact information.
- Items in the Groups to Notify column: E-mail notification addresses can be grouped as required.
- Items in the Select Groups/Items to Notify column: Select groups for each notification type, such as printer status and error.

To make detailed settings for these items, click [Edit] next to "Detailed Settings of Each Item".

**5. Click [OK].**

**6. Click [Logout].**

**7. Quit Web Image Monitor.**

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**Note**

- For details about Web Image Monitor, see p.139 "Using Web Image Monitor".
- For details about the settings, see Web Image Monitor Help.

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## On-demand E-mail Notification

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**1. Log in to Web Image Monitor as an administrator.**

For details about logging in, see p.143 "Access in the Administrator Mode".

**2. In the menu area, click [Configuration].**

**3. Under "Device Settings", click [On-demand E-mail Notification].**

**4. Make the following settings:**

- Notification Subject: Enter a text string to be added to the subject line of return e-mails.
- Notification Message: You can set this according to your needs, for example, the printer's location, service representative contact information.
- Restriction to Device Status Info.: Select whether or not to allow access to the information such as the printer settings and status.
- Items in the Receivable E-mail Address/Domain Name Settings column: Enter an e-mail address or domain name to use for requesting information by e-mail and to receive its return e-mail.

**5. Click [OK].**

**6. Click [Logout].**

**7. Quit Web Image Monitor.**

**Note**

- For details about Web Image Monitor, see p.139 "Using Web Image Monitor".
- For details about the settings, see Web Image Monitor Help.

## Format of On-demand E-mail Messages

To use "on-demand e-mail notification", you need to send a request e-mail with a particular format to the printer.

Using your mail software, enter the following:

Format of the request e-mail

Item	Description
To	Enter the specified e-mail address in "E-mail Notification E-mail Address".
Subject	Enter "requeststatus".
From	Specify a valid mail address. The device information will be sent to the address specified here.

**Note**

- A mail message must be within 1 MB in size.
- E-mail may be incomplete if sent immediately after power on.
- The subject is not case sensitive.
- The body of a request e-mail has no meaning. Any text written in the e-mail body is ignored.



# 6. Using a Printer Server

This chapter explains how to configure this printer to work as a network printer.

## Preparing Printer Server

This section explains how to configure the printer as a Windows network printer. The printer is configured to enabling network clients to use it. When the network printer is connected via SmartDeviceMonitor for Client, you can set the printing notification function to notify clients of the results of their print jobs.

### ★ Important

- Under Windows XP Professional or Windows Server 2003/2003 R2/2008/2008 R2, to change printer properties in the [Printer] folder, you need Printer Management access authentication; under Windows Vista/7, Full Control access authentication. Log on to the file server as an Administrator group.

1. Open the [Printers and Faxes] window from the [Start] menu.
2. Click the icon of the printer you want to use. On the [File] menu, click [Properties].
3. On the [Sharing] tab, click [Share this printer].
4. To share the printer with users using a different version of Windows, click [Additional Drivers...].

If you have installed an alternative driver by selecting [Share As:] during the printer driver installation, this step can be ignored.

5. On the [Advanced] tab, click the [Printing Defaults...] button. Specify the default values for the printer driver that will be distributed to client computers, and then click [OK].
6. Click [OK], and then close the printer properties.

# Using NetWare

This section describes the setting procedure for network printers in the NetWare environment. In the NetWare environment, you can connect the printer as a "print server" or "remote printer".

**★ Important**

- IPv6 cannot be used on this function.

**↓ Note**

- This procedure assumes an environment is already prepared for normal NetWare running the printing service setting.
- The procedure is explained with the following example settings:
  - File server name ...CAREE
  - Print server name ...PSERV
  - Printer name ...R-PRN
  - Queue name ...R-QUEUE

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## Setting Up as a Print Server (NetWare 3.x)

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Follow the procedure below to connect the printer as a print server using NetWare 3.x.

**1. Log in to Web Image Monitor as an administrator.**

For details about logging in, see p. 143 "Access in the Administrator Mode".

**2. Click [Configuration] in the menu area, and then click [NetWare Print Settings].**

- Print Server Name: Enter the NetWare print server name. To use the interface board as a print server, enter the name of a print server that is not active on the file server. Use up to 47 characters.
- Logon Mode: Specify whether to designate a file server or NDS tree when logging in to NetWare.
- File Server Name: When a file server name is entered here, only the specified file server is searched for. This item is mandatory. Use up to 47 characters.
- NDS Tree: To enable NDS mode, enter the name of the NDS tree you want to log in to. Use up to 32 alphanumeric characters.
- NDS Context Name: To enable NDS mode, enter the print server context. Use up to 127 characters.
- Operation Mode: Specify whether to use the interface board as a print server or a remote printer.
- Remote Printer No.: This item is effective when the interface board is specified as a remote printer. Enter the same number as the number of the printer to be created on the print server (0 to 254 characters).



- **Job Timeout:** When the interface board is used as a NetWare remote printer, the printer cannot detect when a print job ends. Therefore, the printer terminates printing when a certain period of time has elapsed since it last received print data (i.e., when it has not received print data for a certain period of time). Specify here this period of time (3 to 255 seconds). The initial value is 15 (seconds).
- **Frame Type:** Select the frame type from the drop-down menu.
- **Print Server Protocol:** Select the protocol for NetWare from the drop-down menu.
- **NCP Delivery Protocol:** Select the protocol for NCP delivery.

### 3. Confirm the settings, and then click [Device Name].

Configuration is now complete. Wait several before restarting Web Image Monitor.

### 4. Click [Logout].

#### Note

- To check the configuration is correct, enter the following from the command prompt:  
F:> USERLIST
- If the printer works as configured, the name of the print server appears as a connected user.
- If you cannot identify the printer you want to configure, check the printer name against the configuration page printed from the printer. For details about printing a configuration page, see p.104 "Test Printing".
- If no printer names appear in the list, match the frame types of IPX/SPX for the computer and printer. Use the [Network] dialog box of Windows to change the frame type of the computer.
- For details about Web Image Monitor, see p.139 "Using Web Image Monitor".

## Setting Up as a Print Server (NetWare 4.x, 5 / 5.1, 6 / 6.5)

Follow the procedure below to connect the printer as a print server using NetWare 4.x, NetWare 5 / 5.1, or NetWare 6 / 6.5.

#### Important

- When using the printer as a print server in NetWare 4.x, NetWare 5 / 5.1, or NetWare 6 / 6.5, set it to the NDS mode.
- When using NetWare 5 / 5.1 or NetWare 6 / 6.5, set the printer as a print server.

### 1. Log in to Web Image Monitor as an administrator.

For details about logging in, see p.143 "Access in the Administrator Mode".

### 2. Click [Configuration] in the menu area, and then click [NetWare Print Settings].

### 3. Confirm the settings, and then click [Device Name].

### 4. Click [Logout].

### 5. Quit Web Image Monitor.

#### ↓ Note

- To check the configuration is correct, enter the following from the command prompt:  
F:> USERLIST
- If the printer works as configured, the name of the print server appears as a connected user.
- If you cannot identify the printer you want to configure, check the printer name against the configuration page printed from the printer. For details about printing a configuration page, see p.104 "Test Printing".
- If no printer names appear in the list, match the frame types of IPX/SPX for the computer and printer. Use the [Network] dialog box of Windows to change the frame type of the computer.
- For details about Web Image Monitor, see p.139 "Using Web Image Monitor".

---

## Using Pure IP in the NetWare 5 / 5.1 or 6 / 6.5 Environment

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### 6

Follow the procedure below to connect the printer as a print server in a pure IP environment of NetWare 5 / 5.1 or NetWare 6 / 6.5.

#### ★ Important

- When creating a queued print server in a pure IP environment of NetWare 5 / 5.1 or NetWare 6 / 6.5, create a print queue on the file server using NetWare Administrator.
- This printer is not available as a remote printer for use in a pure IP environment.
- To use the printer in a pure IP environment, set it to IPv4.

### Setting up using NWadmin

#### 1. From Windows, start NWadmin.

For details about NWadmin, see the NetWare manuals.

#### 2. Select the object in which the print queue is located in the directory tree, and then click [Create] on the [Object] menu.

#### 3. In the [Class of new object] box, click [Print Queue], and then click [OK].

#### 4. In the [Print Queue Name] box, enter the name of the print queue.

#### 5. In the [Print Queue Volume] box, click [Browse].

#### 6. In the [Available objects] box, click the volume in which the print queue is created, and then click [OK].

#### 7. Check the settings, and then click [Create].

#### 8. Select the object in which the printer is located, and then click [Create] on the [Object] menu.

#### 9. In the [Class of new object] box, click [Printer], and then click [OK]. For NetWare 5, click [Printer (Non NDPS)].

10. In the [Printer name] box, enter the printer name.
11. Select the [Define additional properties] check box, and then click [Create].
12. Click [Assignments], and then click [Add] in the [Assignments] area.
13. In the [Available objects] box, click the queue you created, and then click [OK].
14. Click [Configuration], click [Parallel] in the [Printer type] list, and then click [Communication].
15. Click [Manual load] in the [Communication type] area, and then click [OK].
16. Check the settings, and then click [OK].
17. Select a context specified, and then click [Create] on the [Object] menu.
18. In the [Class of new object] box, click [Print Server], and then click [OK]. For NetWare 5, click [Print Server (Non NDPS)].
19. In the [Print Server Name] box, enter the print server name.
20. Select the [Define additional properties] check box, and then click [Create].
21. Click [Assignments], and then click [Add] in the [Assignments] area.
22. In the [Available objects] box, click the queue you created, and then click [OK].
23. Check the settings, and then click [OK].
24. Start the print server by entering the following from the console of the NetWare server.

If the print server is in operation, quit and restart it.

**To quit**

```
CAREE: unload pserver
```

**To start**

```
CAREE: load pserver print_server_name
```

### Setting up using Web Image Monitor

1. Log in to Web Image Monitor as an administrator.

For details about logging in, see p.143 "Access in the Administrator Mode".

2. Click [Configuration] in the menu area, and then click [NetWare Print Settings].
3. Confirm the settings, and then click [Device Name].
4. Click [Logout].
5. Quit Web Image Monitor.

**Note**

- If you cannot identify the printer you want to configure, check the printer name against the configuration page printed from the printer. For details about printing a configuration page, see p.104 "Test Printing".

- If no printer names appear in the list, match the frame types of IPX/SPX for the computer and printer. Use the [Network] dialog box of Windows to change the frame type of the computer.
- For details about Web Image Monitor, see p.139 "Using Web Image Monitor".

---

## Setting Up as a Remote Printer (NetWare 3.x)

---

Follow the procedure below to use the printer as a remote printer under NetWare 3.x.

### Setting up using PCONSOLE

1. Enter "PCONSOLE" from the command prompt.

```
F:> PCONSOLE
```

2. Create a print queue.

When using the existing print queue, go to the procedure for creating a printer.

3. From the [Available Options] menu, select [Print Queue Information], and then press the [Enter] key.
4. Press [Insert] key, and then enter a print queue name.
5. Press [Esc] key to return to the [Available Options] menu.
6. Set up the network connection to a printer.
7. On the [Available Options] menu, click [Print Server Information], and then press the [Enter] key.
8. To create a new print server, press the [Insert] key, and then enter a print server name.  
For a currently defined print server, select a print server in the [Print Server] list.
9. From the [Print Server Information] menu, select [Print Server Configuration].
10. From the [Print Server Configuration] menu, select [Printer Configuration].
11. Select the printer indicated as [Not Installed].
12. To change the printer name, enter a new name.  
A name "printer x" is assigned to the printer. The "x" stands for the number of the selected printer.
13. As type, select [Remote Parallel, LPT1].  
The IRQ, Buffer size, Starting form, and Queue service mode are automatically configured.
14. Press the [Esc] key, and then click [Yes] on the confirmation message.
15. Press the [Esc] key to return to [Print Server Configuration Menu].
16. Assign print queues to the created printer.
17. From [Print Server Configuration Menu], select [Queues Served By Printer].
18. Select the printer created.

**19. Press the [Insert] key to select a queue serviced by the printer.**

You can select several queues.

**20. Follow the instructions on the screen to make other necessary settings.**

Following these steps, check that the queues are assigned.

**21. Press the [Esc] key until "Exit?" appears, and then select [Yes] to exit PCONSOLE.****22. Start the print server by entering the following from the console of the NetWare server.**

If the print server is in operation, quit and restart it.

**To quit**

```
CAREE: unload pserver
```

**To start**

```
CAREE: load pserver print_server_name
```

If the printer works as configured, the message "Waiting for job" appears.

**Setting up using Web Image Monitor****1. Log in to Web Image Monitor as an administrator.**

For details about logging in, see p.143 "Access in the Administrator Mode".

**2. Click [Configuration] in the menu area, and then click [NetWare Print Settings].****3. Confirm the settings, and then click [Device Name].**

Configuration is now complete. Wait several minutes before restarting Web Image Monitor.

**4. Click [Logout].****5. Quit Web Image Monitor.****Note**

- If you cannot identify the printer you want to configure, check the printer name against the configuration page printed from the printer. For details about printing a configuration page, see p.104 "Test Printing".
- If no printer names appear in the list, match the frame types of IPX/SPX for the computer and printer. Use the [Network] dialog box of Windows to change the frame type of the computer.
- For details about Web Image Monitor, see p.139 "Using Web Image Monitor".

**Setting Up as a Remote Printer (NetWare 4.x, 5 / 5.1, 6 / 6.5)**

Follow the procedure below to use the printer as a remote printer under NetWare 4.x, 5 / 5.1 and 6 / 6.5.

**★ Important**

- To use the printer as a remote printer under NetWare 4.x, 5 / 5.1, 6 / 6.5, set it to NDS mode.

- Do not use the printer as a remote printer when Pure IP is used.

### Setting up using NWadmin

1. From Windows, start NWadmin.

For details about NWadmin, see the NetWare manuals.

2. Set up the network connection to a print queue. Select the object in which the print queue is located in the directory tree, and then click [Create] on the [Object] menu.
3. In the [Class of new object] box, click [Print Queue], and then click [OK].
4. In the [Print Queue Name] box, enter the name of the print queue.
5. In the [Print Queue Volume] box, click [Browse].
6. In the [Available objects] box, click the volume in which the print queue is created, and then click [OK].
7. Check the settings, and then click [Create].
8. Set up the network connection to a printer. Select the object in which the printer is located, and then click [Create] on the [Object] menu.
9. In the [Class of new object] box, click [Printer], and then click [OK]. For NetWare 5, click [Printer (Non NDPS)].
10. In the [Printer name] box, enter the printer name.
11. Select the [Define additional properties] check box, and then click [Create].
12. Assign print queues to the created printer. Click [Assignments], and then click [Add] in the [Assignments] area.
13. In the [Available objects] box, click the queue you created, and then click [OK].
14. Click [Configuration], click [Parallel] in the [Printer type] list, and then click [Communication].
15. Click [Manual load] in the [Communication type] area, and then click [OK]. Check the settings, and then click [OK].
16. Set up the network connection to a print server. Select a context specified, and then click [Create] on the [Object] menu.
17. In the [Class of new object] box, click [Print Server], and then click [OK]. For NetWare 5, click [Print Server (Non NDPS)].
18. In the [Print Server Name:] box, enter the print server name.
19. Select the [Define additional properties] check box, and then click [Create].
20. Assign the printer to the created print server. Click [Assignments], and then click [Add] in the [Assignments] area.
21. In the [Available objects] box, click the queue you created, and then click [OK].
22. In the [Printers] area, click the printer you assigned, and then click [Printer Number].

23. Enter the printer number, and then click [OK]. Check the settings, and then click [OK].
24. Start the print server by entering the following from the console of the NetWare server.  
If the print server is in operation, quit and restart it.

**To exit**

CAREE: unload pserver

**To start**

CAREE: load pserver **print\_server\_name**

25. Enter the printer server name as the context name, and then press the [Enter] key.
26. Select the printer name on the context menu, and then press the [Enter] key.

**Setting up using Web Image Monitor**

1. Log in to Web Image Monitor as an administrator.

For details about logging in, see p.143 "Access in the Administrator Mode".

2. Click [Configuration] in the menu area, and then click [NetWare Print Settings].
3. Confirm the settings, and then click [Device Name].

Configuration is now complete. Wait several minutes before restarting Web Image Monitor.

4. Click [Logout].
5. Quit Web Image Monitor.

**Note**

- If you cannot identify the printer you want to configure, check the printer name against the configuration page printed from the printer. For details about printing a configuration page, see p.104 "Test Printing".
- If no printer names appear in the list, match the frame types of IPX/SPX for the computer and printer. Use the [Network] dialog box of Windows to change the frame type of the computer.
- For details about Web Image Monitor, see p.139 "Using Web Image Monitor".





# 7. Mac OS X Configuration

This chapter explains how to use this printer with PostScript 3.

## Using PostScript 3

The following section explains how to use the PostScript 3 printer driver.

For details about installing the PostScript 3 printer driver, see Driver Installation Guide.

### Job Type

Use this to select the type of print job.

#### ★ Important

- If you are using a Type 2 model with ELP-NX installed, all print jobs for which "Locked Print" is specified are stored in ELP-NX when user authentication is not set. Also note that any jobs for which "Locked Print" is not specified will be deleted according to the default setting of ELP-NX.
- For details about how to print using ELP-NX, see the manuals provided with the application.
- For details about the option settings of ELP-NX, consult your administrator.

The following shows the tabs or menus where you can select this function.

[Job Type:] on [Job Log] in the print dialog box.

You can select the following items:

#### Normal Print

Select this for normal printing. The print job starts immediately after the print command is given.

#### Sample Print

Use this function to print only one set of a multiple print jobs.

The other sets are saved in the printer. The saved job can be printed from the printer's control panel. You can also delete the saved job.

#### ↓ Note

- The user ID can contain up to eight alphanumeric characters (a-z, A-Z, 0-9). The password can contain 4-8 digits.
- Entering a user ID helps you distinguish your print jobs from others.

#### Locked Print

Use this function to save documents in the printer memory with a password, and then edit and print them as you want.

**Note**

- The user ID can contain up to eight alphanumeric characters (a-z, A-Z, 0-9). The password can contain 4-8 digits.
- Entering a user ID helps you distinguish your print jobs from others.

### Hold Print

Use this function to temporarily hold a file in the printer, and print it from the computer or the printer's control panel later.

**Note**

- "User ID:" can contain up to eight alphanumeric (a-z, A-Z, 0-9) characters.
- "File Name:" can contain up to 16 alphanumeric (a-z, A-Z, 0-9) characters.
- Entering a user ID helps you distinguish your print jobs from others.

### Stored Print

Use this function to store a file in the printer, and then print it from the computer or the printer's control panel later.

**Note**

- The user ID can contain up to eight alphanumeric characters (a-z, A-Z, 0-9). The password can contain 4-8 digits.
- The File Name can contain up to 16 alphanumeric characters (a-z, A-Z, 0-9).
- You can assign a password to a saved document, but password assignment is not mandatory.
- Entering a user ID helps you distinguish your print jobs from others.

### Store and Print

Use this function to print the file at once and also stores the file in the printer.

**Note**

- The user ID can contain up to eight alphanumeric characters (a-z, A-Z, 0-9). The password can contain 4-8 digits.
- The File Name can contain up to 16 alphanumeric characters (a-z, A-Z, 0-9).
- You can assign a password to a saved document, but password assignment is not mandatory.
- Entering a user ID helps you distinguish your print jobs from others.

### Using Sample Print

---

**Important**

- You need Mac OS X 10.2 or higher to use this function.
- This function is available only if the hard disk is installed on the printer.

- The number of pages the printer can save varies depending on the contents of the print images. At most, the printer can save 100 jobs or 9,000 pages for Sample Print, Locked Print, Hold Print, and Stored Print.
- Sample Print files will not appear on the display panel if they have already been executed or deleted using the Web browser before you select [Sample Print] from the control panel.
- Sample Print files printed or deleted using Web Image Monitor after you select [Sample Print] using the control panel will appear on the display panel. However, an error message will appear if you try to print or delete those Sample Print files.
- If the application has a collate option, be sure to disable it before you send a print job. By default, sample print jobs are automatically collated by the printer driver. If the collate option is selected in the application's print dialog box, more prints than intended may be printed.
- Print jobs are not saved on the hard disk in the following cases. You can check the error log for jobs not saved.
  - When there are 100 Sample Print, Locked Print, Hold Print, and Stored Print jobs saved on the hard disk.
  - When the total number of pages saved on the hard disk exceeds 9,000 pages.

### **Sending a Sample Print file**

1. In the application, on the [File] menu, click [Print].
2. Set the number of copies to two or more.

The sample print job is sent to the printer, and one set is printed.
3. In the pop-up menu, click [Job Log].
4. On the [Job Type:] pop-up menu, select [Sample Print].
5. In the [User ID:] box, enter a user ID using up to eight alphanumeric (a-z, A-Z, 0-9) characters.

The user ID associates the user with his/her jobs.

6. Check the printed output to make sure the settings are correct.

If the settings are correct, perform the following steps to print the remaining sets.

### **Printing a selected Sample Print file**

To print a saved job, use the printer's control panel. For details, see p.67 "Printing a Sample Print file using the control panel".

### **Deleting a selected Sample Print file**

If you want to delete a saved job, see p.68 "Deleting Sample Print files".

## Using Locked Print

---

### ★ Important

- You need Mac OS X 10.2 or higher to use this function.
- This function is available only if the hard disk is installed on the printer.
- The number of pages the printer can save varies depending on the contents of the print images. At most, the printer can save 100 jobs or 9,000 pages for Sample Print, Locked Print and Hold Print.
- Locked Print files will not appear on the display panel if they have already been printed or deleted using Web Image Monitor before you select [Locked Print] using the control panel.
- Locked Print files printed or deleted using Web Image Monitor after you have selected [Locked Print] using the control panel will still appear on the display panel. However, an error message will appear if you try to print or delete those Locked Print files.
- If the application has a collate option, be sure to disable it before you send a print job. By default, locked print jobs are automatically collated by the printer driver. If the collate option is selected in the application's print dialog box, more prints than intended may be printed.
- Print jobs are not saved on the hard disk in the following cases. You can check the error log for jobs not saved.
  - When there are 100 Sample Print, Locked Print, Hold Print, and Stored Print jobs saved on the hard disk.
  - When the total number of pages saved on the hard disk exceeds 9,000 pages.

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### Sending a Locked Print file

1. In the application, click [Print] on the [File] menu.
2. In the pop-up menu, click [Job Log].
3. On the [Job Type:] pop-up menu, click [Locked Print].
4. In the [User ID:] box, enter a user ID using up to eight alphanumeric (a-z, A-Z, 0-9) characters, and then enter a 4-8 digit password in the Password: box.

The user ID associates the user with his/her jobs.

5. After making the necessary settings, click [Print].

The document file is saved in the printer.

To print the document, perform the following steps.

### Printing a selected Locked Print file

To print a saved job, use the printer's control panel. For details, see p.70 "Printing a Locked Print file using the control panel".

### Deleting a selected Locked Print file

If you want to delete a saved job, see p.71 "Deleting Locked Print files".

## Using Hold Print

### ★ Important

- You need Mac OS X 10.2 or higher to use this function.
- This function is available only if the hard disk is installed on the printer.
- The number of pages the printer can save varies depending on the contents of the print images. At most, the printer can save 100 jobs or 9,000 pages for Sample Print, Locked Print and Hold Print.
- Hold Print files will not appear on the display panel if they have already been printed or deleted using Web Image Monitor before you select [Hold Print] using the control panel.
- Hold Print files printed or deleted using Web Image Monitor after you have selected [Hold Print] using the control panel will still appear on the display panel. However, an error message will appear if you try to print or delete those Hold Print files.
- If the application has a collate option, be sure to disable it before you send a print job. By default, Hold print jobs are automatically collated by the printer driver. If the collate option is selected in the application's print dialog box, more prints than intended may be printed.
- Print jobs are not saved on the hard disk in the following cases. You can check the error log for jobs not saved.
  - When there are 100 Sample Print, Locked Print, Hold Print, and Stored Print jobs saved on the hard disk.
  - When the total number of pages saved on the hard disk exceeds 9,000 pages.

### Sending a Hold Print file

1. In the application, click [Print] on the [File] menu.
2. In the pop-up menu, click [Job Log].
3. On the [Job Type:] pop-up menu, click [Hold Print].
4. In the [User ID:] box, enter a user ID using up to eight alphanumeric (a-z, A-Z, 0-9) characters. [File Name] can also be set.

The user ID associates the user with his/her jobs.

5. After making the necessary settings, click [Print].

The document file is saved in the printer.

To print the document, perform the following steps.

### Printing a selected Hold Print file

To print a saved job, use the printer's control panel. For details, see p.74 "Printing a Hold Print file using the control panel".

### Deleting a selected Hold Print file

If you want to delete a saved job, see p.75 "Deleting Hold Print files".

## Using Stored Print

### ★ Important

- You need Mac OS X 10.2 or higher to use this function.
- This function is available only if the hard disk is installed on the printer.
- Stored Print files will not appear on the display panel if they have already been printed or deleted using Web Image Monitor before you select [Stored Print] using the control panel.
- Stored Print files printed or deleted using Web Image Monitor after you have selected [Stored Print] using the control panel will still appear on the display panel. However, an error message will appear if you try to print or delete those Stored Print files.
- If the application has a collate option, be sure to disable it before you send a print job. By default, Stored print jobs are automatically collated by the printer driver. If the collate option is selected in the application's print dialog box, more prints than intended may be printed.
- Print jobs are not saved on the hard disk in the following cases. You can check the error log for jobs not saved.
  - When there are 100 Sample Print, Locked Print, Hold Print, and Stored Print jobs saved on the hard disk.
  - When the total number of pages saved on the hard disk exceeds 9,000 pages.

## 7

### Sending a Stored Print file

1. In the application, click [Print] on the [File] menu.
2. In the pop-up menu, click [Job Log].
3. On the [Job Type:] pop-up menu, click [Stored Print] or [Store and Print].
  - [Stored Print]  
Stores the file in the printer and print it later using the control panel.
  - [Store and Print]  
Prints the file at once and also stores the file in the printer.
4. In the [User ID:] box, enter a user ID using up to eight alphanumeric (a-z, A-Z, 0-9) characters, and then enter a 4-8 digit password in the [Password:] box. [File Name] can also be set.  
The user ID associates the user with his/her jobs.  
You can assign a password to a saved document, but password assignment is not mandatory.  
The password must be entered when printing or deleting.
5. After making the necessary settings, click [Print].  
The document file is saved in the printer.  
To print the document, perform the following steps.

---

### Printing a selected Stored Print file

To print a saved job, use the printer's control panel. For details, see p.77 "Printing a Stored Print file using the control panel".

### Deleting a selected Stored Print file

If you want to delete a saved job, see p.78 "Deleting Stored Print files".

---

## Paper Type

---

Use this to select the paper type.

The following shows where you can select this function.

[Paper Type] is displayed under [General 1] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

---

## Fit to Paper

---

When the size of the document and paper size differ, set whether or not to print according to paper size.

The following shows where you can select this function.

[Fit to Paper] is displayed under [General 1] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

### Prompt User

Print is performed with the size of document to be printed unchanged.

### Nearest Size and Scale

If the paper size is smaller than the selected paper size, the driver reduces the print size.

If the paper size is larger than the size of document to be printed, print is not to fit the paper size.

### Nearest Size and Crop

Print is performed regardless of any differences between selected and actual paper size. However, the print output is not adjusted to fit the paper size.

---

## Print Mode

---

Use this mode to select the print mode you want to use.

[Print Mode] is displayed under [General 1] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

### Off

Prints in normal quality.

### Edge Smoothing

Select whether or not to smooth the edges of texts and images when printing. If this setting is enabled, gradation in images might be degraded.

### Toner Saving 1

Reduces toner consumption when printing. If this setting is enabled, print quality might be degraded.

### Toner Saving 2

Further reduces toner consumption when printing. If this setting is enabled, print quality might be degraded.

---

## Gradation

---

Use this to select a type of gradation based on your purpose.

The following shows where you can select this function.

[Gradation] is displayed under [General 1] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

#### ↓ Note

- For details about the gradation types, see the printer driver Help.

7

---

## Image Smoothing

---

Use this to select the image smoothing type.

The following shows where you can select this function.

[Image Smoothing] is displayed under [General 1] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

You can select from the following items:

### Off

Disables image smoothing.

### On

Performs image smoothing unconditionally.

### Auto

Performs image smoothing automatically for images that have a resolution less than 25% of supported printer resolution.

### Less than 90 ppi to Less than 300 ppi

Performs image smoothing only when the image has an image resolution (pixels per inch) less than the respective value you have selected in the list.



**Note**

- When [Auto] is selected, data processing may take a long time.
- When Image Smoothing is used for a mask image, this function may have an undesired effect on the print result.

---

## Dithering

---

Use this to set the Image Rendering mode.

The following shows where you can select this function.

[Dithering] is displayed under [General 1] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

You can select from the following items:

**Auto**

Use this setting to configure the best dithering method automatically depending on the appearance of the document to be printed.

**Photographic**

Performs dithering using an appropriate pattern for photographs.

**Text**

Performs dithering using an appropriate pattern for text.

---

## Watermark

---

Set the Watermark function.

The following shows where you can select this function.

[Watermark] is displayed under [General 2] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

---

## Watermark Text

---

Select the Watermark Text type.

The following shows where you can select this function.

[Watermark Text] is displayed under [General 2] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

---

## Watermark Font

---

Select the Watermark Font type.

The following shows where you can select this function.

[Watermark Font] is displayed under [General 2] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

---

## Watermark Size

---

Select the Watermark size.

The following shows where you can select this function.

[Watermark Size] is displayed under [General 2] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

---

## Watermark Angle

---

Select the Watermark angle.

The following shows where you can select this function.

[Watermark Angle] is displayed under [General 2] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

---

## Watermark Style

---

Select the Watermark style.

The following shows where you can select this function.

[Watermark Style] is displayed under [General 2] in the [Feature Sets:] list on [Printer Features] in the print dialog box.

# 8. Appendix

---

## When Using Windows Terminal Service/Citrix Presentation Server/Citrix XenApp

The following explains how to use Windows Terminal Service and Maintenance.

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### Operating Environment

---

The following operating systems and Citrix Presentation Server/Citrix XenApp versions are supported.

#### **Citrix Presentation Server 4.5/ Citrix XenApp 5.0**

- Windows Server 2003/2003 R2
- Windows Server 2008/2008 R2

---

### Supported Printer Drivers

---

#### **When Windows Terminal Service is operating**

- PCL printer drivers
- PostScript 3 printer driver

---

### Limitations

---

The following limitations apply to the Windows Terminal Service environment.

These limitations are built in Windows Terminal Service or Citrix Presentation Server/Citrix XenApp.

#### **Citrix Presentation Server/Citrix XenApp [Auto-creating client printers]**

Using [Auto-creating client printers] can select a logical printer created by copying the client's local printer data to the Citrix Presentation Server/Citrix XenApp. We strongly recommend testing this function in your network environment before using it for your work.

- The settings for optional equipment will not be stored in the server after the equipment is disconnected. The settings for optional equipment will be restored to its defaults each time the client computer logs on to the server.
- When printing a large number of bitmap images or using the server in a WAN environment over dial-up lines such as ISDN, printing may not be possible or errors may occur, depending on data transfer rates.

### **Citrix Presentation Server/Citrix XenApp [Printer driver replication]**

Using [Printer driver replication] can distribute printer drivers across all servers in a server farm. We strongly recommend testing this function in your network environment before using it for your work.

- If the printer drivers are not properly copied, install them directly onto each server.

## Using DHCP

You can use the printer in a DHCP environment. You can also register the printer NetBIOS name on a WINS server when it is running.

- Printers that register the printer NetBIOS name on a WINS server must be configured for the WINS server.
- Supported DHCP servers are Microsoft DHCP Server included with Windows Server 2003/2003 R2/2008/2008 R2, and the DHCP server included with NetWare and UNIX.
- If you do not use the WINS server, reserve the printer's IP address in the DHCP server so the same IP address is assigned every time.
- To use the WINS server, change the WINS server setting to "active" using the control panel.
- Using the WINS server, you can configure the host name via the remote network printer port.
- DHCP relay-agent is not supported. If you use DHCP relay-agent on a network via ISDN, it will result in increased line charges. This is because your computer connects to the ISDN line whenever a packet is transferred from the printer.
- If there is more than one DHCP server, use the same setting for all servers. The printer operates using data from the DHCP server that responds first.
- DHCP servers can operate in an IPv6 environment, but they cannot be configured to allocate IPv6 addresses or obtain host names.

---

## Using AutoNet

---

8

If the printer IPv4 address is not automatically assigned by the DHCP server, a temporary IP address starting with 169.254 and not used on the network can be automatically selected by the printer.

### ↓ Note

- The IP address assigned by the DHCP server is given priority over that selected by AutoNet.
- You can confirm the current IPv4 address on the configuration page. For more information about the configuration page, see p.104 "Test Printing".
- When AutoNet is running, the NetBIOS name is not registered on the WINS server.
- The printer cannot communicate with devices that do not have the AutoNet function. However, this printer can communicate with Macintosh computers running Mac OS X 10.2.3. or higher.

## Configuring the WINS Server

The printer can be configured to register its NetBIOS name with a WINS server when the power is turned on. This enables the NetBIOS name of the printer to be specified from Web Image Monitor even in a DHCP environment.

This section explains configuring the WINS server.

### ↓ Note

- WINS servers are supported by Windows Server 2003 or later.
- For details about the WINS server settings, see Windows Help.
- If there is no reply from the WINS server, the NetBIOS name is registered by broadcast.
- The NetBIOS name can be entered using up to 13 alphanumeric characters.

---

## Using Web Image Monitor

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### 1. Log in to Web Image Monitor as an administrator.

For details about logging in, see p.143 "Access in the Administrator Mode".

### 2. In the menu area, click [Configuration].

### 3. Click [Network] and then click [IPv4].

### 4. Check that [Active] is selected for [WINS] in the [Ethernet + Wireless LAN] column, and then enter the WINS server IPv4 address in [Primary WINS Server] and [Secondary WINS Server].

### 5. Click [OK].

### 6. Quit Web Image Monitor.

---

## Using telnet

---

Use the telnet "wins" command to configure WINS.

### ↓ Note

- For details, see "Using telnet", UNIX Supplement.

# Using the Dynamic DNS Function

Dynamic DNS is a function which dynamically updates (registers and deletes) records (A record, AAAA record, CNAME, and PTR record) managed by the DNS server. When a DNS server is part of the network environment to which this printer, a DNS client, is connected, records can be dynamically updated using this function.

## Updating

Updating procedure varies depending on whether the printer IP address is static or acquired by DHCP.

### ★ Important

- **Dynamic update using message authentication (TSIG, SIG(0)) is not supported.**

#### For a static IPv4 setting

If the IP address or host name is changed, the A and PTR records are updated. If the A record is registered, CNAME is also registered. CNAMEs that can be registered are as follows:

- Ethernet and Wireless LAN  
RNPXXXXXX (XXXXXX represents the last 3 hexadecimal bytes of the MAC address)  
However, if CNAME (RNPXXXXXX) overlaps with the host name, CNAME will not be registered.

#### For DHCPv4 settings

As a substitute for the printer, the DHCP server updates the record, and one of the following occurs:

- When the printer acquires the IP address from the DHCP server, the DHCP server updates the A and PTR records.
- When the printer acquires the IP address from the DHCP server, the printer updates the A record, and the DHCP server updates the PTR record.

If the A record is registered, CNAME is also registered. CNAMEs that can be registered are as follows:

- Ethernet and Wireless LAN  
RNPXXXXXX (XXXXXX represents the last 3 hexadecimal bytes of the MAC address)

#### For IPv6 settings

This printer updates the AAAA record and PTR record.

It also registers CNAME when the AAAA record is updated.

When a stateless address is newly set, it is automatically registered on the DNS server also.

### ↓ Note

- When the dynamic DNS function is not used, records managed by the DNS server must be updated manually, if the printer's IP address is changed.
- To update the record using the printer, the DNS server has to have one of the following:

- No security settings made.
- If security settings are made, an IP-specified client (this printer) permits updating.

---

## DNS Servers Targeted for Operation

---

### For static IP setting

- Microsoft DNS servers with standard Windows Server 2003/2003 R2/2008/2008 R2 features
- BIND 8.2.3 or higher

### For DHCP setup, when the printer updates the A record

- Microsoft DNS servers with standard Windows Server 2003/2003 R2/2008/2008 R2 features
- BIND 8.2.3 or higher

### For DHCP setup, when the DHCP server updates records

- Microsoft DNS servers with standard Windows Server 2003/2003 R2/2008/2008 R2 features
- BIND 8.2.3 or higher
- DNS servers with standard NetWare 5 (or a higher version) features

### For IPv6 setting

- Microsoft DNS servers with standard Windows Server 2003/2003 R2/2008/2008 R2 features
- BIND 9.2.3 or higher

---

## DHCP Servers Targeted for Operation

---

As a substitute for the printer, DHCP servers capable of updating the A record and PTR record are as follows:

- Microsoft DHCP servers with standard Windows Server 2003/2003 R2/2008 features
- ISC DHCP 3.0 or higher
- DHCP server with standard NetWare 5 features

---

## Setting the Dynamic DNS Function

---

Use the telnet "dns" command to configure DNS.



 **Note**

- For details, see "Using telnet", UNIX Supplement.

## Precautions

Please pay attention to the following when using the network interface board. When configuration is necessary, follow the appropriate procedures below.

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### Connecting a Dial-Up Router to a Network

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#### When using NetWare (file server)

---

If the NetWare file server and printer are on opposite sides of a router, packets are sent back and forth continuously, possibly incurring communications charges. Because packet transmission is a feature of NetWare, you need to change the configuration of the router. If the network you are using does not allow you to configure the router, configure the printer instead.

#### Configuring the router

Filter packets so they do not pass over the dial-up router.

#### Configuring the printer with NetWare

1. Following the setup method described earlier in this manual, configure the file server.
2. Set the frame type for NetWare environment.

#### Configuring the printer without NetWare

1. When not printing, the network interface board sends packets over the network. Set NetWare to "inactive".

#### Note

- The MAC address of the filtering printer is printed on the printer configuration page. For more information about printing a configuration page, see p.104 "Test Printing".
- For more information about configuring the printer if the router cannot be configured, see the following instructions.
- For more information about selecting a frame type, see "Ethernet Configuration", Hardware Guide.
- For more information about selecting a protocol, see "Ethernet Configuration", Hardware Guide.

---

### When the Wireless LAN Interface Unit is Installed

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When using the Wireless LAN interface on the network, note the following:

### If the network area provides poor radio environment

Where radio wave conditions are bad, the network may not function due to interrupted or failed connections. When checking the Wireless LAN signal and the access point, follow the procedure below to improve the situation:

- Position the access point nearer to the printer.
- Clear the space between access point and printer of obstructions.
- Move radio wave generating appliances, such as microwaves, away from the printer and access point.

#### Note

- For information about how to check radio wave status, see "Wireless LAN Configuration", Hardware Guide.
- For more information about access point radio wave conditions, refer to the access point manual.

# Copyright Information about Installed Applications

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## expat

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## **Samba**

---

For SMB transmission, this machine uses Samba.

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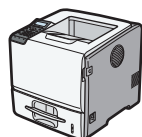
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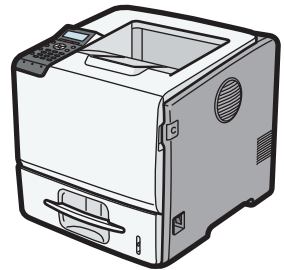






# Operating Instructions

## Security Guide



- 
- 1** Getting Started
  - 2** Configuring Administrator Authentication
  - 3** Configuring User Authentication
  - 4** Protecting Data from Information Leaks
  - 5** Securing Information Stored on the Hard Disk
  - 6** Managing Access to the Printer
  - 7** Enhanced Network Security
  - 8** Specifying the Extended Security Functions
  - 9** Troubleshooting
  - 10** Appendix

## **Introduction**

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<p>If security settings are not made, there is a risk of damage resulting from malicious activity. For this reason, be sure to make the security settings shown in this manual.</p>
---

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## 2. Configuring Administrator Authentication

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# How to Read This Manual

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## Symbols

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This manual uses the following symbols:

 **Important**

Indicates points to pay attention to when using the machine, and explanations of likely causes of paper misfeeds, damage to originals, or loss of data. Be sure to read these explanations.

 **Note**

Indicates supplementary explanations of the machine's functions, and instructions on resolving user errors.

 **Reference**

This symbol is located at the end of sections. It indicates where you can find further relevant information.

[ ]

Indicates the names of keys on the machine's display or control panels.

---

## IP Address

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In this manual, "IP address" covers both IPv4 and IPv6 environments. Read the instructions that are relevant to the environment you are using.

---

## List of Options

---

This section provides a list of options for this printer, and how they are referred to as in this manual.

Option List	Referred to as
Hard Disk Drive Option Type 2670	Hard disk
IEEE 802.11a/g Interface Unit *1	Wireless LAN interface unit
IEEE 1284 Interface Board Type A	IEEE 1284 interface board
SD card for NetWare printing Type E	NetWare card

\*1 The type of IEEE 802.11a/g Interface Unit may differ depending on which country you are in.



---

**↓ Note**

- For details about the specifications of each option, see "Specifications", Hardware Guide.

---

# Manuals for This Printer

Read this manual carefully before you use this printer.

Refer to the manuals that are relevant to what you want to do with the printer.

## ★ Important

- Media differ according to manual.
- The printed and electronic versions of a manual have the same contents.
- Adobe® Acrobat® Reader®/Adobe Reader® must be installed in order to view the manuals as PDF files.
- A Web browser must be installed in order to view the html manuals.
- For enhanced security, we recommend that you first make the following settings. For details, see p.12 "Setting Up the Printer".
  - Install the Device Certificate.
  - Enable SSL (Secure Sockets Layer) Encryption.
- Change the user name and password of the administrator using Web Image Monitor.

## Safety Information

Contains information about safe usage of this printer.

To avoid injury and prevent damage to the printer, be sure to read this.

## Quick Installation Guide

Contains procedures for removing the printer from its box, and connecting it to a computer.

## Hardware Guide

Contains information about paper; names and functions of the parts of this printer; and procedures such as installing options, replacing consumables, responding to error messages, and resolving jams.

## Driver Installation Guide

Contains procedures for installing the printer driver. This manual is included on the driver CD-ROM.

## Software Guide

Contains information about using this printer, its software, and its security functions.

## Security Guide (This manual)

This manual is for administrators of the printer. It explains security functions that you can use to prevent unauthorized use of the printer, data tampering, or information leakage. Be sure to read this manual when setting the enhanced security functions, or user and administrator authentication.

## VM Card Extended Feature Settings Web Reference

Contains information about setting up the extended features settings using Web Image Monitor.

---

## UNIX Supplement

Contains information about the usage of commands to operate this printer.

To obtain the "UNIX Supplement", visit our Web site or consult an authorized dealer.

This manual includes explanations of functions and settings that might not be available on this printer.

This manual is provided in English only.

### ↓ Note

- The following software products are referred to as using general names:

Product name	General name
DeskTopBinder Lite and DeskTopBinder Professional * <sup>1</sup>	DeskTopBinder
Remote Communication Gate S Pro * <sup>1</sup> and Remote Communication Gate S * <sup>1</sup>	Remote Communication Gate S
ScanRouter EX Professional * <sup>1</sup> and ScanRouter EX Enterprise * <sup>1</sup>	The ScanRouter delivery software
SmartDeviceMonitor for Client 2	SmartDeviceMonitor for Client

\*<sup>1</sup> Optional



# 1. Getting Started

This chapter describes the printer's security features and how to specify initial security settings.

## Before Using the Security Functions

1

### ★ Important

- **If the security settings are not configured, the data in the printer is vulnerable to attack.**
  1. To prevent this printer being stolen or willfully damaged, etc., install it in a secure location.
  2. Purchasers of this printer must make sure that people who use it do so appropriately, in accordance with operations determined by the machine administrator. If the administrator does not make the required security settings, there is a risk of security breaches by users.
  3. Before setting this printer's security features and to ensure appropriate operation by users, administrators must read the Security Reference completely and thoroughly, paying particular attention to the section entitled "Before Using the Security Functions".
  4. Administrators must inform users regarding proper usage of the security functions.
  5. Administrators should routinely examine the printer's logs to check for irregular and unusual events.
  6. If this printer is connected to a network, its environment must be protected by a firewall or similar.
  7. For protection of data during the communication stage, apply the printer's communication security functions and connect it to devices that support security functions such as encrypted communication.

# Setting Up the Printer

1

This section explains how to enable encryption of transmitted data and configure the administrator account. If you want higher security, make the following setting before using the printer:

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Host Interface], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Network], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Machine IPv4 Address], and then press the [OK] key.
5. Specify IPv4 Address.
6. Be sure to connect the printer to a network that only administrators can access.
7. Start the Web Image Monitor, and then log in to the printer as the administrator.

For details about logging in to Web Image Monitor as an administrator, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

8. Install the server certificate.

For details, see p.94 "Protection Using Encryption".

9. Enable secure sockets layer (SSL).

10. Enter the administrator's user name and password.

## Firmware Update Cautions

If "IPsec" is enabled, all information on the network will be encrypted. This allows you to perform firmware updates securely.

If "IPsec" is not enabled, the information on the network may not be encrypted depending on the protocol. If you want to perform a firmware update when "IPsec" is not enabled, be sure to do so only if your network environment is protected against electronic eavesdropping and similar security threats.

### Note

- For details on how to specify the IPv4 address, see "Ethernet Configuration", Hardware Guide.

# Enhanced Security

This printer's security functions can be enhanced by managing the printer and its users using the improved authentication functions.

By specifying access limits for the printer's functions and the documents and data stored in the printer, information leaks and unauthorized access can be prevented.

Data encryption also prevents unauthorized data access and tampering via the network.

This printer also automatically checks the configuration and manufacturer of the firmware each time the main power is switched on and whenever firmware is installed.

## Authentication and Access Limits

Using authentication, administrators manage the printer and its users. To enable authentication, information about both administrators and users must be registered in order to authenticate users via their login user names and passwords.

Four types of administrators manage specific areas of printer usage, such as settings and user registration.

Access limits for each user are specified by the administrator responsible for user access to printer functions and documents and data stored in the printer.

For details about the administrator and user roles, see p.19 "Administrators".

## Encryption Technology

This printer can establish secure communication paths by encrypting transmitted data and passwords.

# Glossary

## Administrator

There are four types of administrators according to administrative function: machine administrator, network administrator, file administrator, and user administrator. We recommend that only one person takes each administrator role.

In this way, you can spread the workload and limit unauthorized operation by a single administrator.

Basically, administrators make printer settings and manage the printer; but they cannot perform normal operation including printing.

## Supervisor

The Supervisor can reset the administrator's passwords in cases such as they are lost or there is a change in the administrators.

The supervisor can neither perform normal operations nor specify default settings.

## User

A user performs normal operations on the printer, such as printing.

## File Creator (Owner)

This is a user who can store files in the printer and authorize other users to view, edit, or delete those files.

## Registered User

Any user whose personal information is registered in the Address Book, and has a login user name and login password.

## Administrator Authentication

Administrators are authenticated by their login user name and login password, supplied by the administrator, when specifying the printer's settings or accessing the printer over the network.

## User Authentication

To access the printer's settings or use the printer over a network, users must be authenticated. Users are authenticated after they correctly enter their pre-registered login user name and password.

The user's login user name and password are stored in the printer's Address Book. Personal information can be obtained from the Windows domain controller (Windows authentication), LDAP Server (LDAP authentication), or Integration Server (Integration Server authentication) connected to the printer via the network. The "Integration Server" is the computer on which Authentication Manager is installed.

## Login

This action is required for administrator authentication and user authentication. Enter your login user name and login password on the printer's control panel. A login user name and login password may also be required when accessing the printer over the network or using such utilities as Web Image Monitor.



**Logout**

This action is required with administrator and user authentication. This action is required when you have finished using the printer or changing the settings.

# Security Measures Provided by this Printer

## 1

---

## Using Authentication and Managing Users

---

### Enabling Authentication

To control administrators' and users' access to the printer, perform administrator authentication and user authentication using login user names and login passwords. To perform authentication, the authentication function must be enabled. For details about authentication settings, see p.22 "Enabling Administrator Authentication".

### Specifying Authentication Information to Log in

Users are managed using the personal information registered in the printer's Address Book.

By enabling user authentication, you can allow only people registered in the Address Book to use the printer. Users can be managed in the Address Book by the user administrator. For information on specifying information to log in, see p.33 "Basic Authentication".

### Specifying Which Functions are Available

This can be specified by the user administrator. Specify the functions available to registered users. By making this setting, you can limit the functions available to users. For information on how to specify which functions are available, see p.75 "Limiting Available Functions".

---

## Ensuring Information Security

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### Printing confidential files

Using the Locked Print function, you can store files in the printer as confidential files and then print them. You can print a file using the printer's control panel and collect it on the spot to prevent others from seeing it. For details about printing confidential files, see p.57 "Printing a Confidential Document".

### Protecting Registered Information in the Address Book

You can specify who is allowed to access the data in the Address Book. You can prevent the data in the Address Book being used by unregistered users.

To protect the data from unauthorized reading, you can also encrypt the data in the Address Book. For details about protecting registered information in the Address Book, see p.61 "Protecting the Address Book".

### Managing Log Files

You can improve data security by deleting log files stored in the printer. By transferring the log files, you can check the history data and identify unauthorized access.

To transfer the log data, Remote Communication Gate S is required. For details about managing log files, see p.76 "Managing Log Files".

## Encrypting Data on the Hard Disk

Encrypt data stored on the hard disk to prevent information leakage. To encrypt the stored data, the hard disk and the SD card supplied with the hard disk are required. For details, see p.63 "Encrypting Data on the Hard Disk".

## Overwriting the Data on the Hard Disk

Before disposing of the printer, make sure all data on the hard disk is deleted. Prevent data leakage by automatically deleting transmitted printer jobs from the memory.

To overwrite the hard disk data, the hard disk and the SD card supplied with the hard disk are required. For details, see p.68 "Deleting Data on the Hard Disk".

---

## Limiting and Controlling Access

---

### Preventing Changes to Printer Settings

The printer settings that can be modified depend on the type of administrator account.

Register the administrators so that users cannot change the administrator settings. For details about Preventing Changes to Printer Settings, see p.73 "Preventing Changes to Printer Settings".

### Limiting Available Functions

To prevent unauthorized operation, you can specify who is allowed to access each of the printer's functions. For details about limiting available functions for users and groups, see p.75 "Limiting Available Functions".

---

## Enhanced Network Security

---

### Preventing Unauthorized Access

You can limit IP addresses or disable ports to prevent unauthorized access over the network and protect the Address Book, stored files, and default settings. For details about preventing unauthorized access, see p.81 "Preventing Unauthorized Access".

### Encrypting Transmitted Passwords

We recommend you use one or more of the following security protocols: IPsec, SNMPv3, and SSL.

Using these protocols can enhance your printer's security to make login and IPP authentication passwords harder to break.

Also, encrypt the login password for administrator authentication and user authentication. For details about encrypting transmitted passwords, see p.92 "Encrypting Transmitted Passwords".

### Safer Communication Using SSL, SNMPv3 and IPsec

You can encrypt this printer's transmissions using SSL, SNMPv3, and IPsec. By encrypting transmitted data and safeguarding the transmission route, you can prevent sent data from being intercepted,

analyzed, and tampered with. For details about safer communication using SSL, SNMPv3 and IPsec, see p.94 "Protection Using Encryption".

# 2. Configuring Administrator Authentication

This chapter describes authentication for administrators and its application.

## Administrators

2

Administrators manage user access to the printer and various other important functions and settings.

When controlling access using the authentication method specified by an administrator, select the printer's administrator, enable the authentication function, and then use the printer.

The administrators manage access to the allocated functions, and users can use only the functions they are permitted to access. When the authentication function is enabled, the login user name and login password are required in order to use the printer. The roles of user administrator, machine administrator, network administrator, and file administrator can be assigned to separate administrators. Sharing administrator tasks eases the burden on individual administrators while also reducing the possibility of unauthorized access and operations. Multiple administrator roles can be assigned to one administrator, and one role can also be shared by more than one administrator. You can also specify a supervisor who can change each administrator's password. Administrators are limited to managing the printer's settings and controlling user access, so they cannot use normal functions such as printing. To use such functions, the administrator must be registered as an ordinary user in the Address Book and log in as that user.

For details about specifying a login user name and password, see p.35 "Specifying Login User Name and Login Password".

For instructions on registering the administrator, see p.24 "Registering the Administrator", and for instructions on changing the administrator's password, see p.143 "Supervisor Operations". For details on Users, see p.27 "Users".

### ★ Important

- **If user authentication is not possible because of a problem with the hard disk or network, you can use the printer by accessing it using administrator authentication and disabling user authentication. Do this if, for instance, you need to use the printer urgently.**

## User Administrator

This is the administrator who manages personal information in the Address Book.

A user administrator can register/delete users in the Address Book or change users' personal information.

Users registered in the Address Book can also change and delete their own information.

If any of the users forget their password, the user administrator can delete it and create a new one, allowing the user to access the printer again.

For instructions on registering the user administrator, see p.24 "Registering the Administrator".

---

## Machine Administrator

---

2

This administrator mainly manages the printer's default settings. You can set the printer so that the default for each function can only be specified by the machine administrator. By making this setting, you can prevent unauthorized people from changing the settings and allow the printer to be used securely by its many users.

For instructions on registering the machine administrator, see p.24 "Registering the Administrator".

---

## Network Administrator

---

This administrator manages the network settings. You can set the printer so that network settings such as the IP address can only be specified by the network administrator.

By making this setting, you can prevent unauthorized users from changing the settings and disabling the printer, and thus ensure correct network operation.

For instructions on registering the network administrator, see p.24 "Registering the Administrator".

---

## File Administrator

---

This administrator manages stored files and can specify and delete passwords for locked print and other files.

For instructions on registering the file administrator, see p.24 "Registering the Administrator".

---

## Supervisor

---

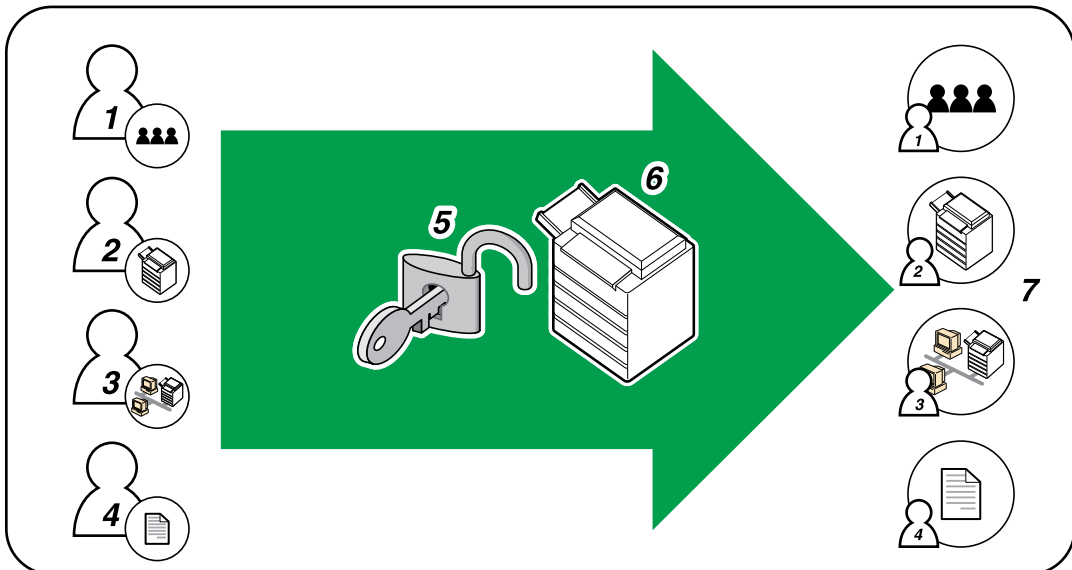
The supervisor can delete an administrator's password and specify a new one. The supervisor cannot specify defaults or use normal functions. However, if any of the administrators forget their password and cannot access the printer, the supervisor can provide support.

For instructions on registering the supervisor, see p.143 "Supervisor Operations".

# About Administrator Authentication

There are four types of administrators: user administrator, machine administrator, network administrator, and file administrator.

For details about each administrator, see p.19 "Administrators".



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## 1. User Administrator

This administrator manages personal information in the Address Book. You can register/delete users in the Address Book or change users' personal information.

## 2. Machine Administrator

This administrator manages the printer's default settings. It is possible to enable only the machine administrator to set data security for Printing, log deletion and other defaults.

## 3. Network Administrator

This administrator manages the network settings. You can set the printer so that network settings such as the IP address and settings for sending and receiving e-mail can be specified by the network administrator only.

## 4. File Administrator

This administrator manages permission to access stored files. You can specify or delete passwords for stored files.

## 5. Authentication

Administrators must enter their login user names and passwords to be authenticated.

## 6. This Printer

## 7. Administrators manage the printer's settings and access limits.

2

# Enabling Administrator Authentication

To control administrators' access to the printer, perform administrator authentication using login user names and passwords. When registering an administrator, you cannot use a login user name already registered in the Address Book. Administrators are handled differently from the users registered in the Address Book. Windows Authentication, LDAP Authentication and Integration Server Authentication are not performed for an administrator, so an administrator can log in even if the server is unreachable due to a network problem. Each administrator is identified by a login user name. One person can act as more than one type of administrator if multiple administrator authorities are granted to a single login user name. For instructions on registering the administrator, see p.24 "Registering the Administrator".

You can specify the login user name, login password, and encryption password for each administrator. The encryption password is used for encrypting data transmitted via SNMPv3. It is also used by applications that use SNMPv3 such as Web Image Monitor and SmartDeviceMonitor for Admin.

Administrators are limited to managing the printer's settings and controlling user access, so they cannot use normal functions including printing.

To use these functions, the administrator must register as a user in the Address Book and then be authenticated as the user. Specify administrator authentication, and then specify user authentication. For details about specifying authentication, see p.29 "Configuring User Authentication".

 **Note**

- Administrator authentication can be specified via Web Image Monitor. For details see Web Image Monitor Help.

---

## Using Web Image Monitor to Configure Administrator Authentication

---

Using Web Image Monitor, you can log in to the printer and change the administrator settings. This section describes how to access Web Image Monitor.

For details about using Web Image Monitor, see "Using Web Image Monitor", Software Guide.

### Logging in (Administrator mode)

---

1. Start your Web browser.
2. Enter "http://(printer's IP address)/" in the address bar of a Web browser.

If the printer's host name has been registered on the DNS or WINS server, you can enter it.

When setting SSL, a protocol for encrypted communication, under environment which server authentication is issued, enter "https://(printer's IP address)/".

3. Click [Login].



#### 4. Enter a login user name and password, and then click [Login].

The Web browser might be configured to auto complete login dialog boxes by retaining user names and passwords. This function reduces security. To prevent the browser retaining user names and passwords, disable the browser's auto complete function.

To use the default account, enter "admin" as the user name, and leave the password blank.

#### ↓ Note

- The procedure may differ depending on the Web browser used.

### Logging out (Administrator mode)

#### 1. Click [Logout] to log out.

#### ↓ Note

- After you have made the settings you require, always click [Logout].

### Specifying Administrator Privileges

To specify administrator authentication, set Administrator Authentication Management to [On]. In addition, if enabled in the settings, you can choose how the initial settings are divided among the administrators as controlled items.

To log in as an administrator, use the default login user name and login password.

By default, the login name is "admin" and the password is empty. For details about changing the administrator password using the supervisor's authority, see p.143 "Supervisor Operations".

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

#### ★ Important

- If you have enabled [Administrator Authentication Management], make sure not to forget the administrator login user name and login password. If an administrator login user name or login password is forgotten, a new password must be specified using the supervisor's authority.
- Be sure not to forget the supervisor login user name and login password. If you do forget them, a service representative will have to return the printer to its default state. This will result in all data in the printer being lost. Charges may also apply to the service call.

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area.
3. Click [Administrator Authentication Management] in the "Device Settings" category.

4. Select [User Administrator Authentication], [Machine Administrator Authentication], [Network Administrator Authentication], or [File Administrator Authentication], and then Click [OK].
5. Click [Logout].
6. Close Web Image Monitor.

## 2

---

### Registering the Administrator

---

If administrator authentication has been specified, we recommend only one person take each administrator role.

The sharing of administrator tasks eases the burden on individual administrators while also limiting unauthorized operation by a single administrator. You can register up to four login user names (Administrators 1-4) to which you can grant administrator privileges.

Administrator authentication can also be specified via Web Image Monitor. For details, see Web Image Monitor Help.

If administrator authentication has already been specified, log in using a registered administrator name and password.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area.
3. Click [Program/Change Administrator] in the "Device Settings" category.
4. Select the administrator type and administrator number.
5. Enter the [Login User Name] of the selected administrator number.
6. Click [Change] in the "Login Password" area.
7. Enter the password.
8. Re-enter the same password, and then click [OK].
9. Click [Change] in the "Encryption Password" area.
10. Enter the password.
11. Re-enter the same password, and then click [OK].
12. Click [OK].
13. Click [Logout].
14. Close Web Image Monitor.

**Note**

- You can use up to 32 alphanumeric characters and symbols when registering login user names and login passwords. Keep in mind that passwords are case-sensitive.
- User names cannot contain numbers only, a space, colon (:), or quotation mark ("), nor can they be left empty.
- Do not use Japanese, Traditional Chinese, Simplified Chinese, or Hangul double-byte characters when entering the login user name or password. If you use multi-byte characters when entering the login user name or password, you cannot authenticate using Web Image Monitor.

## Logging in Using Administrator Authentication

If administrator authentication has been specified, log in using an administrator's user name and password.

1. Press the [Menu] key.
2. Press [Login].
3. Enter the login user name, and then press the [OK] key.

When you log in to the printer for the first time as the administrator, enter "admin".

4. Enter the login password, and then press the [OK] key.

If assigning the administrator for the first time, press the [OK] key. without entering login password.

[Authenticating... Please wait.] appears, followed by the screen for specifying the default.

## Logging out Using Administrator Authentication

If administrator authentication has been specified, be sure to log out after completing settings.

1. Press the [Menu] key.
2. Press [Logout].
3. Press [Yes].

## Changing the Administrator

Change the administrator's login user name and login password. You can also assign administrator authority to the login user names [Administrator 1] to [Administrator 4]. To combine the authorities of multiple administrators, assign multiple administrators to a single administrator.

For example, to assign machine administrator authority and user administrator authority to [Administrator 1], select [Administrator 1] in the lines for the machine administrator and the user administrator.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area.
3. Click [Program/Change Administrator] in the "Device Settings" category.
4. Select [Administrator 1], [Administrator 2], [Administrator 3], or [Administrator 4], and then click [OK].

If you would like to have one administrator to carry out multiple administrative works, select a single account for different types of administrator.

5. Click [Logout].
6. Close Web Image Monitor.

### Note

- An administrator's privileges can only be changed by an administrator with the relevant privileges.
- Administrator privileges cannot be revoked by any single administrator.

# 3. Configuring User Authentication

This chapter describes authentication for users and its application.

## Users

A user performs normal operations on the printer, such as printing. Users are managed using the personal information in the printer's Address Book, and can use only the functions they are permitted to access by administrators.

By enabling user authentication, you can restrict usage of the printer to users who are registered in the Address Book only. The user administrator can manage user permissions through the Address Book.

For details about administrator capabilities, see p.19 "Administrators". For details about registering users in the Address Book, see Web Image Monitor Help.

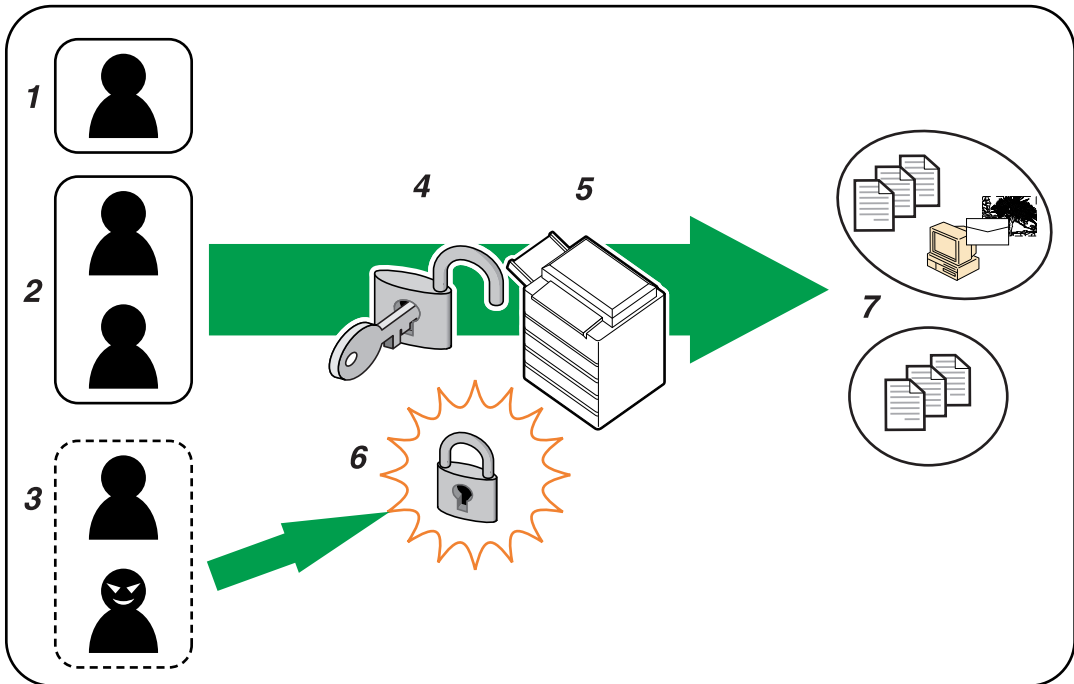
### Important

- If user authentication is not possible because of a problem with the hard disk or network, you can use the printer by accessing it using administrator authentication and disabling user authentication. Do this if, for instance, you need to use the printer urgently.

# About User Authentication

This printer has an authentication function to prevent unauthorized access.

By using login user name and login password, you can specify access limits for individual users and groups of users.



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**1. User**

A user performs normal operations on the printer including printing.

**2. Group**

A group performs normal operations on the printer including printing.

**3. Unauthorized User**

**4. Authentication**

Using a login user name and password, user authentication is performed.

**5. This Printer**

**6. Access Limit**

Using authentication, unauthorized users are prevented from accessing the printer.

**7. Authorized users and groups can use only those functions permitted by the administrator.**

# Configuring User Authentication

Specify administrator authentication and user authentication according to the following chart:

Administrator authentication	<p>p.23 "Specifying Administrator Privileges"</p> <p>p.24 "Registering the Administrator"</p>
User authentication	<p>p.30 "Enabling User Authentication"</p> <p>Specifying User Authentication</p> <ul style="list-style-type: none"> <li>• p.31 "User Code Authentication"</li> <li>• p.33 "Basic Authentication"</li> <li>• p.36 "Windows Authentication"</li> <li>• p.43 "LDAP Authentication"</li> <li>• p.47 "Integration Server Authentication"</li> </ul>

## ↓ Note

- To specify Basic Authentication, Windows Authentication, LDAP Authentication, or Integration Server Authentication, you must first specify administrator authentication.
- You can specify User Code Authentication without specifying administrator authentication.

## Enabling User Authentication

To control users' access to the printer, perform user authentication using login user names and passwords. There are five types of user authentication methods: User Code authentication, Basic authentication, Windows authentication, LDAP authentication, and Integration Server authentication. To use user authentication, select an authentication method using Web Image Monitor, and then make the required settings for the authentication. The settings depend on the authentication method. Specify administrator authentication, and then specify user authentication.

3

### ★ Important

- **To perform Basic Authentication, Windows Authentication, LDAP Authentication, and Integration Server Authentication, the optional hard disk must be installed.**

### ↓ Note

- Up to 500 users can be registered for authentication.
- User Code authentication is used for authenticating on the basis of a user code, and Basic authentication, Windows authentication, LDAP authentication, and Integration Server authentication are used for authenticating individual users.
- A user code account, that has no more than eight digits and is used for User Code authentication, can be carried over and used as a login user name even after the authentication method has switched from User Code authentication to Basic authentication, Windows authentication, LDAP authentication, or Integration Server authentication. In this case, since the User Code authentication does not have a password, the login password is empty.
- When authentication switches to an external authentication method (Windows authentication, LDAP authentication, or Integration Server authentication), authentication will not occur, unless the external authentication device has the carried over user code account previously registered. However, the user code account will remain in the Address Book of the printer despite an authentication failure. From a security perspective, when switching from User Code authentication to another authentication method, we recommend that you delete accounts you are not going to use, or set up a login password. For details about deleting accounts, see Web Image Monitor Help. For details about changing passwords, see p.35 "Specifying Login User Name and Login Password".
- You cannot use more than one authentication method at the same time.



# User Code Authentication

This is an authentication method for limiting access to functions according to a user code. The same user code can be used by more than one user. For details about specifying user codes, see [Web Image Monitor Help](#).

For details about specifying the user code for the printer driver, see [Software Guide](#) or the printer driver [Help](#).

## ★ Important

- To control the use of DeskTopBinder for the delivery of files stored in the printer, select **Basic Authentication, Windows Authentication, LDAP Authentication, or Integration Server Authentication**.

3

## Specifying User Code Authentication

This can be specified by the machine administrator.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area.
3. Click [Administrator Authentication Management] in the "Device Settings" category.
4. Click [On] in the "Machine Administrator Authentication" area, and then click [OK].
5. Click [User Authentication Management] in the "Device Settings" category.
6. Select [User Code] in the "User Authentication Management" list.
7. Select the "Printer Job Authentication" level.

If you select [Entire] or [Simple (All)], proceed to "Selecting Entire or Simple (All)".

If you select [Simple (Limitation)], proceed to "Selecting Simple (Limitation)".

For a description of the printer job authentication levels, see p.50 "Printer Job Authentication".

## ↓ Note

- You can specify User Code Authentication without specifying administrator authentication.
- [Parallel Interface (Simple)] menu only appears when the optional IEEE 1284 interface board is installed.

## Selecting Entire or Simple (All)

If you select [Entire], you cannot print using a printer driver or a device that does not support authentication. To print under an environment that does not support authentication, select [Simple (All)] or [Simple (Limitation)].

If you select [Simple (All)], you can print even with unauthenticated printer drivers or devices. Specify this setting if you want to print with a printer driver or device that cannot be identified by the printer or if you do not require authentication for printing. However, note that, because the printer does not require authentication in this case, it may be used by unauthorized users.

**1. Select [Available Functions].**

Select [Black & White] or [PC Control] when enabling printing.

**2. Click [OK].**

**3. Click [Logout].**

**4. Close Web Image Monitor.**

3

### Selecting Simple (Limitation)

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If you select [Simple (Limitation)], you can specify clients for which printer job authentication is not required. Specify [Parallel Interface (Simple)], [USB (Simple)] and the clients' IPv4 address range in which printer job authentication is not required. Specify this setting if you want to print using unauthenticated printer drivers or without any printer driver. Authentication is required for printing with non-specified devices.

**1. Select [Simple (Limitation)], and enter [Limitation Range].**

Specify the range in which [Simple (Limitation)] is applied to "Printer Job Authentication".

If you specify IPv4 or IPv6 address range, proceed to step 2.

If you specify [Parallel Interface (Simple)], proceed to step 3.

If you specify [USB (Simple)], proceed to step 4.

**2. Select [IPv4 Address 1], [IPv4 Address 2], [IPv4 Address 3], [IPv4 Address 4], or [IPv4 Address 5] and then enter the IPv4 address on the "Limitation Range (IPv4)" area.**

Be sure the number you enter for End IPv4 Address is larger than that for Start IPv4 Address.

If you want to use IPv6, specify the IPv6 address in the "Limitation Range (IPv6)" area.

**3. Select [Apply] in the "Parallel Interface (Simple)" area.**

**4. Select [Apply] in the "USB (Simple)" area.**

**5. Click [OK].**

**6. Click [Logout].**

**7. Close Web Image Monitor.**

# Basic Authentication

Specify this authentication method when using the printer's Address Book to authenticate each user. Using Basic authentication, you cannot only manage the printer's available functions but also limit access to stored files and to the personal data in the Address Book. Under Basic authentication, the administrator must specify the functions available to each user registered in the Address Book.

To perform Basic Authentication, the optional hard disk must be installed.

## Specifying Basic Authentication

3

This can be specified by the machine administrator.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area.
3. Click [Administrator Authentication Management] in the "Device Settings" category.
4. Click [On] in the "User Administrator Authentication" area, and then click [OK].
5. Click [User Authentication Management], and then select [Basic Authentication] in the "User Authentication Management" list.
6. Select the "Printer Job Authentication" level.

If you select [Entire] or [Simple (All)], proceed to "Selecting Entire or Simple (All)".

If you select [Simple (Limitation)], proceed to "Selecting Simple (Limitation)".

For a description of the printer job authentication levels, see p.50 "Printer Job Authentication".

### ↓ Note

- [Parallel Interface (Simple)] menu only appears when the optional IEEE 1284 interface board is installed.

## Selecting Entire or Simple (All)

If you select [Entire], you cannot print using a printer driver or a device that does not support authentication. To print under an environment that does not support authentication, select [Simple (All)] or [Simple (Limitation)].

If you select [Simple (All)], you can print even with unauthenticated printer drivers or devices. Specify this setting if you want to print with a printer driver or device that cannot be identified by the printer or if you do not require authentication for printing. However, note that, because the printer does not require authentication in this case, it may be used by unauthorized users.

**1. Select [Available Functions].**

Clear the [Black & White] check box when you want to limit printing.

**2. Click [OK].**

**3. Click [Logout].**

**4. Close Web Image Monitor.**

---

### Selecting Simple (Limitation)

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If you select [Simple (Limitation)], you can specify clients for which printer job authentication is not required. Specify [Parallel Interface (Simple)], [USB (Simple)] and the clients' IPv4 address range in which printer job authentication is not required. Specify this setting if you want to print using unauthenticated printer drivers or without any printer driver. Authentication is required for printing with non-specified devices.

**1. Select [Simple (Limitation)], and enter [Limitation Range].**

Specify the range in which [Simple (Limitation)] is applied to "Printer Job Authentication".

If you specify IPv4 or IPv6 address range, proceed to step 2.

If you specify [Parallel Interface (Simple)], proceed to step 3.

If you specify [USB (Simple)], proceed to step 4.

**2. Select [IPv4 Address 1], [IPv4 Address 2], [IPv4 Address 3], [IPv4 Address 4], or [IPv4 Address 5] and then enter the IPv4 address on the "Limitation Range (IPv4)" area.**

Be sure the number you enter for End IPv4 Address is larger than that for Start IPv4 Address.

If you want to use IPv6, specify the IPv6 address in the "Limitation Range (IPv6)" area.

**3. Click [Apply] in the "Parallel Interface (Simple)" area.**

**4. Click [Apply] in the "USB (Simple)" area.**

**5. Click [OK].**

**6. Click [Logout].**

**7. Close Web Image Monitor.**

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### Authentication Information Stored in the Address Book

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This can be specified by the user administrator.

For details about logging in and logging out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

If you have specified User Authentication, you can specify access limits for individual users and groups of users. Specify the setting in the Address Book for each user.

For details about specifying available functions for individuals or groups, see p.75 "Limiting Available Functions".

Users must have a registered account in the Address Book in order to use the printer when User Authentication is specified. For details about user registration, see Web Image Monitor Help.

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## Specifying Login User Name and Login Password

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In Address Book Management, specify the login user name and login password to be used for User Authentication Management.

1. Log in to Web Image Monitor as an administrator.

2. Click [Address Book] in the Menu area.

3. Select the user you want to specify, and then click [Change].

You can search using "Name", "Registration No.", or "User Code".

4. Enter the "Login User Name" in the "Authentication Info at Login" area in the "Authentication Information" area.

5. Click [Change] in the "Login Password" area.

6. Enter the login password, and then click [OK].

7. Specify "Available Function".

The initial value is set at Basic Authentication. If the value is reset, the previous value will be overwritten.

8. Click [Change] in "Access Privilege" in the "Protect Destination" area in the "Protection" area.

9. Select the usable level on both "Public" and "User/Group", and then click [OK].

To add the changed user to the group, click [Change] in the "Add User" area, and then click [OK].

10. Click [Back].

11. Click [Logout].

12. Close Web Image Monitor.

### ↓ Note

- Login user names and passwords can contain both alphanumeric characters and symbols.
- Login user names can contain up to 32 characters; passwords can contain up to 128 characters.
- Login user names cannot contain spaces, colons or quotation marks, and cannot be left blank.

# Windows Authentication

Specify this authentication when using the Windows domain controller to authenticate users who have their accounts on the directory server. Users cannot be authenticated if they do not have their accounts in the directory server. Under Windows authentication, you can specify the access limit for each group registered in the directory server. The Address Book stored in the directory server can be registered to the printer, enabling user authentication without first using the printer to register individual settings in the Address Book.

Windows authentication can be performed using one of two authentication methods: NTLM or Kerberos authentication. The operational requirements for both methods are listed below.

To perform Windows Authentication, the optional hard disk must be installed.

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## Operational Requirements for NTLM authentication

To specify NTLM authentication, the following requirements must be met:

- This machine supports NTLMv1 authentication and NTLMv2 authentication.
- A domain controller must be set up in a designated domain.
- This function is supported by the operating systems listed below. To obtain user information when running Active Directory, use LDAP. If SSL is being used, a version of Windows that supports TLS v1, SSL v2, or SSL v3 is required.
  - Windows Server 2003/2003 R2/2008/2008 R2

## Operational Requirements for Kerberos authentication

To specify Kerberos authentication, the following requirements must be met:

- A domain controller must be set up in a designated domain.
- The operating system must be able to support KDC (Key Distribution Center). To obtain user information when running Active Directory, use LDAP. If SSL is being used, a version of Windows that supports TLSv1, SSLv2, or SSLv3 is required. Compatible operating systems are listed below.
  - Windows Server 2003/2003 R2/2008/2008 R2
  - To use Kerberos authentication under Windows Server 2008, Service Pack 2 or later must be installed.

### ★ Important

- During Windows Authentication, data registered in the directory server, such as the user's name, is automatically registered in the printer. If user information on the server is changed, information registered in the printer may be overwritten when authentication is performed.
- Users managed in other domains are subject to user authentication, but they cannot obtain items such as user's name.
- If you have created a new user in the domain controller and selected "User must change password at next logon", log in to the printer from the computer to change the password before logging in from the printer's control panel.

- If the authenticating server only supports NTLM when Kerberos authentication is selected on the printer, the authenticating method will automatically switch to NTLM.

#### ↓ Note

- Enter the login password correctly; keeping in mind that it is case-sensitive.
- The first time you access the printer, you can use the functions available to your group. If you are not registered in a group, you can use the functions available under [\*Default Group]. To limit which functions are available to which users, first make settings in advance in the Address Book.
- When accessing the printer subsequently, you can use all the functions available to your group and to you as an individual user.
- Users who are registered in multiple groups can use all the functions available to those groups.
- A user registered in two or more global groups can use all the functions available to members of those groups.
- If the "Guest" account on the Windows server is enabled, even users not registered in the domain controller can be authenticated. When this account is enabled, users are registered in the Address Book and can use the functions available under [\*Default Group].
- To enable Kerberos authentication, you must first register a Kerberos realm. The realm name can contain capital letters only. For details about registering a Kerberos realm, see Web Image Monitor Help.

## Specifying Windows Authentication

Before beginning to configure the printer, make sure that administrator authentication is properly configured under "Administrator Authentication Management".

This can be specified by the machine administrator.

To enable Kerberos authentication, a realm must be registered. The realm name must be registered in capital letters.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area.
3. Click [Administrator Authentication Management] in the "Device Settings" category.
4. Click [On] in the "Machine Administrator Authentication" area, and then click [OK].
5. Click [User Authentication Management] in the "Device Settings" category.
6. Select "Windows Authentication" in the "User Authentication Management" list.
7. If you want to use Kerberos authentication, click [On].

If you want to use NTLM authentication, click [Off] and proceed to step 9.

**8. Select Kerberos authentication realm and proceed to step 10.**

To enable Kerberos authentication, a realm must be registered beforehand. The realm name must be registered in capital letters. For details about registering a realm, see Web Image Monitor Help.

Up to 5 realms can be registered and selected.

**9. Enter the name of the domain controller to be authenticated in the [Domain Name] box.**

When you specify the domain name in the Fully Qualified Domain Name format, enter "." at the end of the character string.

In addition, depending on your environment, you can enter the group name in the blank area of the "Group Settings for Windows Authentication" box, and then specify the printer functions available.

**10. Select the "Printer Job Authentication" level.**

If you select [Entire] or [Simple (All)], proceed to "Selecting Entire or Simple (All)".

If you select [Simple (Limitation)], proceed to "Selecting Simple (Limitation)".

For a description of the printer job authentication levels, see p.50 "Printer Job Authentication".

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### Selecting Entire or Simple (All)

---

If you select [Entire], you cannot print using a printer driver or a device that does not support authentication. To print in an environment that does not support authentication, select [Simple (All)] or [Simple (Limitation)].

If you select [Simple (All)], you can print even with unauthenticated printer drivers or devices. Specify this setting if you want to print with a printer driver or device that cannot be identified by the printer or if you do not require authentication for printing. However, note that, because the printer does not require authentication in this case, it may be used by unauthorized users.

**1. Click [On] in the "SSL" area.**

If you are not using secure sockets layer (SSL) for authentication, press [Off].

If global groups have been registered under Windows server, you can limit the use of functions for each global group.

You need to create global groups in the Windows server in advance and register in each group the users to be authenticated.

You also need to register in the printer the functions available to the global group members.

Create global groups in the printer by entering the names of the global groups registered in the Windows Server. (Keep in mind that group names are case sensitive.) Then specify the printer functions available to each group.

If global groups are not specified, users can use the available functions specified in "\*Default Group". If global groups are specified, users not registered in global groups can use the available functions specified in "\*Default Group". By default, all functions are available to "\*Default Group" members. Specify the limitation on available functions according to user needs.



## 2. Click [On] in the "Windows Authentication Settings" area.

In addition, depending on your environment, you can enter the group name in the blank area of the "Group Settings for Windows Authentication" box, and then specify the printer functions.

Windows Authentication will be applied to the selected functions.

Users can use the selected functions only.

## 3. Click [OK].

## 4. Click [Logout].

## 5. Close Web Image Monitor.

### ↓ Note

- Under Windows Authentication, you can select whether or not to use secure sockets layer (SSL) authentication.
- To automatically register user information under Windows authentication, it is recommended that communication between the printer and domain controller be encrypted using SSL.
- Under Windows Authentication, you do not have to create a server certificate unless you want to automatically register user information using SSL.

## Selecting Simple (Limitation)

If you select [Simple (Limitation)], you can specify clients for which printer job authentication is not required. Specify [Parallel Interface (Simple)], [USB (Simple)] and the clients' IPv4 address range in which printer job authentication is not required. Specify this setting if you want to print using unauthenticated printer drivers or without any printer driver. Authentication is required for printing with non-specified devices.

### 1. Select [Simple (Limitation)] in the "Printer Job Authentication" area in the "Printer Job Authentication Settings" area.

Specify the range in which [Simple (Limitation)] is applied to Printer Job Authentication.

If you specify IPv4 or IPv6 address range, proceed to step 2.

If you specify [Parallel Interface (Simple)], proceed to step 3.

If you specify [USB (Simple)], proceed to step 4.

### 2. Select [IPv4 Address 1], [IPv4 Address 2], [IPv4 Address 3], [IPv4 Address 4], or [IPv4 Address 5] and then enter the IPv4 address on the "Limitation Range (IPv4)" area.

Be sure the number you enter for End IPv4 Address is larger than that for Start IPv4 Address.

If you want to use IPv6, specify the IPv6 address in the "Limitation Range (IPv6)" area.

### 3. Click [Apply] in the "Parallel Interface (Simple)" area.

### 4. Click [Apply] in the "USB (Simple)" area.

### 5. Click [On] in the "SSL" area.

If you are not using secure sockets layer (SSL) for authentication, click [Off].

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If global groups have been registered under Windows server, you can limit the use of functions for each global group.

You need to create global groups in the Windows server in advance and register in each group the users to be authenticated.

You also need to register in the printer the functions available to the global group members.

Create global groups in the printer by entering the names of the global groups registered in the Windows Server. (Keep in mind that group names are case sensitive.) Then specify the printer functions available to each group.

If global groups are not specified, users can use the available functions specified in "\*Default Group". If global groups are specified, users not registered in global groups can use the available functions specified in "\*Default Group". By default, all functions are available to "\*Default Group" members. Specify the limitation on available functions according to user needs.

In addition, depending on your environment, you can enter the group name in the blank area of the "Group Settings for Windows Authentication" box, and then specify the printer functions.

Windows Authentication will be applied to the selected functions.

Users can use the selected functions only.

**6. Click [OK].**

**7. Click [Logout].**

**8. Close Web Image Monitor.**

**Note**

- Under Windows Authentication, you can select whether or not to use secure sockets layer (SSL) authentication.
- To automatically register user information under Windows authentication, it is recommended that communication between the printer and domain controller be encrypted using SSL.
- Under Windows Authentication, you do not have to create a server certificate unless you want to automatically register user information using SSL.

### Installing Internet Information Services (IIS) and Certificate services

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Specify this setting if you want the printer to automatically obtain user information registered in Active Directory.

We recommended you install Internet Information Services (IIS) and Certificate services as the Windows components.

Install the components, and then create the server certificate.

If they are not installed, install them as follows:

Windows Server 2008 R2 is used to illustrate the procedure.

**1. On the [Start] menu, point to [Administrator Tools], and then click [Server Manager].**

2. Click [Roles] in the left column, click [Add Roles] from the [Action] menu.
3. Click [Next>].
4. Select the "Web Server (IIS)" and "Active Directory Certificate Services" check boxes, and then click [Next>].
5. Read the content information, and then click [Next>].
6. Confirm that [Certification Authority] is checked, and then click [Next>].
7. Select [Enterprise], and then click [Next>].
8. Select [Root CA], and then click [Next>].
9. Select [Create a new private key], and then click [Next>].
10. Select a cryptographic service provider, key length, and hash algorithm to create new private key, and then click [Next>].
11. In "Common name for this CA:", enter the Certificate Authority name, and then click [Next>].
12. Select the validity period, and then click [Next>].
13. Leave the "Certificate database location:" and the "Certificate database log location:" settings set to their defaults, and then click [Next>].
14. Read the notes, and then click [Next>].
15. Select the role service you want to use, and then click [Next>].
16. Click [Install].
17. When the installation is complete, click [Close].
18. Close [Server Manager].

## Creating the Server Certificate

After installing Internet Information Services (IIS) and Certificate services Windows components, create the Server Certificate as follows:

Windows Server 2008 R2 is used to illustrate the procedure.

1. On the [Start] menu, point to [Administrator Tools], and then click [Internet Information Services (IIS) Manager].
2. In the left column, click the server name, and then double-click [Server Certificates].
3. In the right column, click [Create Certificate Request...].
4. Enter all the information, and then click [Next].
5. In "Cryptographic service provider:", select a server, and then click [Next].
6. Click [...], and then specify a file name for the certificate request.
7. Specify a location in which to store the file, and then click [Open].
8. Close [Internet Information Services (IIS) Manager] by clicking [Finish].

## Installing the Device Certificate (Certificate Issued by a Certificate Authority)

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This can be specified by the network administrator.

Enter the device certificate contents issued by the certificate authority. Installation of the certificate is especially necessary for users who want to print via IPP -SSL from Windows Vista/7 or Windows Server 2008/2008 R2.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

### 3

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area, and then click [Device Certificate] under "Security" category.
3. Check the radio button next to the number of the certificate you want to install.
4. Click [Install].
5. Enter the contents of the device certificate.

In the Certificate box, enter the contents of the device certificate issued by the certificate authority.

6. Click [OK].
7. Wait a moment for the device to restart, and then click [OK].

"Installed" appears under "Certificate Status" to show that a device certificate for the printer has been installed.

8. Click [Logout].
9. Close Web Image Monitor.

#### ↓ Note

- If a certificate authority issues a certificate that must be authenticated by an intermediate certificate authority, and the certificate is installed on this printer, an intermediate certificate must be installed on the client computer. Otherwise, validation by the certificate authority will not be performed correctly. If validation cannot be performed properly, a warning message informing you that installation is not possible might appear when you try to add a printer using IPP-SSL under Windows Vista/7 or Windows Server 2008/2008 R2. A warning message might also appear if you attempt to access this printer through Web Image Monitor with SSL enabled. To enable authentication from the client computer, install the intermediate certificate on the client computer, and then reestablish connection.
- Intermediate certificates cannot be installed on this printer.

# LDAP Authentication

Specify this authentication method when using the LDAP server to authenticate users who have their accounts on the LDAP server. Users cannot be authenticated if they do not have their accounts on the LDAP server. The Address Book stored in the LDAP server can be registered to the printer, enabling user authentication without first using the printer to register individual settings in the Address Book. When using LDAP authentication, to prevent the password information being sent over the network unencrypted, it is recommended that communication between the printer and LDAP server be encrypted using SSL. You can specify on the LDAP server whether or not to enable SSL. To do this, you must create a server certificate for the LDAP server.

Using Web Image Monitor, you can specify whether or not to check the reliability of the connecting SSL server. For details about specifying LDAP authentication using Web Image Monitor, see Web Image Monitor Help.

To perform LDAP Authentication, the optional hard disk must be installed.

## ★ Important

- During LDAP authentication, the data registered in the LDAP server, such as the user's name, is automatically registered in the printer. If user information on the server is changed, information registered in the printer may be overwritten when authentication is performed.
- Under LDAP authentication, you cannot specify access limits for groups registered in the LDAP server.
- Enter the user's login user name using up to 128 characters, and then enter the user's login password using up to 128 characters. Make sure the first 32 characters of the login user name are unique.
- Do not use double-byte Japanese, Traditional Chinese, Simplified Chinese, or Hangul characters when entering the login user name or password. If you use double-byte characters, you cannot authenticate using Web Image Monitor.

## Operational Requirements for LDAP Authentication

To specify LDAP authentication, the following requirements must be met:

- The network configuration must allow the printer to detect the presence of the LDAP server.
- When SSL is being used, TLSv1, SSLv2, or SSLv3 can function on the LDAP server.
- The LDAP server must be registered in the printer.
- When registering the LDAP server, the following setting must be specified.
  - Server Name
  - Search Base
  - Port Number
  - SSL Communication
  - Authentication  
Select Kerberos, DIGEST, or Cleartext authentication.

- User Name

You do not have to enter the user name if the LDAP server supports "Anonymous Authentication".

- Password

You do not have to enter the password if the LDAP server supports "Anonymous Authentication".

**Note**

- When you select Cleartext authentication, LDAP Simplified authentication is enabled. Simplified authentication can be performed with a user attribute (such as cn, or uid), instead of the DN.
- In LDAP simple authentication mode, authentication will fail if the password is left blank. To allow blank passwords, contact your service representative.
- Under LDAP Authentication, if "Anonymous Authentication" in the LDAP server's settings is not set to Prohibit, users who do not have an LDAP server account might still be able to gain access.
- If the LDAP server is configured using Windows Active Directory, "Anonymous Authentication" might be available. If Windows authentication is available, we recommend you use it.
- The first time an unregistered user accesses the printer after LDAP authentication has been specified, the user is registered in the printer and can use the functions available under "Available Functions" during LDAP Authentication. To limit the available functions for each user, register each user and corresponding "Available Functions" setting in the Address Book, or specify "Available Functions" for each registered user. The "Available Functions" setting becomes effective when the user accesses the printer subsequently.
- To enable Kerberos for LDAP authentication, you must first register a Kerberos realm. The realm name can contain capital letters only. For details about registering a Kerberos realm, see Web Image Monitor Help.

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## Specifying LDAP Authentication

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This can be specified by the machine administrator.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area.
3. Click [Administrator Authentication Management] in the "Device Settings" category.
4. Click [On] in the "Machine Administrator Authentication" area, and then click [OK].
5. Click [User Authentication Management] in the "Device Settings" category.
6. Select [LDAP Authentication] in the "User Authentication Management" list.

## 7. Select the "Printer Job Authentication" level.

If you select [Entire] or [Simple (All)], proceed to "Selecting Entire or Simple (All)".

If you select [Simple (Limitation)], proceed to "Selecting Simple (Limitation)".

For a description of the printer job authentication levels, see p.50 "Printer Job Authentication".

## Selecting Entire or Simple (All)

If you select [Entire], you cannot print using a printer driver or a device that does not support authentication. To print under an environment that does not support authentication, select [Simple (All)] or [Simple (Limitation)].

If you select [Simple (All)], you can print even with unauthenticated printer drivers or devices. Specify this setting if you want to print with a printer driver or device that cannot be identified by the printer or if you do not require authentication for printing. However, note that, because the printer does not require authentication in this case, it may be used by unauthorized users.

### 1. Enter the "Login Name Attribute" in the "LDAP Authentication Settings" area.

You can use the Login Name Attribute as a search criterion to obtain information about an authenticated user. You can create a search filter based on the Login Name Attribute, select a user, and then retrieve the user information from the LDAP server so it is transferred to the printer's address book. The method for selecting the user name depends on the server environment. Check the server environment and enter the user name accordingly.

### 2. Enter the "Unique Attribute".

Specify Unique Attribute on the printer to match the user information in the LDAP server with that in the printer. By doing this, if the Unique Attribute of a user registered in the LDAP server matches that of a user registered in the printer, the two instances are treated as referring to the same user. You can enter an attribute such as "serialNumber" or "uid". Additionally, you can enter "cn" or "employeeNumber", provided it is unique. If you do not specify the Unique Attribute, an account with the same user information but with a different login user name will be created in the printer.

### 3. Click [OK].

### 4. Click [Logout].

### 5. Close Web Image Monitor.

## Selecting Simple (Limitation)

If you select [Simple (Limitation)], you can specify clients for which printer job authentication is not required. Specify [Parallel Interface (Simple)], [USB (Simple)] and the clients' IPv4 address range in which printer job authentication is not required. Specify this setting if you want to print using unauthenticated printer drivers or without any printer driver. Authentication is required for printing with non-specified devices.

**1. Select [Simple (Limitation)] in the "Printer Job Authentication" list in the "Printer Job Authentication Settings" area.**

Specify the range in which [Simple (Limitation)] is applied to Printer Job Authentication.

If you specify IPv4 or IPv6 address range, proceed to step 2.

If you specify [Parallel Interface (Simple)], proceed to step 3.

If you specify [USB (Simple)], proceed to step 4.

**2. Select [IPv4 Address 1], [IPv4 Address 2], [IPv4 Address 3], [IPv4 Address 4], or [IPv4 Address 5], and then enter the IPv4 address in the "Limitation Range (IPv4)" area.**

Be sure the number you enter for End IPv4 Address is larger than that for Start IPv4 Address.

If you want to use IPv6, specify the IPv6 address in the "Limitation Range (IPv6)" area.

**3. Click [Apply] in the "Parallel Interface (Simple)" area.**

**4. Click [Apply] in the "USB (Simple)" area.**

**5. Enter the "Login Name Attribute" in the "LDAP Authentication Settings" area.**

You can use the Login Name Attribute as a search criterion to obtain information about an authenticated user. You can create a search filter based on the Login Name Attribute, select a user, and then retrieve the user information from the LDAP server so it is transferred to the printer's address book. The method for selecting the user name depends on the server environment. Check the server environment and enter the user name accordingly.

**6. Enter the "Unique Attribute".**

Specify Unique Attribute on the printer to match the user information in the LDAP server with that in the printer. By doing this, if the Unique Attribute of a user registered in the LDAP server matches that of a user registered in the printer, the two instances are treated as referring to the same user. You can enter an attribute such as "serialNumber" or "uid". Additionally, you can enter "cn" or "employeeNumber", provided it is unique. If you do not specify the Unique Attribute, an account with the same user information but with a different login user name will be created in the printer.

**7. Click [OK].**

**8. Click [Logout].**

**9. Close Web Image Monitor.**



# Integration Server Authentication

To use Integration Server authentication, you need a server on which The ScanRouter delivery software that supports authentication is installed.

For external authentication, the Integration Server authentication collectively authenticates users accessing the server over the network, providing a server-independent, centralized user authentication system that is safe and convenient.

For example, if the delivery server and the printer share the same Integration Server authentication, single sign-on is possible using DeskTopBinder.

To perform Integration Server authentication, the optional hard disk must be installed.

To use Integration Server authentication., access to a server on which ScanRouter System or Remote Communication Gate S and Authentication Manager are installed, other than the printer, is required. For details about the software, contact your sales representative.

Using Web Image Monitor, you can specify that the server reliability and site certificate are checked every time you access the SSL server.

## ★ Important

- During Integration Server authentication, the data registered in the server, such as the user's name, is automatically registered in the printer.
- If user information on the server is changed, information registered in the printer may be overwritten when authentication is performed.

## ↓ Note

- The default administrator name for ScanRouter System or Remote Communication Gate S, "Admin," differs from the server, "admin".

## Specifying Integration Server Authentication

This can be specified by the machine administrator.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area.
3. Click [Administrator Authentication Management] in the "Device Settings" category.
4. Click [On] in the "Machine Administrator Authentication" area, and then click [OK].
5. Click [User Authentication Management] in the "Device Settings" category in the "Configuration" area.
6. Select "Integration Server Authentication" in the "User Authentication Management" list.

### 7. Select the "Printer Job Authentication" level.

If you select [Entire] or [Simple (All)], proceed to "Selecting Entire or Simple (All)".

If you select [Simple (Limitation)], proceed to "Selecting Simple (Limitation)".

For a description of the printer job authentication levels, see p.50 "Printer Job Authentication".

## Selecting Entire or Simple (All)

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If you select [Entire], you cannot print using a printer driver or a device that does not support authentication. To print in an environment that does not support authentication, select [Simple (All)] or [Simple (Limitation)].

If you select [Simple (All)], you can print even with unauthenticated printer drivers or devices. Specify this setting if you want to print with a printer driver or device that cannot be identified by the printer or if you do not require authentication for printing. However, note that, because the printer does not require authentication in this case, it may be used by unauthorized users.

1. Select [Entire] or [Simple (All)].
2. Click [On] in the "Integration Server Authentication Settings" area.  
To not use secure sockets layer (SSL) for authentication, click [Off].
3. Enter the [Integration Server Name] box.
4. Select "Authentication Type" in the list.

If you set "Authentication Type" to [Windows Authentication (NT Compatible)] or [Windows Authentication (Native)], you can use the global group. If you set "Authentication Type" to [Notes Authentication], you can use the Notes group. If you set "Authentication Type" to [Basic Authentication (Integration Server)], you can use the groups created using the Authentication Manager.

5. Enter the [Domain Name] box.
6. When setting a new group, enter the group name in the blank area of the "Group Settings for Integration Server Authentication" box, and then specify the function.
7. Click [OK].
8. Click [Logout].
9. Close Web Image Monitor.

## Selecting Simple (Limitation)

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If you select [Simple (Limitation)], you can specify clients for which printer job authentication is not required. Specify [Parallel Interface (Simple)], [USB (Simple)] and the clients' IPv4 address range in which printer job authentication is not required. Specify this setting if you want to print using unauthenticated printer drivers or without any printer driver. Authentication is required for printing with non-specified devices.

- 1. Select [Simple (Limitation)] in the "Printer Job Authentication" list in the "Printer Job Authentication Settings" area.**

Specify the range in which [Simple (Limitation)] is applied to Printer Job Authentication.

If you specify IPv4 or IPv6 address range, proceed to step 2.

If you specify [Parallel Interface (Simple)], proceed to step 3.

If you specify [USB (Simple)], proceed to step 4.

- 2. Select [IPv4 Address 1], [IPv4 Address 2], [IPv4 Address 3], [IPv4 Address 4], or [IPv4 Address 5], and then enter the IPv4 address on the "Limitation Range (IPv4)" area.**

Be sure the number you enter for End IPv4 Address is larger than that for Start IPv4 Address.

If you want to use IPv6, specify the IPv6 address in the "Limitation Range (IPv6)" area.

- 3. Click [Apply] in the "Parallel Interface (Simple)" area.**

- 4. Click [Apply] in the "USB (Simple)" area.**

- 5. Click [On] in the "Integration Server Authentication Settings" area.**

To not use secure sockets layer (SSL) for authentication, click [Off].

- 6. Enter the [Integration Server Name] box.**

- 7. Select "Authentication Type" in the list.**

If you set "Authentication Type" to [Windows Authentication (NT Compatible)] or [Windows Authentication (Native)], you can use the global group. If you set "Authentication Type" to [Notes Authentication], you can use the Notes group. If you set "Authentication Type" to [Basic Authentication (Integration Server)], you can use the groups created using the Authentication Manager.

- 8. Enter the [Domain Name] box.**

- 9. When setting a new group, enter the group name in the blank area of the "Group Settings for Integration Server Authentication" box, and then specify the function.**

- 10. Click [OK].**

- 11. Click [Logout].**

- 12. Close Web Image Monitor.**

# Printer Job Authentication

This section explains Printer Job Authentication.

## Printer Job Authentication Levels and Printer Job Types

This section explains the relationship between printer job authentication levels and printer job types.

Depending on the combination of printer job authentication level and printer job type, the printer may not print properly. Set an appropriate combination according to the operating environment.

The PCL drivers support user authentication.

When User Authentication is set to "Off", printing is possible for all job types.

A: Printing is possible regardless of user authentication.

B: Printing is possible if user authentication is successful. If user authentication fails, the print job is reset.

C: Printing is possible if user authentication is successful and [Driver Encryption Key] for the printer driver and printer match.

X: Printing is not possible regardless of user authentication, and the print job is reset.

User Authentication Management	Specified	Specified	Specified	Specified
Printer Job Authentication	Simple (All)	Simple (All)	Entire	Entire
Simple Encryption	Off	On	Off	On
Printer Job Type 1	C	C	C	C
Printer Job Type 2	B	X	B	X
Printer Job Type 3	X	X	X	X
Printer Job Type 4	A	A	B	B
Printer Job Type 5	A	A	X	X
Printer Job Type 6	A	A	X	X
Printer Job Type 7	B	B	B	B

## Printer Job Authentication

- Entire

The printer authenticates all printer jobs and remote settings, and cancels jobs and settings that fail authentication.

Printer Jobs: Job Reset

Settings: Disabled

- Simple (All)

The printer authenticates printer jobs and remote settings that have authentication information, and cancels the jobs and settings that fail authentication.

Printer jobs and settings without authentication information are performed without being authenticated.

- Simple (Limitation)

You can specify the range to apply [Simple (Limitation)] to by specifying [Parallel Interface (Simple)], [USB (Simple)], and the client's IPv4 address.

3

### Printer Job Types

1. If the "User Authentication" and "With Encryption" check boxes are both selected in the PCL driver dialog box: Personal authentication information is added to the printer job. The printer driver applies advanced encryption to the login passwords. The printer driver encryption key enables driver encryption and prevents the login password from being stolen.  
For details about prohibiting the use of simple encryption using "Simple Encryption", see p. 129 "Specifying the Extended Security Functions".
2. If the "User Authentication" and "With Encryption" check boxes are both selected in the PCL driver dialog box: Personal authentication information is added to the printer job. The printer driver applies simple encryption to login passwords.  
For details about turning off "Simple Encryption" and allowing the use of simple encryption, see p. 129 "Specifying the Extended Security Functions".
3. If the "User Authentication" check box is not selected in the PCL driver dialog box: Personal authentication information is added to the printer job and the printer job is cancelled.
4. When using the PostScript 3 printer driver, the printer job contains user code information. Personal authentication information is not added to the printer job but the user code information is. This also applies to recovery/parallel printing using a PCL printer driver that does not support authentication.
5. When using the PostScript 3 printer driver, the printer job does not contain user code information. Neither personal authentication information nor user code information is added to the printer job. This also applies to recovery/parallel printing using a PCL printer driver that does not support authentication.
6. A printer job or PDF file is sent from a host computer without a printer driver and is printed via LPR. Personal authentication information is not added to the printer job.
7. A PDF file is printed via ftp. Personal authentication is performed using the user ID and password used for logging in via ftp. However, the user ID and password are not encrypted.

## User Lockout Function

If an incorrect password is entered several times, the User Lockout function prevents further login attempts under the same user name. Even if the locked out user enters the correct password later, authentication will fail and the printer cannot be used until the lockout period elapses or an administrator or supervisor disables the lockout.

To use the lockout function for user authentication, the authentication method must be set to Basic authentication. Under other authentication methods, the lockout function protects supervisor and administrator accounts only, not general user accounts.

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### Lockout setting items

The lockout function settings can be made using Web Image Monitor.

Setting Item	Description	Setting Values	Default Setting
Lockout	Specify whether or not to enable the lockout function.	<ul style="list-style-type: none"> <li>Active</li> <li>Inactive</li> </ul>	<ul style="list-style-type: none"> <li>Inactive</li> </ul>
Number of Attempts before Lockout	Specify the number of authentication attempts to allow before applying lockout.	1-10	5
Lockout Release Timer	Specify whether or not to cancel lockout after a specified period elapses.	<ul style="list-style-type: none"> <li>Active</li> <li>Inactive</li> </ul>	<ul style="list-style-type: none"> <li>Inactive</li> </ul>
Lock Out User for	Specify the number of minutes after which lockout is canceled.	1-9999 min.	60 min.

### Lockout release privileges

Administrators with unlocking privileges are as follows.

Locked out User	Unlocking administrator
general user	user administrator
user administrator, network administrator, file administrator, machine administrator	supervisor

Locked out User	Unlocking administrator
supervisor	machine administrator

## Specifying the user lockout function

This function can be specified by the machine administrator using Web Image Monitor.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

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1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area, and then click [User Lockout Policy] under "Security" category.
3. Set "Lockout" to [Active].
4. In the drop-down menu, select the number of login attempts to permit before lockout is applied.
5. If you want to disable lockout after a specified time elapses, set the "Lockout Release Timer" to [Active].
6. In the "Lock Out User for" field, enter the number of minutes that must elapse before lockout is disabled.
7. Click [OK].
8. Click [Logout].
9. Close Web Image Monitor.

## Unlocking a locked user account

A locked-out user account can be unlocked by the user administrator or a supervisor using Web Image Monitor. The following procedure explains this process.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Address Book] in the Menu area.
3. Select the account of the locked out user.
4. Click [Change].
5. Set "Lockout" to [Inactive].
6. Click [OK].

7. Click [Logout].

8. Close Web Image Monitor.

 **Note**

- To unlock a locked-out administrator or supervisor account, turn the printer's power switch off and then on again, or select [Program/Change Administrator] under [Configuration] in Web Image Monitor.



# Auto Logout Function

This can be specified by the machine administrator.

When user authentication is enabled, the printer automatically logs out the current user if the control panel is not used for a specified time. This feature is called "Auto Logout". Use the following procedure to specify how long the printer waits before it logs off the user.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. **Log in to Web Image Monitor as an administrator.**
2. **Click [Configuration] in the Menu area.**
3. **Click [Timer] in the "Device Settings" category.**
4. **Select [On] in the "Auto Logout Timer" category.**

Enter "60" to "999" (seconds) using the number keys, and then click [OK].

If you do not want to specify [Auto Logout Timer], select [Off].

5. **Click [OK].**
6. **Click [Logout].**
7. **Close Web Image Monitor.**

## ↓ Note

- The Auto Logout Timer might not function if printing stops due to error or paper/toner shortage.

## Authentication Using an External Device

To authenticate using an external device, see the device manual.

For details, contact your sales representative.

# 4. Protecting Data from Information Leaks

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This chapter describes how to protect document data.

## Printing a Confidential Document

Depending on the location of the printer, it is difficult to prevent unauthorized persons from viewing prints lying in the printer's output trays. When printing confidential documents, use the Locked Print function.

To use the Locked Print function, the optional hard disk must be installed.

### Locked Print

- Using the printer's Locked Print function, store files in the printer as Locked Print files and then print them from the control panel and retrieve them immediately, preventing others from viewing them.
- Confidential documents can be printed regardless of the User Authentication settings.

#### Note

- To store files temporarily, select [Stored Print] in the printer driver. If you select Share stored print files, you can also share these files.

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## Specifying a Locked Print File

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Using the printer driver, specify a Locked Print file.

If user authentication has been enabled, you must enter the login user name and login password using the printer driver. For details about logging in, see the printer driver Help.

Word Pad is used in this procedure.

- 1. Open the printer driver dialog box.**
- 2. Set "Job Type:" to [Locked Print] under the Printer Settings tab.**
- 3. Click [Details...].**
- 4. Enter the user ID and password.**

Enter the user ID using up to 8 alphanumeric characters.

Enter the password using 4 to 8 numbers.

The password entered here lets you use the Locked Print function.

To print a Locked Print file, enter the same password on the control panel.

The password is encrypted during data transmission.

- 5. Click [OK].**

6. Click [OK].
7. Print the locked document.

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## Printing a Locked Print File

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To print a Locked Print file, you must be at the printer and print the file using the control panel.

To print Locked Print files, the password is required. If you do not enter the correct password, you cannot print the files. The file administrator can change the user password if it is forgotten.

This can also be specified via Web Image Monitor. For details, see Web Image Monitor Help.

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1. On the printer's control panel, press [Prt.Jobs].
2. Press the [▲] or [▼] key to select [Locked Print Jobs], and then press [Job List].
3. Press the [▲] or [▼] key to select the file you want to print, and then press [Print].
4. Enter the password, and then press the [OK] key.

Enter the password specified in step 4 of "Specifying a Locked Print File".

A confirmation screen will appear if the password is not entered correctly. Press [Exit] to enter the password again.

If multiple print files are selected, the printer prints files that correspond to the entered password. The number of files to be printed is displayed on the confirmation screen.

5. Press [Print].

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## Deleting Locked Print Files

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This can be specified by the file creator (owner).

To delete Locked Print files, you must enter the password for the files. If the password has been forgotten, ask the file administrator to change the password.

This can also be specified via Web Image Monitor. For details, see Web Image Monitor Help.

1. Press [Prt.Jobs].
2. Press the [▲] or [▼] key to select [Locked Print Jobs], and then press [Job List].
3. Press the [▲] or [▼] key to select the file you want to delete, and then press [Delete].
4. Enter the password, and then press the [OK] key.

A confirmation screen will appear if the password is not entered correctly. Press [Exit] to enter the password again.

If multiple print files are selected, the printer deletes files that correspond to the entered password. The number of files to be deleted is displayed on the confirmation screen.

5. Press [Delete].

**Note**

- To delete the Locked Print files, enable "Auto Delete Temporary Jobs". For details about how to configure "Auto Delete Temporary Jobs", see Software Guide.
- Locked Print files can also be deleted by the file administrator.

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## Changing Passwords of Locked Print Files

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This can be specified by the file creator (owner) or file administrator.

If the password has been forgotten, the file administrator changes the password to restore access.

This can also be specified via Web Image Monitor. For details, see Web Image Monitor Help.

1. Press [Prt.Jobs].
2. Press the [▲] or [▼] key to select [Locked Print Jobs], and then press [Job List].
3. Press the [▲] or [▼] key to select the file you want to change the password, and then press [Change].
4. Enter the password, and then press the [OK] key.  
The file administrator does not need to enter the password.
5. Press the [▲] or [▼] key to select [Change Password], and then press the [OK] key.
6. Enter the password, and then press the [OK] key.
7. Re-enter the password, and then press the [OK] key.

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## Unlocking Locked Print Files

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If you specify [On] for [Enhance File Protection], the file will be locked and become inaccessible if an invalid password is entered ten times. This section explains how to unlock files.

[Enhance File Protection] is one of the extended security functions. For details about this and other extended security functions, see p.129 "Specifying the Extended Security Functions".

Only the file administrator can unlock files. For details about logging in and logging out with administrator authentication, see p.25 "Logging in Using Administrator Authentication", p.25 "Logging out Using Administrator Authentication".

This can also be specified via Web Image Monitor. For details, see Web Image Monitor Help.

1. Press [Prt.Jobs].
2. Press the [▲] or [▼] key to select [Locked Print Jobs], and then press [Job List].
3. Press the [▲] or [▼] key to select the file you want to unlock, and then press [Change].
4. Press the [▲] or [▼] key to select [Unlock Files], and then press the [OK] key.
5. Press [Unlock].

 **Note**

- You can use the same procedure to unlock stored print files also.

# 5. Securing Information Stored on the Hard Disk

This chapter describes how to prevent unauthorized viewing, access, or modification of information stored on the hard disk by using the security options of the printer.

## Protecting the Address Book

If user authentication is specified, the user who has logged in will be designated as the sender to prevent data from being sent by an unauthorized person masquerading as the user.

To protect the data from unauthorized reading, you can also encrypt the data in the Address Book.

### Address Book Access Permission

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This can be specified by the registered user. Access permission can also be specified by a user granted full control or the user administrator.

You can specify who is allowed to access the data in the Address Book.

By making this setting, you can prevent the data in the Address Book being used by unregistered users.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Address Book] in the Menu area.
3. Click the user you want to specify in the address list, and then click [Change].  
You can search using [Name], [Registration No.], or [User Code].
4. Click [Change] under "Access Privilege" in the "Protect Destination" section of the "Protection" area.
5. Specify the access permission, and then click [OK].
6. Click [OK].
7. Click [Back].
8. Click [Logout].
9. Close Web Image Monitor.

#### ↓ Note

- "Access Privilege" appears only when Basic Authentication, Windows Authentication, LDAP Authentication, or Integration Server Authentication is enabled.

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## Encrypting Data in the Address Book

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This can be specified by the user administrator.

You can encrypt the data in the Address Book using the extended security function, "Encrypt Address Book". For details about this and other extended security functions, see p.129 "Specifying the Extended Security Functions".

For details about logging in and logging out with administrator authentication, see p.25 "Logging in Using Administrator Authentication", p.25 "Logging out Using Administrator Authentication".

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Extended Security], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Encrypt Address Book], and then press the [OK] key.
5. Press the [▲] or [▼] key to select [On], and then press [Enc.Key].
6. Enter the encryption key, and then press the [OK] key.

Enter the encryption key using up to 32 alphanumeric characters.

7. Re-enter the encryption key, and then press the [OK] key.
8. Press [OK].

Do not switch the main power off during encryption, as doing so may corrupt the data.

Encrypting the data in the address book may take a long time.

The time it takes to encrypt the data in the address book depends on the number of registered users.

The printer cannot be used during encryption.

Normally, once encryption is complete, [Exit] appears.

If you press the [Escape] key during encryption, the data is not encrypted.

If you press the [Escape] key during decryption, the data stays encrypted.

9. Press [Exit].
10. Press the [Menu] key.

### ↓ Note

- If you register additional users after encrypting the data in the Address Book, those users are also encrypted.



# Encrypting Data on the Hard Disk

This function can be specified by the machine administrator only.

This function is available only when the optional hard disk and the SD card supplied with the hard disk are installed.

Prevent information leakage by encrypting the Address Book, authentication information, and stored documents as the data is written. In addition, if the printer malfunctions or needs to be replaced, your service representative can easily transfer existing data to a new printer.

When data encryption is enabled, an encryption key is generated and used to restore the data. This key can be changed at any time.

## Data that is Encrypted

This function encrypts data that is stored in the printer's NVRAM (memory that remains even after the printer has been turned off) and on the Hard Disk.

The following data is encrypted:

- Address Book data
- User authentication information
- Temporary stored documents
- Logs
- Network I/F setting information
- System settings information

### Note

- For details about installing the SD memory card options, see "Installing the SD Memory Card Options", Hardware Guide.

## Enabling the Encryption Settings

This can be specified by the machine administrator.

If you specify [Format] to enable encryption when first setting up the printer, the encryption setting procedure will take only several minutes. Note that all data stored on the hard disk will be initialized when this setting is specified.

The table below describes which data will be kept and which data will be initialized when [Format], [File Sys], or [All Data] is specified.

Setting	Data to be kept	Data not kept (Data to be initialized)	Required time
Format	None	All Data: Both the data to be kept and data not kept when [File Sys] is specified	Several minutes
File Sys	<ul style="list-style-type: none"> <li>Embedded Software Architecture applications' program/log</li> <li>Address Book</li> <li>Registered fonts</li> <li>Job logs/access logs</li> </ul>	<ul style="list-style-type: none"> <li>Stored documents (Locked Print files / Sample Print files / Stored Print files / Hold Print files)</li> </ul>	Approximately 1 hour
All Data	All Data: Both the data to be kept and data not kept when [File Sys] is specified	None	Approximately 3 hours

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### Things to note when enabling encryption settings

- If you use Embedded Software Architecture application, be sure to specify [File Sys] or [All Data].
- Note that the printer's settings will not be initialized to their system defaults even if [Format], [File Sys], or [All Data] is specified.

Use the following procedure to enable the encryption settings when first setting up the machine, or after encryption settings have been canceled and settings must be made again.

#### ★ Important

- The printer cannot be operated while data is being encrypted.
- Once the encryption process begins, it cannot be stopped. Make sure that the printer's main power is not turned off while the encryption process is in progress. If the printer's main power is turned off while the encryption process is in progress, the hard disk will be damaged and all data on it will be unusable.
- The encryption key is required for data recovery if the printer malfunctions. Be sure to store the encryption key safely for retrieving backup data.
- To specify encryption, first finish the control panel settings, and then turn the printer's power off. Then, after a few moments, turn the power back on. This will reset the printer and make the encryption settings available.

- If there is unencrypted data on the hard disk that must be both transferred and encrypted, rebooting will take about three hours. If there is encrypted data on the hard disk that must be re-encrypted, rebooting will take about six hours.
- If encryption and hard disk overwrite erasure are specified at the same time, when the overwrite erasure is complete, turn the printer's power off. Then, after a few moments, turn the power back on. Encryption will then begin.
- You can start the printer in less time by setting encryption to [Format] but data will not be carried over to the hard disk and will be reset back to the default states, so make sure to backup all necessary data beforehand.
- If you want to specify encryption of unencrypted data with erase-by-overwrite, select [Random Numbers] as the overwrite method, and set the number of overwrites to 3 times. The entire process will take about four hours. If you specify re-encryption of encrypted data, the entire process will take about seven hours.
- The "Erase All Memory" function also clears the printer's security settings, with the result that afterward, neither printer nor user administration will be effective. Ensure that users do not save any data on the printer after "Erase All Memory" has completed.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Machine Data Encryption], and then press the [OK] key.
4. Make sure [Encrypt] is displayed on the control panel, and then press the [OK] key.
5. Select the data to be carried over to the hard disk and not be reset.

To carry all of the data over to the hard disk, press [All Data]. To carry over only the printer settings data, press [File Sys]. To reset all of the data, press [Format].

6. Press [Print].
7. Press [Continue].
8. Press [Exit].
9. Press the [Menu] key.

Turn off the main power switch, and then turn the main power switch back on.

For details about turning off the power, see "Turning the Printer's Power On and Off", Hardware Guide.

---

## Printing the Encryption Key

---

This can be specified by the machine administrator.

Use the following procedure to print the key again if it has been lost or misplaced.

**★ Important**

- The encryption key is required for data recovery if the printer malfunctions. Be sure to store the encryption key safely for retrieving backup data.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Machine Data Encryption], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Print Encryption Key], and then press the [OK] key.
5. Press [Print].
6. Press [Exit].

---

## Updating the Encryption Key

---

**5**

This can be specified by the machine administrator.

You can update the encryption key and create a new key. Updating the encryption key is possible only when the printer is functioning normally and data encryption is enabled.

**★ Important**

- The encryption key is required for recovery if the printer malfunctions. Be sure to store the encryption key safely for retrieving backup data.
- When the encryption key is updated, encryption is performed using the new key. After completing the procedure on the printer's control panel, turn off the power and restart the printer to enable the new settings. Restarting can be slow when there is data to be carried over to the hard disk.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Machine Data Encryption], and then press the [OK] key.
4. Make sure [Encrypt] is displayed on the control panel, and then press the [OK] key.
5. Select the data to be carried over to the hard disk and not be reset.

To carry all of the data over to the hard disk, press [All Data]. To carry over only the printer settings data, press [File Sys]. To reset all of the data, press [Format].

6. Press [Print].
7. Press [Continue].
8. Press [Exit].
9. Press the [Menu] key.

Turn off the main power switch, and then turn the main power switch back on.

For details about turning off the power, see "Turning the Printer's Power On and Off", Hardware Guide.

---

## Canceling Data Encryption

---

This can be specified by the machine administrator.

Use the following procedure to cancel the encryption settings when encryption is no longer necessary.

### ★ Important

- After completing this procedure on the printer's control panel, turn off the power and restart the printer to enable the new settings. Restarting can be slow when there is data to be carried over to the hard disk.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Machine Data Encryption], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Cancel Encryption], and then press the [OK] key.
5. Select the data to be carried over to the hard disk and not be reset.

To carry all of the data over to the hard disk, press [All Data]. To carry over only the printer settings data, press [File Sys]. To reset all of the data, press [Format].

6. Press [Print].

The encryption key for backup data is printed.

7. Press [Continue].

8. Press [Exit].

9. Press the [Menu] key.

Turn off the main power switch, and then turn the main power switch back on.

For details about turning off the power, see "Turning the Printer's Power On and Off", Hardware Guide.

## Deleting Data on the Hard Disk

This can be specified by the machine administrator.

This function is available only when the optional hard disk and the SD card supplied with the hard disk are installed.

To use this function, the optional Data overwrite security unit must be installed.

The printer's hard disk stores all the data of documents processed using the printer function. It also stores code counter, and Address Book data.

### Overwriting Data on the Hard Disk

You can prevent data leakage by automatically overwriting temporarily saved data (Auto Erase Memory) or overwriting all the data stored on the hard disk (Erase All Memory).

5

#### Auto Erase Memory Setting

To erase data on the hard disk by job type, specify [Auto Erase Memory Setting].

#### Erase All Memory

To erase all the data on the hard disk at once, specify [Erase All Memory].

#### Methods of Erasing the Data

You can select the method of erasing the data from the following:

The factory default is ""Random Numbers"" with the number of overwrites set to 3 times.

NSA (National Security Agency)	Overwrites the data on the hard disk twice with random numbers and once with zeros.
DoD (Department of Defense)	Overwrites the data with a number, its complement, and random numbers, and then checks the result.
Random Numbers	Overwrites the data with random numbers the specified number of times. You can specify between 1 and 9 as the number of times the data is overwritten with random numbers.

#### ↓ Note

- Depending on the amount of data and the erasure method, full erasure might take several hours.
- Once in progress, the Erase All Memory function can be paused, but not stopped. No other operations are possible until all data is erased.

- Even if there are hold print, stored print, confidential print, or test print jobs remaining on the hard disk, the "No Remaining Data" icon will still be lit after erasure is completed.
- For details about installing the SD memory card options, see "Installing the SD Memory Card Options", Hardware Guide.

## Auto Erase Memory

A print data sent from a printer driver is temporarily stored on the printer's hard disk. Even after the job is completed, it remains in the hard disk as temporary data. Auto Erase Memory erases the temporary data on the hard disk by writing over it.

Overwriting starts automatically once the job is completed.

If a print job is in progress, overwriting will only be done after the job is completed.

## Using Auto Erase Memory

This can be specified by the machine administrator.

For details about logging in and logging out with administrator authentication, see p.25 "Logging in Using Administrator Authentication", p.25 "Logging out Using Administrator Authentication".

### ★ Important

- When Auto Erase Memory is set to [On], temporary data that remained on the hard disk when Auto Erase Memory was set to [Off] might not be overwritten.
- If the main power switch is turned off before Auto Erase Memory is completed, overwriting will stop and data will be left on the hard disk.
- Do not stop the overwrite mid-process. Doing so will damage the hard disk.
- Should the main power switch be turned off before Auto Erase Memory is completed, overwriting will continue once the main power switch is turned back to [On].

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Auto Erase Memory Setting], and then press the [OK] key.

4. Press the [▲] or [▼] key to select [On], and then press [HDD Erase].

Select the method of erasing the data from [NSA], [DoD], or [Random Numbers].

If you select [Random Numbers], proceed to step 5.

If you select [NSA], proceed to step 7.

If you select [DoD], proceed to step 8.

5. Press the [▲] or [▼] key to select [Random Numbers], and then press the [OK] key.

6. Enter the number of times that you want to overwrite using the [▲] or [▼] keys, and then press the [OK] key.

Proceed to step 9.

7. Press the [▲] or [▼] key to select [NSA], and then press the [OK] key.

Proceed to step 9.

8. Press the [▲] or [▼] key to select [DoD], and then press the [OK] key.

9. Press the [Menu] key.

#### ↓ Note

- If an error occurs before overwriting is completed, turn off the main power. Turn it on again, and then repeat from step 1.
- If you specify both overwrite and encryption, all the data will be encrypted.

## 5

### Canceling Auto Erase Memory

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This can be specified by the machine administrator.

Use the following procedure to disable the Auto Erase Memory function.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Auto Erase Memory Setting], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Off], and then press the [OK] key.

### Types of Data that can or cannot be overwritten

---

The following table shows the types of data that can or cannot be overwritten by "Auto Erase Memory".

#### Data Overwritten by Auto Erase Memory

- Print Jobs
- Sample Print / Locked Print / Stored Print Jobs

A Sample Print, Locked Print, or Stored Print job can only be overwritten after printing is completed. Stored print jobs can be overwritten by Auto Erase Memory only if they have been deleted in advance.

- Spool Printing jobs

#### Data not Overwritten by Auto Erase Memory

- Information registered in the Address Book

Data stored in the Address Book can be encrypted for security. For details, see p.61 "Protecting the Address Book".



- Counters stored under each user code

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## Erase All Memory

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This can be specified by the machine administrator.

You can erase all the data on the hard disk by writing over it. This is useful if you relocate or dispose of your printer.

### ★ Important

- If you select [Erase All Memory], the following are also deleted: user codes, counters under each user code, user stamps, data stored in the Address Book, printer fonts downloaded by users, applications using Embedded Software Architecture, and the printer's network settings.
- If the main power switch is turned off before Auto Erase Memory is completed, overwriting will be stopped and data will be left on the hard disk.
- Do not stop the overwrite mid-process. Doing so will damage the hard disk.
- We recommend that before you erase the hard disk, you use SmartDeviceMonitor for Admin to back up the user codes, the counters for each user code, and the Address Book. The Address Book can also be backed up using Web Image Monitor. For details, see SmartDeviceMonitor for Admin Help or Web Image Monitor Help.
- Other than pausing, no operations are possible during the [Erase All Memory] process. If [Random Numbers] is specified and the number of overwrites set to "3", the erase process will take about three hours.

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## Using Erase All Memory

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This can be specified by the machine administrator.

For details about logging in and logging out with administrator authentication, see p.25 "Logging in Using Administrator Authentication", p.25 "Logging out Using Administrator Authentication".

1. Disconnect communication cables connected to the printer.
2. Press the [Menu] key.
3. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Erase All Memory], and then press the [OK] key.
5. Select the method of erasing the data.

Select the method of erasing the data from [NSA], [DoD], or [Random Numbers].

If you select [Random Numbers], proceed to step 6.

If you select [NSA], proceed to step 8.

If you select [DoD], proceed to step 9.

6. Press the [▲] or [▼] key to select [Random Numbers], and then press the [OK] key.
7. Press the [▲] or [▼] key to enter the number of times that you want to overwrite, and then press the [OK] key.  
Proceed to step 10.
8. Press the [▲] or [▼] key to select [NSA], and then press the [OK] key.  
Proceed to step 10.
9. Press the [▲] or [▼] key to select [DoD], and then press the [OK] key.
10. When overwriting is completed, press [Exit], and then turn off the power.

**Note**

- Should the main power switch be turned Off before Auto Erase Memory is completed, overwriting will continue once the main power switch is turned back to [On].
- If an error occurs before overwriting is completed, turn off the main power. Turn it on again, and then repeat from step 2.
- If you specify both overwrite and encrypt the data, the data will all be encrypted.

5

### Suspending Erase All Memory

---

This can be specified by the machine administrator.

The overwriting process can be suspended temporarily.

**Important**

- Erase All Memory cannot be cancelled.
1. Press [Suspend] while Erase All Memory is in progress.
  2. Press [Yes].
  3. Turn off the main power.

**Note**

- To resume overwriting, turn on the main power.

# 6. Managing Access to the Printer

This chapter describes how to prevent unauthorized access to and modification of the printer's settings.

## Preventing Changes to Printer Settings

The administrator type determines which printer settings can be modified. Users cannot change the administrator settings.

Register the administrators before using the printer. For instructions on registering the administrator, see p.21 "About Administrator Authentication".

### Type of Administrator

Register the administrator on the printer, and then authenticate the administrator using the administrator's login user name and password. Administrator type determines which printer settings can be modified. The following administrator types are available:

- User Administrator

For a list of settings that the user administrator can specify, see p.145 "User Administrator Settings".

- Machine Administrator

For a list of settings that the machine administrator can specify, see p.146 "Machine Administrator Settings".

- Network Administrator

For a list of settings that the network administrator can specify, see p.150 "Network Administrator Settings".

- File Administrator

For a list of settings that the file administrator can specify, see p.153 "File Administrator Settings".

### Menu Protect

Use this function to specify permission levels limiting user access to menu settings.

For a list of settings that users can specify according to the Menu Protect level, see p.157 "User Settings-Control Panel Settings", p.160 "User Settings-Web Image Monitor Settings".

## Menu Protect

The administrator can also limit users' access permission to the printer's settings. The printer's regular menus can be locked so they cannot be changed. This function is also effective when management is not based on user authentication. For a list of settings that users can specify according to the Menu Protect level, see p.157 "User Settings-Control Panel Settings".

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### Specifying Menu Protect

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This can be specified by the machine administrator.

For details about logging in and logging out with administrator authentication, see p.25 "Logging in Using Administrator Authentication", p.25 "Logging out Using Administrator Authentication".

You can set menu protect to [Level 1] or [Level 2]. To limit access to the fullest extent, select [Level 2].

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Maintenance], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [General Settings], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Menu Protect], and then press the [OK] key.
5. Press the [▲] or [▼] key to select the menu protect level, and then press the [OK] key.
6. Press the [Menu] key.

---

### Disabling Menu Protect

---

This can be specified by the machine administrator.

Use the following procedure to disable menu protection. Note that if you disable menu protection (by specifying Off for this setting), all menu settings will become available to all users.

For details about how to log in and out with administrator authentication, see p.25 "Logging in Using Administrator Authentication" and p.25 "Logging out Using Administrator Authentication".

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Maintenance], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [General Settings], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Menu Protect], and then press the [OK] key.
5. Press the [▲] or [▼] key to select [OFF], and then press the [OK] key.
6. Press the [Menu] key.

# Limiting Available Functions

To prevent unauthorized operation, you can specify who is allowed to access each of the printer's functions.

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## Specifying Which Functions Are Available

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This can be specified by the user administrator.

Specify the functions available to registered users. By making this setting, you can limit the functions available to users.

For details about logging in and logging out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Address Book].
3. Click the user you want to specify in the address list, and then click [Change].  
You can search using [Name], [Registration No.], or [User Code].
4. Specify the [Available Functions], and then click [OK].
5. Click [Logout].
6. Close Web Image Monitor.

## Managing Log Files

The printer stores log information in its memory or on the hard disk.

Log information can be checked using Remote Communication Gate S.

Here are some primary examples of stored log information:

- Job log  
Stores information about workflow related to user files.
- Access log  
Stores information about access, such as logging in and out, creating and deleting files, administrator procedures, and service representative procedures.  
Administrator procedures include deleting all log information, changing the Job Log function settings, changing the Access Log function settings, and changing the Log Encryption settings.  
Service representative procedures include formatting the hard disk and specifying whether or not to store job logs and access logs.

### 6

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## Using the Control Panel to Specify Log Files Settings

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This can be specified by the machine administrator.

For details about logging in and logging out with administrator authentication, see "Logging in Using Administrator Authentication" and "Logging out Using Administrator Authentication".

You can specify settings such as whether or not to transfer logs to Remote Communication Gate S and whether or not to delete all logs.

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## Disabling log transfer to Remote Communication Gate S

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The machine administrator can select [On] from Remote Communication Gate S only.

When using the printer's control panel, you can change the setting to [Off] only if it is set to [On].

You can check and change the transfer log setting. This setting lets you transfer log files to Remote Communication Gate S to check the history data and identify unauthorized access.

For details about Remote Communication Gate S, contact your sales representative.

For details about the transfer log setting, see Remote Communication Gate S Help.

For details about logging in and logging out with administrator authentication, see p.25 "Logging in Using Administrator Authentication", p.25 "Logging out Using Administrator Authentication".

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Transfer Log Setting], and then press the [OK] key.

4. Press the [▲] or [▼] key to select [Off], and then press the [OK] key.

5. Press the [Menu] key.

#### ↓ Note

- The machine administrator can enable the setting again through the log collection server. In addition, the machine administrator can check or change the transfer log setting. For details about the transfer log setting, see log collection server help.
- When this setting is enabled, the printer transfers log information to the log collection server. Using this information, it becomes possible to identify unauthorized access.
- It is not possible to enable this setting from the printer's control panel or Web Image Monitor.
- For details about log collection server, contact your local dealer.

## Using Remote Communication Gate S to Manage Log Files

For details about using Remote Communication Gate S to manage log files, see the manual supplied with Remote Communication Gate S.

6

## Using Web Image Monitor to Manage Log Files

This can be specified by the machine administrator.

You can specify the types of log recording and collection level, perform log encryption, and delete all logs.

### Specifying log collect settings

This can be specified by the machine administrator.

Specify collection log settings. The collection log levels are listed below.

#### Job Log Collect Level

Level 1

User Settings

#### Access Log Collect Level

Level 1

Level 2

User Settings

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.

2. Click **[Configuration]** in the Menu area, and then click **[Logs]** under "Device Settings" category.
3. Select "Collect Job Logs" to specify Job Log settings, or select "Collect Access Logs" to specify Access Log settings, and then select **[Active]**.
4. Specify the recording levels for either "Job Log Collect Level" or "Access Log Collect Level".

The settings shown for Job Log Collect Settings Listed by Function Type or Access Log Collect Settings Listed by Function Type vary depending on the collection level selected.

If you change the setting in the list, the setting for "Job Log Collect Level" or "Access Log Collect Level" automatically changes to [User Settings].

5. Click **[OK]** twice.

Changes are also reflected in related log settings.

6. Click **[Logout]**.

7. Close Web Image Monitor.

**Note**

- The greater the Access Log Collect setting value, the more logs are collected.

6

## Disabling log transfer to Remote Communication Gate S

---

This can be specified by the machine administrator.

Select to disable log transfer.

When log transfer is inactive, [Inactive] is displayed and this setting cannot be changed. When log transfer is active, log records can be transferred to the log collection system.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click **[Configuration]** in the Menu area, and then click **[Logs]** under "Device Settings" category.
3. Select **[Inactive]** under "Transfer Logs".
4. Click **[OK]**.
5. Click **[OK]**.
6. Click **[Logout]**.
7. Close Web Image Monitor.

## Specifying log encryption

---

This can be specified by the machine administrator.



Use the following procedure to enable the log encryption function.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. **Log in to Web Image Monitor as an administrator.**
2. **Click [Configuration] in the Menu area, and then click [Logs] under "Device Settings" category.**
3. **Select [Active] under "Encrypt Logs".**

To disable log encryption, select [Inactive].

4. **Click [OK].**

The log is encrypted. If other changes have been made in related log settings, they will occur at the same time.

5. **Click [OK].**

6. **Click [Logout].**

7. **Close Web Image Monitor.**

#### ↓ Note

- In order to enable encryption, either "Collect Job Logs" or "Collect Access Logs", or both must be set to [Active].

## Deleting all logs

This can be specified by the machine administrator.

Use the following procedure to enable the log delete function.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. **Log in to Web Image Monitor as an administrator.**
2. **Click [Configuration] in the Menu area, and then click [Logs] under "Device Settings" category.**
3. **Click [Delete] under "Delete All Logs".**
4. **Click [Back].**
5. **Click [OK].**
6. **Click [Logout].**
7. **Close Web Image Monitor.**

#### ↓ Note

- On this page, "Delete All Logs" does not appear if either "Collect Job Logs" or "Collect Access Logs" are not set to [Active].

## Downloading logs

---

This can be specified by the machine administrator.

Use the following procedure to convert the logs stored in the machine into a CSV file for simultaneous batch download.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. **Log in to Web Image Monitor as an administrator.**
2. **Click [Configuration] in the Menu area, and then click [Download Logs].**
3. **Click [Download].**
4. **Specify the folder in which you want to save the file.**
5. **Click [OK].**
6. **Click [Logout].**
7. **Close Web Image Monitor.**

### ↓ Note

- Downloaded logs contain data recorded up till the time you click the [Download] button. Any logs recorded after the [Download] button is clicked will not be downloaded. The "Result" field of the log entry for uncompleted jobs will be blank.
- Download time may vary depending on the number of logs.
- If an error occurs while the CSV file is downloading or being created, the download is cancelled and details of the error are included at the end of the file.
- If a log is downloaded successfully, "Download completed." will appear in the last line of the log file.
- For details about saving CSV log files, see your browser's Help.
- Downloaded log files use UTF-8 character encoding. To view a log file, open it using an application that supports UTF-8.
- To collect logs, set "Collect Job Logs" and "Collect Access Logs" to [Active]. This setting can be specified in [Logs] under [Configuration] in Web Image Monitor.

# 7. Enhanced Network Security

This chapter describes how to increase security over the network using the printer's functions.

## Preventing Unauthorized Access

You can limit IP addresses, disable ports and protocols, or use Web Image Monitor to specify the network security level to prevent unauthorized access over the network and protect the Address Book, stored files, and default settings.

### Access Control

This can be specified by the network administrator using Web Image Monitor.

For details, see Web Image Monitor Help.

The printer can control TCP/IP access.

Limit the IP addresses from which access is possible by specifying the access control range.

For example, if you specify the access control range as [192.168.15.16]-[192.168.15.20], the client PC addresses from which access is possible will be from [192.168.15.16] to [192.168.15.20].

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

#### Important

- Using access control, you can limit access involving LPR, RCP/RSH, FTP, SSH/SFTP, Bonjour, SMB, WSD (Device), WSD (Printer), IPP, DIPRINT, RHPP, IPDS, Web Image Monitor, SmartDeviceMonitor for Client or DeskTopBinder.
- You cannot limit the monitoring of SmartDeviceMonitor for Client.
- You cannot limit access involving telnet, or SmartDeviceMonitor for Admin, when using the SNMPv1 monitoring.

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area, and then click [Access Control] under "Security" category.
3. To specify the IPv4 Address, enter an IP address that has access to the printer in "Access Control Range".

To specify the IPv6 Address, enter an IP address that has access to the printer in "Range" under "Access Control Range", or enter an IP address in "Mask" and specify the "Mask Length".

4. Click [OK].
5. Click [OK].

6. Click [Logout].

7. Close Web Image Monitor.

## Enabling and Disabling Protocols

This can be specified by the network administrator.

Specify whether to enable or disable the function for each protocol. By making this setting, you can specify which protocols are available and so prevent unauthorized access over the network.

Network settings can be specified on the control panel, or using Web Image Monitor, telnet, SmartDeviceMonitor for Admin or Remote Communication Gate S. If you use SmartDeviceMonitor for Admin, start Web Image Monitor from SmartDeviceMonitor for Admin and configure the settings from there. For details about making settings using SmartDeviceMonitor for Admin or Remote Communication Gate S, see the Help for each application. For details about making settings using telnet, see "Remote Maintenance Using telnet", UNIX Supplement.

To disable SMTP on Web Image Monitor, in E-mail settings, set the protocol to anything other than SMTP. For details, see Web Image Monitor Help.

For details about logging in and logging out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication", p.25 "Logging in Using Administrator Authentication", p.25 "Logging out Using Administrator Authentication".

7

Protocol	Port	Setting Method	Disabled Condition
IPv4	-	<ul style="list-style-type: none"> <li>Control Panel</li> <li>Web Image Monitor</li> <li>telnet</li> <li>SmartDeviceMonitor for Admin</li> <li>Remote Communication Gate S</li> </ul>	<p>All applications that operate over IP cannot be used.</p> <p>If you are using IPv4, it cannot be disabled on Web Image Monitor.</p>
IPv6	-	<ul style="list-style-type: none"> <li>Control Panel</li> <li>Web Image Monitor</li> <li>telnet</li> <li>SmartDeviceMonitor for Admin</li> <li>Remote Communication Gate S</li> </ul>	<p>All applications that operate over IPv6 cannot be used.</p>

Protocol	Port	Setting Method	Disabled Condition
IPsec	-	<ul style="list-style-type: none"> <li>Control Panel</li> <li>Web Image Monitor</li> <li>telnet</li> </ul>	Encrypted transmission using IPsec is disabled.
FTP	TCP:21	<ul style="list-style-type: none"> <li>Web Image Monitor</li> <li>telnet</li> <li>SmartDeviceMonitor for Admin</li> <li>Remote Communication Gate S</li> </ul>	<p>Functions that require FTP cannot be used.</p> <p>You can restrict personal information from being displayed by making settings on the control panel using "Restrict User Info.Display". *1</p>
ssh/sftp	TCP:22 (variable)	<ul style="list-style-type: none"> <li>Web Image Monitor</li> <li>telnet</li> <li>SmartDeviceMonitor for Admin</li> <li>Remote Communication Gate S</li> </ul>	<p>Functions that require sftp cannot be used.</p> <p>You can restrict personal information from being displayed by making settings on the control panel using "Restrict User Info.Display". *1</p>
telnet	TCP:23	<ul style="list-style-type: none"> <li>Web Image Monitor</li> <li>SmartDeviceMonitor for Admin</li> </ul>	Commands using telnet are disabled.
SMTP	TCP:25 (variable)	<ul style="list-style-type: none"> <li>Web Image Monitor</li> <li>SmartDeviceMonitor for Admin</li> <li>Remote Communication Gate S</li> </ul>	E-mail notification functions that require SMTP reception cannot be used.
HTTP	TCP:80	<ul style="list-style-type: none"> <li>Web Image Monitor</li> <li>telnet</li> <li>SmartDeviceMonitor for Admin</li> </ul>	<p>Functions that require HTTP cannot be used.</p> <p>IPP printing through TCP port 80 will be disabled.</p>

Protocol	Port	Setting Method	Disabled Condition
HTTPS	TCP:443	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> </ul>	<p>Functions that require HTTPS cannot be used.</p> <p>@Remote functions are unavailable.</p> <p>You can also make settings to require SSL transmission using the control panel or Web Image Monitor.</p>
SMB	TCP:139	<ul style="list-style-type: none"> <li>• Control Panel</li> <li>• Web Image Monitor</li> <li>• SmartDeviceMonitor for Admin</li> <li>• telnet</li> <li>• Remote Communication Gate S</li> </ul>	<p>SMB printing functions cannot be used.</p>
NBT (NetBIOS over TCP/IPv4)	UDP:137 UDP:138	<ul style="list-style-type: none"> <li>• telnet</li> </ul>	<p>SMB printing functions via TCP/IP, as well as NetBIOS designated functions on the WINS server cannot be used.</p>
SNMPv1,v2	UDP:161	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> <li>• Remote Communication Gate S</li> </ul>	<p>Functions that require SNMPv1, v2 cannot be used.</p> <p>Using the control panel, Web Image Monitor or telnet, you can specify that SNMPv1, v2 settings are read-only, and cannot be edited.</p>

Protocol	Port	Setting Method	Disabled Condition
SNMPv3	UDP:161	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> <li>• Remote Communication Gate S</li> </ul>	<p>Functions that require SNMPv3 cannot be used.</p> <p>You can also make settings to require SNMPv3 encrypted transmission and restrict the use of other transmission methods using the control panel, Web Image Monitor, or telnet.</p>
RSH/RCP	TCP:514	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> <li>• Remote Communication Gate S</li> </ul>	<p>Functions that require RSH/RCP cannot be used.</p> <p>You can restrict personal information from being displayed by making settings on the control panel using "Restrict User Info.Display". *1</p>
LPR	TCP:515	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> <li>• Remote Communication Gate S</li> </ul>	<p>LPR functions cannot be used.</p> <p>You can restrict personal information from being displayed by making settings on the control panel using "Restrict User Info.Display". *1</p>
IPP	TCP:631	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> <li>• Remote Communication Gate S</li> </ul>	<p>IPP functions cannot be used.</p>

Protocol	Port	Setting Method	Disabled Condition
SSDP	UDP:1900	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> </ul>	Device discovery using UPnP from Windows cannot be used.
Bonjour	UDP:5353	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> </ul>	Bonjour functions cannot be used.
@Remote	TCP:7443 TCP:7444	<ul style="list-style-type: none"> <li>• telnet</li> </ul>	@Remote cannot be used.
DIPRINT	TCP:9100	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> <li>• Remote Communication Gate S</li> </ul>	DIPRINT functions cannot be used.
RFU	TCP:10021	<ul style="list-style-type: none"> <li>• telnet</li> </ul>	Printer firmware can be updated via FTP.
NetWare	(IPX/SPX)	<ul style="list-style-type: none"> <li>• Control Panel</li> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> <li>• Remote Communication Gate S</li> </ul>	Print jobs cannot be sent using NetWare. SNMP over IPX cannot be used.
AppleTalk	(PAP)	<ul style="list-style-type: none"> <li>• Control Panel</li> <li>• Web Image Monitor</li> </ul>	Print jobs cannot be sent using AppleTalk.



Protocol	Port	Setting Method	Disabled Condition
WSD (Device)	TCP:53000 (variable)	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> <li>• Remote Communication Gate S</li> </ul>	WSD (Device) functions cannot be used.
WSD (Printer)	TCP:53001 (variable)	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> <li>• SmartDeviceMonitor for Admin</li> <li>• Remote Communication Gate S</li> </ul>	WSD (Printer) functions cannot be used.
RHPP	TCP:59100 (variable)	<ul style="list-style-type: none"> <li>• Web Image Monitor</li> <li>• telnet</li> </ul>	RHPP functions cannot be used.

\* 1 "Restrict User Info.Display" is one of the Extended Security features. For details about making this setting, see p.129 "Specifying the Extended Security Functions".

## Enabling and disabling protocols using the control panel

This can be specified by the network administrator.

Use the following procedure to enable or disable each protocol using the control panel.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Host Interface], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Network], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Effective Protocol], and then press the [OK] key.
5. Select the protocol you want to disable, and then press the [OK] key.
6. Press the [▲] or [▼] key to select [Inactive], and then press the [OK] key.
7. Press the [Menu] key.

## Enabling and disabling protocols using Web Image Monitor

This can be specified by the network administrator.

Use the following procedure to enable or disable each protocol from Web Image Monitor.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area, and then click [Network Security] under "Security" category.
3. Set the desired protocols to active/inactive (or open/close).
4. Click [OK].
5. Click [OK].
6. Click [Logout].
7. Close Web Image Monitor.

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## Specifying Network Security Level

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This can be specified by the network administrator.

This setting lets you change the security level to limit unauthorized access. You can make network security level settings on the control panel, as well as Web Image Monitor. However, the protocols that can be specified differ.

7

Set the security level to [Level 0], [Level 1], or [Level 2].

Select [Level 2] for maximum security to protect confidential information. Make this setting when it is necessary to protect confidential information from outside threats.

Select [Level 1] for moderate security to protect important information. Use this setting if the printer is connected to the office local area network (LAN).

Select [Level 0] for easy use of all the features. Use this setting when you have no information that needs to be protected from outside threats.

For details about logging in and logging out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication", p.25 "Logging in Using Administrator Authentication", p.25 "Logging out Using Administrator Authentication".

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## Specifying Network Security Level using the control panel

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This can be specified by the network administrator.

Use the following procedure to specify the Network Security Level settings using the control panel.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Network Security Level], and then press the [OK] key.

4. Press the [▲] or [▼] key to select [Level 0], [Level 1], or [Level 2], and then press the [OK] key.
5. Press the [Menu] key.

## Specifying Network Security Level using Web Image Monitor

This can be specified by the network administrator.

Use the following procedure to specify the Network Level setting from Web Image Monitor.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area, and then click [Network Security] under "Security" category.
3. Select the network security level in "Security Level".
4. Click [OK].
5. Click [OK].
6. Click [Logout].
7. Close Web Image Monitor.

## Status of functions under each Network Security Level

The following tables show the effects the different network security levels have on each function.

### TCP/IP\*1

Function	Level 0	Level 1	Level 2
TCP/IP*2	Active	Active	Active
HTTP> Port 80	Open	Open	Open
IPP> Port 80	Open	Open	Open
IPP> Port 631	Open	Open	Close
SSL> Port 443	Open	Open	Open
SSL> Permit SSL/TLS Communication	Ciphertext Priority	Ciphertext Priority	Ciphertext Only
SSL/TLS version> SSL2.0*2	Active	Active	Active

Function	Level 0	Level 1	Level 2
SSL/TLS version> SSL3.0 <sup>*2</sup>	Active	Active	Active
SSL/TLS version> TLS <sup>*2</sup>	Active	Active	Active
Encryption Strength Setting> AES <sup>*2</sup>	Active	Active	Active
Encryption Strength Setting> 3DES <sup>*2</sup>	Active	Active	Active
Encryption Strength Setting> DES <sup>*2</sup>	Active	Active	Active
Encryption Strength Setting> RC4 <sup>*2</sup>	Active	Active	Active
Encryption Strength Setting> RC2 <sup>*2</sup>	Active	Active	Active
DIPRINT	Active	Active	Inactive
LPR	Active	Active	Inactive
FTP	Active	Active	Active
sftp	Active	Active	Active
ssh	Active	Active	Active
RSH/RCP	Active	Active	Inactive
TELNET	Active	Inactive	Inactive
Bonjour	Active	Active	Inactive
SSDP	Active	Active	Inactive
SMB	Active	Active	Inactive
NetBIOS over TCP/IPv4	Active	Active	Inactive
WSD (Device)	Active	Active	Inactive
WSD (Printer)	Active	Active	Inactive
RHPP	Active	Active	Inactive

**NetWare<sup>\*3</sup>**

Function	Level 0	Level 1	Level 2
NetWare	Active	Active	Inactive

## AppleTalk

Function	Level 0	Level 1	Level 2
AppleTalk	Active	Active	Inactive

## SNMP

Function	Level 0	Level 1	Level 2
SNMP	Active	Active	Active
Permit Settings by SNMPv1 and v2	On	Off	Off
SNMPv1,v2 Function	Active	Active	Inactive
SNMPv3 Function	Active	Active	Active
Permit SNMPv3 Communication	Encryption/ Cleartext	Encryption/ Cleartext	Encryption Only

- \*1 The same settings are applied to IPv4 and IPv6.
- \*2 This setting is not governed by the security level. Manually specify whether to activate or inactivate this setting.
- \*3 If NetWare is not used on your network, the above settings are not applicable.

# Encrypting Transmitted Passwords

We recommend you use one or more of the following security protocols: IPsec, SNMPv3, and SSL. Using these protocols can enhance your machine's security to make login and IPP authentication passwords harder to break.

Also, encrypt the login password for administrator authentication and user authentication.

## Driver Encryption Key

Encrypt the password transmitted when specifying user authentication.

To encrypt the login password, specify the driver encryption key on the printer and on the printer driver installed in the user's computer.

## Password for IPP Authentication

To encrypt the IPP Authentication password on Web Image Monitor, set "Authentication" to [DIGEST], and then specify the IPP Authentication password set on the printer.

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## Specifying a Driver Encryption Key

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This can be specified by the network administrator.

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Specify the driver encryption key on the printer.

You can enhance security to make login passwords harder to break.

For details about logging in and logging out with administrator authentication, see p.25 "Logging in Using Administrator Authentication", p.25 "Logging out Using Administrator Authentication".

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Extended Security], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Driver Encryption Key], and then press the [OK] key.
5. Enter the driver encryption key, and then press the [OK] key.

Enter the driver encryption key using up to 32 alphanumeric characters.

For details about specifying the encryption key on the printer driver, see the printer driver Help.

6. Enter the driver encryption key again to confirm it, and then press the [OK] key.
7. Press the [Menu] key.

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## Specifying an IPP Authentication Password

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This can be specified by the network administrator.

Specify the IPP authentication passwords for the printer using Web Image Monitor.

You can enhance security to make login passwords harder to break.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. **Log in to Web Image Monitor as an administrator.**
2. **Click [Configuration] in the Menu area under "Security" category, and then click [IPP Authentication].**
3. **Select [DIGEST] from the "Authentication" list.**
4. **Enter the user name in the "User Name" box.**
5. **Enter the password in the "Password" box.**
6. **Click [OK].**
7. **Click [OK].**
8. **Click [Logout].**
9. **Close Web Image Monitor.**

 **Note**

- When using the IPP port under Windows XP/Vista/7 or Windows Server 2003/2003 R2/2008/2008 R2, you can use the operating system's standard IPP port.

# Protection Using Encryption

Establish encrypted transmission on this printer using SSL, SNMPv3, and IPsec. By encrypting transmitted data and safeguarding the transmission route, you can prevent sent data from being intercepted, analyzed, and tampered with.

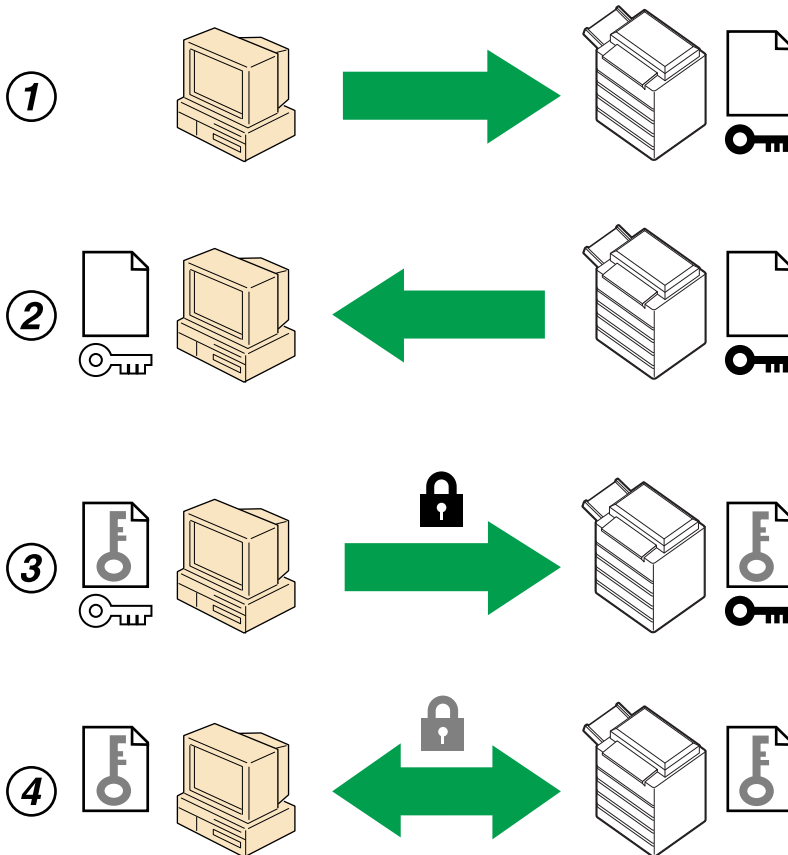
## SSL (Secure Sockets Layer) Encryption

This can be specified by the network administrator.

To protect the communication path and establish encrypted communication, create and install the device certificate.

There are two ways of installing a device certificate: create and install a self-signed certificate using the printer, or request a certificate from a certificate authority and install it.

### SSL (Secure Sockets Layer)



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1. To access the printer from a user's computer, request the SSL device certificate and public key.



2. The device certificate and public key are sent from the printer to the user's computer.
3. The shared key created with the computer is encrypted using the public key, sent to the printer, and then decrypted using the private key in the printer.
4. The shared key is used for data encryption and decryption, thus achieving secure transmission.

#### Configuration flow (self-signed certificate)

1. Creating and installing the device certificate  
Install the device certificate using Web Image Monitor.
2. Enabling SSL  
Enable the "SSL/TLS" setting using Web Image Monitor.

#### Configuration flow (certificate issued by a certificate authority)

1. Creating the device certificate  
Create the device certificate using Web Image Monitor.  
The application procedure after creating the certificate depends on the certificate authority.  
Follow the procedure specified by the certificate authority.
2. Installing the device certificate  
Install the device certificate using Web Image Monitor.
3. Enabling SSL  
Enable the "SSL/TLS" setting using Web Image Monitor.

#### Note

- To confirm whether SSL configuration is enabled, enter "https://(the printer's IP address or host name)/" in your Web browser's address bar to access this printer. If the "The page cannot be displayed" message appears, check the configuration because the current SSL configuration is invalid.

## Creating and Installing the Self-Signed Certificate

This can be specified by the network administrator.

Create and install the device certificate using Web Image Monitor. For details about the displayed items and selectable items, see Web Image Monitor Help.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area, and then click [Device Certificate] under "Security" category.
3. Click [Certificate1].
4. Click [Create].

**5. Make the necessary settings.**

**6. Click [OK].**

**7. Click [OK].**

A security warning dialog box appears.

**8. Check the details, and then click [OK].**

"Installed" appears under "Certificate Status" to show that a device certificate for the printer has been installed.

**9. Click [Logout].**

**10. Close Web Image Monitor.**

**Note**

- Click [Delete] to delete the device certificate from the printer.

## **Creating the Device Certificate (Certificate Issued by a Certificate Authority)**

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This can be specified by the network administrator.

Create the device certificate using Web Image Monitor. For details about the displayed items and selectable items, see Web Image Monitor Help.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

**1. Log in to Web Image Monitor as an administrator.**

**2. Click [Configuration] in the Menu area, and then click [Device Certificate] under "Security" category.**

**3. Click [Certificate 1].**

**4. Click [Request].**

**5. Make the necessary settings.**

**6. Click [OK].**

"Requesting" appears under "Certificate Status".

**7. Click [Logout].**

**8. Apply to the certificate authority for the device certificate.**

The application procedure depends on the certificate authority. For details, contact the certificate authority.

For the application, click Web Image Monitor Details icon and use the information that appears in "Certificate Details".

### ↓ Note

- The issuing location may not be displayed if you request two certificates at the same time. When you install a certificate, be sure to check the certificate destination and installation procedure.
- Using Web Image Monitor, you can create the contents of the device certificate but you cannot send the certificate application.
- Click [Cancel Request] to cancel the request for the device certificate.

## Installing the Device Certificate (Certificate Issued by a Certificate Authority)

This can be specified by the network administrator.

Install the device certificate using Web Image Monitor. For details about the displayed items and selectable items, see Web Image Monitor Help.

Enter the device certificate contents issued by the certificate authority. Installation of the certificate is especially necessary for users who want to print via IPP -SSL from Windows Vista/7 or Windows Server 2008/2008 R2.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. **Log in to Web Image Monitor as an administrator.**
2. **Click [Configuration] in the Menu area, and then click [Device Certificate] under "Security" category.**
3. **Click [Certificate1].**
4. **Click [Install].**
5. **Enter the contents of the device certificate.**  
In the Certificate box, enter the contents of the device certificate issued by the certificate authority.
6. **Click [OK].**
7. **Wait a moment for the device to restart, and then click [OK].**

"Installed" appears under "Certificate Status" to show that a device certificate for the printer has been installed.

8. **Click [Logout].**
9. **Close Web Image Monitor.**

### ↓ Note

- If a certificate authority issues a certificate that must be authenticated by an intermediate certificate authority, and the certificate is installed on this printer, an intermediate certificate must be installed on the client computer. Otherwise, validation by the certificate authority will not be performed correctly. If validation cannot be performed properly, a warning message informing you that installation is not possible might appear when you try to add a printer using IPP-SSL under Windows Vista/7 or

Windows Server 2008/2008 R2. A warning message might also appear if you attempt to access this printer through Web Image Monitor with SSL enabled. To enable authentication from the client computer, install the intermediate certificate on the client computer, and then reestablish connection.

- Intermediate certificates cannot be installed on this printer.

## Enabling SSL

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This can be specified by the network administrator.

After installing the device certificate in the printer, enable the SSL setting.

This procedure is used for a self-signed certificate or a certificate issued by a certificate authority.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area, and then click [SSL/TLS] under "Security" category.
3. Click [Active] for the protocol version used in "SSL/TLS".
4. Select the encryption communication mode for "Permit SSL/TLS Communication".
5. If you want to disable a protocol, click [Inactive] next to "SSL2.0", "SSL3.0", or "TLS".

Note that if you have selected [Active] in step 3, at least one of these protocols must be enabled.

6. In "Encryption Strength Setting", check the encryption strength (key length) for AES, 3DES, DES, RC4, and RC2.

You must check at least 1 key length for each encryption standard.

Depending on whether "SSL2.0", "SSL3.0", and "TLS" is set to "Active" or "Inactive", the items you can check vary.

7. Click [OK].
8. Click [OK].
9. Click [Logout].
10. Close Web Image Monitor.

### Note

- If you set "Permit SSL/TLS Communication" to [Ciphertext Only], enter "http://(the printer's IP address or host name)/" to access the printer.
- Depending on the states you specify for "SSL2.0", "SSL3.0", and "TLS", the machine might not be able to connect to an external LDAP server.
- Communication via @Remote and Integration Server authentication is always encrypted by SSL 3.0.

## User Settings for SSL (Secure Sockets Layer)

We recommend that after installing the self-signed certificate or device certificate from a private certificate authority on the main unit and enabling SSL (communication encryption), you instruct users to install the certificate on their computers. Installation of the certificate is especially necessary for users who want to print via IPP-SSL from Windows Vista/7 or Windows Server 2008/2008 R2. The network administrator must instruct each user to install the certificate.

### ↓ Note

- Take the appropriate steps when you receive a user's inquiry concerning problems such as an expired certificate.
- For details about how to install the certificate and about where to store the certificate when accessing the printer using IPP, see Web Image Monitor Help.
- If a certificate issued by a certificate authority is installed in the printer, confirm the certificate store location with the certificate authority.
- Printing via the standard IPP port under Windows Vista/7 or Windows Server 2008/2008 R2 is possible only after the hostname or IP address is specified in the device certificate's [Common Name] setting. If the host name or IP address has changed, the user must delete the printer installed on the client computer. The printer must be reinstalled if the client computer's device certificate has been updated. Also, if a user's authentication information (login user name and password) has changed, the printer must be deleted, then the user's information settings must be updated, and then the printer must be reinstalled.

## Setting the SSL/TLS Encryption Mode

By specifying the SSL/TLS encrypted communication mode, you can change the security level.

### Encrypted Communication Mode

Using the encrypted communication mode, you can specify encrypted communication.

Ciphertext Only	Allows encrypted communication only. If encryption is not possible, the printer does not communicate.
Ciphertext Priority	Performs encrypted communication if encryption is possible. If encryption is not possible, the printer communicates without it.
Ciphertext/Cleartext	Communicates with or without encryption, according to the setting.

## Setting the SSL/TLS encryption mode

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This can be specified by the network administrator.

After installing the device certificate, specify the SSL/TLS encrypted communication mode. By making this setting, you can change the security level.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area.
3. Click [SSL/TLS] in the "Security" category.
4. Select the encryption communication mode in the "Permit SSL/TLS Communication" list, and then click [OK].

Select [Ciphertext Only], [Ciphertext Priority], or [Ciphertext/Cleartext] as the encrypted communication mode.

5. Click [OK].
6. Click [Logout].
7. Close Web Image Monitor.

### 7 Note

- The SSL/TLS encrypted communication mode can also be specified using Web Image Monitor. For details, see Web Image Monitor Help.

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## SNMPv3 Encryption

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This can be specified by the network administrator.

When using SmartDeviceMonitor for Admin or another application to make various settings, you can encrypt the data transmitted.

By making this setting, you can protect data from being tampered with.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area.
3. Click [Network Security] in the "Security" category.
4. Click [Encryption Only] in the "Permit SNMPv3 Communication" area of the "SNMP" section, and then click [OK].
5. Click [OK].
6. Click [Logout].

## 7. Close Web Image Monitor.

### ↓ Note

- To use SmartDeviceMonitor for Admin, you need to download SmartDeviceMonitor for Admin from the manufacturer's Website and install it on your computer. Contact your local dealer for information on downloading SmartDeviceMonitor for Admin.
- To use SmartDeviceMonitor for Admin for encrypting the data for specifying settings, you need to specify the network administrator's [Encryption Password] setting and [Encryption Key] in [SNMP Authentication Information] in SmartDeviceMonitor for Admin, in addition to specifying [Permit SNMPv3 Communication] on the printer. For details about specifying [Encryption Key] in SmartDeviceMonitor for Admin, see SmartDeviceMonitor for Admin Help.
- If network administrator's [Encryption Password] setting is not specified, the data for transmission may not be encrypted or sent. For details about specifying the network administrator's [Encryption Password] setting, see "Registering the Administrator".

# Transmission Using IPsec

This can be specified by the network administrator.

For communication security, this printer supports IPsec. IPsec transmits secure data packets at the IP protocol level using the shared key encryption method, where both the sender and receiver retain the same key. This printer has two methods that you can use to specify the shared encryption key for both parties: encryption key auto exchange and encryption key manual settings. Using the auto exchange setting, you can renew the shared key exchange settings within a specified validity period, and achieve higher transmission security.

## ★ Important

- When "Inactive" is specified for "Exclude HTTPS Communication", access to Web Image Monitor can be lost if the key settings are improperly configured. In order to prevent this, you can specify IPsec to exclude HTTPS communication by selecting "Active". When you want to include HTTPS transmission, we recommend that you select "Inactive" for "Exclude HTTPS Communication" after confirming that IPsec is properly configured. When "Active" is selected for "Exclude HTTPS Communication", even though HTTPS transmission is not targeted by IPsec, Web Image Monitor might become unusable when TCP is targeted by IPsec from the computer side. If you cannot access Web Image Monitor due to IPsec configuration problems, disable IPsec on the control panel, and then access Web Image Monitor. For details about disabling IPsec using the control panel, see p.126 "Deactivating IPsec Using the Control Panel".
- IPsec is not applied to data obtained through DHCP, DNS, or WINS.
- IPsec compatible operating systems are Windows XP SP2, Windows Vista/7, Windows Server 2003/2003 R2, 2008/2008 R2, Mac OS X 10.4 and later, Red Hat Enterprise Linux WS 4.0, and Solaris 10. However, some setting items are not supported depending on the operating system. Make sure the IPsec settings you specify are consistent with the operating system's IPsec settings.

## Encryption and Authentication by IPsec

IPsec consists of two main functions: the encryption function, which ensures the confidentiality of data, and the authentication function, which verifies the sender of the data and the data's integrity. This printer's IPsec function supports two security protocols: the ESP protocol, which enables both of the IPsec functions at the same time, and the AH protocol, which enables only the authentication function.

### ESP Protocol

The ESP protocol provides secure transmission through both encryption and authentication. This protocol does not provide header authentication.

- For successful encryption, both the sender and receiver must specify the same encryption algorithm and encryption key. If you use the encryption key auto exchange method, the encryption algorithm and encryption key are specified automatically.



- For successful authentication, the sender and receiver must specify the same authentication algorithm and authentication key. If you use the encryption key auto exchange method, the authentication algorithm and authentication key are specified automatically.

### AH Protocol

The AH protocol provides secure transmission through authentication of packets only, including headers.

- For successful authentication, the sender and receiver must specify the same authentication algorithm and authentication key. If you use the encryption key auto exchange method, the authentication algorithm and authentication key are specified automatically.

### AH Protocol + ESP Protocol

When combined, the ESP and AH protocols provide secure transmission through both encryption and authentication. These protocols provide header authentication.

- For successful encryption, both the sender and receiver must specify the same encryption algorithm and encryption key. If you use the encryption key auto exchange method, the encryption algorithm and encryption key are specified automatically.
- For successful authentication, the sender and receiver must specify the same authentication algorithm and authentication key. If you use the encryption key auto exchange method, the authentication algorithm and authentication key are specified automatically.

#### ↓ Note

- Some operating systems use the term "Compliance" in place of "Authentication".

## Encryption Key Auto Exchange Settings and Encryption Key Manual Settings

This printer provides two key setting methods: manual and auto exchange. Using either of these methods, agreements such as the IPsec algorithm and key must be specified for both sender and receiver. Such agreements form what is known as an SA (Security Association). IPsec communication is possible only if the receiver's and sender's SA settings are identical.

If you use the auto exchange method to specify the encryption key, the SA settings are auto configured on both parties' printers. However, before setting the IPsec SA, the ISAKMP SA (Phase 1) settings are auto configured. After this, the IPsec SA (Phase 2) settings, which allow actual IPsec transmission, are auto configured.

Also, for further security, the SA can be periodically auto updated by applying a validity period (time limit) for its settings. This printer only supports IKEv1 for encryption key auto exchange.

If you want to specify the encryption key manually, the SA settings must be shared and specified identically by both parties. To ensure the security of your SA settings, do not exchange them over a network.

Note that for both the manual and auto method of encryption key specification, multiple settings can be configured in the SA.

### Settings 1-4 and Default Setting

Using either the manual or auto exchange method, you can configure four separate sets of SA details (such as different shared keys and IPsec algorithms). In the default settings of these sets, you can include settings that the fields of sets 1 to 4 cannot contain.

When IPsec is enabled, set 1 has the highest priority and 4 has the lowest. You can use this priority system to target IP addresses more securely. For example, set the broadest IP range at the lowest priority (4), and then set specific IP addresses at a higher priority level (3 and higher). This way, when IPsec transmission is enabled for a specific IP address, the higher level security settings will be applied.

## IPsec Settings

IPsec settings for this printer can be made on Web Image Monitor. The following table explains individual setting items.

### Encryption Key Auto Exchange / Manual Settings - Shared Settings

Setting	Description	Setting Value
IPsec	Specify whether to enable or disable IPsec.	<ul style="list-style-type: none"> <li>Active</li> <li>Inactive</li> </ul>
Exclude HTTPS Communication	Specify whether to enable IPsec for HTTPS communication.	<ul style="list-style-type: none"> <li>Active</li> <li>Inactive</li> </ul> Specify "Active" if you do not want to use IPsec for "HTTPS communication".
Encryption Key Manual Settings	Specify whether to enable Encryption Key Manual Settings, or use Encryption Key Auto Exchange Settings only.	<ul style="list-style-type: none"> <li>Active</li> <li>Inactive</li> </ul> Specify "Active" if you want to use "Encryption Key Manual Settings".

### Encryption Key Auto Exchange Security Level

When you select a security level, certain security settings are automatically configured. The following table explains security level features.

Security Level	Security Level Features
Authentication Only	Select this level if you want to authenticate the transmission partner and prevent unauthorized data tampering, but not perform data packet encryption.  Since the data is sent in clear text, data packets are vulnerable to eavesdropping attacks. Do not select this if you are exchanging sensitive information.
Authentication and Low Level Encryption	Select this level if you want to encrypt the data packets as well as authenticate the transmission partner and prevent unauthorized packet tampering. Packet encryption helps prevent eavesdropping attacks. This level provides less security than "Authentication and High Level Encryption".
Authentication and High Level Encryption	Select this level if you want to encrypt the data packets as well as authenticate the transmission partner and prevent unauthorized packet tampering. Packet encryption helps prevent eavesdropping attacks. This level provides higher security than "Authentication and Low Level Encryption".

The following table lists the settings that are automatically configured according to the security level.

Setting	Authentication Only	Authentication and Low Level Encryption	Authentication and High Level Encryption
Security Policy	Apply	Apply	Apply
Encapsulation Mode	Transport	Transport	Transport
IPsec Requirement Level	Use When Possible	Use When Possible	Always Require
Authentication Method	PSK	PSK	PSK
Phase 1 Hash Algorithm	MD5	SHA1	SHA1

Setting	Authentication Only	Authentication and Low Level Encryption	Authentication and High Level Encryption
Phase 1 Encryption Algorithm	DES	3DES	3DES
Phase 1 Diffie-Hellman Group	2	2	2
Phase 2 Security Protocol	AH	ESP	ESP
Phase 2 Authentication Algorithm	HMAC-MD5-96/ HMAC-SHA1-96	HMAC-MD5-96/HMAC-SHA1-96	HMAC-SHA1-96
Phase 2 Encryption Algorithm	Cleartext (NULL encryption)	DES/3DES/AES-128/ AES-192/AES-256	3DES/AES-128/ AES-192/AES-256
Phase 2 PFS	Inactive	Inactive	2

**Encryption Key Auto Exchange Setting Items**

When you specify a security level, the corresponding security settings are automatically configured, but other settings, such as address type, local address, and remote address must still be configured manually.

After you specify a security level, you can still make changes to the auto configured settings. When you change an auto configured setting, the security level switches automatically to "User Setting".

Setting	Description	Setting Value
Address Type	Specify the address type for which IPsec transmission is used.	<ul style="list-style-type: none"> <li>• Inactive</li> <li>• IPv4</li> <li>• IPv6</li> <li>• IPv4/IPv6 (Default Settings only)</li> </ul>

Setting	Description	Setting Value
Local Address	Specify the printer's address. If you are using multiple addresses in IPv6, you can also specify an address range.	The printer's IPv4 or IPv6 address. If you are not setting an address range, enter 32 after an IPv4 address, or enter 128 after an IPv6 address.
Remote Address	Specify the address of the IPsec transmission partner. You can also specify an address range.	The IPsec transmission partner's IPv4 or IPv6 address. If you are not setting an address range, enter 32 after an IPv4 address, or enter 128 after an IPv6 address.

Setting	Description	Setting Value
Security Policy	<p>Specify whether or not to apply security functions to IPsec transmissions.</p> <p>If you select "Apply", you must then select from the following the security function(s) you require.</p> <ul style="list-style-type: none"> <li>• Encapsulation Mode</li> <li>• IPsec Requirement Level</li> <li>• Authentication Method</li> <li>• PSK Text</li> <li>• Phase 1 Hash Algorithm</li> <li>• Phase 1 Encryption Algorithm</li> <li>• Phase 1 Diffie-Hellman Group</li> <li>• Phase 1 Validity Period</li> <li>• Phase 2 Security Protocol</li> <li>• Phase 2 Authentication Algorithm</li> <li>• Phase 2 Encryption Algorithm Permissions</li> <li>• Phase 2 PFS</li> <li>• Phase 2 Validity Period</li> </ul>	<ul style="list-style-type: none"> <li>• Apply</li> <li>• Bypass</li> <li>• Discard</li> </ul>
Encapsulation Mode	<p>Specify the encapsulation mode.</p> <p>(auto setting)</p>	<ul style="list-style-type: none"> <li>• Transport</li> <li>• Tunnel</li> </ul> <p>(Tunnel beginning address - Tunnel ending address)</p> <p>If you specify "Tunnel", you must then specify the "Tunnel End Point", which are the beginning and ending IP addresses. Set the same address for the beginning point as you set in "Local Address".</p>

Setting	Description	Setting Value
IPsec Requirement Level	Specify whether to only transmit using IPsec, or to allow clear text transmission when IPsec cannot be established. (auto setting)	<ul style="list-style-type: none"> <li>• Use When Possible</li> <li>• Always Require</li> </ul>
Authentication Method	Specify the method for authenticating transmission partners. (auto setting)	<ul style="list-style-type: none"> <li>• PSK</li> <li>• Certificate</li> </ul> <p>If you specify "PSK", you must then set the PSK text (using ASCII characters).</p> <p>If you are using "PSK", specify a PSK password using up to 32 ASCII characters.</p> <p>If you specify "Certificate", the certificate for IPsec must be installed and specified before it can be used.</p>
Phase 1 Hash Algorithm	Specify the Hash Algorithm to be used in phase 1. (auto setting)	<ul style="list-style-type: none"> <li>• MD5</li> <li>• SHA1</li> </ul>
Phase 1 Encryption Algorithm	Specify the encryption algorithm to be used in phase 1. (auto setting)	<ul style="list-style-type: none"> <li>• DES</li> <li>• 3DES</li> </ul>
Phase 1 Diffie-Hellman Group	Specify the Diffie-Hellman group number. (auto setting)	<ul style="list-style-type: none"> <li>• 1</li> <li>• 2</li> <li>• 14</li> </ul>
Phase 1 Validity Period	Specify the time period for which the SA settings in phase 1 are valid.	Set in seconds from 300 sec. (5 min.) to 172800 sec. (48 hrs.).
Phase 2 Security Protocol	Specify the security protocol to be used in Phase 2. (auto setting)	<ul style="list-style-type: none"> <li>• ESP</li> <li>• AH</li> <li>• ESP+AH</li> </ul>

Setting	Description	Setting Value
Phase 2 Authentication Algorithm	Specify the authentication algorithm to be used in phase 2. (auto setting)	<ul style="list-style-type: none"> <li>• HMAC-MD5-96</li> <li>• HMAC-SHA1-96</li> </ul>
Phase 2 Encryption Algorithm Permissions	Specify the encryption algorithm to be used in phase 2. (auto setting)	<ul style="list-style-type: none"> <li>• Cleartext (NULL encryption)</li> <li>• DES</li> <li>• 3DES</li> <li>• AES-128</li> <li>• AES-192</li> <li>• AES-256</li> </ul>
Phase 2 PFS	Specify whether to activate PFS. Then, if PFS is activated, select the Diffie-Hellman group. (auto setting)	<ul style="list-style-type: none"> <li>• Inactive</li> <li>• 1</li> <li>• 2</li> <li>• 14</li> </ul>
Phase 2 Validity Period	Specify the time period for which the SA settings in phase 2 are valid.	Specify a period (in seconds) from 300 (5min.) to 172800 (48 hrs.).

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### Encryption Key Manual Settings Items

Setting	Description	Setting Value
Address Type	Specify the address type for which IPsec transmission is used.	<ul style="list-style-type: none"> <li>• Inactive</li> <li>• IPv4</li> <li>• IPv6</li> <li>• IPv4/IPv6 (Default Settings only)</li> </ul>
Local Address	Specify the printer's address. If you are using multiple IPv6 addresses, you can also specify an address range.	<p>The printer's IPv4 or IPv6 address.</p> <p>If you are not setting an address range, enter 32 after an IPv4 address, or enter 128 after an IPv6 address.</p>



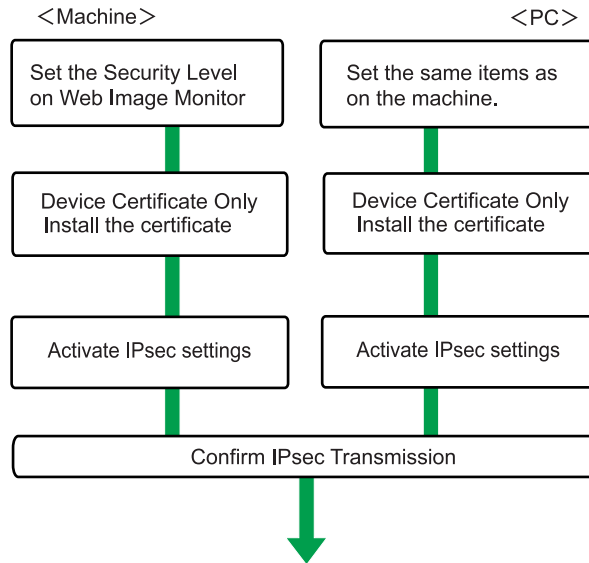
Setting	Description	Setting Value
Remote Address	Specify the address of the IPsec transmission partner. You can also specify an address range.	The IPsec transmission partner's IPv4 or IPv6 address. If you are not setting an address range, enter 32 after an IPv4 address, or enter 128 after an IPv6 address.
Encapsulation Mode	Select the encapsulation mode.	<ul style="list-style-type: none"> <li>• Transport</li> <li>• Tunnel</li> </ul> (Tunnel beginning address - Tunnel ending address) If you select "Tunnel", set the "Tunnel End Point", the beginning and ending IP addresses. In "Tunnel End Point", set the same address for the beginning point as you set in "Local Address".
SPI (Output)	Specify the same value as your transmission partner's SPI input value.	Any number between 256 and 4095
SPI (Input)	Specify the same value as your transmission partner's SPI output value.	Any number between 256 and 4095
Security Protocol	To use encryption data only, select ESP. To use authentication data only, select AH. To use encryption and authentication data, select ESP+AH.	<ul style="list-style-type: none"> <li>• ESP</li> <li>• AH</li> <li>• ESP+AH</li> </ul>
Authentication Algorithm	Specify the authentication algorithm.	<ul style="list-style-type: none"> <li>• HMAC-MD5-96</li> <li>• HMAC-SHA1-96</li> </ul>

Setting	Description	Setting Value
Authentication Key	Specify the key for the authentication algorithm.	<p>Specify a value within the ranges shown below, according to the encryption algorithm.</p> <p>hexadecimal value</p> <ul style="list-style-type: none"> <li>• 0-9, a-f, A-F</li> <li>• If HMAC-MD5-96, set 32 digits</li> <li>• If HMAC-SHA1-96, set 40 digits</li> </ul> <p>ASCII</p> <ul style="list-style-type: none"> <li>• If HMAC-MD5-96, set 16 characters</li> <li>• If HMAC-SHA1-96, set 20 characters</li> </ul>
Encryption Algorithm	Specify the encryption algorithm.	<ul style="list-style-type: none"> <li>• Cleartext (NULL encryption)</li> <li>• DES</li> <li>• 3DES</li> <li>• AES-128</li> <li>• AES-192</li> <li>• AES-256</li> </ul>

Setting	Description	Setting Value
Encryption Key	Specify the key for the encryption algorithm.	<p>Specify a value within the ranges shown below, according to the encryption algorithm.</p> <p>hexadecimal value</p> <ul style="list-style-type: none"> <li>• 0-9, a-f, A-F</li> <li>• DES, set 16 digits</li> <li>• 3DES, set 48 digits</li> <li>• AES-128, set 32 digits</li> <li>• AES-192, set 48 digits</li> <li>• AES-256, set 64 digits</li> </ul> <p>ASCII</p> <ul style="list-style-type: none"> <li>• DES, set 8 characters</li> <li>• 3DES, set 24 characters</li> <li>• AES-128, set 16 characters</li> <li>• AES-192, set 24 characters</li> <li>• AES-256, set 32 characters</li> </ul>

## Encryption Key Auto Exchange Settings Configuration Flow

This can be specified by the network administrator.



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### ↓ Note

- To use a certificate to authenticate the transmission partner in encryption key auto exchange settings, a device certificate must be installed.
- After configuring IPsec, you can use "ping" command to check if the connection is established correctly. However, you cannot use "ping" command when ICMP is excluded from IPsec transmission on the computer side. Also, because the response is slow during initial key exchange, it may take some time to confirm that transmission has been established.

## Specifying encryption key auto exchange settings

This can be specified by the network administrator.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area, and then click [IPsec] under "Security" category.
3. Click [Edit] under "Encryption Key Auto Exchange Settings".
4. Make encryption key auto exchange settings in [Settings 1].  
If you want to make multiple settings, select the settings number and add settings.
5. Click [OK].
6. Select [Active] for "IPsec" in "IPsec".

7. Set "Exclude HTTPS Communication" to [Active] if you do not want to use IPsec for HTTPS transmission.
8. Click [OK].
9. Click [OK].
10. Click [Logout].
11. Close Web Image Monitor.

#### Note

- To change the transmission partner authentication method for encryption key auto exchange settings to "Certificate", you must first install and assign a certificate.

## Selecting the certificate for IPsec

This can be specified by the network administrator.

Using Web Image Monitor, select the certificate to be used for IPsec. You must install the certificate before it can be used.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area, and then click [Device Certificate] under "Security" category.
3. Select the certificate to be used for IPsec from the drop down box in "IPsec" under "Certification".
4. Click [OK].
5. Click [OK].
6. Click [Logout].
7. Close Web Image Monitor.

## Specifying IPsec settings on the computer

Specify exactly the same settings for IPsec SA settings on your computer as are specified by the printer's security level on the printer. Setting methods differ according to the computer's operating system. The example procedure shown here uses Windows XP when the Authentication and Low Level Encryption Security level is selected.

1. On the [Start] menu, click [Control Panel], [Performance and Maintenance], and then click [Administrative Tools].
2. Double-click [Local Security Policy].

3. Click [IP Security Policies on Local Computer].
4. In the "Action" menu, click [Create IP Security Policy].
5. Click [Next].
6. Enter a security policy name in "Name", and then click [Next].
7. Clear the "Activate the default response rule" check box, and then click [Next].
8. Select "Edit properties", and then click [Finish].
9. In the "General" tab, click [Advanced].
10. In "Authenticate and generate a new key after every", enter the same validity period (in minutes) that is specified on the printer in Encryption Key Auto Exchange Settings Phase 1, and then click [Methods].
11. Confirm that the hash algorithm ("Integrity"), encryption algorithm ("Encryption") and "Diffie-Hellman Group" settings in "Security method preference order" all match those specified on the printer in Encryption Key Auto Exchange Settings Phase 1.  
If the settings are not displayed, click [Add].
12. Click [OK] twice.
13. Click [Add] in the "Rules" tab.  
The Security Rule Wizard appears.
14. Click [Next].
15. Select "This rule does not specify a tunnel", and then click [Next].
16. Select the type of network for IPsec, and then click [Next].
17. Select the authentication method, and then click [Next].  
If you select "Certificate" for authentication method in Encryption Key Auto Exchange Settings on the machine, specify the device certificate. If you select "PSK", enter the same PSK text specified on the printer with the pre-shared key.
18. Click [Add] in the IP Filter List.
19. In [Name], enter an IP Filter name, and then click [Add].
20. Click [Next].
21. Select "My IP Address" in "Source address", and then click [Next].
22. Select "A specific IP Address" in "Destination address", enter the printer's IP address, and then click [Next].
23. For the IPsec protocol type, select "Any", and then click [Next].
24. Click [Finish].
25. Click [OK].
26. Select the IP filter that you have just created, and then click [Next].
27. Select the IPsec security filter, and then click [Edit].

28. In the "Security Methods" tab, check "Negotiate security" and then click [Add].
29. Select "Custom" and click [Settings].
30. In "Integrity algorithm", select the authentication algorithm that was specified on the printer in Encryption Key Auto Exchange Settings Phase 2.
31. In "Encryption algorithm", select the encryption algorithm that specified on the printer in Encryption Key Auto Exchange Settings Phase 2.
32. In Session key settings, select "Generate a new key every", and enter the validity period (in seconds) that was specified on the printer in Encryption Key Auto Exchange Settings Phase 2.
33. Click [OK] three times.
34. Click [Next].
35. Click [Finish].

If you are using IPv6 under Windows Vista or a newer version of Windows, you must repeat this procedure from step 13 and specify ICMPv6 as an exception. When you reach step 23, select [58] as the protocol number for the "Other" target protocol type, and then set [Negotiate security] to [Permit].

36. Click [OK].
37. Click [Close].
38. Select the security policy that you have just created, right click on it, and then click [Assign].

#### Note

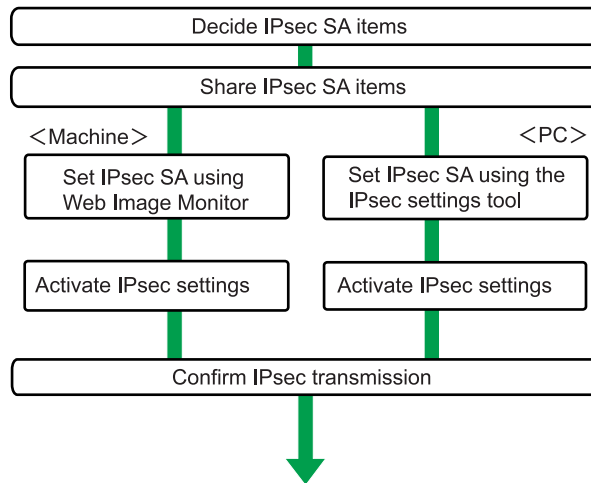
- To disable the computer's IPsec settings, select the security policy, right click, and then click [Unassign].
- If you specify the "Authentication and High Level Encryption" security level in encryption key auto exchange settings, you must also select the "Master key perfect forward secrecy (PFS)" check box in the Security Filter Properties screen (which appears in step 27). When using PFS in Windows XP, the PFS group number used in phase 2 is automatically negotiated in phase 1 from the Diffie-Hellman group number (set in step 11). Consequently, if you change the security level-specified automatic settings on the printer and "User Setting" appears, you must then specify the same the group number for "Phase 1 Diffie-Hellman Group" and "Phase 2 PFS" on the printer to establish IPsec transmission.

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## Encryption Key Manual Settings Configuration Flow

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This can be specified by the network administrator.



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### ↓ Note

- Before transmission, SA information is shared and specified by the sender and receiver. To prevent SA information leakage, we recommend that this exchange is not performed over the network.
- After configuring IPsec, you can use "ping" command to check if the connection is established correctly. However, you cannot use "ping" command when ICMP is excluded from IPsec transmission. Also, because the response is slow during initial key exchange, it may take some time to confirm that transmission has been established.

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### Specifying encryption key manual settings

This can be specified by the network administrator.

For details about logging in and out with administrator authentication, see p.22 "Using Web Image Monitor to Configure Administrator Authentication".

1. Log in to Web Image Monitor as an administrator.
2. Click [Configuration] in the Menu area, and then click [IPsec] under "Security" category.
3. Select [Active] for "Encryption Key Manual Settings".
4. Click [Edit] under "Encryption Key Manual Settings".
5. Set items for encryption key manual settings in [Settings 1].  
If you want to make multiple settings, select the settings number and add settings.
6. Click [OK].
7. Select [Active] for "IPsec:" in "IPsec".



8. Set "Exclude HTTPS Communication" to [Active] if you do not want to use IPsec for HTTPS communication.
9. Click [OK].
10. Click [OK].
11. Click [Logout].
12. Close Web Image Monitor.

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## telnet Setting Commands

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You can use telnet to confirm IPsec settings and make setting changes. This section explains telnet commands for IPsec. The default login name for administrator login is "admin" and the password is empty. For details about logging in to telnet and telnet operations, see "Remote Maintenance Using telnet", UNIX Supplement.

### ↓ Note

- If you are using a certificate as the authentication method in encryption key auto exchange settings (IKE), install the certificate using Web Image Monitor. A certificate cannot be installed using telnet.

## ipsec

---

To display IPsec related settings information, use the "ipsec" command.

### Display current settings

```
msh> ipsec
```

Displays the following IPsec settings information:

- IPsec shared settings values
- Encryption key manual settings, SA setting 1-4 values
- Encryption key manual settings, default setting values
- Encryption key auto exchange settings, IKE setting 1-4 values
- Encryption key auto exchange settings, IKE default setting values

### Display current settings portions

```
msh> ipsec -p
```

- Displays IPsec settings information in portions.

## ipsec manual mode

---

To display or specify encryption key manual settings, use the "ipsec manual\_mode" command.

**Display current settings**

```
msh> ipsec manual_mode
```

- Displays the current encryption key manual settings.

**Specify encryption key manual settings**

```
msh> ipsec manual_mode {on|off}
```

- To enable encryption key manual settings, set to [on]. To disable settings, set to [off].

**ipsec exclude**

---

To display or specify protocols excluded by IPsec, use the "ipsec exclude" command.

**Display current settings**

```
msh> ipsec exclude
```

- Displays the protocols currently excluded from IPsec transmission.

**Specify protocols to exclude**

```
msh> ipsec exclude {https|dns|dhcp|wins|all} {on|off}
```

- Specify the protocol, and then enter [on] to exclude it, or [off] to include it for IPsec transmission. Entering [all] specifies all protocols collectively.

**7****ipsec manual**

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To display or specify the encryption key manual settings, use the "ipsec manual" command.

**Display current settings**

```
msh> ipsec manual {1|2|3|4|default}
```

- To display the settings 1-4, specify the number [1-4].
- To display the default setting, specify [default].
- Not specifying any value displays all of the settings.

**Disable settings**

```
msh> ipsec manual {1|2|3|4|default} disable
```

- To disable the settings 1-4, specify the setting number [1-4].
- To disable the default settings, specify [default].

**Specify the local/remote address for settings 1-4**

```
msh> ipsec manual {1|2|3|4} {ipv4|ipv6} local address remote address
```

- Enter the separate setting number [1-4] or [default] and specify the local address and remote address.

- To specify the local or remote address value, specify masklen by entering [/] and an integer 0-32 if you are specifying an IPv4 address. If you are specifying an IPv6 address, specify masklen by entering [/] and an integer 0-128.
- Not specifying an address value displays the current setting.

### Specify the address type in default setting

```
msh> ipsec manual default {ipv4|ipv6|any}
```

- Specify the address type for the default setting.
- To specify both IPv4 and IPv6, enter [any].

### Security protocol setting

```
msh> ipsec manual {1|2|3|4|default} proto {ah|esp|dual}
```

- Enter the separate setting number [1-4] or [default] and specify the security protocol.
- To specify AH, enter [ah]. To specify ESP, enter [esp]. To specify AH and ESP, enter [dual].
- Not specifying a protocol displays the current setting.

### SPI value setting

```
msh> ipsec manual {1|2|3|4|default} spi SPI input value SPI output value
```

- Enter the separate setting number [1-4] or [default] and specify the SPI input and output values.
- Specify a decimal number between 256-4095, for both the SPI input and output values.

### Encapsulation mode setting

```
msh> ipsec manual {1|2|3|4|default} mode {transport|tunnel}
```

- Enter the separate setting number [1-4] or [default] and specify the encapsulation mode.
- To specify transport mode, enter [transport]. To specify tunnel mode, enter [tunnel].
- If you have set the address type in the default setting to [any], you cannot use [tunnel] in encapsulation mode.
- Not specifying an encapsulation mode displays the current setting.

### Tunnel end point setting

```
msh> ipsec manual {1|2|3|4|default} tunneladdr beginning IP address ending IP address
```

- Enter the separate setting number [1-4] or [default] and specify the tunnel end point beginning and ending IP address.
- Not specifying either the beginning or ending address displays the current settings.

### Authentication algorithm and authentication key settings

```
msh> ipsec manual {1|2|3|4|default} auth {hmac-md5|hmac-sha1} authentication key
```

- Enter the separate setting number [1-4] or [default] and specify the authentication algorithm, and then set the authentication key.
- If you are setting a hexadecimal number, attach 0x at the beginning.

- If you are setting an ASCII character string, enter it as is.
- Not specifying either the authentication algorithm or key displays the current setting. (The authentication key is not displayed.)

### Encryption algorithm and encryption key setting

```
msh> ipsec manual {1|2|3|4|default} encrypt {null|des|3des|aes128|aes192|aes256}
encryption key
```

- Enter the separate setting number [1-4] or [default], specify the encryption algorithm, and then set the encryption key.
- If you are setting a hexadecimal number, attach 0x at the beginning. If you have set the encryption algorithm to [null], enter an encryption key of arbitrary numbers 2-64 digits long.
- If you are setting an ASCII character string, enter it as is. If you have set the encryption algorithm to [null], enter an encryption key of arbitrary numbers 1-32 digits long.
- Not specifying an encryption algorithm or key displays the current setting. (The encryption key is not displayed.)

### Reset setting values

```
msh> ipsec manual {1|2|3|4|default|all} clear
```

- Enter the separate setting number [1-4] or [default] and reset the specified setting. Specifying [all] resets all of the settings, including default.

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### ipsec ike

---

To display or specify the encryption key auto exchange settings, use the "ipsec ike" command.

#### Display current settings

```
msh> ipsec ike {1|2|3|4|default}
```

- To display the settings 1-4, specify the number [1-4].
- To display the default setting, specify [default].
- Not specifying any value displays all of the settings.

#### Disable settings

```
msh> ipsec manual {1|2|3|4|default} disable
```

- To disable the settings 1-4, specify the number [1-4].
- To disable the default settings, specify [default].

#### Specify the local/remote address for settings 1-4

```
msh> ipsec manual {1|2|3|4} {ipv4|ipv6} local address remote address
```

- Enter the separate setting number [1-4], and the address type to specify local and remote address.

- To set the local or remote address values, specify masklen by entering [/] and an integer 0-32 when settings an IPv4 address. When setting an IPv6 address, specify masklen by entering [/] and an integer 0-128.
- Not specifying an address value displays the current setting.

### Specify the address type in default setting

```
msh> ipsec manual default {ipv4|ipv6|any}
```

- Specify the address type for the default setting.
- To specify both ipv4 and ipv6, enter [any].

### Security policy setting

```
msh> ipsec ike {1|2|3|4|default} proc {apply|bypass|discard}
```

- Enter the separate setting number [1-4] or [default] and specify the security policy for the address specified in the selected setting.
- To apply IPsec to the relevant packets, specify [apply]. To not apply IPsec, specify [bypass].
- If you specify [discard], any packets that IPsec can be applied to are discarded.
- Not specifying a security policy displays the current setting.

### Security protocol setting

```
msh> ipsec ike {1|2|3|4|default} proto {ah|esp|dual}
```

- Enter the separate setting number [1-4] or [default] and specify the security protocol.
- To specify AH, enter [ah]. To specify ESP, enter [esp]. To specify AH and ESP, enter [dual].
- Not specifying a protocol displays the current setting.

### IPsec requirement level setting

```
msh> ipsec ike {1|2|3|4|default} level {require|use}
```

- Enter the separate setting number [1-4] or [default] and specify the IPsec requirement level.
- If you specify [require], data will not be transmitted when IPsec cannot be used. If you specify [use], data will be sent normally when IPsec cannot be used. When IPsec can be used, IPsec transmission is performed.
- Not specifying a requirement level displays the current setting.

### Encapsulation mode setting

```
msh> ipsec ike {1|2|3|4|default} mode {transport|tunnel}
```

- Enter the separate setting number [1-4] or [default] and specify the encapsulation mode.
- To specify transport mode, enter [transport]. To specify tunnel mode, enter [tunnel].
- If you have set the address type in the default setting to [any], you cannot use [tunnel] in encapsulation mode.
- Not specifying an encapsulation mode displays the current setting.

### Tunnel end point setting

```
msh> ipsec ike {1|2|3|4|default} tunneladdr beginning IP address ending IP address
```

- Enter the separate setting number [1-4] or [default] and specify the tunnel end point beginning and ending IP address.
- Not specifying either the beginning or ending address displays the current setting.

### IKE partner authentication method setting

```
msh> ipsec ike {1|2|3|4|default} auth {psk|rsasig}
```

- Enter the separate setting number [1-4] or [default] and specify the authentication method.
- Specify [psk] to use a shared key as the authentication method. Specify [rsasig] to use a certificate at the authentication method.
- You must also specify the PSK character string when you select [psk].
- Note that if you select "Certificate", the certificate for IPsec must be installed and specified before it can be used. To install and specify the certificate use Web Image Monitor.

### PSK character string setting

```
msh> ipsec ike {1|2|3|4|default} psk PSK character string
```

- If you select PSK as the authentication method, enter the separate setting number [1-4] or [default] and specify the PSK character string.
- Specify the character string in ASCII characters. There can be no abbreviations.

### ISAKMP SA (phase 1) hash algorithm setting

```
msh> ipsec ike {1|2|3|4|default} ph1 hash {md5|sha1}
```

- Enter the separate setting number [1-4] or [default] and specify the ISAKMP SA (phase 1) hash algorithm.
- To use MD5, enter [md5]. To use SHA1, enter [sha1].
- Not specifying the hash algorithm displays the current setting.

### ISAKMP SA (phase 1) encryption algorithm setting

```
msh> ipsec ike {1|2|3|4|default} ph1 encrypt {des|3des}
```

- Enter the separate setting number [1-4] or [default] and specify the ISAKMP SA (phase 1) encryption algorithm.
- To use DES, enter [des]. To use 3DES, enter [3des].
- Not specifying an encryption algorithm displays the current setting.

### ISAKMP SA (phase 1) Diffie-Hellman group setting

```
msh> ipsec ike {1|2|3|4|default} ph1 dhgroup {1|2|14}
```

- Enter the separate setting number [1-4] or [default] and specify the ISAKMP SA (phase 1) Diffie-Hellman group number.

- Specify the group number to be used.
- Not specifying a group number displays the current setting.

### ISAKMP SA (phase 1) validity period setting

```
msh> ipsec ike {1|2|3|4|default} ph1 lifetime validity period
```

- Enter the separate setting number [1-4] or [default] and specify the ISAKMP SA (phase 1) validity period.
- Enter the validity period (in seconds) from 300 to 172800.
- Not specifying a validity period displays the current setting.

### IPsec SA (phase 2) authentication algorithm setting

```
msh> ipsec ike {1|2|3|4|default} ph2 auth {hmac-md5|hmac-sha1}
```

- Enter the separate setting number [1-4] or [default] and specify the IPsec SA (phase 2) authentication algorithm.
- Separate multiple encryption algorithm entries with a comma (.). The current setting values are displayed in order of highest priority.
- Not specifying an authentication algorithm displays the current setting.

### IPsec SA (phase 2) encryption algorithm setting

```
msh> ipsec ike {1|2|3|4|default} ph2 encrypt {null|des|3des|aes128|aes192|aes256}
```

- Enter the separate setting number [1-4] or [default] and specify the IPsec SA (phase 2) encryption algorithm.
- Separate multiple encryption algorithm entries with a comma (.). The current setting values are displayed in order of highest priority.
- Not specifying an encryption algorithm displays the current setting.

### IPsec SA (phase 2) PFS setting

```
msh> ipsec ike {1|2|3|4|default} ph2 pfs {none|1|2|14}
```

- Enter the separate setting number [1-4] or [default] and specify the IPsec SA (phase 2) Diffie-Hellman group number.
- Specify the group number to be used.
- Not specifying a group number displays the current setting.

### IPsec SA (phase 2) validity period setting

```
msh> ipsec ike {1|2|3|4|default} ph2 lifetime validity period
```

- Enter the separate setting number [1-4] or [default] and specify the IPsec SA (phase 2) validity period.
- Enter the validity period (in seconds) from 300 to 172800.
- Not specifying a validity period displays the current setting.

### Reset setting values

```
msh> ipsec ike {1|2|3|4|default|all} clear
```

- Enter the separate setting number [1-4] or [default] and reset the specified setting. Specifying [all] resets all of the settings, including default.

### Initialize IPsec settings

```
msh> ipsec clear_init
```

- Use this command to reset the IPsec settings to their default values. Note however that the IPsec mode settings will be retained.

---

## Deactivating IPsec Using the Control Panel

---

To specify this setting, you must log in as a network administrator. For details about how to log in and out with administrator authentication, see p.25 "Logging in Using Administrator Authentication" and p.25 "Logging out Using Administrator Authentication".

Use the following procedure to deactivate IPsec on this printer.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Host Interface], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Network], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [IPsec], and then press the [OK] key.
5. Press the [▲] or [▼] key to select [Inactive], and then press the [OK] key.
6. Press the [Menu] key.



# Authentication by telnet

This section explains Authentication by telnet. When using telnet, the default login name for administrator login is "admin" and the password is empty. For details on how to login to telnet, see "Remote Maintenance Using telnet", UNIX Supplement.

## "authfree" Command

Use the "authfree" command to display and configure authentication exclusion control settings. If you use the "authfree" command in telnet, you can exclude printer job authentication and specify an IP address range. The authentication exclusion control display and setting methods are explained below.

### View Settings

```
msh> authfree
```

If print job authentication exclusion is not specified, authentication exclusion control is not displayed.

### IPv4 address settings

```
msh> authfree "ID" range_addr1 range_addr2
```

### IPv6 address settings

```
msh> authfree "ID" range6_addr1 range6_addr2
```

### IPv6 address mask settings

```
msh> authfree "ID" mask6_addr1 masklen
```

### Parallel/USB settings

```
msh> authfree [parallel|usb] [on|off]
```

- To enable authfree, specify "on". To disable authfree, specify "off".
- Always specify the interface.
- The factory default setting is "off".
- "parallel" can be selected when the IEEE 1284 interface board is installed.

### Authentication exclusion control initialization

```
msh> authfree flush
```

#### ↓ Note

- In both IPv4 and IPv6 environments, up to five access ranges can be registered and selected.

## Authentication by IEEE 802.1X

IEEE 802.1X enables authentication in an Ethernet or Wireless LAN environment. For details, see "Configuring IEEE 802.1X", Hardware Guide.

# 8. Specifying the Extended Security Functions

---

This chapter describes the printer's extended security features and how to specify them.

## Specifying the Extended Security Functions

In addition to providing basic security through user authentication and administrator specified access limits on the printer, security can also be increased by encrypting transmitted data and data in the Address Book. If you need extended security, specify the printer's extended security functions before using the printer.

This section outlines the extended security functions and how to specify them.

For details about when to use each function, see the corresponding chapters.

---

### Changing the Extended Security Functions

---

Administrators can change the extended security functions according to their role.

For details about logging in and logging out with administrator authentication, see p.25 "Logging in Using Administrator Authentication" and p.25 "Logging out Using Administrator Authentication".

To change the extended security functions, display the extended security screen as follows.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Extended Security], and then press the [OK] key.
4. Press the [▲] or [▼] key to select the setting you want to change, and then press the [OK] key.
5. Change the setting, and then press the [OK] key.
6. Press the [Menu] key.

---

### Extended Security Settings

---

This section explains the setting items under the Extended Security menu.

#### Driver Encryption Key

This can be specified by the network administrator.

Encrypt the password transmitted when specifying user authentication. If you register the encryption key specified with the printer in the driver, passwords are encrypted. For details, see the printer driver Help.

### Encrypt Address Book

This can be specified by the user administrator.

Encrypt the data in the printer's Address Book.

For details on protecting data in the Address Book, see p.61 "Protecting the Address Book".

Default : [Off]

- On
- Off

### Restrict User Info.Display

This can be specified by the machine administrator.

When the job history is checked using a network connection for which authentication is not available, all personal information can be displayed as "\*\*\*\*\*". For example, when someone not authenticated as an administrator checks the job history using SNMP in SmartDeviceMonitor for Admin, personal information can be displayed as "\*\*\*\*\*" so that users cannot be identified. Because information identifying registered users cannot be viewed, unauthorized users are prevented from obtaining information about the registered files.

Default : [Off]

- On
- Off

### Enhance File Protection

This can be specified by the file administrator.

By specifying a password, you can limit operations such as printing, deleting, and sending files, and can prevent unauthorized people from accessing the files. However, it is still possible for the password to be cracked.

By specifying [Enhance File Protection], files are locked and so become inaccessible if an invalid password is entered ten times. This can protect the files from unauthorized access attempts in which a password is repeatedly guessed.

When files are locked, you cannot select them even if the correct password is entered.

Default : [Off]

- On
- Off

### Settings by SNMPv1 and v2

This can be specified by the network administrator.

When the printer is accessed using the SNMPv1, v2 protocol, authentication cannot be performed, allowing machine administrator settings such as the paper setting to be changed. If you select [Prohibit], the setting can be viewed but not specified with SNMPv1, v2.

Default : [Do not Prohibit]

- Prohibit
- Do not Prohibit

### Simple Encryption

This can be specified by the network administrator.

When a sophisticated encryption method cannot be enabled, simple encryption can be applied. For example, SSL/TLS is unavailable when you are editing the Address Book with User Management Tool or using the ScanRouter delivery software to send documents from DeskTopBinder. In such cases, selecting [Do not Restrict] applies simple encryption, which will help maintain the security of your data. When SSL/TLS can be enabled, select [Restrict] for this function.

For details about specifying SSL/TLS, see "Setting the SSL/TSL Encryption Mode".

If you select [Restrict], specify the encryption setting using the printer driver.

Default : [Do not Restrict]

- Restrict
- Do not Restrict

### Authenticate Current Job

This can be specified by the machine administrator.

This setting lets you specify whether or not authentication is required for operations such as canceling jobs under the printer function.

If you select [Login Privilege], authorized users and the machine administrator can operate the printer. When this is selected, authentication is not required for users who logged in to the printer before [Login Privilege] was selected.

If you select [Access Privilege], users who canceled a print job in progress and the machine administrator can operate the printer.

Even if you select [Login Privilege] and log in to the printer, you cannot cancel a print job in progress if you are not authorized to use the printer function.

You can specify [Authenticate Current Job] only when [User Authentication Management] is already specified.

Default : [Off]

- Login Privilege
- Access Privilege
- Off

### Password Policy

This can be specified by the user administrator.

The password policy setting is effective only if Basic Authentication is specified.

This setting lets you specify [Complexity Setting] and [Minimum Character No.] for the password. By making this setting, you can limit the available passwords to only those that meet the conditions specified in [Complexity Setting] and [Minimum Character No.].

If you select [Level 1], specify the password using a combination of two types of characters selected from upper-case letters, lower-case letters, decimal numbers, and symbols such as #.

If you select [Level 2], specify the password using a combination of three types of characters selected from upper-case letters, lower-case letters, decimal numbers, and symbols such as #.

Default : [Do not Restrict]

Default : [0]

- Complexity Setting
  - Level 2
  - Level 1
  - Do not Restrict
- Minimum Character No. (0-32)

#### @Remote Service

This can be specified by the machine administrator.

Communication via HTTPS for [@Remote Service] is disabled if you select [Prohibit].

Default : [Do not Prohibit]

- Prohibit
- Do not Prohibit

## 8

#### Update Firmware

This can be specified by the machine administrator.

Specify whether to allow firmware updates on the printer. Firmware update means having the service representative update the firmware or updating the firmware via the using FTP, Web Image Monitor, or the control panel.

If you select [Do not Prohibit], there are no restrictions on firmware updates.

Default : [Do not Prohibit]

- Prohibit
- Do not Prohibit

#### Change Firmware Structure

This can be specified by the machine administrator.

Specify whether to prevent changes in the firmware structure. The Change Firmware Structure function detects updating, adding or deleting firmware using the SD card, FTP, Web Image Monitor or the control panel, or inserting or removing the SD card, or an SD card for a different printer model has been inserted.

If you select [Prohibit], the printer stops during startup when a firmware structure change is detected and a message requesting administrator login is displayed. After the machine administrator logs in, the printer finishes startup with the updated firmware.

The administrator can confirm whether the structure change is necessary or not by checking the firmware version displayed on the control panel screen. If the firmware structure change is unnecessary, contact your service representative.

When [Change Firmware Structure] is set to [Prohibit], administrator authentication must be enabled.

After [Prohibit] is specified, turn off administrator authentication once, and the next time administrator authentication is specified, the setting will return to the default [Do not Prohibit].

If you select [Do not Prohibit], firmware structure change detection is disabled.

Default : [**Do not Prohibit**]

- Prohibit
- Do not Prohibit

## Limiting Printer Operation to Customers Only

The printer can be set so that operation is impossible without administrator authentication.

The printer can be set to prohibit operation without administrator authentication and also prohibit remote registration in the Address Book by a service representative.

We maintain strict security when handling customers' data. Administrator authentication prevents us from operating the printer without administrator permission.

Use the following settings.

- Service Mode Lock

---

### Settings

---

To specify this setting, you must be logged in as a machine administrator. For details about how to log in and out with administrator authentication, see p.25 "Logging in Using Administrator Authentication" and p.25 "Logging out Using Administrator Authentication".

#### Service Mode Lock

Service mode is used by a service representative for inspection or repair. If you set the service mode lock to [On], service mode cannot be used unless the machine administrator logs on to the printer and cancels the service mode lock to allow the service representative to operate the printer for inspection and repair. This ensures that the inspection and repair are done under the supervision of the machine administrator.

8

---

### Specifying Service Mode Lock Preparation

---

Use the following procedure to specify the Service Mode Lock setting. To specify this setting, you must be logged in as a machine administrator.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Service Mode Lock], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [On], and then press the [OK] key.
5. Press [Yes].
6. Press the [Menu] key.



---

## Canceling Service Mode Lock

---

For a service representative to carry out inspection or repair in service mode, the machine administrator must log in to the printer and cancel the service mode lock.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [Security Options], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Service Mode Lock], and then press the [OK] key.
4. Press the [▲] or [▼] key to select [Off], and then press the [OK] key.
5. Press the [Menu] key.



# 9. Troubleshooting

This chapter describes what to do if the printer does not function properly.

## If Authentication Fails

This section explains what to do if a user cannot operate the printer because of a problem related to user authentication. Refer to this section if a user comes to you with such a problem.

### If a Message is Displayed

This section explains how to deal with problems if a message appears on the screen during user authentication.

The most common messages are explained. If some other message appears, deal with the problem according to the information contained in the message.

Messages	Cause	Solutions
Privileges are required to use this function.	The authority to use the function is not specified.	<ul style="list-style-type: none"><li>• If this appears when trying to use a function: The function is not specified in the Address Book management setting as being available. The user administrator must decide whether to authorize use of the function and then assign the authority.</li><li>• If this appears when trying to specify a default setting: The administrator differs depending on the default settings you wish to specify. Using the list of settings, the administrator responsible must decide whether to authorize use of the function.</li></ul>

Messages	Cause	Solutions
Failed to obtain URL.	The printer cannot connect to the server or cannot establish communication.	Make sure the server's settings, such as the IP address and host name, are specified correctly on the printer. Make sure the host name of the UA Server is specified correctly.
Failed to obtain URL.	The printer is connected to the server, but the UA service is not responding properly.	Make sure the UA service is specified correctly.
Failed to obtain URL.	SSL is not specified correctly on the server.	Specify SSL using Authentication Manager.
Failed to obtain URL.	Server authentication failed.	Make sure server authentication is specified correctly on the printer.
Authentication failed.	The entered login user name or login password is incorrect.	Ask the user administrator for the correct login user name and login password.
Authentication failed.	Authentication failed because no more users can be registered. (The number of users registered in the Address Book has reached capacity.)	Delete unnecessary user addresses.
Authentication failed.	Cannot access the authentication server when using Windows Authentication, LDAP Authentication, or Integration Server Authentication.	A network or server error may have occurred. Confirm the network in use with the LAN administrator.

Messages	Cause	Solutions
Set User Management in Admin. Auth. to on to use this setting.	Administrator Authentication is disabled in the administrator authentication management setting.	To use Basic Authentication, Windows Authentication, LDAP Authentication, and Integration Server Authentication, enable Administrator Authentication in the administrator authentication management setting beforehand. For the administrator authentication setting, see p.22 "Enabling Administrator Authentication".
File(s) without the privilege to delete have been selected. Such files will not be shown below.	You have tried to delete files without the authority to do so.	Files can be deleted by the file creator (owner) or file administrator. To delete a file which you are not authorized to delete, contact the file creator (owner).

#### ↓ Note

- If a message prompting you to make a service call appears, contact your service representative.

## If the Printer Cannot Be Operated

If the following conditions arise while users are operating the printer, provide the instructions on how to deal with them.

Condition	Cause	Solution
Cannot print using the printer driver.	User authentication has been rejected.	<p>Confirm the user name and login name with the administrator of the network in use if using Windows Authentication, LDAP Authentication, or Integration Server Authentication.</p> <p>Confirm with the user administrator if using basic authentication.</p>

Condition	Cause	Solution
Cannot print using the printer driver.	The encryption key specified in the driver does not match the printer's driver encryption key.	Specify the driver encryption key registered in the printer. See p.92 "Specifying a Driver Encryption Key".
After starting "User Management Tool" or "Address Management Tool" in SmartDeviceMonitor for Admin and entering the correct login user name and password, a message that an incorrect password has been entered appears.	"Restrict Use of Simple Encryption" is not set correctly. Alternatively, "SSL/TLS" has been enabled although the required certificate is not installed in the computer.	Set "Simple Encryption" to [Restrict]. Alternatively, enable "SSL/TLS", install the server certificate in the printer, and then install the certificate in the computer. See p.99 "Setting the SSL/TLS Encryption Mode".
User authentication is disabled, yet destinations specified using the printer do not appear.	User authentication may have been disabled while All Users is not specified.	Re-enable user authentication, and then enable All Users for the destinations that did not appear. For details about enabling All Users, see p.61 "Protecting the Address Book".
Cannot print when user authentication has been specified.	User authentication may not be specified in the printer driver.	Specify user authentication in the printer driver. For details, see the printer driver Help.
After you execute Encrypt Address Book, the Exit message does not appear.	The hard disk may be faulty. The file may be corrupt.	Contact your service representative.
The Overwriting Data function is disabled.	The SD card has been configured by another printer.	Do not insert an SD card that was configured by another printer. The Overwriting Data function is available only if the SD card was configured by this printer. Enable the function using the printer's control panel.

Condition	Cause	Solution
The Encrypting Data function is disabled.	The SD card has been configured by another printer.	Insert an SD card that was configured by this printer. Enable the function using the printer's control panel.





# 10. Appendix

This chapter describes supervisor operations, administrator settings, user access to settings and log settings.

## Supervisor Operations

The supervisor can delete an administrator's password and specify a new one.

If any of the administrators forget their passwords or if any of the administrators change, the supervisor can assign a new password. If logged in using the supervisor's user name and password, you cannot use normal functions or specify defaults.

Log in as the supervisor only to change an administrator's password.

### ★ Important

- The default login user name is "supervisor" and the login password is blank. We recommend changing the login user name and login password.
- When registering login user names and login passwords, you can specify up to 32 alphanumeric characters and symbols. Keep in mind that user names and passwords are case-sensitive.
- Be sure not to forget the supervisor login user name and login password. If you do forget them, a service representative will have to return the printer to its default state. This will result in all data in the printer being lost and the service call may not be free of charge.

### ↓ Note

- You cannot specify the same login user name for the supervisor and the administrators.
- Using Web Image Monitor, you can log in as the supervisor and delete an administrator's password or specify a new one.

---

## Logging in as the Supervisor

---

1. Log in to Web Image Monitor as an administrator.
2. Enter the login user name and password, and then click [Login].

When you assign the administrator for the first time, enter "supervisor", and leave the password empty.

The Web browser might be configured to auto complete login dialog boxes by retaining user names and passwords. This function reduces security. To prevent the browser retaining user names and passwords, disable the browser's auto complete function.

---

## Logging out as the Supervisor

---

If administrator authentication has been specified, be sure to log out after completing settings.

1. Click [Logout].
2. Close Web Image Monitor.

---

## Changing the Supervisor

---

1. Log in to Web Image Monitor in the supervisor mode.
2. Click [Configuration] in the Menu area.
3. Click [Program/Change Administrator] in the "Device Settings" category.
4. Enter the "Login User Name" in the "Supervisor" box.
5. Click [Change] in the "Login Password" area.
6. Enter the password, and then click [OK].
7. Click [Logout].
8. Close Web Image Monitor.

---

## Resetting an Administrator's Password

---

1. Log in to Web Image Monitor in the supervisor mode.
2. Click [Configuration] in the Menu area.
3. Click [Program/Change Administrator] in the "Device Settings" category.
4. Select the Administrator whose password you want to change.
5. Click [Change] in the "Login Password" area.
6. Enter the password, and then click [OK].
7. Click [Logout].
8. Close Web Image Monitor.

---

# User Administrator Settings

The user administrator settings that can be specified are as follows:

---

## Control Panel

---

### Security Options

- Extended Security
  - Encrypt Address Book
  - Password Policy

### Language

All the settings can be specified.

---

## Settings via Web Image Monitor

---

### Address Book

All the settings can be specified.

### Device Settings

- System
  - Display Panel Language
- Administrator Authentication Management
  - User Administrator Authentication
- Program/Change Administrator
  - You can specify the following administrator settings for the user administrator.
  - Login User Name
  - Login Password
  - Encryption Password

### Webpage

- Webpage
  - Download Help File

# Machine Administrator Settings

The machine administrator settings that can be specified are as follows:

---

## Control Panel

---

### Paper Input

All settings can be specified.

### Maintenance

- Quality Maintenance  
All settings can be specified.
- General Settings  
All settings can be specified.
- Timer Settings  
All settings can be specified.
- Machine Settings Export  
Export the machine settings to a SD card.

### List/Test Print

All settings can be specified.

### System

All settings can be specified.

### Print Settings

All settings can be specified.

### Security Options

- Extended Security  
Encrypt Address Book  
Restrict User Info.Display  
Authenticate Current Job  
@Remote Service  
Update Firmware  
Change Firmware Structure
- Service Mode Lock
- Auto Erase Memory Setting \*1
- Erase All Memory \*1

- Transfer Log Setting
- Machine Data Encryption <sup>\*1</sup>

\*1 The SD card supplied with the hard disk is required.

### Host Interface

- I/O Buffer
- I/O Timeout
- USB Settings
- Parallel Interface <sup>\*2</sup>

\*2 The IEEE 1284 interface board option must be installed.

---

## Settings via Web Image Monitor

---

### Home

- Reset Device
- Reset Printer Job

### Job

- Job List
  - Current/Waiting Jobs
- Printer
  - Spool Printing

### Device Settings

- System
  - Spool Printing
  - Protect Printer Display Panel
  - Display Panel Language
  - Permit Firmware Update
  - Permit Firmware Structure Change
  - Display IP Address on Device Display Panel
  - Paper Tray Priority
- Paper
  - All the settings can be specified.
- User Paper Type
  - All the settings can be specified.
- Date/Time

All the settings can be specified.

- Timer

All the settings can be specified.

- Logs

All the settings can be specified.

- Download Logs

All the settings can be specified.

- E-mail

All the settings can be specified.

- Auto E-mail Notification

All the settings can be specified.

- On-demand E-mail Notification

All the settings can be specified.

- User Authentication Management

All the settings can be specified.

- Administrator Authentication Management

Machine Administrator Authentication

- Program/Change Administrator

You can specify the following administrator settings for the machine administrator.

Login User Name

Login Password

Encryption Password

- LDAP Server

All the settings can be specified.

- Firmware Update

All the settings can be specified.

- Program/Change Realm

All the settings can be specified.

### Printer

- Basic Settings

All the settings can be specified.

- Tray Parameters (PCL)

All the settings can be specified.

- Tray Parameters (PS)  
All the settings can be specified.
- Virtual Printer Settings  
All the settings can be specified.
- PDF Group Password  
This setting is not available on this printer.
- PDF Fixed Password  
All the settings can be specified.

**Interface**

- USB

**Network**

- SNMPv3  
Access Type (Machine Administrator)

**Security**

- User Lockout Policy  
All the settings can be specified.

**RC Gate**

- All the settings can be specified.

**Webpage**

- Webpage  
Download Help File

**Extended Feature Settings**

- All the settings can be specified.

# Network Administrator Settings

The network administrator settings that can be specified are as follows:

---

## Control Panel

---

### System

- Print Compressed Data

### Security Options

- Extended Security
  - Driver Encryption Key
  - Settings by SNMPv1 and v2
  - Simple Encryption
- Network Security Level
  - All settings can be specified.

### Host Interface

If DHCP is set to On, the settings that are automatically obtained via DHCP cannot be specified.

- Network
  - All settings can be specified.
- Wireless LAN \*1
  - All settings can be specified.

\*1 Wireless LAN interface unit option must be installed.

---

## Settings via Web Image Monitor

---

### Device Settings

- System
  - Device Name
  - Comment
  - Location
  - Display Panel Language
- E-mail
  - All the settings can be specified.
- Administrator Authentication Management



### Network Administrator Authentication

- Program/Change Administrator

You can specify the following administrator settings for the network administrator.

Login User Name

Login Password

Encryption Password

### Printer

- Basic Settings  
Print Compressed Data

### Interface

- Interface Settings  
Ethernet Security  
Ethernet Speed
- Wireless LAN Settings \*1  
All the settings can be specified.  
\* 1 Wireless LAN interface unit option must be installed.

### Network

- IPv4  
All the settings can be specified.
- IPv6  
All the settings can be specified.
- NetWare  
All the settings can be specified.
- AppleTalk  
All the settings can be specified.
- SMB  
All the settings can be specified.
- SNMP  
All the settings can be specified.
- SNMPv3  
All settings except for "Account" (Network Administrator) can be specified.
- SSDP  
All the settings can be specified.

- Bonjour  
All the settings can be specified.

### **Security**

- Network Security  
All the settings can be specified.
- Access Control  
All the settings can be specified.
- IPP Authentication  
All the settings can be specified.
- SSL/TLS  
All the settings can be specified.
- ssh  
All the settings can be specified.
- Site Certificate  
All the settings can be specified.
- Device Certificate  
All the settings can be specified.
- IPsec  
All the settings can be specified.
- IEEE 802.1X  
All the settings can be specified.

### **Webpage**

All the settings can be specified.

---

# File Administrator Settings

The file administrator settings that can be specified are as follows:

---

## Control Panel

---

### Maintenance

- HDD Management
  - Delete All Temporary Jobs
  - Delete All Stored Jobs
  - Auto Delete Temporary Jobs
  - Auto Delete Stored Jobs

### Security Options

- Extended Security
  - Enhance File Protection

### Language

All settings can be specified.

---

## Settings via Web Image Monitor

---

### Printer: Print Jobs

The file administrator can Edit/Delete the Print Job List and Unlock the print job.

### Device Settings

- System
  - Display Panel Language
- Administrator Authentication Management
  - File Administrator Authentication
- Program/Change Administrator
  - You can specify the following administrator settings for the file administrator.
    - Login User Name
    - Login Password
    - Encryption Password

### Printer

- Basic Settings

Auto Delete Temporary Print Jobs

Auto Delete Stored Print Jobs

**Webpage**

- Webpage

Download Help File

# The Privilege for User Account Settings in the Address Book

The authority designations in the list indicate users with the following authorities.

- Abbreviations in the table heads

Read-only (User) = This is a user assigned "Read-only" authority.

Edit (User) = This is a user assigned "Edit" authority.

Edit / Delete (User) = This is a user assigned "Edit / Delete" authority.

User Admin. = This is the user administrator.

Registered User = This is a user that has personal information registered in the Address Book and has a login password and user name.

Full Control = This is a user granted full control.

- Abbreviations in the table columns

A = You can view and change the setting.

B = You can view the setting.

C = You cannot view or specify the setting.

Settings	Read-only (User)	Edit (User)	Edit / Delete (User)	Full Control	Registered User	User Admin.
Registration No.	B	A	A	A	A	A
Name	B	A	A	A	A	A

## Authentication Information

Settings	Read-only (User)	Edit (User)	Edit / Delete (User)	Full Control	Registered User	User Admin.
User Code	C	C	C	C	C	A
Login User Name	C	C	C	C	B	A
Login Password	C	C	C	C	A *1	A *1
Available Functions	C	C	C	C	B	A
Lockout	C	C	C	C	C	A

\*1 You can only enter the password.

### Protection

Settings	Read-only (User)	Edit (User)	Edit / Delete (User)	Full Control	Registered User	User Admin.
Protect Destination	C	C	C	A	A	A

### Add to Group

Settings	Read-only (User)	Edit (User)	Edit / Delete (User)	Full Control	Registered User	User Admin.
Details of Group	C	A	A	A	A	A

# User Settings-Control Panel Settings

If you have specified administrator authentication, the available functions and settings depend on the menu protect setting.

The following settings can be specified by ordinary users (non-administrators).

- Abbreviations in the table columns  
R/W (Read and Write) = Both reading and modifying the setting are available.  
R (Read) = Reading only.

## ↓ Note

- Settings that are not in the list can only be viewed, regardless of the menu protect level setting.

## Panel Menu

The default for menu protect level is 2.

### Paper Input

Settings	Off	Level 1	Level 2
All Settings	R/W	R/W	R

### Maintenance

Settings	Off	Level 1	Level 2
Image Density Adjustment	R/W	R	R
Plain Paper Setting	R/W	R/W	R
Letterhead Setting	R/W	R/W	R
Label Paper Setting	R/W	R/W	R
Envelope Setting	R/W	R/W	R
Registration	R/W	R	R
Replacement Alert	R/W	R	R
Display Supply Info	R/W	R	R
Unit of Measure	R/W	R	R
Panel Key Sound	R/W	R	R

Settings	Off	Level 1	Level 2
Warm-up Beeper	R/W	R	R
Display Contrast	R/W	R	R
Key Repeat	R/W	R	R
Auto Reset Timer	R/W	R	R
Set Date	R/W	R	R
Set Time	R/W	R	R
Auto Delete Temporary Jobs	R/W	R	R
Auto Delete Stored Jobs	R/W	R	R
Reset IPDS Fonts	R/W	R	R

**List/Test Print**

Settings	Off	Level 1	Level 2
All Settings	R/W	R/W	R/W

**System**

Settings	Off	Level 1	Level 2
Print Error Report	R/W	R	R
Auto Continue	R/W	R	R
Memory Overflow	R/W	R	R
Printer Language	R/W	R	R
Sub Paper Size	R/W	R	R
Default Printer Lang.	R/W	R	R
Auto Off	R/W	R	R
Print Compressed Data	R/W	R	R
Memory Usage	R/W	R	R
Spool Printing	R/W	R	R



Settings	Off	Level 1	Level 2
RAM Disk *1	R/W	R	R
Auto E-mail Notify	R/W	R	R

\*1 This setting does not appear when a hard disk is installed.

## Print Settings

Settings	Off	Level 1	Level 2
Copies	R/W	R	R
Page Size	R/W	R/W	R
Edge to Edge Print	R/W	R	R
Duplex	R/W	R	R
Rotate by 180 Degrees	R/W	R	R
Blank Page Print	R/W	R	R
Edge Smoothing	R/W	R	R
Toner Saving	R/W	R	R
Letterhead Setting	R/W	R	R
Tray Setting Priority	R/W	R	R
Tray Switching	R/W	R	R
Extend Auto Tray Switching	R/W	R	R
PCL Menu	R/W	R	R
PS Menu	R/W	R	R
PDF Menu	R/W	R	R
IPDS Menu	R/W	R	R

## Host Interface

Settings	Off	Level 1	Level 2
All Settings	R/W	R	R

## User Settings-Web Image Monitor Settings

The following settings can be specified when [Menu Protect] is set to [Off].

### Printer: Print Jobs

Print

Delete

### Printer

- PDF Temporary Password

### Webpage

- Webpage  
Download Help File

## Functions That Require Options

To use the following security functions, specific options are required.

When an option is installed on this printer, corresponding setting items appear on the control panel, or in Web Image Monitor.

Security Function	Required Options	Corresponding Setting Items
Data Overwrite Security	Hard disk * <sup>1</sup>	<ul style="list-style-type: none"> <li>Control Panel Auto Erase Memory Setting Erase All Memory</li> </ul>
HDD Encryption	Hard disk * <sup>1</sup>	<ul style="list-style-type: none"> <li>Control Panel Machine Data Encryption</li> </ul>
Basic Authentication	Hard disk	<ul style="list-style-type: none"> <li>Web Image Monitor Basic Authentication</li> </ul>
Windows Authentication	Hard disk	<ul style="list-style-type: none"> <li>Web Image Monitor Windows Authentication</li> </ul>
LDAP Authentication	Hard disk	<ul style="list-style-type: none"> <li>Web Image Monitor LDAP Authentication</li> </ul>
Integration Server Authentication	Hard disk	<ul style="list-style-type: none"> <li>Web Image Monitor Integration Server Authentication</li> </ul>
Locked Print	Hard disk	<ul style="list-style-type: none"> <li>Control Panel Locked Print Delete All Temporary Jobs Auto Delete Temporary Jobs</li> <li>Web Image Monitor Locked Print Auto Delete Temporary Print Jobs</li> </ul>

\* 1 The SD card supplied with the hard disk is required.

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- The product names of Windows XP are as follows:

Microsoft<sup>®</sup> Windows<sup>®</sup> XP Professional Edition

Microsoft<sup>®</sup> Windows<sup>®</sup> XP Home Edition

- The product names of Windows Vista are as follows:

Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Ultimate

Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Business

Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Home Premium

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- The product names of Windows Server 2008 are as follows:

Microsoft® Windows Server® 2008 Standard

Microsoft® Windows Server® 2008 Enterprise

Microsoft® Windows Server® 2008 Standard without Hyper-V™

Microsoft® Windows Server® 2008 Enterprise without Hyper-V™

- The product names of Windows Server 2008 R2 are as follows:

Microsoft® Windows Server® 2008 R2 Standard

Microsoft® Windows Server® 2008 R2 Enterprise



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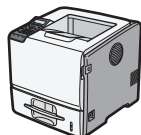
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MEMO

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MEMO







# UNIX Supplement

- 
- 1 Command Configuration
  - 2 Remote Maintenance Using telnet

**Introduction**

This manual contains detailed instructions and notes on the operation and use of this machine. For your safety and benefit, read this manual carefully before using the machine. Keep this manual in a handy place for quick reference.

Do not copy or print any item for which reproduction is prohibited by law.

Copying or printing the following items is generally prohibited by local law:

bank notes, revenue stamps, bonds, stock certificates, bank drafts, checks, passports, driver's licenses.

The preceding list is meant as a guide only and is not inclusive. We assume no responsibility for its completeness or accuracy. If you have any questions concerning the legality of copying or printing certain items, consult with your legal advisor.

**Important**

Contents of this manual are subject to change without prior notice.

In no event will the company be liable for direct, indirect, special, incidental, or consequential damages as a result of handling or operating the machine.

For good print quality, the manufacturer recommends that you use genuine toner from the manufacturer.

**Note**

This manual covers several different models, and therefore contains functions and settings that may not be available for your model.

Functions and supported operating systems may differ from those of your model.

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# How to Read This Manual

---

## Symbols

---

This manual uses the following symbols:

### **Important**

Indicates points to pay attention to when using the machine, and explanations of likely causes of paper misfeeds, damage to originals, or loss of data. Be sure to read these explanations.

### **Note**

Indicates supplementary explanations of the machine's functions, and instructions on resolving user errors.

### **Reference**

This symbol is located at the end of sections. It indicates where you can find further relevant information.

[ ]

Indicates the names of keys on the machine's display or control panels.

# 1. Command Configuration

This chapter explains how to set up a network printer and check print status.

## Before Setup

This section explains the preparation procedures required before you can use commands.

### ★ Important

- To print from a UNIX workstation, use a file that the printer supports.
- Setting up varies depending on the printing commands. Make sure to make settings accordingly.

## Using the lp/lpr Commands

1. Use the installation shell script to register the device option, as well as the printer host name and the IP address.

For details, see p.7 "Using the Installation Shell Script".

2. Start printing.

For details, see p.16 "Printing Method".

## Using the rsh/rcp/ftp Commands

### ★ Important

- Only the standard UNIX rsh and rcp commands are supported.
1. Edit the host file to register the printer host name and the IP address.

For details, see p.11 "After Executing the Installation Shell Script"

2. Start printing.

For details, see p.16 "Printing Method".

### ↓ Note

- If you cannot edit the host file, use the install shell script to register the host name.

## Windows Setup

Follow the procedure below to make network environment settings.

- 1. Enable TCP/IP with the control panel, and then set up the printer's network environment about TCP/IP including IP addresses.**

TCP/IP of the printer is set as default.

- 2. Install a TCP/IP in Windows to set up the network environment.**

Consult the administrator for the local setting information.

- 3. To print under Windows, install "Printing service for UNIX" or "LPD Print Service" as the network application.**

**Note**

- For details about setting up IPv4 address, see "Configuration", Hardware Guide.
- For details about setting the IPv4 address of the printer using DHCP, see "Using DHCP", Software Guide.

# Using the Installation Shell Script

The installation shell script helps with the setup process. The installation shell script automates some of the tasks in configuring `/etc/hosts`, `/etc/printcap`; creating the spool directory for BSD UNIX; and running the `lpadmin` command for System V UNIX.

## ★ Important

- The installation shell script can be used on the following workstations: (it cannot be used with other types of workstations.)
  - SunOS 4.x.x
  - Solaris 2.x(Sun OS 5.x), Solaris 7, Solaris 8
  - HP-UX
  - Red Hat Linux
  - UnixWare
  - OpenServer

## ↓ Note

- Depending on security settings when installed, `rsh/rcp/telnet` may not be usable with Red Hat 7.1 or later. Change the security level to allow use of `rsh/rcp/telnet`. For details about how to change the setting, see the operating instructions for Red Hat.
- When you use NIS (Network Information Service) or DNS, you should configure the server before running the installation shell script.
- Installation shell script does not support CUPS.
- When you use Solaris and HP-UX, you can set UNIX configuration with `admintools` that came with Solaris and HP-UX. For details about setting using the `admintools`, see the `admintool`'s manual.
- For details about the configuration utility of your operating system, see the manual that came with the utility.

---

## Assigning the IP Address

---

## ★ Important

- Configure the printer to use TCP/IP.
  - Make sure that TCP/IP on the printer is set to active. (Default setting is active.)
  - Assign an IP address to the printer and configure the other settings required for TCP/IP.

## ↓ Note

- For details about how to make the above settings, see the manual that comes with this printer.

## Checking the IP address configuration

---

Follow the procedure below to make sure that the IP address has been configured correctly.

- The following procedure uses the sample IP address: 192.168.15.16.

**1. Enter the following:**

```
# ping 192.168.15.16
```

If the address has been configured correctly, the following message appears:

```
192.168.15.16 is alive
```

If the address has been configured incorrectly, the following message appears:

```
no answer from 192.168.15.16
```

**Note**

- When you use NIS, the IP address and host name are written to `/etc/hosts` on the master server. When you use DNS, the information is written to a data file on the name server. After writing the host name and IP address to the file, make sure that the configuration is correct by pinging the host.

```
# ping host_name
```

- If the host name is registered with an IP address, the server can access the printer using its host name instead of its IP address.

---

## Executing the Installation Shell Script

---

Having configured the printer IP address, follow the procedure below to execute the installation shell script and set up the workstation printing environment.

**Important**

- Before executing the installation shell script, the IP address, host name, and printer name are required.
- The following procedures use the sample IP address: 192.168.15.16; sample host name: nphost; and sample printer name: np.
- Download the installation shell script from our Web site. Keep the installation shell script as local folders.

**1. Move to the directory that has kept the installation shell script.**

**2. Run the installation shell script.**

```
# sh ./install
```

Insert a period and slash before the current directory.

**3. Enter a number to select the workstation operating system that you are using.**

```
Network printer install shell
```

```
Select your workstation OS type
```

1. SunOS 4.x.x
2. Solaris 2.x, Solaris 7-9 (SunOS5.x)
3. HP-UX
4. UnixWare
5. Linux
6. OpenServer
7. Quit

Enter <1-7>:

If you select "7", the installation shell script ends.

#### 4. Enter the printer's IP address.

Enter Printer host IP address <xxx.xxx.xxx.xxx> [return=skip]:

192.168.15.16

If the host name of the printer has already been configured, press the [RETURN] ([ENTER]) key. Nothing will be added to the /etc/hosts file.

#### 5. Enter the printer's host name.

Enter Printer host name : nphost

If no IP address was entered in step 4, nothing is added to the /etc/hosts file.

#### 6. Configure the printer name.

Enter logical printer name [default nphost\_prn]

If you want to use the default name, press the [RETURN] ([ENTER]) key. Enter a new name, if you want to use a different one.

The host name entered in step 5 followed by "\_prn" appears in "default".

#### 7. Set the print option.

Enter remote printer name [default lp]:

- Press the [RETURN] ([ENTER]) key, and printing with PostScript is enabled.
- If you want to set the device option, enter the option parameter.  
Enter remote printer name [default lp]:tray=tray1
- If you enter "text", text printing is enabled.
- If you enter "text", printing with PostScript is disabled.

Enter remote printer name [default lp]:text

You can enter up to 14 characters for HP-UX 11.0, 256 for Solaris 8 and Red Hat Linux 7.0, and 51 for Red Hat Linux 6.2.

After setup with the installation shell script is complete, and if you entered the IP address in step 4, the following message appears:

hosts file is modified

### 8. Perform a test print to make sure that the settings are correct.

```
# lpr -Pnp file_name
```

```
# lp -d np file_name
```

#### Note

- SunOS, UnixWare, and OpenServer appear on the screen, but they are not supported. Use Solaris, HP-UX, or Linux.
- The IP address will be added to the `/etc/hosts` file.
- The host name will be added to the `/etc/hosts` file.
- When printing with the `lp` command, use ( `_` ) instead of ( `=` ) and ( `;` ) instead of ( `,` ) for operating systems that cannot use ( `=` ) and ( `,` ) such as Solaris 2.5 or later.
- For details about how to download the installation shell script, contact your sales or service representative.
- For details about `lpr` and `lp`, see "Printing Method".
- For details about the device option, see "Specifying the Device Option".

#### Reference

- p.16 "Printing Method"
- p.21 "Specifying the Device Option"

## Deleting the printer

---

To print using the `lp` or `lpr` command, the option specified when the installation shell script is executed is used. Change the option in accordance with the workstation you are using.

### BSD UNIX workstation, Linux

Delete the printer entry from `/etc/printcap`, and then execute the installation shell script again. Select options during the setup process.

Alternatively, search the printer entry from `/etc/printcap`, and change its `rp` capability to option setting.

### Solaris, HP-UX

Delete the printer entry, and then execute the installation shell script again.

Select options during the setup process. To delete the printer entry, follow the procedure below:

1. Stop the scheduler.

```
# /usr/sbin/lpshut
```

2. Delete the printer.

```
# /usr/sbin/lpadmin -x printer_name
```



- Restart the scheduler.

```
# /usr/lib/lpsched
```

## After Executing the Installation Shell Script

The printing environment is set up automatically when the installation shell script is executed.

This section describes setup contents when the installation shell script is executed under Red Hat Linux, Solaris, and HP-UX.

### Linux

#### Adding the IP address and host name to the `/etc/hosts` file

The following line is added to the `/etc/hosts` file. The IP address and printer host name which you previously entered in the installation script will be used:

```
192.168.15.16 nphost # Network Printer
```

- 192.168.15.16 is the IP address, nphost is the host name, from # to the end of the line is the comment.

#### Note

- The `/etc/hosts` file contains a list of the IP addresses and host names of all hosts communicating on the network. Each entry is delimited with a space or a tab, and each line is separated with a return.
- If you do not use NIS or DNS, you must manually enter the IP address and host name of each workstation using the network printer in the `/etc/hosts` file.

#### Adding an entry to the `/etc/printcap` file

The following entry is added to the `/etc/printcap` file, which is the configuration for printing with the `lpr` command. In order to use the `lpr` command to print, you need to edit the `/etc/hosts` file, add an entry for the network printer to the `/etc/printcap` file and create a spool directory:

```
##PRINTTOOL3## REMOTE
np|Network Printer:\
:rm=nphost:\
:rp=option:\
:sd=/var/spool/lpd/npd:\
:lf=/var/log/npd-errs:\
:sh:\
:mx#0:
```

### ↓ Note

- The `/etc/printcap` file is used to register the name and attributes of a printer. You must make an entry for the network printer in the `/etc/printcap` file of all workstations using the network printer.
- You must make an entry for each printer option when using the same printer.
- Each entry is separated with colons into several fields. The syntax is to begin each entry with a colon, followed by the entry, and then end with a colon, a back slash, and then a return.
- The first line of the field is the name of the printer. You use this name when logging on to a network printer from a workstation. You can define several different names by separating each name with the "|" character.
- The second and following lines contain the printer's attributes. Attributes are represented by two-character names referred to as capabilities. For details about capabilities, see the following table:

Capability	Explanation	Value required for the network printer.
rm	Host name of the printer.	The host name that was registered with the <code>/etc/hosts</code> file.
rp	Optional specification. "lp" will be assigned, if the option is not used.	Select options for printing. For details about available options, see "Specifying the Device Option".
sd	Path name of the spool directory.	Path name of the spool directory that is to be created.
lf	Path name of the log file.	Path name of the log file. For example <code>/var/log/lpd-errs</code> .
mx	Maximum file size which the directory can copy. When set to 0, the size is unlimited. If nothing is entered, the size is set to 1024 k.	None, or something suitable.

### 📖 Reference

- p.21 "Specifying the Device Option"

#### **Making the spool directory**

Create a spool directory under `/var/spool/lpd`. The name of the spool directory should be the name of the printer followed by a "d".

**Note**

- The spool directory is used to control data used for print jobs. For example, when a print job is created, a temporary copy of the data used is created in the spool directory. All workstations accessing the network printer need to have a spool directory for the network printer.
- A spool directory should be made for every network printer entry listed in the `/etc/printcap` file.
- The spool directory should normally be made under `/var/spool/lpd` and the name should match that listed under the `sd` capability in `/etc/printcap`.
- Change the owner and group of the directory to `root` and `lp`. The following examples show how to make a `/var/spool/lpd/npd` spool directory:

```
# cd /var/spool/lpd
# mkdir npd
# chown root npd
# chgrp lp npd
```

**Making the log file**

Error messages are logged to a file created in the `/var/log` directory. The log file name is the printer name followed by "d-errs".

**Note**

- The log file is used for logging errors or warning messages by the UNIX workstation.
- The log file should be made for every network printer entry listed in the `/etc/printcap` file.
- The log file should normally be made under `/var/log` directory and the name should match that listed under the `lf` capability in `/etc/printcap`. Change the owner and group of the log file to `root` and `lp`. The following examples show how to make a `/var/log/npd-errs` file:

```
# cd /var/log
# touch npd-errs
# chown root npd-errs
# chgrp lp npd-errs
```

---

**Solaris**

---

**Adding the IP address and host name to the `/etc/hosts` file**

The following line is added to the `/etc/hosts` file. The IP address and printer host name previously entered in the installation script will be used.

```
192.168.15.16 nphost # Network Printer
```

- 192.168.15.16 is the IP address, `nphost` is the host name, from `#` to the end of the line is the comment.

**Note**

- The `/etc/hosts` file contains a list of IP addresses and host names of all hosts communicating on the network. Each entry is delimited with a space or a tab, and each line is separated with a return.
- If you do not use NIS or DNS, you must manually enter the IP address and host name of each workstation using the network printer in the `/etc/hosts` file.

**Registering the printer**

The installation shell script registers the printer as a remote printer following the procedure below:

1. If your workstation is Solaris 2.5.1, register the print server and print client to the print service.

```
# lpsystem -t bsd -R 0 -y Network Printer nphost
```

2. Register the printer as a remote printer.

```
# lpadmin -p np -s nphost!option -T dump -I any
```

- `np` is the printer name, `nphost` is the host name. For details about "option", see "Specifying the Device Option".

"lp" will be assigned, if the option is not used.

When printing with the `lp` command, use ( `_` ) instead of ( `=` ) and ( `;` ) instead of ( `,` ) for operating systems that cannot use ( `=` ) and ( `,` ) such as Solaris 2.5 or later.

3. If your workstation is Solaris 2.5.1, set the print job to active so it can be accepted by the print queue.

```
/usr/lib/accept np
```

4. If your workstation is Solaris 2.5.1, set the print job to active to print.

```
/usr/lib/enable np
```

**Reference**

- p.21 "Specifying the Device Option"

---

**HP-UX**

---

**Adding the IP address and host name to the `/etc/hosts` file**

The following line is added to the `/etc/hosts` file. The IP address and printer host name previously entered in the installation script will be used:

```
192.168.15.16 np # Network Printer
```

- 192.168.15.16 is the IP address, `np` is the host name, from `#` to the end of the line is the comment.

**Note**

- The `/etc/hosts` file contains a list of IP addresses and host names of all hosts communicating on the network. Each entry is delimited with a space or a tab, and each line is separated with a return.

- If you do not use NIS or DNS, you must manually enter the IP address and host name of each workstation using the network printer in the `/etc/hosts` file.

## Registering the printer

The installation shell script registers the printer as a remote printer following the procedure below:

1. Stop the scheduler.

```
/usr/lib/lpshut
```

2. Register the printer.

```
/usr/lib/lpadmin -Pnp -v/dev/null -mmodel  
-ormnphost -orppoption -ob3
```

- `np` is the printer name, `nphost` is the host name.

For details about "option", see "Specifying the Device Option".

"lp" will be assigned, if the option is not used.

3. Set the printer so the print job is listed in the print queue.

```
/usr/lib/accept np
```

4. Set the printer to perform the print job.

```
/usr/lib/enable np
```

5. Restart the scheduler.

```
/usr/lib/lpsched
```

### Reference

- p.21 "Specifying the Device Option"

# Printing Method

This section explains how to print documents using commands.

**1**

---

## Printing with lpr, lp

---

Execute one of the following commands according to type of workstation used:

### **BSD UNIX workstation, Linux**

```
% lpr -Pprinter_name file_name [file_name...]
```

For example:

The printer name is np, file names are file1 and file2

```
% lpr -Pnp file1 file2
```

### **Solaris, HP-UX**

```
% lp -d printer_name file_name [file_name...]
```

For example:

The printer name is np, file names are file1 and file2

```
% lp -d np file1 file2
```

### **Windows**

```
% lpr -S printer's IP address (printer's host_name) -P printer_name [-o l] \path \file_name
```

To print a binary file, include the "-o l" switch (a dash followed by a lowercase O and L) after the printer name.

For example:

If the printer's IP address is 192.168.0.123, the printer name is np, and the file name is file1 (c:\print\file1.txt):

```
% lpr -S 192.168.0.123 -P np c:\print\file1.txt
```

### **Note**

- "printer\_name" is the printer name entered when executing the installation shell script with UNIX.
- You can use wild cards ( \* or ? ) for the file name.
- The message "print session full" appears when the maximum number of print requests has been reached (max. 5 sessions - Job Spool setting available).
- You should try to print again when the number of requests is less than five. You can check the number of print requests using telnet. For details about using telnet, see the manual that comes with this printer.
- The number of print sessions does not change, whether you increase or reduce the printer's total memory size.

## Printing with rsh, rcp, ftp

You can also print using the rsh, rcp, and ftp commands.

### ↓ Note

- Print using a format the printer supports.
- You should try to print again when the number of requests is zero.
- The message "print session full" appears when the maximum number of print requests is reached.
- The maximum number of print sessions varies depending on the command.
- When using the rsh, rcp command, the maximum number of print sessions is 5; when using the ftp command, the number is 3.

### rsh

```
% rsh host_name print < file_name
```

For example:

host name is nphost, file name is file1

```
% rsh nphost print < file1
```

### ↓ Note

- "host\_name" is the name entered when executing the installation shell script.
- If you are using HP-UX, use the remsh command instead of rsh.

### rcp

#### To specify and print the file

```
% rcp file_name [file_name...] host_name:
```

For example:

host name is nphost, file names are file1 and file2

```
% rcp file1 file2 nphost:
```

#### To print all of the files in a directory

```
% rcp -r directory_name host_name:
```

For example:

host name is nphost, directory name is directory

```
% rcp -r directory1 nphost:
```

### ↓ Note

- "host\_name" is the name entered when executing the installation shell script.

- You can use wild cards ( \* or ? ) for the file name.

## ftp

Use the put or mput command depending on the number of files to be printed.

### ★ Important

- File names cannot contain "=", ",", or ";".
- You can use wild cards ( \* or ? ) for the file name with the mput command.

#### To print one file

```
ftp> put file_name [Option]
```

#### To print several files

```
ftp> mput file_name [file_name...] [Option]
```

The following procedure shows an example of how to print a file using ftp.

It is not possible to set options with the mput command:

#### 1. Start ftp using the IP address or host name of the printer.

```
% ftp IP_address
```

#### 2. Enter the user name and password, and then press the [RETURN] ([ENTER]) key.

For details about the user name and password, consult your administrator.

```
User:
```

```
Password:
```

#### 3. Set the file transfer mode to binary.

```
ftp> bin
```

If the file transfer mode is not set to binary, the image may not be printed correctly.

#### 4. Print the file.

For example, to print the file named file1:

```
ftp> put \path\file1
```

For example, to print the two files named file1 and file2:

```
ftp> mput \path\file1 \path\file2
```

#### 5. Exit ftp.

```
ftp> bye
```



# Printer Status

You can use the following commands to have information and printer status displayed or copied to a file.

Use the `lpq` or `lpstat` command to display the status of the printer or information about print jobs.

Use the `rsh`, `rcp` or `ftp` commands to get more detailed information from the printer.

1

## Viewing the Print Job Status with `lpq` and `lpstat`

### BSD UNIX workstation, Linux

```
% lpq -Pprinter_name
```

For example: Printer name is np

```
% lpq -Pnp
```

### System V UNIX, Solaris, HP-UX

```
% lpstat -o printer_name
```

For example: Printer name is np

```
% lpstat -o np
```

#### ↓ Note

- If you are using HP-UX, do not put a space between "-o" and "printer name".

## Viewing the Printer Status with `rsh` and `ftp`

Use the `rsh` or `ftp` command to display printer status or information about print jobs using specified parameters.

You can use these commands for BSD and System V UNIX.

If your workstation is HP-UX, use the `remsh` command instead of `rsh`.

- `rsh`

```
% rsh host_name parameter
```
- `ftp`

```
% ftp host_name
User:
password:
ftp> get parameter -
```

Parameters that can be used with `rsh`, `rcp` and `ftp` :

Parameter	Information returned
stat	Status of the printer. Information about print jobs.
info	Information about the paper tray, output tray and printer language.
prnlog	Record of the last 10 jobs printed.
syslog	Record of messages about the network interface board.

#### ↓ Note

- For details about the user name and password, consult your administrator.
- "-" indicates standard output. Display will be displayed on screen if standard output has not been specified.

## Copying Information to a File

Use the rcp or ftp command to copy information about specified parameters to a file.

You can use these commands for BSD and System V UNIX.

#### ★ Important

- The same parameters are used as those above.
  - rcp
 

```
% rcp host_name:parameter file_name
```
  - ftp
 

```
% ftp host_name
User:
password:
ftp> get parameter file_name
```

#### ↓ Note

- For details about the user name and password, consult your administrator.

# Specifying the Device Option

With the following options, you can print with specific printer functions.

This manual covers all models, and therefore contains functions and settings that may not be available for your model.

## Configuring the Device Option

### ★ Important

- The optional character strings the printer can recognize contain a maximum of 512 bytes.
- The number of available characters used as options is limited, depending on operating systems.

The configuration of the print option varies, depending on printing commands.

- rsh  

```
% rsh host_name print option1=value1,... < file_name
```
- rcp  

```
% rcp file_name host_name:option1=value1,...
```
- ftp  

```
ftp> put file_name option1=value1,...
```

Host\_name is the printer host name. File\_name is the file name you want to print.

The device option is specified in the form of "option=value". For details about types of device options and values, see the following explanations.

For example, the following settings are for printing with rsh, rcp, and ftp : switch to PostScript, feed paper from paper feed tray 1, set the printing amount to 3 sets, and print with the resolution set to 600 dpi (host\_name :nphost, file\_name :file1).

- rsh  

```
% rsh nphost print filetype=postscript,tray=tray1,copies=3,resolution=600 < file1
```
- rcp  

```
% rcp file1 nphost:filetype=postscript,tray=tray1,copies=3,resolution=600
```
- ftp  

```
ftp> put file1 filetype=postscript,tray=tray1,copies=3,resolution=600
```

### ↓ Note

- Multiple options must be separated by commas (,). Do not use spaces.
- When the printing file contains the PostScript commands control of the option, the command takes priority.

- Enter the option using the lp or lpr command, when the shell script is implemented.
- The option settings made here are configured as default. You must create another printer if you want to change printer option settings. For details about changing the configured option, see "Executing the Installation Shell Script".
- When printing with the lp command, use ( \_ ) instead of ( = ) and ( ; ) instead of ( , ) for operating systems that cannot use ( = ) and ( , ) such as Solaris 2.5 or later.

#### Reference

- p.8 "Executing the Installation Shell Script"

### Using the cd command with ftp

For printing with ftp, if the option is specified using the cd command, it becomes available whenever the put or mput command is used.

```
ftp> cd option
```

#### Note

- The pwd command shows the current option settings.

```
ftp> pwd
```

### List of the device options

Device option	Value	Function summary.
filetype	pcl, postscript (rps), pdf	Specifies the printer language for printing.
filter	text	Specifies the text printing.
tray	tray1 - tray5, bypass, all	Specifies the input tray.
paper	a4, a5, a6, jisb5, jisb6, legal, letter, halfletter, executive, fgl, foolscap, folio, com10, c5, c6, dl, monarch, k16, custom	Specifies the paper size.

Device option	Value	Function summary.
mediatype	plainorrecycled, plain, recycled, special, special2, special3, thick, thick2, thick3, thick4, thin, transparency, color, letterhead, preprinted, labels, bond, cardstock, middlethick, envelope, glossycoated, thickglossycoated, matcoated, thickmatcoated, waterproof, custom1, custom2, custom3, custom4, custom5, custom6, custom7, custom8, auto	Specifies the paper type.
outbin	upper	Specifies the output tray.
copies	Number of copies (1-999)	Specifies the number of copies to print.
qty	Number of collated sets (1-999)	Specifies the number to collate.
duplex	on, off	Specifies whether duplex printing is on or off.
binding	longedge, shortedge, left, right, top	Specifies the binding direction for duplex printing.
orientation	portrait, landscape	Specifies the feed direction of the paper.
image direction	normal, reverse	Specifies the print image rotation.
resolution	value of resolution (300, 600, 1200)	Specifies the resolution for printing.
bitsperdot	1, 2	Specifies the print quality.
billing code	Value of billing code (0x09 (<HT>), 0x20-0xFF (except 0x22))	Specifies the billing code.
usercode	Value of usercode (specifies the user codes using up to eight digits)	Specifies the usercode.

Device option	Value	Function summary.
symbol set	arabic8, desktop, greek8, hebrew7, hebrew8, iso4, iso6, iso11, iso15, iso17, iso21, iso60, iso69, isocyr, isogr, isoheb, isol1, isol2, isol5, isol6, isol9, legal, math8, mctext, mspubl, pc8, pc775, pc850, pc851, pc852, pc858, pc862, pc864, pc866, pc866u, pc1004, pc8dn, pc8grk, pc8tk, pifont, psmath, pstext, roman8, roman9, ucs2, win30, winarb, winbaltic, wincyr, wingrk, winl1, winl2, winl5	Specify the set of print characters.

#### ↓ Note

- The value or actions that can be selected differ depending on the model you are using. For details about available value, see the manual that comes with this printer.

## Printer Language

Select a printer language to be used.

```
filetype=printer language
```

```
fil=printer language
```

Printer language	Value
PCL 5c or PCL 5e	pcl
PostScript 3	postscript or rps
PDF	pdf

The following sample shows how to print with PostScript 3 (host name: nphost, file name: file1):

- rsh  
% rsh nphost print filetype=postscript < file1
- rcp  
% rcp file1 nphost:filetype=postscript

- ftp  
ftp> put file1 filetype=postscript

---

## Text Printing

---

Set this function when printing text files directly.

filter=text

The following sample shows how to print text files directly.

- rsh  
% rsh nphost print filter=text < file1
- rcp  
% rcp file1 nphost:filter=text
- ftp  
ftp> put file1 filter=text

---

## Input Tray

---

Select a default input tray.

tray=value of input tray

Input tray	Value
Tray 1	tray1
Tray 2	tray2
Tray 3	tray3
Tray 4	tray4
Tray 5	tray5
Bypass tray	bypass
Auto Tray Select	all

The following sample shows how to print from tray 2 (host name: nphost, file name: file1):

- rsh  
% rsh nphost print tray=tray2 < file1
- rcp

```
% rcp file1 nphost:tray=tray2
```

- ftp

```
ftp> put file1 tray=tray2
```

### ↓ Note

- The value or actions that can be selected differ depending on the model you are using. For details about available tray, see the manual that comes with this printer.

## Paper Size

Select the paper size.

paper=value of paper size

Paper size	Value
A4	a4
A5	a5
A6	a6
B5JIS (Japanese Industrial Standard)	jisb5
B6JIS	jisb6
8 <sup>1</sup> / <sub>2</sub> × 14	legal
8 <sup>1</sup> / <sub>2</sub> × 11	letter
5 <sup>1</sup> / <sub>2</sub> × 8 <sup>1</sup> / <sub>2</sub>	halfletter
7 <sup>1</sup> / <sub>4</sub> × 10 <sup>1</sup> / <sub>2</sub>	executive
8 × 13	fgl
8 <sup>1</sup> / <sub>2</sub> × 13	foolscap
8 <sup>1</sup> / <sub>4</sub> × 13	folio
4 <sup>1</sup> / <sub>8</sub> × 9 <sup>1</sup> / <sub>2</sub>	com10
6.38 × 9.02 (162 × 229 mm)	c5
4.49 × 6.38 (114 × 162 mm)	c6
4.33 × 8.66 (110 × 220 mm)	dl



Paper size	Value
$3\frac{7}{8} \times 7\frac{1}{2}$	monarch
$7.68 \times 10.5$ (195 × 267 mm)	k16
Custom size	custom

The following sample shows how to print using A4 size paper (host name: nphost, file name: file1):

- rsh  
% rsh nphost print paper=a4 < file1
- rcp  
% rcp file1 nphost:paper=a4
- ftp  
ftp> put file1 paper=a4

#### Note

- The value or actions that can be selected differ depending on the model you are using. For details about available paper size, see the manual that comes with this printer.

## Paper Type

Select the paper type.

mediatype=value of paper type

Paper type	Value
Plain paper/recycled paper	plainorrecycled
Plain paper	plain
Recycled paper	recycled
Special paper	special
	special2
	special3

Paper type	Value
Thick paper	thick
	thick2
	thick3
	thick4
Thin Paper	thin
OHP transparency	transparency
Color paper	color
Letterhead	letterhead
Preprinted paper	preprinted
Labels	labels
Bond paper	bond
Cardstock	cardstock
Middle thick	middlethick
Envelope	envelope
Coated Paper (Glossy)	glossycoated
Coated Paper (Glossy : Thick)	thickglossycoated
Coated Paper (Matted)	matcoated
Coated Paper (Matted : Thick)	thickmatcoated
Waterproof Paper	waterproof

Paper type	Value
Custom Paper	custom1
	custom2
	custom3
	custom4
	custom5
	custom6
	custom7
	custom8
Auto Paper Select	auto

The following sample shows how to print using recycled paper (host name: nphost, file name: file1):

- rsh  
% rsh nphost print mediatype=recycled < file1
- rcp  
% rcp file1 nphost:mediatype=recycled
- ftp  
% ftp> put file1 mediatype=recycled

#### ↓ Note

- The value or actions that can be selected differ depending on the model you are using. For details about available paper type, see the manual that comes with this printer.

## Output Tray

Select the output tray.

outbin=value of output tray

Value
upper

The following sample shows how to print to the standard tray (standard tray: upper, host name: nphost, file name: file1):

- rsh  
% rsh nphost print outbin=upper < file1
- rcp  
% rcp file1 nphost:outbin=upper
- ftp  
ftp> put file1 outbin=upper

---

## Copies

---

Specify the number of copies.

copies=number of copies (1 to 999)

### ★ Important

- **Do not specify "copies" and "qty \*1" commands at the same time.**  
\*1 "qty" specifies the number of collated sets.

The following sample shows how to print 10 copies (host name: nphost, file name: file1):

- rsh  
% rsh nphost print copies=10 < file1
- rcp  
% rcp file1 nphost:copies=10
- ftp  
ftp> put file1 copies=10

---

## Collating

---

Specify the number of collated sets.

qty=number of collated sets (1 to 999)

The following sample shows how to print 10 copies using the collate function (host name: nphost, file name: file1):

- rsh  
% rsh nphost print qty=10 < file1
- rcp  
% rcp file1 nphost:qty=10
- ftp  
ftp> put file1 qty=10

## Duplex Printing

This option enables duplex printing.

### ★ Important

- **The duplex unit is required.**

duplex=value of duplex printing

Duplex printing	Value
enable	on
disable	off

The following sample shows how to set duplex printing (host name: nphost, file name: file1):

- rsh  
% rsh nphost print duplex=on,binding=longedge < file1
- rcp  
% rcp file1 nphost:duplex=on,binding=longedge
- ftp  
ftp> put file1 duplex=on,binding=longedge

### ↓ Note

- Before selecting duplex, the binding option must be set to on.
- Data and paper volume affect the completion of the print job.
- For details about available paper size for duplex printing, see the manual that comes with this printer.

## Binding

Select the binding direction for duplex printing.

### ★ Important

- **The duplex unit is required.**

binding=value of binding

Binding direction	Value
Longedge	longedge
Shortedge	shortedge

Binding direction	Value
Left	left
Right	right
Top	top

The following sample shows how to set duplex printing and long-edge binding (host name: nphost, file name: file1):

- rsh  
% rsh nphost print duplex=on,binding=longedge < file1
- rcp  
% rcp file1 nphost:duplex=on,binding=longedge
- ftp  
ftp> put file1 duplex=on,binding=longedge

#### ↓ Note

- Before selecting the binding option, the duplex option must be set to on.
- Data and paper volume affect completion of the print job.

## Orientation

Select the paper feed orientation.

#### ★ Important

- **This function is only for PCL.**

orientation=feed direction (portrait or landscape)

Orientation	value
Portrait	portrait
Landscape	landscape

The following sample shows how to print the paper vertically using the orientation function (host name : nphost, file name : file1):

- rsh  
% rsh nphost print orientation=portrait < file1
- rcp

```
% rcp file1 nphost:orientation=portrait
```

- ftp

```
ftp> put file1 orientation=portrait
```

## Image Direction

Select the print image rotation.

imagedirection=value of print image rotation

Rotation	Value
0 degree	normal
180 degrees	reverse

The following sample shows how to print the 180 degrees rotation using the imagedirection function (host name : nphost, file name : file1):

- rsh

```
% rsh nphost print imagedirection = reverse < file1
```

- rcp

```
% rcp file1 nphost: imagedirection = reverse
```

- ftp

```
ftp> put file1 imagedirection = reverse
```

## Resolution

Select the printing resolution.

resolution=value of resolution

Resolution	Value
1200 dpi	1200
600 dpi	600
300 dpi	300

The following sample shows how to print with 600 dpi and better quality. (host name: nphost, file name: file1):

- rsh  
% rsh nphost print resolution=600 < file1
- rcp  
% rcp file1 nphost:resolution=600
- ftp  
ftp> put file1 resolution=600

#### ↓ Note

- The value or actions that can be selected differ depending on the model you are using. For details about available resolution, see the manual that comes with this printer.

## Gradation Quality

Select this option to improve print quality.

#### ★ Important

- **Before you can select the bitsperdot option, the printer language must be set to PostScript 3 and the resolution must be set to 600 dpi.**

bitsperdot=value of gradation quality

Gradation quality	Value
Fine	2
Standard	1

The following sample shows how to print with 600 dpi and the fine quality. (host name: nphost, file name: file1):

- rsh  
% rsh nphost print filetype=postscript,resolution=600,bitsperdot=2 < file1
- rcp  
% rcp file1 nphost:filetype=postscript,resolution=600,bitsperdot=2
- ftp  
ftp> put file1 filetype=postscript,resolution=600,bitsperdot=2

#### ↓ Note

- The value or actions that can be selected differ depending on the model you are using. For details about available gradation quality, see the manual that comes with this printer.



## Billing Code

Specify the billing code.

billingcode=Value of billingcode (0x09(<HT>), 0x20-0xFF (except 0x22)) \*1

\*1 MAX 228 bytes = 255byte (Max number of characters allowed for each PJI command line on GW-PJI source)  
- 27 bytes (number of characters for @PJI SET BILLINGCODE = ""<CR><LF>)

- rsh  
% rsh nphost print billingcode=0x09 < file1
- rcp  
% rcp file1 nphost: billingcode=0x09
- ftp  
ftp> put file1 billingcode=0x09

### ↓ Note

- Note that PJI syntax allows any number of spaces to be entered. For example, multiple spaces can be inserted between "@PJI" and "SET", or before and after the "=" sign.
- Therefore, a password can be less than the maximum value (228 bytes).
- This also implies the maximum value (228 bytes) is secured as long as the normal syntax is used.

## Usercode

Specify the usercode.

Usercode=\"value of usercode\"

The usercode must be specified using up to eight digits.

The usercode must be inside double quotation marks (" ").

Some operating systems cannot forward the usercode if it is inside double quotation marks. If this is the case, include escape characters such as back slashes (\) (0x5c) in place of double quotation marks.

- rsh  
% rsh nphost print usercode=\"12345\" < file1
- rcp  
% rcp file1 nphost: usercode=\"12345\"
- ftp  
ftp> put file1 USERCODE=\"12345\"

### ↓ Note

- If you are printing with the ftp command, enter the usercode in uppercase letters.

## Symbol Set

Select the set of print characters for the chosen font.

### ★ Important

- This function is only for PCL.

symset=value of font

Symbol Set	Value
Arabic-8	arabic8
Desktop	desktop
Greek-8	greek8
Hebrew-7	hebrew7
Hebrew-8	hebrew8
ISO 4	iso4
ISO 6	iso6
ISO 11	iso11
ISO 15	iso15
ISO 17	iso17
ISO 21	iso21
ISO 60	iso60
ISO 69	iso69
ISO Cyrillic	isocyr
ISO Greek	isogrkr
ISO Hebrew	isoheb
ISO L1	isol1
ISO L2	isol2
ISO L5	isol5
ISO L6	isol6

Symbol Set	Value
ISO L9	isol9
Legal	legal
Math-8	math8
MC Text	mctext
MS Publ	mspubl
PC-8	pc8
PC-775	pc775
PC-850	pc850
PC-851	pc851
PC-852	pc852
PC-858	pc858
PC-862	pc862
PC-864	pc864
PC-866	pc866
PC-866U	pc866u
PC-1004	pc1004
PC-8 D/N	pc8dn
PC-8 Greek	pc8grk
PC8-TK	pc8tk
Pifont	pifont
PS Math	psmath
PS Text	pstext
Roman-8	roman8
Roman-9	roman9
UCS-2	ucs2

Symbol Set	Value
Win 3.0	win30
Win Arabic	winarb
Win Baltic	winbaltic
Win Cyrillic	wincyr
Win Greek	wingrk
Win L1	winl1
Win L2	winl2
Win L5	winl5

The following sample shows how to print the ISO 4 character set (host name : nphost, file name : file1):

- rsh  
% rsh nphost print symset=iso4 < file1
- rcp  
% rcp file1 nphost:symset=iso4
- ftp  
ftp> put file1 symset=iso4

# 2. Remote Maintenance Using telnet

This chapter explains the commands and functions you can use to manage the printer by telnet.

## Using telnet

Follow the procedure below to use telnet.

2

### ★ Important

- Remote Maintenance should be password-protected so that access is allowed to administrators only.
- The password is the same as the one of Web Image Monitor administrator. When the password is changed using "mshell", other passwords change also.
- Some commands cannot be used depending on your printer.
- Only one user at a time can log in to perform remote maintenance.
- If you are using Windows Vista/7 or Windows Server 2008/2008 R2 you must enable the telnet server and telnet client beforehand.

#### 1. Use the IP address or the host name of the printer to start telnet.

```
% telnet "IP_address"
```

#### 2. Enter your user name and password.

Contact your administrator for information about the settings.

#### 3. Enter a command.

#### 4. Quit telnet.

```
msh> logout
```

A message asking you to confirm saving the changes appears.

#### 5. Enter "yes" to save the changes, and then press the [RETURN] ([ENTER]) key.

If you do not want to save the changes, enter "no", and then press the [RETURN] ([ENTER]) key. To make further changes, enter "return" at the command line, and then press the [RETURN] ([ENTER]) key.

### ↓ Note

- If the message "Can not write NVRAM information" appears, the changes are not saved. Repeat the procedure above.
- When the changes are saved, the network interface board is reset automatically with that changes.
- When the network interface board resets, the print job in print process will be printed. However, print jobs in queue will be canceled.

## 8021x

Use the "8021x" commands to display IEEE 802.1x related information.

### View settings

```
msh> 8021x
```

### Configuration

```
msh> 8021x "parameter"
```

Parameter	Value configured
eap {tls ttls leap peap} {chap mschap mschapv2 pap md5 tls}	<p>You can specify the EAP authentication type.</p> <p>tls: EAP-TLS (default)</p> <p>ttls: EAP-TTLS</p> <p>leap: LEAP</p> <p>peap: PEAP</p> <p>chap, mschap, mschapv2, pap, md5, and tls are settings for the phase 2 method, and one of these must be specified if EAP-TTLS or PEAP is selected.</p> <p>Do not make these settings when using other EAP authentication types.</p> <p>If you select EAP-TTLS, you can select chap, mschap, mschapv2, pap, or md5.</p> <p>If you select PEAP, you can select mschapv2 or tls.</p>
username "character string"	<p>You can specify the login user name for the Radius server.</p> <p>Usable characters: ASCII 0x20-0x7e (31 bytes).</p> <p>The default is blank.</p>
username2 "character string"	<p>You can specify the phase 2 username for EAP-TTLS/PEAP phase 2 authentication.</p> <p>Usable characters: ASCII 0x20-0x7e (31 bytes).</p> <p>The default is blank.</p>

Parameter	Value configured
domain "character string"	You can specify the login domain name for the Radius server.  The characters you can enter are ASCII 0x20-0x7e (64 bytes), but not "@" or "\".  The default is blank.
password "character string"	You can specify the login password for the Radius server.  Usable characters: ASCII 0x20-0x7e (128 bytes). The default is blank.
svrcert {on off}	You can set the server certificate. The default is "off".
imca {on off}	You can enable or disable the certificate when the intermediate certificate authority is present. The default is "off".
srvld "character string"	You can set the server ID and sub domain of the certificate server.  Usable characters: ASCII 0x20-0x7e (128 bytes). The default is blank.
clear {a each command all}	Returns the selected setting to its default value.  If you specify "all", all settings will be restored to their default values. However, IEEE 802.1x Auth. status (enable or disable) for Ethernet and Wireless LAN will not be initialized.

## access

Use the "access" command to view and configure access control. You can also specify two or more access ranges.

### View settings

```
msh> access
```

### IPv4 configuration

```
msh> access [X] range "start-address end-address"
```

- [X] represents a target number between 1 and 5. (Up to five access ranges can be registered and selected.)

Example: to specify accessible IPv4 addresses between 192.168.0.10 and 192.168.0.20:

```
msh> access 1 range6 192.168.0.10 192.168.0.20
```

### IPv6 configuration

```
msh> access [X] range6 "start-address end-address"
```

- [X] represents a target number between 1 and 5. (Up to five access ranges can be registered and selected.)

Example: to specify accessible IPv6 addresses between 2001:DB8::100 and 2001:DB8::200.

```
msh> access 1 range6 2001:DB8::100 2001:DB8::200
```

### IPv6 access mask configuration

```
msh> access [X] mask6 "base-address prefixlen"
```

- [X] represents a target number between 1 and 5. (Up to five access ranges can be registered and selected.)

Example: to specify accessible IPv6 addresses to 2001:DB8::/32

```
msh> access 1 mask6 2001:DB8:: 32
```

### Access control initialization

```
msh> access flush
```

- Use the "flush" command to restore the default settings so that all access ranges become "0.0.0.0" for IPv4, and "::" for IPv6.

#### Note

- The access range restricts computers from use of the printer by IP address. If you do not need to restrict printing, make the setting "0.0.0.0" for IPv4, and "::" for IPv6.
- Valid ranges must be from lower (start address) to higher (end address).
- If you are running IPv4 or IPv6, up to five access ranges can be registered and selected.
- IPv6 can register and select the range and the mask for each access ranges.
- IPv6 mask ranges between 1 - 128 can be selected.
- Up to five access ranges can be specified. The entry is invalid if the target number is omitted.
- You cannot send print jobs, or access Web Image Monitor and diprint from a restricted IP address.

---

## authfree

---

Use the "authfree" command to view and configure authfree parameters.

### View settings

The following command displays the current authfree settings:

```
msh> authfree
```



- If print job authentication exclusion is not set, authentication exclusion control cannot be displayed.

### IPv4 address settings

```
msh> authfree "ID" range_addr1 range_addr2
```

### IPv6 address settings

```
msh> authfree "ID" range6_addr1 range6_addr2
```

### IPv6 address mask configuration

```
msh> authfree "ID" mask6_addr1 masklen
```

### Parallel/USB settings

```
msh> authfree [parallel | usb] [on|off]
```

- To enable authfree, set to on. To disable authfree, set to off. Always specify the interface.

### Authentication exclusion control initialization

```
msh> authfree flush
```

---

## autonet

---

Use the "autonet" command to view and configure AutoNet parameters.

### View settings

The following command displays the current AutoNet settings:

```
msh> autonet
```

### Configuration

You can configure AutoNet settings.

```
msh> autonet {on|off}
```

- {on} means "active" and {off} means "inactive".

### Current interface priority configuration display

```
msh> autonet priority
```

### Interface priority configuration

```
msh> autonet priority "interface_name"
```

- You can give interface's AutoNet parameter priority.
- Priority settings are available when multiple interfaces are installed.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet interface

Interface name	Interface configured
wlan	Wireless LAN interface

**Note**

- If an interface is not selected, the current interface connection settings remain in effect.

2

## bonjour

Use the "bonjour" command to display bonjour-related settings.

### View settings

Bonjour settings are displayed.

```
msh> bonjour
```

### Bonjour service name setting

You can specify the bonjour service name.

```
msh> bonjour cname "computer name"
```

- The computer name can be entered using up to 63 alphanumeric characters.

### Bonjour Installation location information setting

You can enter information about the location where the printer is installed.

```
msh> bonjour location "location"
```

- Information about the location can be entered using up to 32 alphanumeric characters.

### Setting order of priority for each protocol

- dprint

```
msh> bonjour dprint [0-99]
```

- lpr

```
msh> bonjour lpr [0-99]
```

- ipp

```
msh> bonjour ipp [0-99]
```

You can specify the order of priority for "dprint", "lpr", and "ipp". Smaller numbers indicate higher priority.

### IP TTL setting

```
msh> bonjour ip ttl {1-255}
```

You can specify the IP TTL (the number of routers a packet can pass through).

### ↓ Note

- The default is 255.

### Resetting the computer name and location information

You can reset the computer name and location information.

```
msh> bonjour clear {cname | location}
```

- **cname**  
Reset the computer name. The default computer name will be displayed when the computer is restarted.
- **location**  
Reset the location information. The previous location information will be deleted.

### Interface configuration

```
msh> bonjour linklocal "interface_name"
```

- If many types of interface are installed, configure the interface that communicates with linklocal address.
- If you do not specify an interface, the Ethernet interface is automatically selected.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

### Setting IPP-SSL printing

```
msh> bonjour ippport {ipp|ssl}
```

- If IPP-SSL Printing is set to ssl, the IPP port number will appear as 443, and IPP-SSL printing can be performed with higher security.
- If IPP-SSL Printing is set to ipp, the IPP port number will appear as 631. Port 631 is the port for normal IPP printing.

## devicename

Use the "devicename" command to display and change the printer name.

### View settings

```
msh> devicename
```

### Printer name configuration

```
msh> devicename name "string"
```

- Enter a printer name using up to 31 alphanumeric characters.
- Set single names for each printer.

### Printer name initialization

```
msh> device name clearname
```

- Reset the printer name to its default.

## 2

## dhcp

Use the "dhcp" command to configure DHCP settings.

### View settings

The following command displays the current DHCP settings.

```
msh> dhcp
```

### Configuration

You can configure DHCP.

```
msh> dhcp "interface_name" {on|off}
```

- Click {on} to enable DHCP. Click {off} to disable DHCP.
- If the DNS server address and domain name are obtained from DHCP, be sure to click {on}.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

### Current interface priority configuration display

```
msh> dhcp priority
```

### Interface priority configuration

```
msh> dhcp priority "interface_name"
```

- You can select which interface has DHCP parameter priority.
- Priority settings are available when multiple interfaces are installed.

### DNS server address selection

```
msh> dhcp dnsaddr {dhcp | static}
```

- Specify whether to obtain the DNS server address from the DHCP server or use the address set by a user.
- To obtain the DNS server address from the DHCP server, specify "dhcp". To use the address set by a user, specify "static".

### Domain name selection

```
msh> dhcp domainname {dhcp | static}
```

- Specify whether to obtain the domain name from the DNS server or use the domain name set by a user.
- To obtain the domain name from the DHCP server, specify "dhcp". To use the domain name set by a user, specify "static".

---

## dhcp6

---

Use the "dhcp6" command to display or configure DHCPv6 settings.

### View settings

The following command displays the current DHCPv6 settings.

```
msh> dhcp6
```

### DHCPv6-lite configuration and display

```
msh> dhcp6 "interface_name" lite {on|off}
```

### Viewing and specifying DNS server address selection (obtained from the dhcpv6 server/user specified value)

```
msh> dhcp6 dnsaddr {dhcp|static}
```

### DUID(DHCP unique ID) deletion and display

```
msh> dhcp6 duid clear
```

### Viewing and specifying the time required to re-obtain the parameter obtained from dhcpv6

```
msh> dhcp6 option lifetime [0-65535]
```

- It can be entered between 0 and 65535 minutes.
- The default is 60 minutes.
- If you specify "0", you cannot re-obtain the value.

---

## diprint

---

The direct printing port enables direct printing from a network-connected computer.

Use the "diprint" command to change direct printing port settings.

### View settings

The following command displays the current direct printing port settings:

```
msh> diprint
```

Example output:

```
port 9100
```

```
timeout=300(sec)
bidirect on
conn multi
apl async
```

- The "port" specifies the port number of the direct printing port.
- The "bidirect" setting indicates whether the direct printing port is bidirectional or not.

### Setting timeout

```
msh> diprint timeout [30-65535]
```

- You can specify the timeout interval to use when the printer is expecting data from the network.
- The default is 300 seconds.

### Specifying the number of concurrent connections

```
msh> diprint conn {multi|single}
```

- The above command specifies the number of concurrent diprint connections. Specify "multi" for multiple connections or "single" for a single connection.
- The default is "multi".

---

## dns

---

Use the "dns" command to configure or display DNS (Domain Name System) settings.

### View settings

The following command displays the current DNS settings:

```
msh> dns
```

### IPv4 DNS server configuration

The following command enables or disables the IPv4 DNS server address:

```
msh> dns "number" server "server address"
```

The following command displays a configuration using the IP address 192.168.15.16 on a DNS 1 server:

```
msh> dns 1 server 192.168.15.16
```

- You can register IPv4 DNS Server address.
- You can register up to three IPv4 DNS server numbers.
- You cannot use "255.255.255.255" as the DNS server address.

### IPv6 DNS server configuration

The following command enables or disables the IPv6 DNS server address:

```
msh> dns "number" server6 "server address"
```

- You can register IPv6 DNS Server address.
- You can register up to three IPv6 DNS server numbers.

### Dynamic DNS function setting

```
msh> dns "interface_name" ddns {on|off}
```

- You can set the dynamic DNS function "active" or "inactive".
- {on} means "active" and {off} means "inactive".
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

### Specifying the record overlap operation

```
msh> dns overlap {update|add}
```

- You can specify operations performed when records overlap.
- update  
To delete old records and register new records.
- add  
To add new records and store the old records.
- When CNAME overlaps, it is always changed, irrespective of the setting.

### CNAME registration

```
msh> dns cname {on|off}
```

- You can specify whether to register CNAME.
- {on} means "active" and {off} means "inactive".
- The CNAME registered is the default name beginning with rnp. CNAME cannot be changed.

### A records registration

```
msh> dns arecord {dhcp|own}
```

- {dhcp}  
You can specify the method of registering an A record when the dynamic DNS function is enabled and DHCP is used.
- {own}  
To register an A record using the printer as the DNS client.  
The DNS server address and the domain name already designated are used for the registration.

**Record updating interval settings**

```
msh> dns interval "time"
```

- You can specify the interval after which records are updated when using the dynamic DNS function.
- The updating interval is specified hourly. It can be entered between 1 and 255 hours.
- The default is 24 hours.

**resolv.conf display**

```
msh> dns resolv
```

**Specifying the protocol when asking names during dual stacking**

```
msh> dns resolv protocol {ipv4|ipv6}
```

- Appears during dual stacking only.

---

**domainname**

---

Use the "domainname" command to display or configure the domain name settings.

You can configure the Ethernet interface or Wireless LAN interface.

**View settings**

The following command displays the current domain name:

```
msh> domainname
```

**Interface domain configuration**

```
msh> domainname "interface_name"
```

**Setting the domain name**

```
msh> domainname "interface_name" name "domain name"
```

- A domain name can be entered using up to 63 alphanumeric characters.
- The Ethernet interface and Wireless LAN interface will have the same domain name.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface	Interface set
ether	Ethernet interface
wlan	Wireless LAN interface

**Deleting the domain name**

```
msh> domainname "interface_name" clear "name"
```



---

## etherauth

---

Use the "etherauth" command to display or modify the authentication related parameters for Ethernet.

### View settings

```
msh> etherauth
```

### 802.1x configuration

```
msh> etherauth 8021x {on|off}
```

- {on} means "active" and {off} means "inactive".

---

## etherconfig

---

Use the "etherconfig" command to view and configure the Ethernet parameters.

### View settings

```
msh> etherconfig
```

### Specify Ethernet Speed

```
msh> etherconfig speed {auto|10f|10h|100f|100h}
```

- auto = Auto Select
- 10f = 10 Mbps Full Duplex
- 10h = 10 Mbps Half Duplex
- 100f = 100 Mbps Full Duplex
- 100h = 100 Mbps Half Duplex

The default is "auto".

---

## help

---

Use the "help" command to display the available command list and the procedures for using those commands.

### Command list display

```
msh> help
```

### Display of procedure for using commands

```
msh> help "command_name"
```

---

## hostname

---

Use the "hostname" command to change the printer name.

**View settings**

```
msh> hostname
```

**IPv4 Configuration**

```
msh> hostname "interface_name" "printer_name"
```

- Enter the printer name using up to 63 alphanumeric characters.
- You cannot use a printer name starting with "RNP" or "rnp".
- The Ethernet interface and Wireless LAN interface will have the same printer name.
- wlan can be specified only when the Wireless LAN interface unit is installed.
- If you do not specify an interface, the Ethernet interface is selected automatically.

Interface name	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

**Initializing the printer name for each interface**

```
msh>hostname "interface_name" clear "name"
```

**ifconfig**

Use the "ifconfig" command to view and configure TCP/IP (IP address, subnet mask, broadcast address, default gateway address) for the printer.

**View settings**

```
msh> ifconfig
```

**IPv4 configuration**

```
msh> ifconfig "interface_name" "parameter" "address"
```

- If you did not enter an interface name, it is automatically set to the Ethernet interface.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet Interface
wlan	Wireless LAN Interface

The following explains how to configure an IPv4 address 192.168.15.16 on the Ethernet interface.

```
msh> ifconfig ether 192.168.15.16
```

### IPv6 configuration

```
msh> ifconfig ether inet6 "interface_name" "prefixlen"
```

The following explains how to configure an IPv6 address to 2001:DB8::100 with prefix length 64 on the Ethernet interface.

```
msh> ifconfig ether inet6 2001:DB8::100 64
```

### Netmask configuration

```
msh> ifconfig "interface_name" netmask "address"
```

The following explains how to configure a subnet mask 255.255.255.0 on the Ethernet interface.

```
msh> ifconfig ether netmask 255.255.255.0
```

### Broadcast address configuration

```
msh> ifconfig "interface_name" broadcast "address"
```

### Changing the interface

```
msh> ifconfig "interface" up
```

You can specify either the Ethernet interface or Wireless LAN interface when using the optional Wireless LAN interface unit is installed.

#### Note

- To get the above addresses, contact your administrator.
- Use the default configuration if you cannot obtain setting addresses.
- The IP address, subnet mask and broadcast address are the same as that for the Ethernet interface and Wireless LAN interface.
- TCP/IP configuration is the same for both the Ethernet and Wireless LAN interface. If interfaces are changed, the new interface inherits the configuration.
- Use "0x" as the initial two letters of a hexadecimal address.

## info

Use the "info" command to display the printer information such as paper tray, output tray, and printer language.

### Printer information display

```
msh> info
```

#### Note

- For details about displayed contents, see "Getting Printer Information over the Network".

#### Reference

- p.79 "Getting Printer Information over the Network"

---

## ipds

---

Use the "ipds" command to view and configure the ipds settings.

### Viewing settings

The following command displays the current ipds settings:

```
msh> ipds
```

### Changing ipds port number

```
msh> ipds port [1024-65535]
```

- The default is 5001.

#### Note

- Cannot use the port number of the 2501, 2601, and 9100.

### Setting timeout

```
msh> ipds timeout [30-65535]
```

- The timeout function is disabled by default.

---

## ipsec

---

Use the "ipsec" command to view and configure the IPsec settings.

### Viewing settings

The following command displays the current IPsec settings:

```
msh> ipsec
```

---

## ipp

---

Use the "ipp" command to view and configure the IPP settings.

### Viewing settings

The following command displays the current IPP settings:

```
msh> ipp
```

### IPP timeout configuration

Specify how many seconds the computer waits before canceling an interrupted print job. The time can be entered between 30 to 65535 seconds.

```
msh> ipp timeout [30 - 65535]
```

### IPP user authorization configuration

Use IPP user authorization to restrict users to print with IPP. The default is "off".

```
msh> ipp auth {basic|digest|off}
```

- User authorization settings are "basic" and "digest".
- Use "off" to remove a user's authorization.
- If user authorization is specified, register a user name. You can register up to 10 users.

### IPP user configuration

Configure IPP users according to the following messages:

```
msh> ipp user
```

The following message appears:

```
msh> Input user number (1 to 10):
```

Enter the number, user name, and password.

```
msh> IPP user name:user1
```

```
msh> IPP password:*****
```

After configuring the settings, the following message appears:

```
User configuration changed.
```

---

## ipv6

---

Use the "ipv6" command to display and configure the IPv6 settings.

### View setting

```
msh> ipv6
```

### IPv6 stateless address

```
msh> ipv6 stateless {on|off}
```

If "on" is selected, IPv6 requests information required for maintaining stateful connection to the router for as long as the printer power is turned on. This setting allows information from the router to be obtained constantly, and periodically refreshes the effective period of the stateless address.

---

## logout

---

Use the "logout" command to save the changes and quit telnet.

### Quit telnet

```
msh> logout
```

A confirmation message appears.

```
{yes|no|return}
```

Enter [yes], [no] or [return] by typing the word, and then press the [Enter] key.

To save the changes and quit telnet, enter [yes].

To discard the changes and quit telnet, enter [no].

To continue making changes, enter [return]

---

## lpr

---

2

Use the "lpr" command to view and configure the LPR settings.

### View setting

```
msh> lpr
```

### Checking host name when deleting the job

```
msh> lpr chkhost {on|off}
```

If "on" is selected, you can delete print jobs only from the IP address of the host that sent the print job.

If LPR is disabled, you can also delete print jobs sent from IP addresses other than that of the host.

### Printer Error Detection Function

```
lpr pnerrchk {on|off}
```

If you set this to "on", the printer stops receiving data and will wait until the error is resolved before continuing processing a job.

---

## netware

---

Use the "netware" command to configure the NetWare settings such as the print server name or file server name.

### NetWare printer server names

```
msh> netware pname "character string"
```

- Enter the NetWare print server name using up to 47 characters.

### NetWare file server names

```
msh> netware fname
```

- Enter the NetWare file server name using up to 47 characters.

### Encap type

```
msh> netware encap {802.3|802.2|snap|ethernet2|auto}
```

### Remote printer number

```
msh> netware rnum {0-254}
```

### Timeout

```
msh> netware timeout {3-255}
```

**Printer server mode**

```
msh> netware mode pserver
msh> netware mode ps
```

**Remote printer mode**

```
msh> netware mode rprinter
msh> netware mode rp
```

**NDS context name**

```
msh> netware context "character string"
```

**SAP interval**

```
msh> netware "sap_interval"
```

**Setting login mode for file server**

```
msh> netware login server
```

**Setting login mode for NDS tree**

```
msh> netware login tree
```

**Setting login mode for NDS tree name**

```
msh> netware tree "NDS name"
```

**File transfer protocol**

```
msh> netware trans {ipv4pri|ipxpri|ipv4|ipx}
```

If you do not specify the protocol, the current setting is displayed.

Protocol	Set Protocol
ipv4pri	IPv4+IPX(IPv4)
ipxpri	IPv4+IPX(IPX)
ipv4	IPv4
ipx	IPX

**passwd**

Use the "passwd" command to change the remote maintenance password.

**Changing the password**

```
msh> passwd
```

- Enter the current password.
- Enter the new password.

- Re-enter the new password to confirm it.

### Changing the password of the administrators using the supervisor

```
msh> passwd {Administrator ID}
```

- Enter the new password.
- Re-enter the new password to confirm it.

**2**

#### ↓ Note

- Be sure not to forget or lose the password.
- The password can be entered using up to 32 alphanumeric characters. Characters are case-sensitive. For example, "R" is not the same as "r".

---

## pathmtu

---

Use the "pathmtu" command to display and configure the PathMTU Discovery service function.

### View settings

```
msh> pathmtu
```

### Configuration

```
msh> pathmtu {on|off}
```

- The default is "on".
- If the MTU size of the sent data is larger than the router's MTU, the router will declare it impassable, and communication will fail. If this happens, setting "pathmtu" to "off" optimizes the MTU size and prevents data output failure.
- Depending on the environment, information might not be obtained from the router, and communication will fail. If this happens, set "pathmtu" to "off".

---

## prnlog

---

Use the "prnlog" command to obtain printer log information.

### Print logs display

```
msh> prnlog
```

- Displays 16 previous print jobs.

```
msh> prnlog "ID Number"
```

- Specify the ID number of the displayed print log information to display additional details about a print job.

#### ↓ Note

- For details about displayed contents, see "Getting Printer Information over the Network".



## Reference

- p.79 "Getting Printer Information over the Network"

---

## rhpp

---

Use the "rhpp" command to view and configure RHPP settings.

### View settings

```
msh> rhpp
```

### Changing rhpp port number

```
msh> rhpp [1024-65535]
```

- The default is 59100.

### Setting timeout

```
msh> rhpp timeout [30-65535]
```

- The default is 300 seconds.

## Note

- "RHPP" is an abbreviation of "Reliable Host Printing Protocol", which is a manufacturer-original printing protocol.

---

## route

---

Use the "route" command to view and control the routing table.

### All route information display

```
msh> route get "destination"
```

- Specify the IPv4 address to destination.

"0.0.0.0" cannot be specified as the destination address.

### Enabling/disabling specified IPv4 destination

```
msh> route active {host|net} "destination" {on | off}
```

- When the {host | net} parameter is abbreviated, "host" is used by default.

### Adding IPv4 routing table

```
msh> route add {host|net} "destination" "gateway"
```

- Adds a host or network route to "destination", and a gateway address to "gateway" in the table.
- Specify the IPv4 address to destination and gateway.
- When the {host|net} parameter is abbreviated, "host" is used by default.

**Setting default IPv4 gateway**

```
msh> route add default gateway
```

**Deleting specified IPv4 destination from routing table**

```
msh> route delete {host|net} "destination"
```

- Host becomes the default setting.
- IPv4 address of destination can be specified.

**Setting IPv6 default gateway**

```
msh> route add6 default gateway
```

**Adding a specified IPv6 destination to routing table**

```
msh> route add6 "destination" "prefixlen[1-128]" "gateway"
```

- Specify the IPv6 address to destination and gateway.
- If the prefix of the address is between 1 and 127, the network is selected. If the prefix of the address is 128, the host is selected.
- You cannot register a record that has the same destination and prefix as a registered record.
- You cannot register a record that uses "0000:0000:0000:0000:0000:0000:0000:0000" as its destination.

**Deleting a specified IPv6 destination from routing table**

```
msh> route delete6 "destination" "prefixlen"
```

- Specify the IPv6 address to destination and gateway.

**Display information about a specified IPv6 route information**

```
msh> route get6 "destination"
```

- Specify the IPv6 address to destination and gateway.

**Enabling/disabling a specified IPv6 destination**

```
msh> route active6 "destination" "prefixlen" {on | off}
```

**Route initialization**

```
msh> route flush
```

**Note**

- The maximum number of IPv4 routing tables is 16.
- The maximum number of IPv6 routing tables is 2.
- Set a gateway address when communicating with devices on an external network.
- The same gateway address is shared by all interfaces.
- "Prefixlen" is a number between 1 and 128.

---

## set

---

Use the "set" command to set the protocol information display "up" or "down".

### View settings

The following command displays the protocol information (up/down).

```
msh> set ipv4
```

```
msh> set ipv6
```

```
msh> set ipsec
```

```
msh> set appletalk
```

```
msh> set netware
```

```
msh> set smb
```

```
msh> set protocol
```

- When protocol is specified, information about IPv4, IPv6, IPsec, AppleTalk, NetWare, and SMB appears.

```
msh> set parallel
```

```
msh> set usb
```

```
msh> set lpr
```

```
msh> set lpr6
```

```
msh> set ftp
```

```
msh> set ftp6
```

```
msh> set rsh
```

```
msh> set rsh6
```

```
msh> set diprint
```

```
msh> set diprint6
```

```
msh> set web
```

```
msh> set snmp
```

```
msh> set ipp
```

```
msh> set ipp6
```

```
msh> set http
```

```
msh> set http6
```

```
msh> set bonjour
```

```
msh> set bonjour6
```

```
msh> set ssl
```

```
msh> set ssl6
```

```
msh> set nrs
msh> set rfu
msh> set rfu6
msh> set nbt
msh> set ssdp
msh> set ssh
msh> set sftp
msh> set sftp6
msh> set wsdev
msh> set wsdev6
msh> set wsprn
msh> set ipds
msh> set rhpp
msh> set rhpp6
msh> set lltd
```

### Configuration

- Enter "up" to enable the protocol, and enter "down" to disable the protocol.

You can set the protocol to "active" or "inactive".

```
msh> set ipv4 {up | down}
```

- If you disable IPv4, you cannot use remote access after logging off. If you did this by mistake, you can use the control panel to enable remote access via IPv4.
- Disabling IPv4 also disables lpr, ftp, rsh, diprint, web, snmp, ssl, ipp, http, bonjour, and sftp.

```
msh> set ipv6 {up | down}
```

- If you disable IPv6, you cannot use remote access after logging off. If you did this by mistake, you can use the control panel to enable remote access via IPv6.
- Disabling IPv6 also disables lpr6, ftp6, rsh6, diprint6, ssl6, ipp6, http6, and sftp6.

```
msh> set appletalk {up | down}
```

```
msh> set netware {up | down}
```

```
msh> set smb {up | down}
```

```
msh> set lpr {up | down}
```

```
msh> set lpr6 {up | down}
```

```
msh> set ftp {up | down}
```

```
msh> set ftp6 {up | down}
```

```
msh> set rsh {up | down}
```

```
msh> set rsh6 {up | down}
msh> set diprint {up | down}
msh> set diprint6 {up | down}
msh> set web {up | down}
msh> set snmp {up | down}
msh> set ipp {up | down}
msh> set ipp6 {up | down}
msh> set http {up | down}
msh> set http6 {up | down}
msh> set bonjour {up | down}
msh> set bonjour6 {up | down}
msh> set ssl {up | down}
msh> set ssl6 {up | down}
```

- If Secured Sockets Layer (SSL, an encryption protocol) function is not available for the printer, you cannot use the function by enabling it.

```
msh> set nrs {up | down}
msh> set rfu {up | down}
msh> set rfu6 {up | down}
msh> set ssh {up | down}
msh> set ssdp {up | down}
msh> set nbt {up | down}
msh> set sftp {up | down}
msh> set sftp6 {up | down}
msh> set wsdev {up | down}
msh> set wsdev6 {up | down}
```

- If "wsdev" and "wsdev6" are enabled simultaneously, both appear as "up" on the protocol information display, but both use IPv4 for WS-Device and WS-Printer.

```
msh> set wsprn {up | down}
msh> set ipds {up | down}
msh> set rhpp {up | down}
msh> set rhpp6 {up | down}
msh> set lltd {up | down}
```

---

## show

---

Use the "show" command to display the network interface board configuration settings.

### View settings

```
msh> show
```

- If "-p" is added, you can view settings one by one.

#### ↓ Note

- For details about the information displayed, see "Understanding the Displayed Information".

#### 📖 Reference

- p.85 "Understanding the Displayed Information"

---

## slp

---

Use the "slp" command to view and configure the SLP settings.

```
msh> slp ttl "ttl_val"
```

- You can search the NetWare server using SLP in the PureIP environment of NetWare 5/5.1 and Netware 6/6.5. Using the "slp" command, you can configure the value of TTL which can be used by SLP multicast packet.
- The default value of TTL is 1. A search is executed only within a local segment. If the router does not support multicast, the settings are not available even if the TTL value is increased.
- The acceptable TTL value is between 1 and 255.
- This command is available only when the NetWare is installed.

---

## smb

---

Use the "smb" command to configure or delete a computer or workgroup name for SMB.

### Computer Name settings

```
msh> smb comp "computer name"
```

- Set computer name using up to 15 characters. Names beginning with "RNP" or "rnp" cannot be entered.

### Working Group Name settings

```
msh> smb group "work group name"
```

- Set workgroup name using up to 15 characters.

### Comment settings

```
msh> smb comment "comment"
```

- Set comment using up to 31 characters.

### Notify print job completion

```
msh> smb notif {on | off}
```

- To notify print job completion, specify "on". Otherwise, specify "off".

### Deleting Computer Name

```
msh> smb clear comp
```

### Deleting Group Name

```
msh> smb clear group
```

### Deleting Comment

```
msh> smb clear comment
```

### View Protocol

```
msh> smb protocol
```

---

## snmp

---

Use the "snmp" command to display and edit the SNMP configuration settings such as the community name.

### View settings

```
msh> snmp
```

- Default access settings 1 is as follows:

```
Community name:public
```

```
IPv4 address:0.0.0.0
```

```
IPv6 address:::
```

```
IPX address:00000000:000000000000
```

```
Access type:read-only
```

```
Effective Protocol:IPv4/IPv6/IPX
```

- Default access settings 2 is as follows:

```
Community name:admin
```

```
IPv4 address:0.0.0.0
```

```
IPv6 address:::
```

```
IPX address:00000000:000000000000
```

```
Access type:read-write
```

```
Effective Protocol:IPv4/IPv6/IPX
```

- If "-p" is added, you can view settings one by one.
- To display the current community, specify its registration number.

**Display**

```
msh> snmp ?
```

**Community name configuration**

```
msh> snmp "number" name "community_name"
```

- You can configure ten SNMP access settings numbered 1-10.
- The printer cannot be accessed from SmartDeviceMonitor for Admin or SmartDeviceMonitor for Client if "public" is not registered in numbers 1-10. When changing the community name, use SmartDeviceMonitor for Admin and SNMP Setup Tool to correspond with printer settings.
- The community name can be entered using up to 15 characters.

**Deleting community name**

```
msh> snmp "number" clear name
```

**Access type configuration**

```
msh> snmp "number" type "access_type"
```

Access type	Type of access permission
no	not accessible
read	read only
write	read and write
trap	user is notified of trapmessages

**Protocol configuration**

Use the following command to set protocols "active" or "inactive". If you set a protocol "inactive", all access settings for that protocol are disabled.

```
msh> snmp {ipv4|ipv6|ipx} {on|off}
```

- Specify "ipv4" for IPv4, "ipv6" for IPv6, or "ipx" for IPX/SPX.
- {on} means "active" and {off} means "inactive".
- All protocols cannot be turned off concurrently.

**Configuration of protocol for each registration number**

To change the protocol of access settings, use the following command. However, if you have disabled a protocol with the above command, activating it here has no effect.

```
msh> snmp "number" active {ipv4|ipv6|ipx} {on|off}
```

**Access configuration**

```
msh> snmp "number" {ipv4|ipv6|ipx} "address"
```

- You can configure a host address according to the protocol used.



- The network interface board accepts requests only from hosts that have IPv4, IPv6, and IPX addresses with access types of "read-only" or "read-write". Enter "0" to have the network interface board accept requests from any host without requiring a specific type of access.
- Enter a host address to deliver "trap" access type information to.
- To specify IPv4 or IPv6, enter "ipv4" or "ipv6" followed by a space, and then the IPv4 or IPv6 address.
- To specify IPX/SPX, enter "ipx" followed by a space, the IPX address followed by a decimal, and then the MAC address of the network interface board.

### **sysLocation configuration**

```
msh> snmp location
```

### **Deleting sysLocation**

```
msh> snmp clear location
```

### **sysContact setting**

```
msh> snmp contact
```

### **Deleting sysContact**

```
msh> snmp clear contact
```

### **SNMP v1v2 function configuration**

```
msh> snmp v1v2 {on|off}
```

- Specify "on" to enable, and "off" to disable.

### **SNMP v3 function configuration**

```
msh> snmp v3 {on|off}
```

- Specify "on" to enable, and "off" to disable.

### **SNMP TRAP configuration**

```
msh> snmp trap {v1|v2|v3} {on|off}
```

- Specify "on" to enable, and "off" to disable.

### **Remote configuration authorization configuration**

```
msh> snmp remote {on|off}
```

- Specify "on" to enable, and "off" to disable the SNMP v1v2 setting.

### **SNMP v3 TRAP configuration display**

```
msh> snmp v3trap
```

```
msh> snmp v3trap {1-5}
```

If a number from 1-5 is entered, settings are displayed for that number only.

### **Configuring a sending address for SNMP v3 TRAP**

```
msh> snmp v3trap {1-5} {ipv4|ipv6|ipx} "address"
```

**Configuring a sending protocol for SNMP v3 TRAP**

```
msh> snmp v3trap {1-5} active {ipv4|ipv6|ipx} {on|off}
```

**Configuring a user account for SNMP v3 TRAP**

```
msh> snmp v3trap {1-5} account "account_name"
```

Enter an account name using up to 32 alphanumeric characters.

**Deleting an SNMP v3 TRAP user account**

```
msh> snmp v3trap {1-5} clear account
```

**Configuring an SNMP v3 encryption algorithm**

```
msh> snmp v3auth {md5|sha1}
```

**Configuring SNMP v3 encryption**

```
msh> snmp v3priv {auto|on}
```

Set "auto" for automatic encryption configuration.

Set "on" for mandatory encryption configuration.

---

**sntp**

---

The printer clock can be synchronized with a NTP server clock using Simple Network Time Protocol (SNTP). Use the "sntp" command to change the SNTP settings.

**View settings**

```
msh> sntp
```

**NTP server address configuration**

You can specify the IP address of the NTP server.

```
msh> sntp server "IP_address"
```

**Interval configuration**

```
msh> sntp interval "polling_time"
```

- You can specify the interval at which the printer synchronizes with the operator-specified NTP server. The default is 60 minutes.
- The interval can be entered from 0, or between 15 and 10,080 minutes.
- If you set 0, the printer synchronizes with the NTP server only when you turn the printer on. After that, the printer does not synchronize with the NTP server.

**Time-zone configuration**

```
msh> sntp timezone "+/-hour_time"
```

- You can specify the time difference between the printer clock and NTP server clock. The values are between -12:00 and +13:00.

---

## spoolsw

---

Use the "spoolsw" command to view and configure the Job Spool settings.

You can only specify diprint, lpr, ipp, ftp, smb, sftp, and wsprn protocol.

- The "spoolsw" command for configuring Job Spool settings is available only when the hard disk is installed.

### View settings

The Job Spool setting appears.

```
msh> spoolsw
```

### Job Spool setting

```
msh> spoolsw spool {on | off}
```

- Specify "on" to enable Job Spool, or "off" to disable it.

### Resetting Job Spool setting

```
msh> spoolsw clearjob {on | off}
```

- When the printer power is cut during job spooling, this determines whether to reprint the spooled job.

### Protocol configuration

```
msh> spoolsw diprint {on | off}
```

```
msh> spoolsw lpr {on | off}
```

```
msh> spoolsw ipp {on | off}
```

```
msh> spoolsw smb {on | off}
```

```
msh> spoolsw ftp {on | off}
```

```
msh> spoolsw sftp {on | off}
```

```
msh> spoolsw wsprn {on | off}
```

---

## ssdp

---

Use the "ssdp" command to view and configure the SSDP settings.

### View settings

```
msh> ssdp
```

### Setting effective time

```
msh> ssdp profile {1801-86400}
```

The default is 10800 seconds.

### Advertise packet TTL settings

```
msh> ssdp ttl {1-255}
```

The default is 4.

---

## ssh

---

2

Use the "ssh" command to view and configure the SSH settings.

### View settings

```
msh> ssh
```

### Data compression communication settings

```
msh> ssh compression {on|off}
```

The default is "on".

### SSH/SFTP communication port setting

```
msh> ssh port {22, 1024-65535}
```

The default is 22.

### SSH/SFTP communication timeout setting

```
msh> ssh timeout {0-65535}
```

The default is 300.

### SSH/SFTP communication login timeout setting

```
msh> ssh logintimeout {0-65535}
```

The default is 300.

### Setting an open key for SSH/SFTP

```
msh> ssh genkey {512|768|1024} "character string"
```

Create an open key for SSH/SFTP communication.

Usable characters are ASCII 0x20-0x7e (32 bytes) other than "0".

The default key length is 1024, and the character string is blank.

If you do not specify this parameter, an open key with the default value will be created.

### Deleting open key for ssh/sftp communication

```
msh> ssh delkey
```

#### ↓ Note

- If you do not specify a character string, current setting is displayed.

---

## status

---

Use the "status" command to display the printer status.

### Messages

```
msh> status
```

#### ↓ Note

- For details, see "Getting Printer Information over the Network".

#### 📖 Reference

- p.79 "Getting Printer Information over the Network"

---

## syslog

---

Use the "syslog" command to display the information stored in the printer's system log.

### View message

```
msh> syslog
```

#### ↓ Note

- For details about the information displayed, see "Message List".

#### 📖 Reference

- p.97 "Message List"

---

## upnp

---

Use the "upnp" command to display and configure the universal plug and play.

### Public URL display

```
msh> upnp url
```

### Public URL configuration

```
Msh< upnp url "string"
```

- Enter the URL string in the character string.

---

## web

---

Use the "web" command to display and configure parameters on Web Image Monitor.

### View settings

```
msh> web
```

### URL configuration

You can set URLs linked by clicking URL on Web Image Monitor.

Specify "1" or "2" for x as the number corresponding to the URL. Up to two URLs can be registered and specified.

```
msh> web url http://"The URL or IP address you want to register"/
```

### Deleting URLs registered as link destinations

```
msh> web x clear url
```

Specify "1" or "2" for x as the corresponding number to the URL.

### Link name configuration

You can enter the name for URL that appears on Web Image Monitor.

Specify "1" or "2" for x as the corresponding number to the link name.

```
msh> web name "Name you want to display"
```

### Resetting URL names registered as link destinations

```
msh> web x clear name
```

Specify "1" or "2" for x as the number corresponding to the link name.

### Help URL configuration

You can set URLs linked by clicking [Help] or [?] on Web Image Monitor.

```
msh> web help http://"Help URL or IP address"/help/
```

### Deleting Help URL

```
msh> web clear help
```

---

## wiconfig

---

Use the "wiconfig" command to make settings for Wireless LAN.

### View settings

```
msh> wiconfig
```

### View Wireless LAN information

```
msh> wiconfig cardinfo
```

- If Wireless LAN is disabled or unavailable, information about it will not appear.

### Configuration

```
msh> wiconfig "parameter"
```

Parameter	Value configured
mode {ap 802.11adhoc}	<p>You can set infrastructure mode (ap), or 802.11 ad hoc mode (802.11adhoc).</p> <p>The default is infrastructure mode.</p>
ssid "ID value"	<p>You can make settings for the SSID in the infrastructure mode.</p> <p>Usable characters are ASCII 0x20-0x7e (32 bytes).</p> <p>An SSID value is set automatically to the nearest access point if no setting is made.</p> <p>If no setting is made for the ad hoc mode, the same value as for the infrastructure mode or an ASSID value is automatically set. The default is blank.</p>
channel "channel no."	<p>You can enable or disable the WEP function. To enable the WEP function, specify [on]; to disable it, specify [off].</p> <p>To start the WEP function, enter the correct WEP key. The default is "11".</p>
key "key value" val {1 2 3 4}	<p>You can specify the WEP key by entering in hexadecimal.</p> <p>With a 64-bit WEP, you can use 10 digit hexadecimals. With a 128-bit WEP, you can use 26 digit hexadecimals.</p> <p>Up to four WEP keys can be registered. Specify the number to be registered with "val".</p> <p>When a WEP is specified by key, the WEP specified by key phrase is overwritten.</p> <p>To use this function, set the same key number and WEP key for all ports that transmit data to each other. Put "0x" on the front of WEP key.</p> <p>You can omit the numbers with "val". The key number is set to 1 when making these omissions. The default is blank.</p>

Parameter	Value configured
keyphrase "phrase" val {1 2 3 4}	<p>You can specify the WEP key by entering in ASCII.</p> <p>With a 64-bit WEP, you can use 10 digit hexadecimals. With a 128-bit WEP, you can use 26 digit hexadecimals.</p> <p>Up to four WEP keys can be registered. Specify the number to be registered with "val".</p> <p>When a WEP is specified by key phrase, the WEP specified by key is overwritten.</p> <p>To use this function, set the same key number and WEP key for all ports that transmit data to each other.</p> <p>You can omit the numbers with "val". The key number is set to 1 when making these omissions.</p>
encval {1 2 3 4}	<p>You can specify which of the four WEP keys is used for packet encoding. "1" is set if a number is not specified.</p>
wepauth [open shared]	<p>You can set an authorization mode when using WEP. The specified value and authorized mode are as follows:</p> <p>open: open system authorization (default)</p> <p>shared: shared key authorization</p>
security {none wep wpa}	<p>You can specify the security mode.</p> <p>none: No encryption (default)</p> <p>wep: WEP encryption</p> <p>wpa: WPA encryption</p>
wpaenc {tkip ccmp}	<p>You can specify WPA encryption key when using WPA encryption.</p> <p>tkip: TKIP (default)</p> <p>ccmp: CCMP (AES)</p>



Parameter	Value configured
wpaauth {wpapsk   wpa   wpa2psk   wpa2 }	<p>You can specify the WPA authentication mode when using WPA encryption.</p> <p>wpapsk: WPA-PSK authentication (default)</p> <p>wpa: WPA (802.1X) authentication</p> <p>wpa2psk: WPA2-PSK authentication</p> <p>wpa2: WPA2 authentication</p>
psk "character string"	<p>You can specify the Pre-Shared key.</p> <p>Usable characters: ASCII 0x20-0x7e (8 to 63 bytes).</p> <p>The default is blank.</p>
eap {tls ttls leap peap} {chap mschap mschapv2 pap md5 tls}	<p>You can specify the EAP authentication type.</p> <p>tls: EAP-TLS (default)</p> <p>ttls: EAP-TTLS</p> <p>leap: LEAP</p> <p>peap: PEAP</p> <p>chap, mschap, mschapv2, pap, md5, and tls are settings for the phase 2 method, and one of these must be specified if EAP-TTLS or PEAP is selected.</p> <p>Do not make these settings when using other EAP authentication types.</p> <p>If you select EAP-TTLS, you can select chap, mschap, mschapv2, pap, or md5.</p> <p>If you select PEAP, you can select mschapv2 or tls.</p>
username "character string"	<p>You can specify the login user name for the Radius server.</p> <p>Usable characters: ASCII 0x20-0x7e (31 bytes) other than "@". The default is blank.</p>
username2 "character string"	<p>You can specify the phase 2 username for EAP-TTLS/PEAP phase 2 authentication.</p> <p>Usable characters: ASCII 0x20-0x7e (31 bytes) other than "@". The default is blank.</p>

Parameter	Value configured
domain "character string"	You can specify the login domain name for the Radius server. Usable characters: ASCII 0x20-0x7e (31 bytes) other than "@". The default is blank.
password "character string"	You can specify the login password for the Radius server. Usable characters: ASCII 0x20-0x7e (128 bytes). The default is blank.
svrcert {on   off}	You can set the server certificate. The default is "off".
imca {on   off}	You can enable or disable the certificate when the intermediate certificate authority is present. The default is "off".
srvid "character string"	You can set the server ID and sub domain of the certificate server.
connectinfo	Obtains connection information.
clear {a each command   all}	Returns the selected setting to its default value. If you specify "all", all settings will be restored to their default values.
miccheck {on   off}	You can enable or disable the MIC check function. The default setting is "On" (enabled). If you specify "Off", you cannot perform MIC checks. We recommend you specify "On" for the MIC check function when using this printer.

**Note**

- You can use this command only when the Wireless LAN interface unit is installed.

## wins

Use the "wins" command to configure the WINS server settings.

## Viewing settings

```
msh> wins
```

- If the IPv4 address obtained from DHCP differs from the WINS IPv4 address, the DHCP address is the valid address.

## Configuration

```
msh> wins "interface_name" {on | off}
```

- {on} means "active" and {off} means "inactive".
- Be sure to specify the interface.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

## Address configuration

Use the following command to configure the WINS server IP address:

```
msh> wins "interface_name" {primary|secondary} "IP address"
```

- Use the "primary" command to configure the primary WINS server IPv4 address.
- Use the "secondary" command to configure the secondary WINS server IPv4 address.
- Do not use "255.255.255.255" as the IPv4 address.

## NBT (NetBIOS over TCP/IP) scope ID selection

You can specify the NBT scope ID.

```
msh> wins "interface_name" scope "ScopeID"
```

- The scope ID can be entered using up to 31 alphanumeric characters.
- Be sure to specify the interface.
- wlan can be specified only when the Wireless LAN interface unit is installed.

Interface name	Interface configured
ether	Ethernet interface
wlan	Wireless LAN interface

## wsmfp

Use the "wsmfp" command to view and configure the WSD (Device) and WSD (Printer) settings.

### View settings

```
msh> wsmfp
```

### Comment settings

```
msh> wsmfp comments "comment"
```

- If you do not specify a comment, current setting is displayed.

### Location configuration

```
msh> wsmfp location "location"
```

- If you do not specify a comment, current setting is displayed.

### Presentation URL configuration

```
msh> wsmfp url "URL"
```

- Enter the URL string in the "URL".

### WSD (Device) TCP port configuration

```
msh> wsmfp devport [1024-65535]
```

- The Default is 53000.

### WSD (Printer) TCP port configuration

```
msh> wsmfp prnport [1024-65535]
```

- The Default is 53001.

### WSD (Printer) timeout configuration

```
msh> wsmfp prntimeout [30-65535]
```

- The default is 900 seconds.

### Comment initialization

```
msh> wsmfp clear comments
```

### Location initialization

```
msh> wsmfp clear location
```

### Presentation URL initialization

```
msh> wsmfp clear url
```

# Getting Printer Information over the Network

This section explains details of each item displayed in the printer status and information.

## Current Printer Status

2

The printer status can be checked using the following commands:

- UNIX: Use the "stat" parameter and the "rsh", "rcp", "ftp", and "sftp" commands.
- mshell: Use the "status" command.

### ★ Important

- Depending on the printer you are using, some of these messages might not appear.

Messages	Description
Adjusting...	The printer is initializing or calibrating.
Call Service Center	There is a malfunction in the printer.
Color Registration Failed	Adjustment of color registration has failed.
Cover Open: Front Cover	The front or top cover is open.
Cover Open: Left Cover	The left cover is open.
Cover Open: Rear Cover	The rear cover is open.
Cover Open: Top Cover	The top cover is open.
Current Job Suspended	Current jobs are suspended.
Empty: Black Toner	The black toner cartridge is almost empty.
Empty: Cyan Toner	The cyan toner cartridge is almost empty.
Empty: Magenta Toner	The magenta toner cartridge is almost empty.
Empty: Yellow Toner	The yellow toner cartridge is almost empty.
Energy Saver Mode	The printer is in Energy Saver Mode.
Error: Ethernet Board	An Ethernet board error has occurred.
Error: HDD Board	A hard disk board error has occurred.
Error: Optional Font	An error has occurred in the font file of the printer.

Messages	Description
Error: Optional RAM	An error has occurred in the SDRAM module.
Error: Parallel I/F Board	An error has occurred in the parallel interface.
Error: PDL	An error has occurred in the page description language.
Error: Rem. Certificate Renewal	An error has occurred in the remote certificate renewal.
Error: USB Interface	An error has occurred in the USB interface.
Error: Wireless Card	Wireless LAN card is not inserted during start up, or the IEEE 802.11 interface unit or the Wireless LAN card is taken out after start up.
Full: Standard Tray	Stacker tray is full.
Full: Waste Toner	The waste toner is full.
Hex Dump Mode	It is a hex dump mode.
Independent-supplier Toner	Toner that is not recommended is set.
Jobs Suspended	All jobs are suspended.
Loading Toner...	Toner is being supplied.
Low: Black Toner	The black toner cartridge is not set correctly, or toner is almost running out.
Low: Cyan Toner	The cyan toner cartridge is not set correctly, or toner is almost running out.
Low: Magenta Toner	The magenta toner cartridge is not set correctly, or toner is almost running out.
Low: Yellow Toner	The yellow toner cartridge is not set correctly, or toner is almost running out.
Malfunction: Tray 1	There is a problem with tray 1.
Malfunction: Tray 2	There is a problem with tray 2.
Malfunction: Tray 3	There is a problem with tray 3.
Malfunction: Tray 4	There is a problem with tray 4.

Messages	Description
Mismatch: Paper Size	The identified paper tray does not contain paper of the selected size.
Mismatch: Paper Size and Type	The identified paper tray does not contain paper of the selected size and type.
Mismatch: Paper Size/Image Size	The identified paper tray does not contain paper that matches the image size.
Mismatch: Paper Type	The identified paper tray does not contain paper of the selected type.
Near Replacing: Black PCU	Prepare a new Black drum unit.
Near Replacing: Color PCU	Prepare a new Color drum unit.
Near Replacing: Fusing Unit	Prepare a new fusing unit.
Near Replacing: Int. Transfer	Prepare a new Transfer Roller.
Near Replacing: Maintenance Kit	Prepare a new Maintenance Kit.
Near Replacing: Print Cartridge	Prepare a new print cartridge.
Nearly Full: Waste Toner	Waste toner bottle is nearly full.
No Paper: Selected Tray	There is no paper in the specified tray.
No Paper: Tray 1	There is no paper in tray 1.
No Paper: Tray 2	There is no paper in tray 2.
No Paper: Tray 3	There is no paper in tray 3.
No Paper: Tray 4	There is no paper in tray 4.
No Paper: Tray 5	There is no paper in tray 5.
Not Detected: Black Toner	Black toner is not correctly set.
Not Detected: Cyan Toner	Cyan toner is not correctly set.
Not Detected: Fusing Unit	The fusing unit is not correctly set.
Not Detected: Input Tray	The paper feed tray is not correctly set.
Not Detected: Magenta Toner	Magenta toner is not correctly set.

Messages	Description
Not Detected: PCU (C)	The drum unit (cyan) is not correctly set.
Not Detected: PCU (K)	The drum unit (black) is not correctly set.
Not Detected: PCU (M)	The drum unit (magenta) is not correctly set.
Not Detected: PCU (Y)	The drum unit (yellow) is not correctly set.
Not Detected: Print Cartridge	The paper print cartridge is not correctly set.
Not Detected: Tray 1	Tray 1 is not correctly set.
Not Detected: Tray 2	Tray 2 is not correctly set.
Not Detected: Tray 3	Tray 3 is not correctly set.
Not Detected: Tray 4	Tray 4 is not correctly set.
Not Detected: Tray 5	Tray 5 is not correctly set.
Not Detected: Yellow Toner	Yellow toner is not correctly set.
Not Detected: Int. Transfer Unit	The transfer unit is not correctly set.
Not Detected: WasteToner Bottle	Waste toner bottle is not correctly set.
Offline	The printer is offline.
Panel Off Mode	The printer is in Panel-Off mode.
Paper in Duplex Unit	The paper remains in the duplex unit.
Paper Misfeed: Duplex Unit	The paper has jammed in the duplex unit.
Paper Misfeed: Input Tray	The paper has jammed in the input tray.
Paper Misfeed: Internal/Output	The paper has jammed inside the printer.
Paper Misfeed: Optional Tray 1	The paper has jammed in the optional tray 1.
Paper Misfeed: Optional Tray 2	The paper has jammed in the optional tray 2.
Paper Misfeed: Optional Tray 3	The paper has jammed in the optional tray 3.
Paper Misfeed: Optional Tray 4	The paper has jammed in the optional tray 4.
Printing...	Printing is in progress.
Proxy User/Password Incorrect	Proxy user name or Password is incorrect.



Messages	Description
RC Gate Connection Error	Connection with the RC Gate failed.
Ready	The printer is ready to print.
Replace Black PCU	It is time to replace the black drum unit.
Replace Fusing Unit	It is time to replace the fusing unit.
Replace Int. Transfer Unit	It is time to replace the transfer unit.
Replace Maintenance Kit	It is time to replace the maintenance kit.
Replace PCU (Color)	It is time to replace the color drum unit.
Replace Print Cartridge	It is time to replace the print cartridge.
Reset IPDS fonts	The IPDS fonts are being reset.
SD Card Authentication failed	SD card authentication failed.
Supplies Order Call failed	The supply order call has failed.
Tray Error: Duplex Printing	Selected paper tray cannot be used for duplex printing.
Warming Up...	The printer is warming up.
W.T.Bttl.notDetected/L.Cvr.Open	The left cover is open, or the waste toner bottle is not set.

### ↓ Note

- Check the error contents that may be printed in the configuration page. For details about printing a configuration page, see "List/Test Print Menu", Software Guide.

## Printer Configuration

You can check the printer configuration using telnet.

This section explains the checking procedure for input/output tray and printer language.

- UNIX: Use the "info" parameter and the "rsh", "rcp", "ftp", and "sftp" commands.
- mshell: Use the "info" command.

### Input Tray

Item	Description
No.	ID number of the paper tray

Item	Description
Name	Name of the paper tray
PaperSize	Size of paper loaded in the paper tray
status	Current status of the paper tray <ul style="list-style-type: none"> <li>• Normal: Normal</li> <li>• NoInputTray: No tray</li> <li>• PaperEnd: No paper</li> </ul>

### Output Tray

Item	Description
No.	ID number of the output tray
Name	Name of the output tray
status	Current status of the output tray <ul style="list-style-type: none"> <li>• Normal: Normal</li> <li>• PaperExist: Paper exist</li> <li>• OverFlow: Paper is full</li> <li>• Error: Other errors</li> </ul>

### Printer Language

Item	Description
No.	ID number of the printer language used by the printer
Name	Name of the printer language used in the printer
Version	Version of the printer language

#### ↓ Note

- For details about mshell "info" commands, see "Using telnet".

#### 📖 Reference

- p.39 "Using telnet"

# Understanding the Displayed Information

This section explains how to read status information returned by the network interface board.

## Print Job Information

2

Use the following command to display print job information:

- UNIX: Use the "info" parameter and the "rsh", "rcp", "ftp", and "sftp" commands.
- mshell: Use the "info" command.

Item	Description
Rank	Print job status <ul style="list-style-type: none"> <li>• Active</li> </ul> Printing or preparing for printing <ul style="list-style-type: none"> <li>• 1st, 2nd, 3rd, 4th...</li> </ul> Waiting to be transferred to the printer
Owner	Print request user name
Job	Print request number
Files	The name of the document
Total Size	The size of the data (spooled) The default is 0 bytes

### Note

- For details about mshell "info" commands, see "Using telnet".

### Reference

- p.39 "Using telnet"

## Print Log Information

This is a record of the most recent 16 jobs printed.

Use the following command to display print log information:

- UNIX: Use the "prnlog" parameter and the "rsh", "rcp", "ftp", and "sftp" commands.
- mshell: Use the "prnlog" command. See "Using telnet".

Item	Description
ID	Print request ID.
User	Print request user name.
Page	Number of pages printed
Result	<p>Print Request Result</p> <p>Communication Result</p> <ul style="list-style-type: none"> <li>• OK Print was completed normally. However, the print result may not be as required due to printer problems.</li> <li>• NG Printing was not completed normally.</li> <li>• Canceled An "rcp", "rsh", or "lpr" command print request was canceled, possibly due to the printing application. Not applicable to the "ftp" or "rprinter" command.</li> </ul>
Time	<p>Time the print requested was received.</p> <p>Time of print request reception</p>
User ID	<p>Printer driver-configured User ID.</p> <p>Appears when the print request ID is specified.</p>
JobName	<p>Name of the document for printing</p> <p>Appears when the print request ID is specified.</p>

**Note**

- For details about mshell "info" commands, see "Using telnet".

**Reference**

- p.39 "Using telnet"

## Configuring the Network Interface Board

Use the following command to display network interface board settings:

- mshell: Use the "show" command.

Item	Description
Common	
Mode	
Protocol Up/Down	Protocol Settings
AppleTalk	
IPv4	
IPv6	
IPsec	
NetWare	
SMB	
Device Up/Down	Device Settings
Parallel	
USB	
Ethernet interface	
Syslog priority	
NVRAM version	
Device name	
Comment	
Location	
Contact	
Soft switch	
AppleTalk	AppleTalk settings
Mode	
Net	
Object	

Item		Description
	Type	
	Zone	
TCP/IP		TCP/IP settings
	Mode(IPv4)	
	Mode(IPv6)	
	ftp	
	lpr	
	rsh	
	diprint	
	web	
	http	
	ftpc	
	snmp	
	ipp	
	autonet	
	Bonjour	
	ssl	
	nrs	
	rfu	
	nbt	
	ssdp	
	ssh	
	sftp	
	WSD (Device)	
	WSD (Printer)	

Item		Description
	ipds	
	rhpp	
IPv4		
	DHCP	
	Address	
	Netmask	
	Broadcast	
	Gateway	
IPv6		
	Stateless	
	Manual	
	Gateway	
	DHCPv6-lite	
	DUID	
	DHCPv6 option lifetime	
IPsec		
	Manual Mode	
	Excluded Protocol	
	https	
	dns	
	dhcp	
	wins	
EncapType		
Host name		
DNS Domain		

Item		Description
	Access Control	Access Control settings
	IPv4	
	Access Entry[X]	X can be set between 1 and 5.
	IPv6	
	Access Entry[X]	X can be set between 1 and 5.
	SNTP Server	Time settings
	Time Zone	
	SNTP Server polling time	
	SYSLOG server	Websys settings
	Home page URL1	
	Home page link name 1	
	Home page URL2	
	Home page link name2	
	Help page URL	
	IPDS Port	
	IPDS timeout	
	RHPP Port	
	RHPP timeout	
	NetWare	
	EncapType	
	RPRINTER number	
	Print server name	
	File server name	
	Context name	
	Switch	



Item		Description
	Mode	
	NDS/Bindery	
	Packet negotiation	
	Login Mode	
	Print job timeout	
	Protocol	
	SAP interval time	
	NDS Tree Name	
	Transfer Protocol	
SMB		SMB settings
	Switch	
	Mode	
	Direct print	
	Notification	
	Workgroup name	
	Computer name	
	Comment	
	Share name[1]	
	Protocol	
Wireless LAN		Wireless LAN settings
	Host name	
	Communication Mode	
	SSID	
	Channel	
	Security	

Item		Description
	WEP Authentication	
	WEP Encryption key number	
	WEP Encryption keys[X]	X can be set between 1 and 4.
	WPA Encryption	
	WPA Authentication	
	Pre-Shared Key	
	User name	
	Domain name	
	EAP Type	
	Password	
	Phase 2 user name	
	Phase 2 Method TTLS	
	Phase 2 Method PEAP	
	Server cert.	
	Intermediate CA	
	Server ID	
	Sub domain	
	Mic check	
Ethernet		
	802.1X Authentication	
DNS		DNS settings
	IPv4	
	Server[X]	X can be set between 1 and 3.
	Selected IPv4 DNS Server	
	IPv6	

Item		Description
	Server[X]	X can be set between 1 and 3.
	Selected IPv6 DNS Server	
	Resolver Protocol	
Domain name		
	ether	
	wlan	
DDNS		
	ether	
	wlan	
WINS		WINS settings
	ether	
	Primary WINS	
	Secondary WINS	
	wlan	
	Primary WINS	
	Secondary WINS	
SSDP		SSDP settings
	UUID	
	Profile	
	TTL	
UPnP		UPnP settings
	URL	
Bonjour		Bonjour (Rendezvous) settings
	Computer Name (cname)	
	Local Hostname (ether)	

Item		Description
	Local Hostname (wlan)	
	Location	
	Priority (diprint)	
	Priority (lpr)	
	Priority (ipp)	
	IP TTL	
	LinkLocal Route for Multi I/F	
	IPP Port	
SNMP		SNMP settings
	SNMPv1v2	
	SNMPv3	
	Protocol	
	v1Trap	
	v2Trap	
	v3Trap	
	SNMPv1v2 Remote Setting	
	SNMPv3 Privacy	
ssh		ssh settings
	Compression	
	Port	
	TimeOut	
	LoginTimeOut	
AuthFree		Authfree settings
	IPv4	
	AuthFreeEntry[X]	X can be set between 1 and 5.

Item		Description
	IPv6	
	AuthFreeEntry[X]	X can be set between 1 and 5
	Parallel	
	USB	
LPR		
	lprm check host	
	lpr prnerrchk	
Certificate		
	Verification	
WS-MFP		
	Network Device Name	
	Comments	
	Location	
	Presentation URL	
	WSD (Device) TCP Port	
	WSD (Printer) TCP Port	
	WSD (Printer) Job Timeout	
	MetadataVersion	
	UUID	
IEEE 802.1X		IEEE 802.1X settings
	User name	
	Domain name	
	EAP Type	
	Password	
	Phase 2 user name	

2

Item		Description
	Phase 2 Method TTLS	
	Phase 2 Method PEAP	
	Server cert	
	Intermediate CA	
	Server ID	
	Sub domain	
Shell mode		Remote maintenance tool mode

# Message List

This is a list of messages that appear in the printer's system log. The system log can be viewed using the "syslog" command.

## System Log Information

2

Use the following command to display the system log information:

- UNIX: Use the "syslog" parameter and the "rsh", "rcp", "ftp", and "sftp" commands.
- mshell: Use the "syslog" command.

### ★ Important

- Depending on the printer you are using, some of these messages might not appear.

**Access to NetWare server <file server name> denied. Either there is no account for this print server on the NetWare server or the password was incorrect.**

Login to the file server failed when the print server was online. Make sure the print server is registered in <file server name>. If a password is specified for the print server, delete the password.

**account is unavailable: same account name be used.**

User account is disabled. This could be because it uses the same account name as the administrator account.

**account is unavailable: The authentication password is not set up.**

User account is disabled. This could be because the authentication password is not set, and only the encryption account is set.

**account is unavailable: encryption is impossible.**

Encryption is not possible and account is disabled. This could be because:

- Security option is not installed.
- Encryption password has not been specified.

**add\_sess\_IPv4:bad trap addr :<IPv4 address>, community:<community name>**

The IPv4 address (0.0.0.0) is unavailable when the community access type is TRAP. Specify the host IPv4 address for the TRAP destination.

**add\_sess\_IPv6:bad trap addr :<IPv6 address>, community:<community name>**

The IPv6 address [::] is unavailable when the community access type is TRAP. Specify the host IPv6 address for the TRAP destination.

**add\_sess\_IPv4: community <community name> already defined.**

The same community name already exists. Use another community name.

**add\_sess\_IPv6: community <community name> already defined.**

The same community name already exists. Use another community name.

**add\_sess\_IPX: bad trap addr :<IPX address>, community:<community name>**

The IPX address (00:00:00:00:00:00) is unavailable when the community access type is TRAP. Specify the host IPX address for the TRAP destination.

**add\_sess\_IPX: community <community name> already defined.**

The same community name already exists. Use another community name.

**adjust time server <NTP server> offset:xx sec.**

ncsd tells you the timing of the NTP server and whether or not the time system clock is set.

- NTP Server: NTP server name
- offset: number of seconds of delay (minus number if a time in advance is specified)

**Attach FileServer =<file server>**

Connection to the file server as the nearest server has been established.

**Attach to print queue <print queue name>**

The system connects to the print queue when the print server goes online.

**authenticating**

The supplicant is authenticating with the access point (EAP or WPA).

**authentication mode mismatch**

The authentication mode of the access point is different from the authentication mode of the supplicant. Use the same authentication mode between the access point and the supplicant.

**authenticated**

The supplicant has been authenticated.

The authentication was successful. If authentication is successful, this message always appears at the end of the process.

**centrod is disabled.**

Parallel communication could not be established. Enable "centrod" in the security mode setting.

**child process exec error! (process name)**

The network service failed to start. Turn the printer off and then on. If this does not work, contact your service or sales representative.

**cipher suite mismatch**

The uni-cast / multi-cast suite (TKIP/AES/WEP) of the access point is different from the suite used by the supplicant.



**client EAP method rejected**

The authentication mode of the access point is different with the authentication mode of the supplicant. Use the same authentication mode between the access point and the supplicant.

**client password rejected**

The client's password was rejected. Check the client password.

**client TLS certificate rejected**

The client's TLS certificate was rejected. Check the certificate.

**Connected DHCP Server (<DHCP server address>)**

The IP address was successfully received from the DHCP server.

**connecting**

The supplicant is establishing the Wireless LAN connection with the access point.

**Connected DHCPv6 server <IPv6 address>**

The IP address was successfully received from the DHCPv6 server.

**Could not attach to FileServer <error number>**

Connection to the file server could not be established when the remote printer went online. The file server refused the connection for unknown reason. Check the file server's configuration.

**Could not attach to PServer <print server name>**

Connection to the print server has not been established when the remote printer is turned on. The print server has refused the connection. Check the print server configuration.

**connection from <IP address>**

A user logged in from the host <IP address>.

**Current Interface Speed : <Ethernet I/F speed>**

Speed of the network (10Mbps, 100 Mbps, or 1 Gbps).

**Current IP address (<current IP address>).**

The <current IP address> was acquired from DHCP server.

**Current IPX address <IPX address>**

The current IP address is <IPX address>.

**DHCP lease time expired.**

DHCP lease time has expired. Carry out the DHCP Discover. The IP address you have used is no longer available.

**DHCP server not found.**

The DHCP server was not found. Make sure that the DHCP is on the network.

**DHCPv6 server not found.**

The DHCPv6 server was not found. Make sure that the DHCPv6 is on the network.

**disconnected**

The supplicant has no connection.

**dpsd is disabled.**

Communication via PictBridge is unavailable because PictBridge is disabled in the security mode. Enable PictBridge in the security mode.

**Duplicate IP=<IP address>(from <MAC address>).**

A conflicting IPv4 or IPv6 address was used. Each IPv4 or IPv6 address must be unique. Check the device address in [MAC address].

**Established SPX Connection with PServer, (RPSocket=<socket number>, connID=<connection ID>)**

Connection to the print server was established when the remote printer went online.

**exiting**

The LPD service was completed and the process is exiting.

**Exit pserver**

(In the print server mode) The print server function is disabled because the necessary print server settings have not been made.

**Frametype =<frametype name>**

The specified frame type name <frame type name> is for NetWare use.

**httpd start.**

The httpd has started.

**IEEE 802.11 Card does NOT support WPA.**

A Wireless LAN card that does not support WPA is installed. Install a Wireless LAN card that supports WPA.

**IEEE 802.11 Card Firmware REV.<version>**

Displays the version number of the 802.11 card's firmware.

**IEEE 802.11 current channel <channel number>**

Displays the current channel number of the active Wireless LAN card (in ad hoc and infrastructure mode).

**IEEE 802.11 MAC Address = <MAC address>**

Displays the MAC address of the Wireless LAN interface.

**IEEE 802.11 SSID <ssid> (AP MAC Address <MAC address>)**

The MAC address and SSID of the access point are connected in infrastructure mode.

**IEEE 802.11 <communication mode> mode**

Displays the IEEE 802.11 communication mode.

**(IKE phase-1) mismatched authentication type : local=<authentication type 1>  
remote=<authentication type 2>**

This printer's <authentication type 1> in IKE phase 1 does not match the communicating host's <authentication type 2>. Make sure this printer's ISAKMP SA authentication type matches that of the communicating host.

**(IKE phase-1) mismatched encryption type : local=<encryption algorithm 1>  
remote=<encryption algorithm 2>**

This printer's ISAKMP SA Oakley group <encryption algorithm 1> in IKE phase 1 does not match the communicating host's ISAKMP SA Oakley group < encryption algorithm 2>. Make sure this printer's ISAKMP SA Oakley group matches that of the communicating host.

**(IKE phase-1) mismatched DH group: local=<DH group number 1> remote=<DH group number 2>**

This printer's ISAKMP SA Oakley group <DH group number 1> in IKE phase 1 does not match the communicating host's ISAKMP SA Oakley group <DH group number 2>. Make sure this printer's ISAKMP SA Oakley group matches that of the communicating host.

**(IKE phase-1) mismatched hash type: local=<Hash Algorithm 1> remote=<Hash Algorithm 2>**

This printer's ISAKMP SA <Hash Algorithm 1> in IKE phase 1 does not match the communicating host's ISAKMP SA <Hash Algorithm 2>. Make sure this printer's ISAKMP SA Hash Algorithm matches that of the communicating host.

**IKE[%s] is disable, set PSK text.**

The specified IKE entry is invalid. Enter the PSK text.

**inetd start.**

The inetd service has started.

**Interface(interface name):Duplicate IP Address (<IP address>).**

The same IP (IPv4 or IPv6) address was used. Each IP address must be unique. Check the address of the device indicated in [IP address].

**<interface name> card removed**

The interface managed by the supplicant has been removed.

**<interface name> interface down**

The interface managed by the supplicant is disabled, or cannot connect to the access point.

**<interface name> interface up**

The interface managed by the supplicant is enabled, or is connected to the access point.

**<Interface> started with IP : <IP address>**

IP address (IPv4 or IPv6 address) has been set for the interface and is operating.

**<Interface>: Subnet overlap.**

The same IP address (IPv4, or IPv6 address) and the subnet mask is used with other device.

**IPP cancel-job: permission denied.**

User name authentication failed when the spooled job was being canceled.

**IPP job canceled. jobid=%d.**

The spooled job was canceled due to error or user request.

**job canceled. jobid=<job ID>.**

The spooled job was canceled due to error or user request.

**LeaseTime=<lease time>(sec), RenewTime=<renew time>(sec).**

The resource lease time received from the DHCP server is displayed in [lease time] in seconds. The renewal time is displayed in [renew time] in seconds.

**LEAP challenge to access point failed**

The LEAP challenge to the access point has failed.

**Login to fileserver <file server name> (<IPX | IP>,<NDS | BINDERY>)**

When the print server was online, the system logged in to <file server> in NDS or BINDERY mode. The transfer protocol in use is also displayed.

**Manual[%s] is disable, set authentication key.**

The specified manual SA entry is invalid. Set the authentication key.

**Manual[%s] is disable, set encryption key.**

The specified manual SA entry is invalid. Set the authentication key.

**Memory allocate error.**

Data cannot be obtained.

Disconnect the USB cable, and then connect it.

**MIC failure TKIP counter measures started**

The supplicant using TKIP has detected two instances of tampering within 60 seconds and has started counter measures.

**MIC failure TKIP counter measures stopped**

Counter measures have stopped after 60 seconds (since the supplicant using TKIP started counter measures against tampering).

**Name registration failed. name=<NetBIOS name>**

Name registration of <NetBIOS Name> failed. Change to a different NetBIOS name.

**Name registration success in Broadcast name=<NetBIOS name>**

Name registration by <NetBIOS Name> broadcast was successful.

**Name registration success. WINS Server =<WINS server address> NetBIOS Name=<NetBIOS name>**

Name registration of <NetBIOS Name> to <WINS server address> was successful.

**nbttd start.**

The nbttd (NetBIOS over TCP/IP Daemon) has started.

**no RADIUS/authentication server**

The supplicant has received a message reporting that a usable RADIUS server cannot be found.

**no smart card detected on device**

PEAP/GTC (Generic Token Card) is selected, but a smart card using GTC authentication cannot be found.

**no SSID in scan result**

A network with the SSID you specified was not found.

The specified SSID might not be available, or the signal from the access point/multi-channel might be weak.

**no WPA information element in probe response, rescanning**

There is no WPA information on the response from the SSID probe of the access point you want to use.

The supplicant is rescanning.

**npriter start. (NetWare)**

(In the remote printer mode) The NetWare service has started.

**nwstart start. (NetWare)**

The NetWare protocol stack setup server has started.

**Open log file <file name>**

The specified log file was opened when the print server was online.

**papd start. (AppleTalk)**

The papd (Printer Access Protocol Daemon) has started.

**permission denied.**

The permission was denied after checking the user name and host address at the job cancel (except for the root permission).

**pserver start. (NetWare)**

NetWare service has started in print server mode at the print server operation.

**Printer <printer name> has no queue**

The print queue is not assigned to the printer when the print server was online. Assign the print queue to the printer using NetWare administrator account, and then restart the printer.

**Print queue <print queue name> cannot be serviced by printer 0, <print server name>**

The print queue cannot be established when the print server is online. Make sure that the print queue exists on the specified file server.

**Print server <print server name> has no printer**

The printer was not assigned to the print server when the print server was online. Use the NetWare administrator account to assign the printer, and then restart the printer.

**print sessions full**

No more print jobs can be accepted. Wait a while before sending any more print jobs.

**Required file server(<file server name>) not found**

The required file server <file server name> could not be found.

**restarted.**

The LPD has started.

**sap enable, sapttype=<SAP type>, sapname=<SAP name>**

The SAP function was started. The SAP packet is issued to advertise the service in the SAP table on the NetWare server.

**server certificate invalid**

The server ID is disabled. Check the server authentication.

**server identity invalid**

The server ID is disabled. Check the server name authentication.

**server not trusted**

The RADIUS server cannot be trusted.

**Session\_IPv4 <community name> not defined.**

The requested community name is not defined.

**Session\_IPv6 <community name> not defined.**

The requested community name is not defined.

**session\_IPX <community name> not defined.**

The requested community name is not defined.

**Set context to <NDS context name>**

The NDS context name <NDS context name> has been set.

**shutdown signal received. network service rebooting...**

The network reboot process is starting.

**smbd start. (NetBIOS)**

SMBD (Server Message Block Daemon) has been started.

**Snmpd Start.**

The snmpd has started. This message is displayed only when the power is turned ON.

**SMTPC: failed to get smtp server ip-address.**

The SMTP server IP address could not be obtained. This could be because:

- The specified DNS server could not be found.
- No connection to the network has been established.
- The specified DNS server could not be found.
- An incorrect DNS server is specified.
- The specified SMTP server IP address could not be found in the DNS server.

**SMTPC: failed to connect smtp server. timeout.**

Connection to the SMTP server failed due to timeout. This could be because the specified SMTP server name is incorrect, or no connection to the network has been established, or the network configuration is incorrect, so there is no response from the SMTP server. Check the SMTP server name, or the network connection and configuration.

**SMTPC: refused connect by smtp server.**

Connection to the SMTP server is denied. This could be because server other than the SMTP server has been specified, or the specified SMTP server port number is incorrect. Check the SMTP server name, port number, or the SMTP server port number.

**SMTPC: no smtp server. connection close.**

Connection to the SMTP server failed due to no response from SMTP. This could be because a server other than the SMTP server has been specified, or the specified SMTP server port number is incorrect. Check the SMTP server name, port number, or the SMTP server port number.

**SMTPC: failed to connect smtp server.**

Connection to the SMTP server failed. This could be because no connection to the network has been established, or the network configuration is incorrect, so there is no response from the SMTP server, or the specified SMTP server name is incorrect, or the specified SMTP server IP address could not be found in the DNS server, or a server other than the SMTP server has been specified, or the specified SMTP server port number is incorrect. Check the DNS Server's IP address and SMTP server's IP address, or the SMTP server name and SMTP port number, or the SMTP server's SMTP port number, or the network connection and configuration.

**SMTPC: username or password wasn't correct. [response code] (information)**

Connection to the SMTP server failed, because the specified SMTP user name is incorrect, or the specified SMTP password is incorrect. Check the SMTP user name and password.

**Snmp over IPv4 is ready.**

Communication over IPv4 with snmp is available.

**Snmp over IPv6 is ready.**

Communication over IPv6 with snmp is available.

**Snmp over IPX is ready.**

Communication over IPX with snmp is available.

**started.**

The direct printing service has started.

**started.**

The IKE service has started.

**Started.**

The bonjour (rendezvous) function has started.

**stopped**

The supplicant has just stopped.

**success key received**

The supplicant received the EAP-Success key.



**success but invalid key**

The supplicant received a message reporting that EAP authentication was successful, but the EAPOL key was invalid.

**supplicant unbound**

The supplicant is not connected to the unbound access point.

**supplicant started**

The supplicant has just started.

**terminated.**

IKE service has stopped because any configurations for the manual SA and IKE does not exist.

**Terminated.**

The bonjour (rendezvous) function is disabled.

**There is problem in dhcp server operation.**

There is a problem with the DHCP server.

If multiple DHCP servers are active on the network, check that they are assigning unique IP addresses to each printer.

**The print server received error <error number> during attempt to log in to the network. Access to the network was denied. Verify that the print server name and password are correct.**

Login to the file server failed when the print server was online. The print server is not registered or a password is specified. Register the print server without specifying a password.

**too many pictures.**

PictBridge printing failed because too many images are sent during one print transaction. Reduce the number of images at one print transaction.

**trap account is unavailable.**

v3Trap cannot be sent. This could be because the Trap destination account is different from the account specified by the printer.

**unauthenticated**

The authentication failed. The supplicant was denied access to the access point, or was not authenticated.

**Updated (option name) (value) via DHCPv6 Server**

The parameter obtained from the DHCP server has been updated.

**usbd is disabled.**

Plug and Play is unavailable because the printer is in security mode. Enable USB in Security Mode.

**waiting for keys**

The supplicant is waiting for the session key.

**WINS name registration: No response to server (WINS server address)**

There was no response from the WINS server. Check that the correct WINS server address is entered. Also, check that the WINS server is functioning properly.

**WINS wrong scopeID=<scope ID>**

The scope ID is invalid. Use a valid scope ID.

**write error occurred.(diskfull)**

A "diskfull" error occurred while the printer was writing to the spool file. Wait for the current print job to finish. When it finishes, more HDD space will be available. Only pages that were spooled when the error occurred will be printed.

**write error occurred.(fatal)**

A "diskfull" error occurred while the printer was writing to the spool file. Wait for the current print job to finish. When it finishes, more HDD space will be available. Only pages that were spooled when the error occurred will be printed.

**WSD (Device) started.**

WSD (Device) has started.

**WSD (Printer) started.**

WSD (Printer) has started.

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MEMO

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