!! WARNING !!

FCC CLASS A computing device
- Information to User -

- This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manuals, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

- THIS DIGITAL APPARATUS DOES NOT EXCEED THE CLASS A LIMIT FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS AS SET OUT IN THE RADIO INTERFERENCE REGULATIONS OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

LE PRÉSENT APPAREIL NUMÉRIQUE N'ÉMET PAS DE BRUITS RADIOÉLECTRIQUES DÉPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMÉRIQUES DE CLASSE A PRESCRITES DANS LE RÈGLEMENT SUR LE BROUILLAGE RADIOÉLECTRIQUE ÉDICTÉ PAR LE MINISTÈRE DES COMMUNICATIONS DU CANADA.

!! CAUTION !!

Replacement of the Lithium Battery

1. The lithium battery must be replaced by a trained and authorized service technician.
2. The battery must be replaced only with the same or equivalent type recommended by the manufacturer.
3. Discard used batteries according to the manufacturer’s instructions.

!! DANGER !!

Handling of the Lithium Battery

1. Never let the battery short-circuit.
   If the (+) and (-) terminals contact each other or metal materials, the battery will short-circuit.
   If the batteries are collected and stored in disorderly or one upon another, the above-mentioned case will occur.

   IF THE BATTERY SHORT-CIRCUITS, IT WILL HEAT UP AND MAY IN SOME CASES EXPLODE.

2. Never heat up the battery.

   IF THE BATTERY IS HEATED UP TO MORE THAN 212°F OR PUT INTO THE FIRE, IT MAY BURN OR EXPLODE.

3. Never disassemble the battery or mutilate it.
4. Keep the battery out of reach of children.
   If you leave the battery within reach of children, they may swallow it.
   Should they swallow the battery, immediately consult a doctor.
CONTENTS

This manual describes functions and operation of the RISOGRAPH RC5600D,5600, and 4500. Please read it thoroughly before operation to obtain the best results.

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PRODUCT DESCRIPTION

The Risograph's many features can help make it easier to reproduce a wide range of documents.

This section identifies the Risograph's features, the layout of the machine and the location of controls and display.

- **PRODUCT FEATURES**
  - 5600D, 5600 ........................................ 6
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- **THE OPERATION PANEL**
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- **SPECIFICATIONS**
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  - 4500 ........................................ 14
### Feature No.2, 4, & 7 available only on RC5600D

<table>
<thead>
<tr>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] ADF Unit</td>
<td>Feeds the original into the scanner.</td>
</tr>
<tr>
<td>[3] Original Guides</td>
<td>Holds and guides originals in original feed. (Adjusts to the original size.)</td>
</tr>
<tr>
<td>[5] Original Feed Table</td>
<td>Holds originals.</td>
</tr>
<tr>
<td>[7] Editing Board</td>
<td>Edits images together with the pointing pen.</td>
</tr>
<tr>
<td>[8] Operation Panel</td>
<td>Read Pages 8 to 11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>[9] Front Cover</td>
<td>Opened when replacing ink bottles, or removing misfeeds.</td>
</tr>
<tr>
<td>[10] Feed Tray Down Button</td>
<td>Lowers the paper feed tray.</td>
</tr>
<tr>
<td>[11] Left/Right Print Position Adjusting Dial</td>
<td>Moves the print position to the left or right.</td>
</tr>
<tr>
<td>[12] Paper Feed Pressure Adjusting Lever</td>
<td>Changes the pressure of the paper feed roller.</td>
</tr>
<tr>
<td>[14] Feed Tray Paper Guides</td>
<td>Holds &amp; guides printing paper. (Adjusts to paper size,)</td>
</tr>
<tr>
<td>[15] Master Disposal Box</td>
<td>Area into which used masters are disposed.</td>
</tr>
<tr>
<td>Feature</td>
<td>Function</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>[2] Master Loading Unit</td>
<td>Opened when replacing master roll and cleaning Thermal Print Head.</td>
</tr>
<tr>
<td>[3] Master Loading Unit Release Lever</td>
<td>Pulled to open or close the master loading unit.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>[7] Paper Guiding Arms</td>
<td>Positioned according to the type of paper.</td>
</tr>
<tr>
<td>[8] Receiving Tray Paper Guides</td>
<td>Holds completed copies. (To be adjusted to the paper size.)</td>
</tr>
<tr>
<td>[9] Paper Stop</td>
<td>Stops completed copies. (To be adjusted to the paper size.)</td>
</tr>
<tr>
<td>[10] Power Switch</td>
<td>Turns the power ON/OFF.</td>
</tr>
<tr>
<td>[12] Ink Bottle</td>
<td>1000cc Capacity</td>
</tr>
</tbody>
</table>
### Features and Functions

<table>
<thead>
<tr>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>[4] Density/Speed Conversion Button</td>
<td>Converts the print density button to the speed-change mode.</td>
</tr>
<tr>
<td>[5] Interface Button</td>
<td>For connecting to a computer.</td>
</tr>
<tr>
<td>[10] Liquid Crystal Display</td>
<td>Displays mode selection and operational advice.</td>
</tr>
<tr>
<td>[11] Print Quantity Display</td>
<td>Displays the input print quantity and the number remaining to be printed during printing.</td>
</tr>
<tr>
<td>[12] ADF Button</td>
<td>For non-stop operation from master-making to printing on multiple originals.</td>
</tr>
<tr>
<td>[13] Enter Key</td>
<td>For selecting printing programs.</td>
</tr>
</tbody>
</table>
### Main Panel

<table>
<thead>
<tr>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>[16] Print Density Button</td>
<td>Changes the density (in the print density mode) or the print speed (in the print speed mode).</td>
</tr>
<tr>
<td>[17] Print Position Adjusting Button</td>
<td>Shifts the print position up or down on the page.</td>
</tr>
<tr>
<td>[18] Print Quantity Keys</td>
<td>For inputting the print quantity.</td>
</tr>
<tr>
<td>[19] Clear Key</td>
<td>For clearing the input print quantity.</td>
</tr>
<tr>
<td>[20] Program &amp; Confirm/Correct Buttons</td>
<td>For programming, confirming, or correcting programmed printing.</td>
</tr>
<tr>
<td>[22] Stop Button</td>
<td>Interrupts printing or master-making.</td>
</tr>
<tr>
<td>[23] Start Button</td>
<td>Starts master-making or printing. Reverts operation after a problem has been eliminated.</td>
</tr>
<tr>
<td>[24] Master-making/Print Button</td>
<td>Converts “master-making” mode into “printing” mode, and vice versa.</td>
</tr>
<tr>
<td>[26] All Reset Button</td>
<td>For canceling any setting on the panel and recovering the initial setting.</td>
</tr>
</tbody>
</table>
### Feature | Function
--- | ---
[4] Interface Button | For connecting to a computer.
[8] Liquid Crystal Display | Displays mode selection and operational advice.
[9] Print Quantity Display | Displays the input print quantity and the number remaining to be printed during printing.
[10] ADF Button | For non-stop operation from master-making to printing on multiple originals.

**Sub-Panel**

**Display Panel**
### Main Panel

<table>
<thead>
<tr>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>[14] Print Speed Button</td>
<td>Changes the print speed.</td>
</tr>
<tr>
<td>[15] Print Position Adjusting Button</td>
<td>Shifts the print position up or down on the page.</td>
</tr>
<tr>
<td>[16] Print Quantity Keys</td>
<td>For inputting the print quantity.</td>
</tr>
<tr>
<td>[17] Clear Key</td>
<td>For clearing the input print quantity.</td>
</tr>
<tr>
<td>[18] Program &amp; Confirm/Correct Buttons</td>
<td>For programming, confirming, or correcting programmed printing.</td>
</tr>
<tr>
<td>[20] Stop Button</td>
<td>Interrupts printing or master-making.</td>
</tr>
<tr>
<td>[21] Start Button</td>
<td>Starts master-making or printing. Restarts operation after a problem has been eliminated.</td>
</tr>
<tr>
<td>[22] Master-making/Print Button</td>
<td>Converts “master-making” mode into “printing” mode, and vice versa.</td>
</tr>
<tr>
<td>[23] Original Mode Select Button</td>
<td>For selecting “Line-copy” or “Photograph” mode in master-making.</td>
</tr>
<tr>
<td>[24] All Reset Button</td>
<td>For canceling any setting on the panel and recovering the initial setting. For clearing the message display after a problem has been eliminated.</td>
</tr>
</tbody>
</table>
### SPECIFICATIONS - RC5600D

<table>
<thead>
<tr>
<th>Process</th>
<th>Automatic Digital Scanning, Thermal Screening Duplicating System</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Copy Time</td>
<td>21 seconds</td>
</tr>
<tr>
<td>Copy Speed</td>
<td>Variable from 60 to 130 copies per minute</td>
</tr>
<tr>
<td>Scanning Resolution</td>
<td>400 dots per inch</td>
</tr>
<tr>
<td>ADF Capacity</td>
<td>15 Originals</td>
</tr>
<tr>
<td>Original Size</td>
<td>4&quot; x 6&quot; to 11&quot; x 17&quot;</td>
</tr>
<tr>
<td>Image Area</td>
<td>8.1&quot; x 13.7&quot;</td>
</tr>
<tr>
<td>Paper Size</td>
<td>4&quot; x 6&quot; to 11&quot; x 17&quot;</td>
</tr>
<tr>
<td>Paper Weight</td>
<td>16 to 110 lbs.</td>
</tr>
<tr>
<td>Paper Capacity</td>
<td>1000 Sheets (Feed &amp; Receiving Trays)</td>
</tr>
<tr>
<td>Print Colors</td>
<td>Black, blue, green, red, brown, yellow</td>
</tr>
<tr>
<td>Reduction Modes</td>
<td>64%, 74%, 77%, 95%</td>
</tr>
<tr>
<td>Enlargement Modes</td>
<td>121%, 127%, 141%</td>
</tr>
<tr>
<td>Features</td>
<td>Editing Board, Speed Control, Confidential Mode, Job Programmability, Automatic Idle, Photo Enhancement, Line Sharpening, Automatic Screening, Two-Up Copy, Graphic LCD Display</td>
</tr>
<tr>
<td>Options</td>
<td>Sorter, Job Separator, Computer Interface (available after RC5600 introduction), Key/Card Counter</td>
</tr>
<tr>
<td>Power Source</td>
<td>110 Volt AC, 50/60 Hz</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>3.5A</td>
</tr>
<tr>
<td>Weight</td>
<td>Approximately 200 lbs.</td>
</tr>
<tr>
<td>Dimensions (HxWxD)</td>
<td>23.2&quot;x25.6&quot;x24.9&quot; in storage</td>
</tr>
<tr>
<td></td>
<td>23.2&quot;x53.6&quot;x24.9&quot; in use</td>
</tr>
<tr>
<td>Specification</td>
<td>Details</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Process</td>
<td>Automatic Digital Scanning, Thermal Screening Duplicating System</td>
</tr>
<tr>
<td>First Copy Time</td>
<td>21 seconds</td>
</tr>
<tr>
<td>Copy Speed</td>
<td>Variable from 60 to 130 copies per minute</td>
</tr>
<tr>
<td>Scanning Resolution</td>
<td>400 dots per inch</td>
</tr>
<tr>
<td>ADF Capacity</td>
<td>15 Originals</td>
</tr>
<tr>
<td>Original Size</td>
<td>4&quot; x 6&quot; to 11&quot; x 17&quot;</td>
</tr>
<tr>
<td>Image Area</td>
<td>8.1&quot; x 13.7&quot;</td>
</tr>
<tr>
<td>Paper Size</td>
<td>4&quot; x 6&quot; to 11&quot; x 17&quot;</td>
</tr>
<tr>
<td>Paper Weight</td>
<td>16 to 110 lbs.</td>
</tr>
<tr>
<td>Paper Capacity</td>
<td>1000 Sheets (Feed &amp; Receiving Trays)</td>
</tr>
<tr>
<td>Print Colors</td>
<td>Black, blue, green, red, brown, yellow</td>
</tr>
<tr>
<td>Reduction Modes</td>
<td>64%, 74%, 77%, 95%</td>
</tr>
<tr>
<td>Enlargement Modes</td>
<td>121%, 127%, 141%</td>
</tr>
<tr>
<td>Features</td>
<td>Speed Control, Confidential Mode, Job Programmability, Automatic Idle, Photo Enhancement, Line Sharpening, Automatic Screening, Two-Up Copy, Graphic LCD Display</td>
</tr>
<tr>
<td>Options</td>
<td>Sorter, Job Separator, Computer Interface (available after RC5600 introduction), Editing Board, Key/Card Counter</td>
</tr>
<tr>
<td>Power Source</td>
<td>110 Volt AC, 50/60 Hz</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>3.5A</td>
</tr>
<tr>
<td>Weight</td>
<td>Approximately 196 lbs.</td>
</tr>
<tr>
<td>Dimensions (HxWxD)</td>
<td>23.2&quot;x25.6&quot;x24.9&quot; in storage</td>
</tr>
<tr>
<td></td>
<td>23.2&quot;x53.6&quot;x24.9&quot; in use</td>
</tr>
</tbody>
</table>
SPECIFICATIONS - RC4500

Process
Automatic Digital Scanning, Thermal Screening Duplicating System

First Copy Time
21 seconds

Copy Speed
Variable from 60 to 130 copies per minute

Scanning Resolution
400 dots per inch

ADF Capacity
15 Originals

Original Size
4" x 6" to 11" x 17"

Image Area
8.1" x 13.7"

Paper Size
4" x 6" to 11" x 17"

Paper Weight
16 to 110 lbs.

Paper Capacity
1000 Sheets (Feed & Receiving Trays)

Print Colors
Black, blue, green, red, brown, yellow

Reduction Modes
64%, 77%

Enlargement Modes
127%

Features
Speed Control, Confidential Mode, Job Programmability, Automatic Idle, Photo Enhancement, Two-Up Copy, Graphic LCD Display

Options
Sorter, Job Separator, Computer Interface (available after RC5600 introduction), Key/Card Counter

Power Source
110 Volt AC, 50/60 Hz

Power Requirements
3.5A

Weight
Approximately 194 lbs.

Dimensions (HxWxD)
23.2"x25.6"x24.9" in storage
23.2"x53.6"x24.9" in use
PREPARING TO PRINT

This section describes the pre-operation settings, originals, and printing paper. Read carefully before operating your Risograph.

- PAPER FEED TRAY SET-UP AND PAPER LOADING .................. 16
- PAPER RECEIVING TRAY SET-UP .................................. 17
- ORIGINALS ......................................................... 18
- PRINTING PAPER .................................................. 19
1. Open the paper feed tray.
2. Fan paper before loading on paper feed tray.

3. Adjust the feed tray paper guides according to paper size.

ADDING OR REPLACING PAPER DURING PRINTING
Press the feed tray down button until the tray lowers.

ADJUST THE PAPER FEED ROLLER PRESSURE
The paper feed pressure adjusting lever is located above the paper feed roller.
Lever position for most normal papers is "STANDARD". Use the "CARD" setting for thick paper, card stock, or if frequent misfeeds occur.

CLOSING THE PAPER FEED TRAY
Slide the paper guides to the outermost position and close the tray.
PAPER RECEIVING TRAY SET-UP

1. Open the paper receiving tray.

2. Open receiving tray paper guides and adjust according to paper size.
3. Adjust the paper stop according to paper size.

4. Adjust paper guiding arms to "STANDARD" or "THICK PAPER, LEDGER PAPER" depending on paper type being used.

CLOSING THE PAPER RECEIVING TRAY

1. Close the paper stop.
2. Place paper guide arms in the home position. ("THICK PAPER, LEDGER PAPER" position)
4. Close the paper receiving tray.
ORIGINAL SIZE AND WEIGHT

Make sure the paper being used for originals ranges from 4" x 6" to 11" x 17" and weighs from 13 lbs. to 34 lbs. Originals less than 13 lbs. may be used with a carrier sheet. (See below.)

MAXIMUM IMAGE AREA

Make sure there is a margin of 3/8" or more at the top and bottom edges of originals.

DIFFICULT ORIGINALS

Use a carrier sheet for the following originals:
- Patched or worn originals
- Originals with wrinkles, curls or folds
- Transparent originals, including tracing paper
- Coated originals
- Originals with white-out or glue
- Originals with torn or rough edges
- Art Work

UNSUITABLE ORIGINALS

- Stapled or paper-clipped originals
- Thin originals (less than 13 lbs.), which can be used with carrier sheet.
- Thick originals (more than 34 lbs.)
- Thermal paper, carbon or chemically treated originals

★ Make sure ink, white-out or glue is completely dry on originals before use. Do not load more than one carrier sheet in the ADF at a time.
SIZE AND WEIGHT

Make sure the paper being used for printing ranges from 4" x 6" to 11" x 17" and weighs between 13 lbs. bond and 110 lbs.

★ The maximum printable image area is 8.1" x 13.7".

★ Make sure the feed tray paper guides, receiving tray paper guides and paper stop are adjusted to the size of the paper being used.

PAPER THICKNESS

For standard paper, position the paper feed pressure adjusting lever at “NORMAL” and paper guiding arms at “STANDARD”.

★ With thick paper or cardboard, position the paper feed pressure adjusting lever at “CARD” and the paper guiding arms at “THICK PAPER, LEDGER PAPER”.

PAPER UNSUITABLE FOR PRINTING

Do not use the following kinds of paper.
* Paper which wrinkles, curls or folds
* Coated paper
* Paper with torn or rough edges
* Very thin paper (less than 13 lbs. bond)
* Very thick paper (more than 110 lbs.)
* Thermal paper, carbon paper or chemically treated paper
BASIC OPERATION

This section describes basic operations. Read this section thoroughly before using your Risograph.

- ORIGINAL PLACEMENT & PRINTING .................................. 22
- TEST PRINTING ......................................................... 24
- ADJUSTING THE PRINTING POSITION ............................ 24
- ADJUSTING THE PRINTING DENSITY ............................... 25
- ADJUSTING THE PRINTING SPEED .................................. 25
- QUICK REFERENCE TO PRINTING OPERATIONS ............. 26
TURN ON THE POWER SWITCH.

1. Turn on the power switch, which is located on the lower right side of the machine.

| ON | OFF |

INITIAL SETTINGS:

1. When power is turned on, the operation panel displays the settings shown on the left. (i.e. initial settings)

2. When pressing the all reset button, all modes are reset to these initial settings.

* "Master-making" mode is automatically selected whenever originals are placed in the ADF.

ORIGINAL PLACEMENT

1. Adjust the original guides to the original size, and then place an original face-down in the ADF.
SELECT ORIGINAL TYPE.

1. Select the desired original mode with the original mode select button and the original mode button on the sub-panel.

[Line-copy]  ➔  Word-processed documents, photocopies and newspaper
[Photograph]  ➔  Originals with photographs
[Dot-Photo]  ➔  Processes photo-originals with dot-screen.

ADJUST CONTRAST

- Dark Originals - Move dial toward “LIGHTER” for originals with dark background like newspapers or colored stock.
- Light Originals - Move dial toward “DARKER” for very faint image on white paper.

SELECT REDUCTION/ENLARGEMENT RATIO

1. Press “REDUCE” or “ENLARGE” button until desired reduction or enlargement ratio is selected.

The figure to the left is for RC5600D & 5600.
For RC4500, refer to “THE OPERATION PANEL - RC4500” (p.10, 11).

PRINT.

1. Input the desired print quantity with the number keys.
Before pressing “START” button, make sure that “Master - Making” mode is selected.
2. Press “START” button. A sample print will come out.
3. If the sample print is acceptable, press the “START” button again to begin printing.
   • “Master-Making” mode is automatically converted into “Printing” mode after one sample print.
   • If ADF is selected, master-making and printing take place automatically for all originals loaded.
TEST PRINTING

The "TEST PRINT" button may be used at any time the machine is at rest to provide one sample copy for checking print density and image position on the page.

After checking the test print, changes can be made by following the steps below.

ADJUSTING THE PRINTING POSITION

The printing position can be adjusted up and down or right and left.

ADJUSTING THE VERTICAL PRINTING POSITION

Press the print position adjusting button to shift the position up or down with the maximum adjustable range of ±20mm (approx. 3/4"").

( The range of adjustment is displayed on the Liquid Crystal Display.)

ADJUSTING THE HORIZONTAL PRINTING POSITION

Rotate the left/right position adjusting dial on paper feed tray to move the printing position from side to side with the maximum adjustable range of ±20mm (approx. 3/4") for letter size and ±5mm (approx. 3/16") for ledger size.
ADJUSTING THE PRINTING DENSITY

[RC5600D & 5600]
Press "DARKER" or "LIGHTER" button to change the printing density.

★ In RC4500, the printing density is changed by adjusting the printing speed.

ADJUSTING THE PRINTING SPEED

[RC5600D & 5600]
Press the "PRINT SPEED" button (the "Density/Speed" conversion button) on the sub-panel to change "Density" mode into "Speed" mode.

Now you can change the printing speed using the print density button.

1- Approx. 60 copies/minute
3- Approx. 100 copies/minute
5- Approx. 130 copies/minute

[RC4500]
You can change the printing speed using the print speed button.
By this adjustment, the printing density is also changed.

1- Approx. 60 copies/minute  Darker
5- Approx. 130 copies/minute  Lighter
QUICK REFERENCE TO PRINTING OPERATIONS

   [2] Open the paper feed tray and place paper on it.
   [4] Place an original face-down on the ADF.

2. Select the original mode.

3. Select the reduction/enlargement ratio.

4. Input the desired print quantity.

5. Press "START" button for master-making.

A sample is made.

TEST PRINT

Check Position
Check Density
Check Speed.

6. Make any desired adjustments and press "START" to complete printing.

PRINTS ARE MADE.

ADF ON
ADVANCED OPERATIONS

This section describes various functions of the machine. Read this section thoroughly to learn advanced printing techniques.

- EDITING .................................................. 28
- ADF .................................................. 36
- TWO-UP PRINTING ................................. 37
- MEMORY PROGRAM ............................... 38
- CONFIDENTIAL .................................... 40
- CHANGING COLORS ............................... 41
The editing board, located on the top right side, provides features for modifying one to four areas of an original.

**EDIT MODES**

1. **LINE**
   - Applies "Line-copy" mode.
2. **PHOTO**
   - Applies "Photograph" mode.
3. **FRAME**
   - Screens a specified area.
4. **NEGATIVE/POSITIVE**
   - Reverses black and white.
5. **OUTLINE SCRIPT**
   - Outlines characters.
6. **ERASE**
   - Erases a specified area.
7. **COPY**
   - Prints only the specified area.

★ "Sharpen image" and "Dot photo" modes on the sub-panel are also available.

---

**Original**

Inter-Office Memo

ENJOY PLAYING TENNIS AND STROLLING IN THE WOODS AT KARUIZAWA.

As requested by many young colleagues, we've planned the next company trip to Karuizawa, where you will be able to enjoy tennis and the lovely natural scenery. Rest and relax among the lush vegetation in a restful bathing inn.

Accommodation:

**Tennis**

Join the tennis group if you like playing tennis or are just a beginner. Our tennis coaches will be on hand to offer helpful instruction.

**Woods Bathing**

Take a stroll among the white birch forests. Follow hiking trails, and enjoy the natural beauty of the flowers and the birds. Relax and unwind close to nature.

**Evening Party**

There will be gourmet cuisine, and many fine wines. Have fun with group games, such as bingo, quizzes, and a singing contest.

---

**A print sample with four different edit modes**

1. **LINE**
2. **PHOTO**
3. **FRAME**
4. **OUTLINE SCRIPT**
5. **ERASE**
6. **COPY**

---

Inter-Office Memo

1989 MAY

ENJOY PLAYING TENNIS AND STROLLING IN THE WOODS AT KARUIZAWA.
The following steps show how to use editing to create the sample print shown in the example on the previous page.

1. Touch "ON/OFF" with the pointing pen (Stylus) to turn on the editing board.

2. Place the top of the original into the original scroll clip and position it on the editing grid.

3. Specify "Area 1" with the pointing pen (Stylus) by touching the upper left, upper right, lower right, lower left and upper left corners of the selected area.

4. Select the "OUTLINE SCRIPT" edit mode for "Area 1" with the pointing pen (Stylus).

5. Specify "Area 2" with the pointing pen (Stylus).

6. Select the "ERASE" edit mode for "Area 2" with the pointing pen (Stylus).

7. Specify "Area 3" with the pointing pen (Stylus).
8. Select the “NEGATIVE/POSITIVE” edit mode for “Area 3” with the pointing pen (Stylus).

9. Specify points (1) and (2) of “Area 4” with the pointing pen (Stylus).

10. Move the original scroll clip to the left to reposition the right portion of the original on the editing board.

11. Specify points (3) and (4) of “Area 4” with the pointing pen (Stylus).

12. Select the “PHOTO” edit mode for “Area 4” with the pointing pen (Stylus).

13. Release the original from the original scroll clip and place it face-down on the ADF.

14. Input the desired print quantity with the number keys.

15. Press “START” button.

16. After checking the sample print, press “START” button again to begin printing.

NOTE:
• Up to four areas can be specified for edit.
• Select the “COPY” edit mode if you want to print only the specified areas.
NOTES ON SPECIFYING THE EDIT AREA

- An area can contain up to 16 right-angle points.

- When two specified areas overlap, the edit mode of less numbered area is ignored.

- No side of a specified area may intersect or overlap each other.

- The "COPY" edit mode enables you to print only selected sections of a whole document. This edit mode is very useful in printing documents in multiple colors.

ENJOY PLAYING TENNIS AND STROLLING IN THE WOODS AT KARUIZAWA.

Accommodation

Hotel karuizawa Vita
Schedule: May 29/30, 8:00 AM
Depart from the Head Office
Lunch for Karuizawa by chartered bus
May 28, 10:00 AM
Lunch Karuizawa.

Original

A print sample processed in the "COPY" edit mode
EDITING FOR TWO-COLOR PRINTING

Easy multi-colored printing is available with various functions of the editing board. Multi-color copies add impact to your documents, and the editing board makes color printing easy.

FIRST COLOR SET-UP & PRINTING

1. Touch “ON/OFF” with the pointing pen (Stylus) to turn on the editing board.

2. Place the top of an original into the original scroll clip and position it on the editing grid.

3. Specify “Area 1” with the pointing pen (Stylus).

4. Select a desired edit mode for “Area 1” with the pointing pen.

5. Repeat steps (3) to (4) and select the desired edit patterns for all areas to be printed in the first color (color of the drum installed).

6. Select the “COPY” edit mode with the pointing pen (Stylus).

7. Release the original from the original scroll clip and place it face-down on the ADF.

8. Input the desired print quantity with the number keys.


10. After checking the sample print, press “START” button again to begin printing only the specified areas in the first color.
FIRST COLOR SET-UP & PRINTING (continued)

11. Open the front cover.

12. Check the "Drum Ready" indicator/button to the right of the drum. If it is not lit, press it.

13. Raise the handle and slide out the drum for the first color.

14. Lift the drum straight up from its base.

15. Insert the drum for the second color.

16. Close the front cover.

17. Remove paper printed in the first color and place it on the paper feed tray.

MAKE SURE IT IS FACING IN THE SAME DIRECTION IT WAS FOUND IN THE PAPER RECEIVING TRAY.
18. Touch "ON/OFF" with the pointing pen (Stylus) to turn on the editing board.

- The edit data for the first color, which are held in memory, are indicated on the display.

19. Touch "COPY" with the pointing pen (Stylus) to cancel the "COPY" edit mode.

20. Touch "CONFIRM/CORRECT" with the pointing pen (Stylus), which places "Area 1" into the "confirm/correct" condition.

21. Touch "ERASE" with the pointing pen (Stylus) to reset the edit mode for "Area 1" to "ERASE".

22. Touch "CONFIRM/CORRECT" with the pointing pen (Stylus), which places "Area 2" into the "confirm/correct" condition.

23. Reset the edit modes for all other areas to "ERASE" as in Step (21).

24. Place the original face-down in the ADF.

25. Input the desired print quantity with the number keys.

26. Press "START" button.

27. After checking the sample print, press "START" button again to begin printing.

Now all but the specified areas are printed in the second color, providing two-colored printouts.
CONFIRMING/CORRECTING THE EDIT MODES

The “Confirm/Correct” feature allows the user to review edit data and change it if desired.

1. Touch “CONFIRM/ CORRECT” with the pointing pen (Stylus). “Area 1” is placed into the “confirm/correct” condition.

2. Touch “CONFIRM/ CORRECT” again to confirm the edit mode if it is correct. If a different edit mode is desired for “Area 1”, select it before touching “CONFIRM/ CORRECT”.

After touching “CONFIRM/ CORRECT” for “Area 1”, “Area 2” is automatically placed in the “confirm/correct” condition.

3. Repeat steps #1 and #2 to confirm or correct edit modes for all other areas.

CANCELLING AN AREA AND RESELECTING

1. Touch “CONFIRM/ CORRECT” with the pointing pen (Stylus).
2. “Area 1” is placed into the “confirm/correct” condition.
3. Repeatedly touch “CONFIRM/ CORRECT” with the pointing pen until the desired area is placed into the “confirm/correct” condition.

4. When the desired area is placed into the “confirm/correct” condition, touch “CANCEL” with the pointing pen (Stylus).
5. The display of the desired area on LCD goes off.

6. Specify a new area.
7. Select an edit mode for the newly-specified area.

When you touch “CANCEL”, the editing board changes from the “confirm/correct” condition to the initial condition in which areas can be specified.
**ADF (AUTOMATIC DOCUMENT FEED)**

With ADF ON, all originals (15 sheets can be loaded at one time) are fed automatically, producing the same quantity of prints for each original.

**OPERATION PROCEDURE**

1. Press "ADF" button.

2. Input the desired print quantity.

3. Place an original face-down.
   - Up to 15 originals can be loaded at one time.
   - All originals must be the same paper size and quality.

4. Press "START" button.

★ To cancel the ADF function, press "ADF" button once more.
The "Two-up" feature prints two separate originals (both the same or different) side by side on one sheet.

**OPERATION**

1. Press "2 UP" button.
2. Position originals on ADF.
3. Press "START" button.

SEE EXAMPLES BELOW.

**EXAMPLES**

**TWO SEPARATE ORIGINALS**

1. Put one original on top of another and place the two originals face-down on the ADF.
2. Input the desired print quantity with the print quantity keys.
3. Press "START" button.
4. The two originals, beginning with the one on top, are automatically fed and printed.

**TWO OF THE SAME ORIGINAL**

1. Place an original face-down on the ADF.
2. Input the desired print quantity with the print quantity keys.
3. Press "START" button.
4. Pick up the original coming out to the original tray and load it again. (Reset the original before the original stand-by alarm ceases.)
5. The original is automatically re-fed and the two-up printing starts.

**TWO SEPARATE ORIGINALS IN TWO DIFFERENT MODES**

1. Select an original mode for "original A" and place the original face-down on the ADF.
2. Input the desired print quantity with the print quantity keys.
3. Press "START" button.
4. After "original A" comes out onto the original tray, select another original mode for "original B" and place the original face-down. (Select a mode and load "original B" before the original stand-by alarm ceases.)
5. "Original B" is automatically fed and two-up printing begins.
MEMORY PROGRAM

In "Memory Program", different quantities of different originals can be printed automatically. (Up to 15 originals with 9999 copies)

PROGRAMMING PROCEDURE

Example: 50 sheets for 1st Original
          20 sheets for 2nd Original

1. Press “ADF” button.
   - Programmed printing is not available with ADF off.

2. Press “PROGRAM” button.
   - The number of originals programmed must be the same as the number of originals in the ADF.

3. Input [50] for the print quantity for 1st original with print quantity keys.
   Place 1st original face-down in ADF.

4. Press “ENTER” button to confirm 1st original.
   - Programming mode for the next original is automatically started by pressing "ENTER".

5. Input [20] for the print quantity for 2nd original with print quantity keys.
   Place 2nd original face-down in ADF.

6. Press “ENTER” button to confirm the program of the 2nd original.
   - Pressing “ENTER” without inputting the print quantity will automatically program print quantity selected for the previous original for the current one.

7. Press “START” button to start programmed printing.
   - “Two-up” feature is not available with “Memory program”.

   \[ \text{REPEAT STEPS \#5 AND \#6 FOR MORE ORIGINALS (UP TO 15).} \]

   \[ * \text{Press “RESET” button.} \]
   \[ * \text{“Memory program” is automatically cancelled if all originals are cleared from the ADF when printing finishes.} \]

CANCELLING “MEMORY PROGRAM”
PROGRAMMED PRINTING EXAMPLE

In the example shown to the left, five originals were loaded into the ADF. Each original was programmed for different quantities and automatically printed.

- Printing starts from the original which was programmed last.

CONFIRMING & CORRECTING A PROGRAM

1. Press "CONFIRM/CORRECT" button to select a desired original.

- If the desired original is lower in number than the one displayed, press the upper "CONFIRM/CORRECT" button.

- If the desired original is higher in number than the one displayed, press the lower "CONFIRM/CORRECT" button.

2. When the desired original is displayed, press "CLEAR" button to clear the print quantity.

3. Reinput the desired quantity and press the "ENTER" button.

★ If the "START" button is pressed without re-inputting the print quantity after clearing the previous one, all the programs set for the displayed original and the rest after it are cancelled and the programmed printing starts from the original previous to the one displayed.
The confidential feature protects against unauthorized printing of sensitive or confidential documents. When the confidential feature is selected, the master on the drum is automatically removed and replaced with a blank master.

NOTE: To protect against an unauthorized reading of the master itself, one should remove the master from the machine.
See Section “DISCARDING DISPOSED MASTERS” on page 46.

OPERATION PROCEDURE

1. Press “CONFIDENTIAL” button.

2. Press “START” button.

3. A blank master is attached to the drum.

NOTE:
Press “CONFIDENTIAL” button once more to cancel the confidential function.
The print color can be changed simply by replacing the drum assembly (option).

★ Six colors are available: Black, Blue, Red, Green, Brown and Yellow

1. Open the front cover.

2. Check the "Drum Ready" indicator/button to the right of the drum. If it is not lit, press it.

3. Raise the handle and slide out the drum.

4. Lift the drum straight up from its base.

5. Install another color drum. Raise the handle and push the color drum all the way in, then lower the handle.

6. Close the front cover.

★ Store the extra drum in the case.

★ Never stand the drum upright.
REPLACING CONSUMABLES & DISCARDING MASTERS

This section describes how to replace consumables and how to discard disposed masters. Keep track of consumables and order well before they run out.

- REPLACING INK BOTTLES ................. 44
- REPLACING MASTER ROLLS .......... 45
- DISCARDING DISPOSED MASTERS ........................................ 46
REPLACING INK BOTTLES

When ink has run out, the message shown to the left appears on the display. Replace the empty ink bottle with a new one as follows:

1. Open the front cover and pull out the empty ink bottle from the drum.
2. Remove the cap from a new ink bottle.
3. Rotate the ink bottle until its arrow meets the arrow marked on the drum.
4. Insert the new ink bottle fully into the drum.
5. Close the front cover.

- Always confirm that the color of a new ink bottle is the same as of the drum. Never insert an ink bottle of another color.
- When you want to change print color, replace the drum, not an ink bottle only.
- Color drums (option) are available for print color change.
- Periodically check the stock of ink bottles and order them well before they run out.
When master has run out, the message shown to the left appears on the display. Replace the depleted master roll with a new one as follows:

1. Press the original table release lever and slide the original feed table toward the left to the "master replace" position.

2. Pull down the master loading unit release lever and open the master loading unit.

3. Lift the master holder and remove the depleted master roll.

4. Place a new master roll with the color flange toward the rear of the machine.

5. Insert the edge of the master under the green plastic film tabs.

6. Close the master loading unit and slide the original table back in position.

- Don't try to re-use the removed master roll because the master remaining on the roll is not enough for making one master.
- Periodically check the stock of master rolls and order them well before they run out.
Used masters are fed into the master disposal box, which is located under the original feed table. When the master disposal box is full, the message shown on the left appears on the display. Remove and empty the full master disposal box.

1. Hold together both upper and lower handles of the master disposal box.

2. Pull out the master disposal box.

3. Open the cover by pulling the locking lever and discard used masters, holding the handles.

4. Close the cover.

5. Holding the handles, insert the master disposal box into position as far as it will go.
TROUBLE SHOOTING & ERROR MESSAGES

The Risograph has advanced self-diagnostics to monitor machine performance.

Many kinds of messages are displayed to inform the operator of machine condition or provide assistance.

- TROUBLE SHOOTING MESSAGES .......................... 48
- ERROR MESSAGES ........................................ 51
Paper has jammed in the paper feed section. Remove the jammed paper and press the "reset" button.

Paper jamming in the paper-feed section is caused by the following:
- Paper slip ⇒ Check the paper feed pressure and adjust it if necessary.
- Folded paper ⇒ Do not use folded paper.
- Curled paper ⇒ Reset the paper so that it curls the other way.

Paper has jammed under the drum. Open the front cover, pull out the drum, and then remove the jammed paper.

Paper jamming under the drum is caused by the following:
- The top margin of prints is too small.
  ⇒ An insufficient top margin (blank space) on the original makes the paper more likely to wind around the drum.
  ⇒ Adjust the printing position to increase the top margin.
- A large solid image occupies the top area of the original. This may cause the paper to wind around the drum.
  Adjust the printing position to increase the top margin. If this does not work, reposition the original so that the solid image is at the bottom of the page.
- Curled paper
  Reset the paper so that it curls the other way round.

Removing the drum ⇒ See P.41

Adjusting the printing position ⇒ See P.24
TROUBLE SHOOTING MESSAGES

**ORIGINAL JAM OR OVERSIZE REMOVE JAMMED ORIGINAL**

The original is too long.
Remove the jammed original and replace it with a shorter one.

**ORIGINAL JAM RESET ORIGINAL**

The original has jammed.
Remove the jammed original and reposition it.

**MASTER MIS-FEED RESET MASTER**

Master has not been fed properly.
Reload the master.

**MASTER CUT MALFUNCTION PRESS RESET BUTTON**

The master has not been cut.
Press “All Reset” button to restart the master cutting process.

**MASTER CLAMP ERROR PRESS RESET BUTTON**

The master has not been loaded on the drum.
Press “All Reset” button to restart the master loading process.

**USED MASTER NOT DISCHARGED PULL OUT DRUM AND CHECK**

The used master is still attached to the drum.
Open the cover, pull out the drum, and then remove the master on the drum.

Original size and weight
⇒ See P.18

Original Placement
⇒ See P.22

Installing the master roll
⇒ See P.45

Position of “All Reset” button
⇒ See P.8/10

Position of “All Reset” button
⇒ See P.8/10

Removing the Drum
⇒ See P.41
The machine needs attention by a trained technician.

Call the number shown on the display for service. Please report the error number (T#) listed.
<table>
<thead>
<tr>
<th>Error Message</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADD PAPER</strong></td>
<td>No paper is loaded on the paper feed tray. Add paper, following the paper loading procedure.</td>
</tr>
<tr>
<td><strong>CLOSE FRONT COVER</strong></td>
<td>The front cover is open or not tightly closed. Close the front cover completely by pressing the lower right part of the cover.</td>
</tr>
<tr>
<td><strong>SET DRUM IN PLACE</strong></td>
<td>The drum has been removed or is not installed correctly. Install or re-install the drum and slide it all the way in and lower the handle.</td>
</tr>
<tr>
<td><strong>SET INK BOTTLE IN PLACE</strong></td>
<td>The ink bottle is pulled out from the drum or not set correctly. Reload the ink bottle following the ink bottle replacement procedure.</td>
</tr>
<tr>
<td><strong>SET LEAD EDGE OF MASTER UNDER GREEN FILM</strong></td>
<td>The master is not correctly loaded. Insert the lead edge of the master under the green film tabs.</td>
</tr>
<tr>
<td><strong>CLOSE MASTER LOADING UNIT</strong></td>
<td>The master loading unit is open or not completely closed. Close the master loading unit firmly.</td>
</tr>
<tr>
<td><strong>SET ORIGINAL FEED TABLE IN PLACE</strong></td>
<td>The original feed table is not in position. Slide the original feed table into position and lock it.</td>
</tr>
</tbody>
</table>

**Paper Set-up**
- See P.16

**Installing the Drum**
- See P.41

**Replacing Ink bottles**
- See P.44

**Loading masters**
- See P.45

**The master loading unit**
- See P.45

**Position of the Original feed table**
- See P.45
The master disposal box is not installed or not completely in place. Open the original feed table and check the installation of master disposal box.

Discarding disposed masters
⇒ See P.46
PROBLEMS & SOLUTIONS

- No Power
- "CLOSE COVER" message
- No image
- Excess Background
- Light Image
- White vertical lines
- Black vertical lines
- Ink smudges
- Paper misfeeds
- Misfeeds - Drum
- Drum won't install
NO POWER

The machine does not start when the power switch is turned on.
1. Check the connection of the power cord.
   - Is the plug in the socket?
   - Is the connection of the power cord to the machine loose?
     Try another socket.
2. Check the commercial power breaker.

"CLOSE COVER" MESSAGE

The "CLOSE COVER" message remains displayed even after the front cover is closed.

The metal plate on the lower right part of the front cover must be in close contact with the magnet.
Close tightly by pressing the lower right part of the front cover.

NO IMAGE

There is no image on prints stacking in the paper receiving tray.
This may be caused by incorrect positioning of the original or improper loading of the master roll.

1. The original may be placed face-up.
   - Place the original face-down and try master-making again.

2. The master may be installed upside down.
   Check if the master is correctly installed.

EXCESS BACKGROUND

If newspaper or color paper is used as an original, the background color may also appear on prints.

- Rotate the contrast adjustment dial counterclockwise (to "LIGHTER").

LIGHTER ● ● DARKER
LIGHT IMAGE

The print image is faint or characters are blurred.

1. If the machine is not used for long periods of time, ink on the drum surface may dry causing a light or faded print image.
   - Press "TEST PRINT" several times until a clear printed image is obtained.
   - Turn on "Auto-idling" Switch (located on the sub-panel) to prevent light images caused by periods on non-use.

2. Light originals will be printed as light images unless the "CONTRAST" dial is adjusted.
   - Rotate the "CONTRAST" dial clockwise toward "DARKER" to compensate for light originals.

WHITE VERTICAL LINES

White vertical lines on prints are caused by:

1. Dusty thermal print head (device which makes the master)
   - Open the master loading unit and clean the thermal print head using a soft cloth or tissue paper.

2. The glass plate of the scanner (device which reads original) is covered with white-out correction fluid.
   - Open the ADF cover and clean the glass plate of the scanner using a soft cloth or tissue paper.

BLACK VERTICAL LINES

Black vertical lines are caused by wet white-out or glue on originals.

1. Wet white-out or glue on the original stains the glass plate of the scanner during master-making.
   Perform master-making only after white-out and glue completely dries.
   - Open the ADF cover and clean the glass plate of the scanner using soft cloth or tissue paper.

INK SMUDGES

The back side of finished prints may be marked with ink smudges.

1. This is caused by dirt on the pressure roller (a rubber roller which presses paper against the drum).
   - Remove the drum and clean the pressure roller with a soft cloth.

Cleaning
Thermal print head & Scanner
See P.57

Cleaning
Scanner
See P.57

Removing
the Drum
See P.41
PAPER MISFEEDS

Misfeeds may be caused by a mismatch of paper type and the setting of the paper feed pressure adjusting lever.
- If misfeeds occur, move the lever to the "CARD" position.

MISFEEDS - DRUM

Some types of paper are more likely to wrap around the drum. The following steps may help reduce this type of misfeed.
1. Lower the position of the image from the top of the page by adjusting the "PRINT POSITION" button.
2. Check paper jam hints on page 48.
3. Try a different type of paper.

DRUM WON'T INSTALL

The drum won't go all the way in unless the handle is raised. Slide in the drum with the handle up, and lower the handle after the drum is fully inserted.
CLEANING THE THERMAL PRINT HEAD

Clean the black portion of the thermal print head with a soft cloth every time you replace a master roll.

- Be careful not to touch the thermal print head with a hard object, or subject it to shock.
- A soft cloth or tissue paper dampened with a little alcohol cleans better.

CLEANING THE SCANNER

1. Pull open the ADF cover.

2. Open the cover over the scanner.

3. Clean the glass plate of the scanner using a soft cloth or tissue paper.
   - A soft cloth or tissue paper dampened with a little alcohol cleans better.

CLEANING THE EXTERNAL PARTS OF THE MACHINE

Please use "RISO CLEANER" because the external parts of this machine are made of plastics. Avoid the use of other cleaners including solvents such as alcohol.
WARNINGS

Operation

• Be alert and use common sense.
• Open/Close the covers gently.

⚠️ CAUTION [To Avoid Personal Injury]
• Don’t open the covers or move the machine during operation.
• Avoid loose clothing which can become entangled.
• Keep hands away from openings of the machine during operation.
• Before removing paper jams or before cleaning any parts of the machine, turn the power off.
• Disconnect the power cord if you think an electrical problem is present.

⚠️ IMPORTANT [To Avoid Mechanical Problems]
• Don’t turn OFF the main switch or pull out the power cord plug during operation.
• DO NOT place items on top of the machine or in any opening of the machine during operation. This could damage the machine.

Handling

⚠️ CAUTION [To Avoid Personal Injury]
• DO NOT allow unauthorized persons to make adjustments or repairs.
• DO NOT remove any fixed covers.
• CALL your Dealer immediately if you suspect any dangerous situations or if you have questions or problems with the machine.
• Precision parts and driving mechanisms are contained in the machine.
  So don’t perform actions other than those described in the operation manual.
• Don’t make any modifications to the machine or remove parts.
• When you want to move the machine, contact your RISO dealer.

⚠️ IMPORTANT [To Avoid Mechanical Problems]
• The best safety device is an alert person who demonstrates good common sense.
• Neither RISO nor its dealer is responsible for maintenance service performed by non-RISO authorized personnel.
WARNINGS

Connection to the Power Source

⚠️ CAUTION [To Avoid Personal Hazards]
- Securely insert the plug of power cord into the socket.
- Install the machine near the wall socket to avoid using a long cord between the machine and the socket.
- Do not overload wall socket and extension cord as this can result in fire or electric shock.
- Do not allow anything to rest on or roll over the power cord, and do not place the machine where the power cord is subject to traffic or abuse. This may result in a shock or fire hazard.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
  (Die vorgesehene Steckdose muß nahe dem Gerät angebracht und leicht zugänglich sein.)

Adequate Installation of the Machine

To obtain optimum machine performance, and to use it safely, please follow the installation guidelines below:

⚠️ IMPORTANT [To Avoid Mechanical Problems]
- Avoid places with poor ventilation or air circulation.
- Avoid dusty places.
- Select places where the machine can be installed level.
- Avoid direct sunlight on the machine when installing it. (If it is unavoidable, protect the machine with a curtain or shade on windows.)
- Install within the recommended temperature range: 10°C – 30°C (50°F – 86°F) with moderate humidity.
- Avoid places where there is direct heat or direct air flow on the machine from an air conditioner or hot air from a heater.

Note:
Please note that the photographs and descriptions in this manual may differ from the actual machine due to improvements and revisions.