imageFORMULA
DR-C225W/DR-C225W II
DR-C225/DR-C225 II
DR-C125

SERVICE
MANUAL

Canon

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Rev. 1

PREFACE

This Service Manual describes necessary basic information for field service and maintenance for maintaining the product quality and functions of this machine.

Contents

Chapter 1: General description

    Product specifications, name of parts, operation method

Chapter 2: Functions and operation

    Description of operation of machine system and electrical system by function

Chapter 3: Disassembly and reassembly

    Disassembly method, reassembly method

Chapter 4: Installation and maintenance

    Installation method, maintenance method

Chapter 5: Troubleshooting

    Error display and troubleshooting

Appendix: General diagram etc.

Information in this manual is subject to change. Notification of such changes will be given in Service Information Bulletins.

Thoroughly read the information contained in this Service Manual and the Service Information Bulletins to gain a correct and deeper understanding of the machine. This is one way of fostering response for ensuring prolonged quality and function, and for investigating the cause of trouble during troubleshooting.

Quality Assurance Center
Canon Electronics Inc.

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APPENDIX

CHAPTER 1

GENERAL DESCRIPTION

I.   PRODUCT OUTLINE

1. Features

1)   Minimized actual scanning occupant area by the upright U-turn path.
Occupant area from top view (A4 size document)
→Approx. 750 cm² (Less than a half of DR-2510C)

2)   Improvement of reliability for the pickup and separation operations.
Feed roller and Retard roller are improved.
New mechanisms are provided.

3)   Straight path
It can be scanning for a card and a long document.

4)   Natural Placement of Document "Face-up feeding"
Real direction setting for document, None of up side down as setting

5)   Scanning speed (A4, 200dpi)
25ppm/50ipm at B&W, gray and color modes

6)   Automatic image processing
Auto-color detection and Auto-resolution modes
Full-auto mode (2 modes above + Auto-size, Deskew, Blank skipping and Text Orientation)

7)   Hybrid OS
Both Windows and Mac OS are supported.

"Windows" is a trademark of Microsoft Corporation in the U.S. and other countries.
Other company names and product names mentioned in this document are registered trademarks or trademarks of the respective companies.

2. Main Specifications

No.	Item	Specifications
1	Type	Desktop type sheet-fed scanner
2	Dimensions *See details at following.	1) Tray closed: 300 (W) x 156 (D) x 217 (H) mm 2) Tray opened: 300 (W) x 235 (D) x 336 (H) mm
3	Weight	2.6kg (Main body only)
4	Power supply	AC adapter Input: 100V-240VAC, 50/60Hz 0.53A (100V)-0.3A (240V) Output: 16VDC, 1.4A
5	Power consumption	1) Maximum operation: 12.7W (100V/120V), 12.8W (220-240V) 2) Sleep mode: 1.8W (100V/120V), 1.9W (220-240V) 3) Power switch OFF: 0.5W
6	External interface	USB 2.0 (Hi-speed)
7	Expected product life (In-house information only)	One of the following two items, whichever comes first. 1) 5 years 2) 500,000 sheets (A4) *Replace parts if necessary.
8	Installation	By user.
9	Option	1) Flat bed scanner: FSU 101
10	Consumable parts (Commercial goods)	1) Exchange Roller Kit *Feed roller and Retard roller *Replaced by user. Expected life is 100,000 sheets.
11	Bundle software	1) ISIS/TWAIN driver, CaptureOnTouch 2) Others depend on Sales region
12	Sensor type, Density	1 line/3 parallel-CMOS contact image sensor, 600dpi
13	Sensor operation mode	600dpi or 300dpi
14	Effective reading width	216mm
15	Light source	3-color (RGB) LED, Single-side illumination
16	Background color	White
17	Image data memory	SDRAM 16MB *Used for the working memory together.
18	Output data to computer	1) Type: 8bit gray or 24bit color (non-compression) 2) Resolution: 600x600dpi, 600x400dpi, 300x300dpi, 300x200dpi, 300x150dpi

Table 1-101a

No.	Item	Specifications		
19	Mode setting in driver	1) Binary: B&W, Error diffusion, ATE, ATE-II 2) Gray: 8bit 3) Color: 24bit *Auto-Color detection mode can be available.		
20	Resolution setting in driver	600x600dpi, 400x400dpi, 300x300dpi, 200x200dpi, 150x150dpi *Auto-resolution mode can be available.		
21	Scanning speed (A4 size)	Mode	Resolution	Simplex/Duplex
		B&W (TIFF)	200dpi	25ppm/50ipm
			300dpi	25ppm/50ipm
			600dpi	13ppm/26ipm
		Gray (JPEG)	200dpi	25ppm/50ipm
			300dpi	25ppm/50ipm
			600dpi	13ppm/26ipm
		Color (JPEG)	200dpi	25ppm/50ipm
			300dpi	15ppm/30ipm
			600dpi	4ppm/6ipm
		*Using computer for evaluation. The numbers above come from no special image treatments, and may differ depending on the computer, the function settings and other conditions.		
22	Document feed path	U-turn path and straight path *Manual selection is available.		
23	Document size	1) Width: 50.8 to 216mm 2) Length: 53.9 to 355.6mm *Length 297mm more should be 1 sheet feeding, 70mm less should be fed with straight path.		
24	Document weight (Thickness)	1) U-turn path: 52 to 128g/m^2 (0.06 to 0.15mm) 2) Straight path: 40 to 209g/m^2 (0.05 to 0.25mm)		
25	Special document	Plastic Card, Business card, Folio, Long document (3000mm) and others are available. *There are some limitations required.		
26	Document storage	1) Pickup: 30 sheets max. and 6mm height max. 2) Eject: 30 sheets max. and 6mm height max. *Including curls. Special document have special conditions. Eject for straight path is 1 sheet only.		
27	Double feed detection	1) Length detection by registration sensor 2) Double feed detection by ultrasonic sensor		

Table 1-101b

No.	Item	Specifications
28	Operation/Indication	1) Power button (with LED) 2) Start button 3) Eject selection lever 4) Feed selection lever 5) OPEN button

Table 1-101c

◆ External dimensions (mm)

Figure 1-101

                   CANON DR-C125 FIRST EDITION
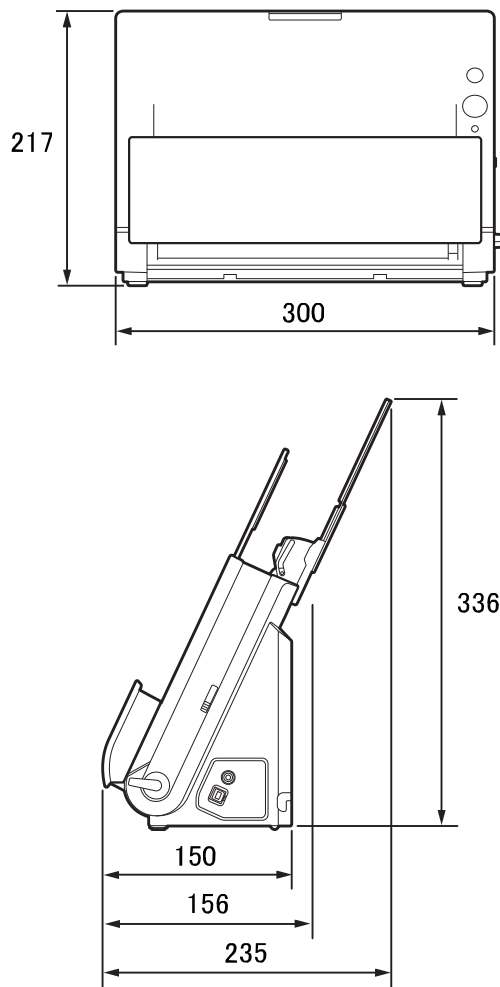
3. Precautions

This section describes items that require particular care, for example, regarding human safety.

These precautions must be observed. The user should be explained the items that relate to user safety and instructed to take appropriate actions.

1) Power OFF in emergency
   If such abnormal conditions as extraordinary noise, smoke, heat and odor occur, immediately unplug the power cord.
   Be careful not to get clothing (ties, long hair, etc.) caught in this machine as it may cause injury. Should this occur, immediately unplug the power cord.
   Do not insert fingers in the feed section while moving the rollers.

2) Power OFF on disassembling
   When disassembling and assembling are performed, unplug the power cord.

3) Prohibition of modify
   This machine must not arbitrarily be modified or remade. If it is, use may be forcibly suspended.
   To change the specifications or disassemble and reassemble this machine, follow the instructions described in this manual and the service information.

4) Electromagnetic wave interference
   This machine complies with some standards regarding electromagnetic wave interference, such as VCCI and FCC. However, the user may have to take countermeasures if the machine causes electromagnetic wave interference.

5) "User Manual"
   Read each "User Manual" thoroughly prior to use of this machine.

6) Disposal
   Follow local regulations when disposing of the product and parts. This product is subject to the WEEE Directive in Europe.

II. NAME OF PARTS

1. Names of Parts

◆ **Front View**
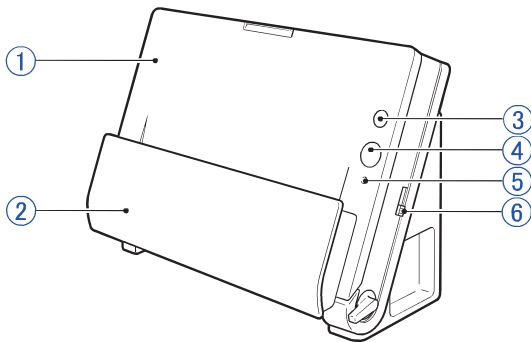
Figure 1-201

① Front unit
② Eject pocket
③ Power button
④ Start button
⑤ Feed selection indicator
⑥ Feed selection lever
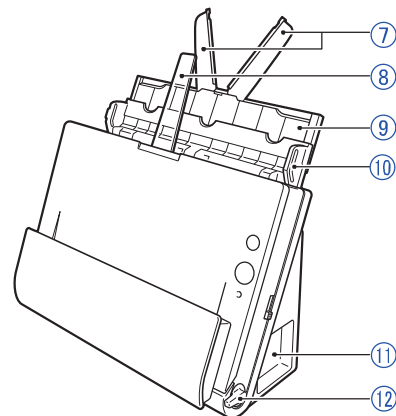
Figure 1-202

⑦ Feed extension plates
⑧ Eject support
⑨ Feed support
⑩ Document feed tray
⑪ Connectors
⑫ Eject selection lever

◆ **Connectors**
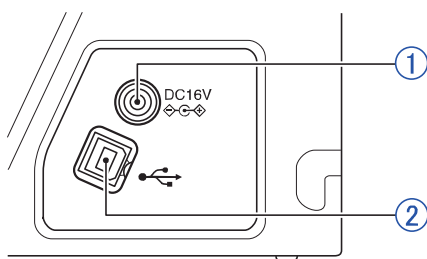
Figure 1-203

① Power connector
② USB connector

◆ **Rear View**
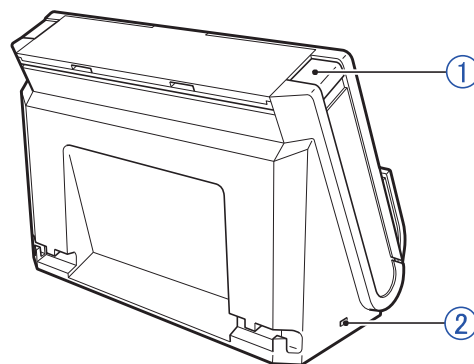
Figure 1-204

① OPEN button
② Kensington slot

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III. USER OPERATION

This section shows how to scan several sheets of a regular paper document using the initial settings of CaptureOnTouch. For details on other operations, refer to the "User Manual" for this machine.

For installation and maintenance, refer to "CHAPTER 4 INSTALLATION & MAINTENANCE".

1. Placing Documents

1) Open the document feed tray and extend the feed extension plates and eject support to suit the document.
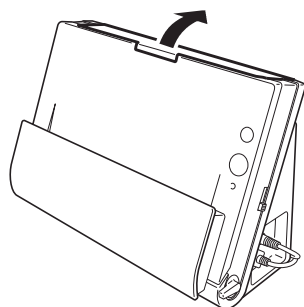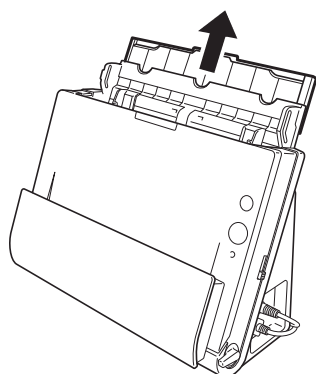
Figure 1-303

Figure 1-301

Figure 1-304
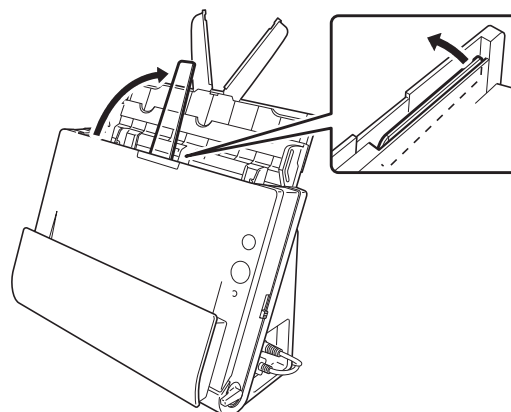
Figure 1-302

2) Set the feed selection lever and eject selection lever.

Note: In this example, these are set to page separation and U-turn eject.
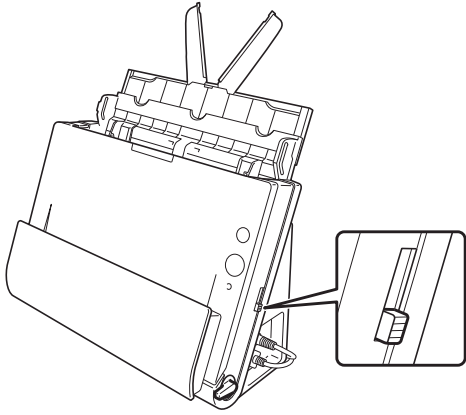
Figure 1-305

Figure 1-306

3) Place the document, and adjust the document guides to fit the document width.

Note: In this example, the document is placed with the writing facing you and the top of the document at the top.

Figure 1-307

CANON DR-C125 FIRST EDITION
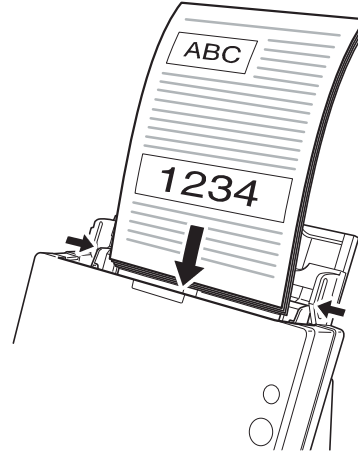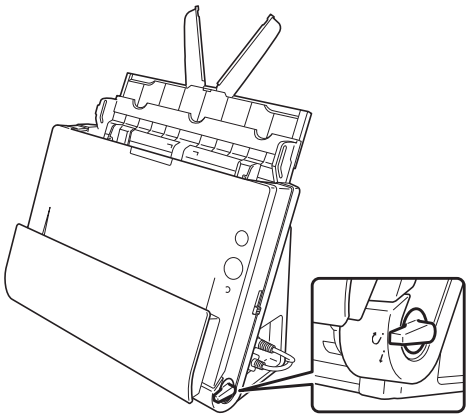
2. Scanning

This section describes how to scan using [Scan First] in CaptureOnTouch in Windows OS.

Note: CaptureOnTouch is TWAIN compatible application software.

1) Start CaptureOnTouch.
Double-click the CaptureOnTouch icon in the task bar to start CaptureOnTouch.

Figure 1-308

2) When the main screen is displayed, click [Scan First].

Note: Since [Scan First] is enabled by default, this operation is not required.
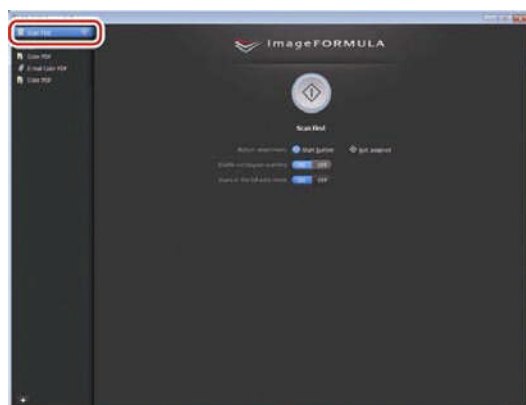
Figure 1-309

3) Change the [Enable continuous scanning] and [Scans in the full auto mode] settings as needed.

Note: In this example, set [Enable continuous scanning: OFF] and [Scans in the full auto mode: ON].
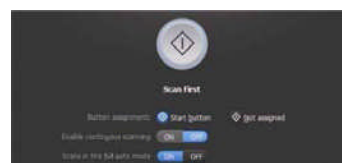
Figure 1-310

4) Click the Start button to start the scan.
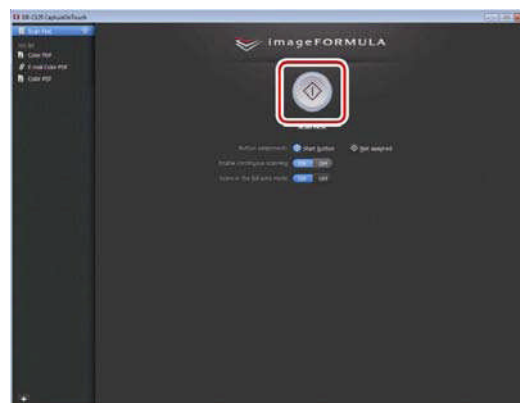
Figure 1-311

5) The scanned image is displayed on the screen. Once you have finished, click the [Next step] button.
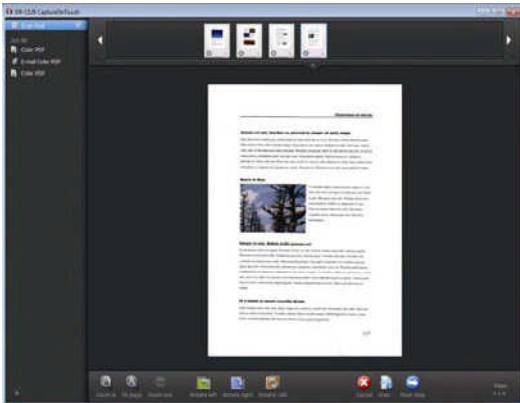
Figure 1-312

6) The output settings are displayed. Configure the settings and click the buttons as needed.

Note: The button names vary depending on the output method.
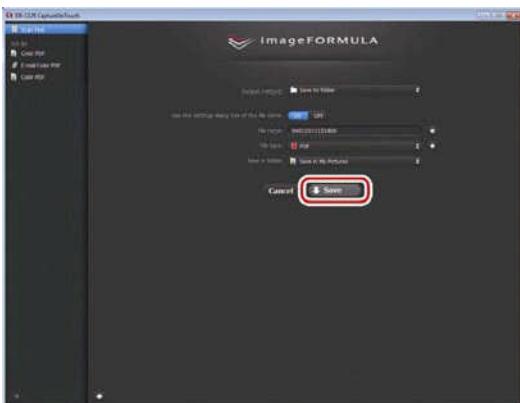
Figure 1-313

7) When the output is complete, the finished screen is displayed.

Figure 1-314

Reference: Scanner Settings Screen

You can display the settings on the screen by setting [Scans in the full auto mode: OFF] in the step 3. You can then open the advanced settings dialog box by setting [Use advanced settings dialog box: ON] and clicking the button on the right.
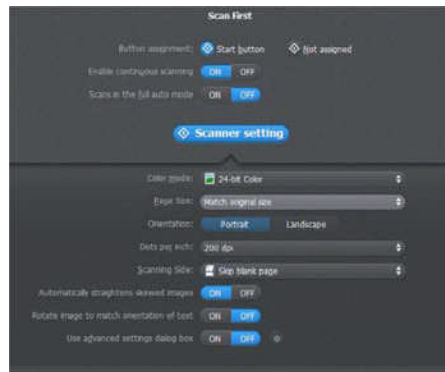
Figure 1-315
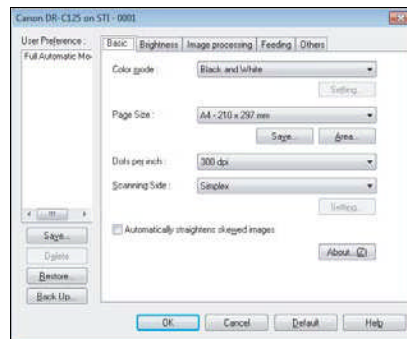
Figure 1-316

3. Clearing Paper Jams

1) Remove any remaining documents from the document feed tray.
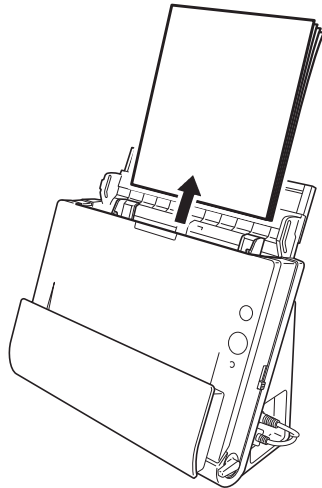
Figure 1-317

2) Press the OPEN button and open the front unit out towards you. Remove any jammed documents.
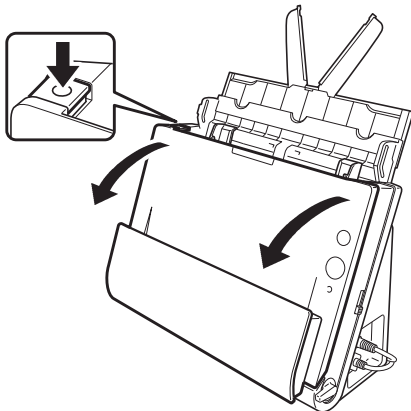
Figure 1-318
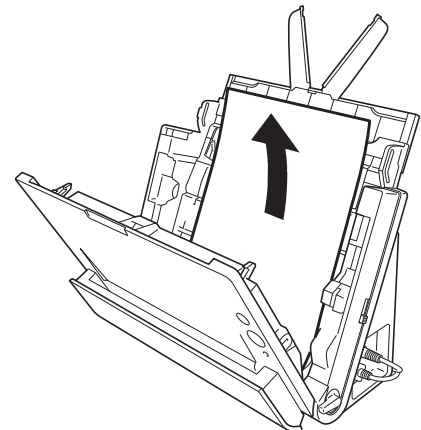
Figure 1-319

3) If the document is jammed in the eject side, open the eject pocket. Remove any jammed documents.
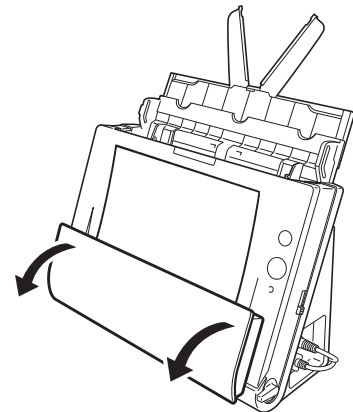
Figure 1-320
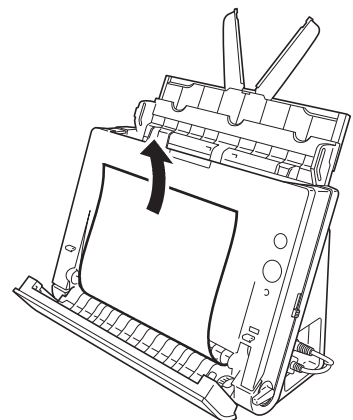
Figure 1-321

CHAPTER 2

FUNCTIONS & OPERATION

I.   OUTLINE

1. Main Configuration

Figure 2-101 shows the main configuration of this machine.
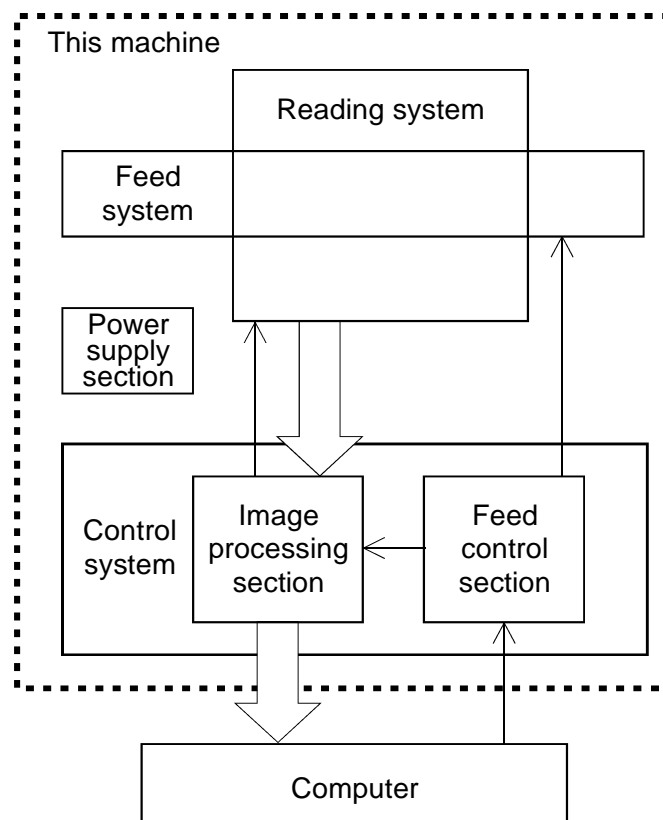
Figure 2-101

1) Reading system
 This system reads image data from image sensors.

2) Feed system
 This system performs from document pickup to document ejection.

3) Control system
 This system is comprised of an image processing section and a feed control section.

The image processing section controls the reading system, and processes the read image data. The computer also processes image data.
The feed control section controls the feed system.

4) Power supply section
 This section supplies DC power, converted from AC power with the AC adapter, to the control PCB of this machine.

2. Feed Path

A sectional view of the feed path of this machine is shown below.
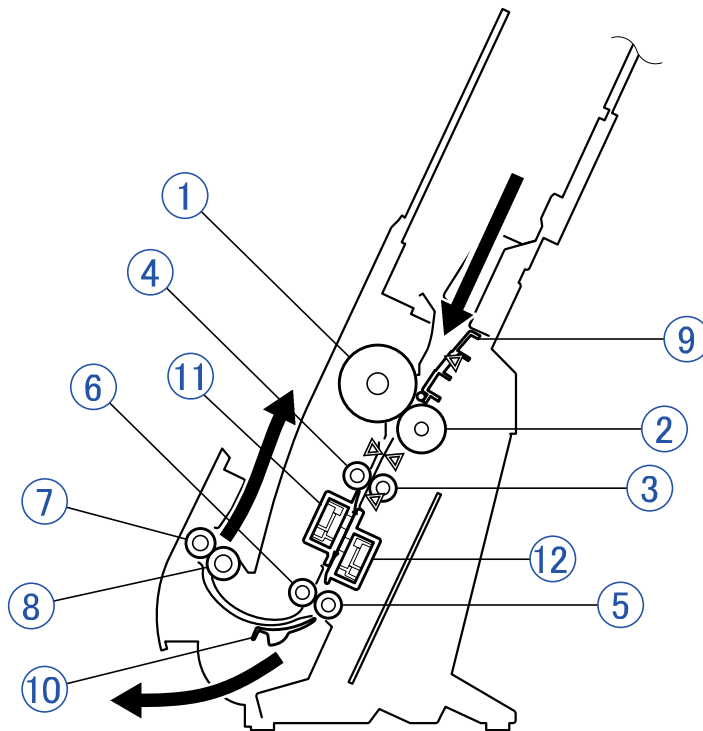
Figure 2-102

① Feed roller	⑦ U-turn eject roller (drive)
② Retard roller	⑧ U-turn eject roller (follower)
③ Registration roller (drive)	⑨ Document pressure plate
④ Registration roller (follower)	⑩ Flapper
⑤ Eject roller (drive)	⑪ Reading unit (front)
⑥ Eject roller (follower)	⑫ Reading unit (rear)

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3. Motor Drive

This machine has a feed motor for picking up documents and a main motor for feeding documents.

The motor drive does not transmit to the retard roller. Also, the document pressure plate of the pickup section is also moved up and down by the feed motor.
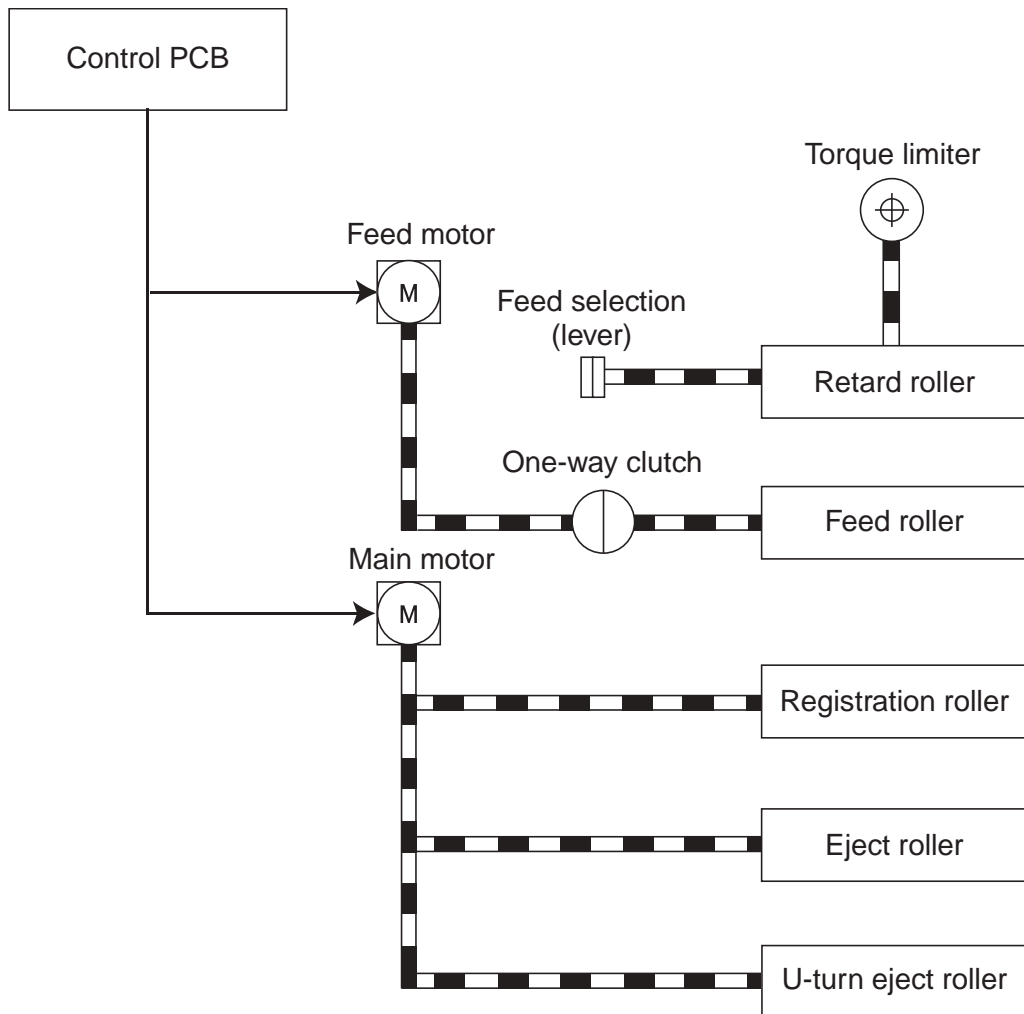
Figure 2-103

4. Electrical Circuits

An overview of the electrical circuits block diagram of this machine is shown below.
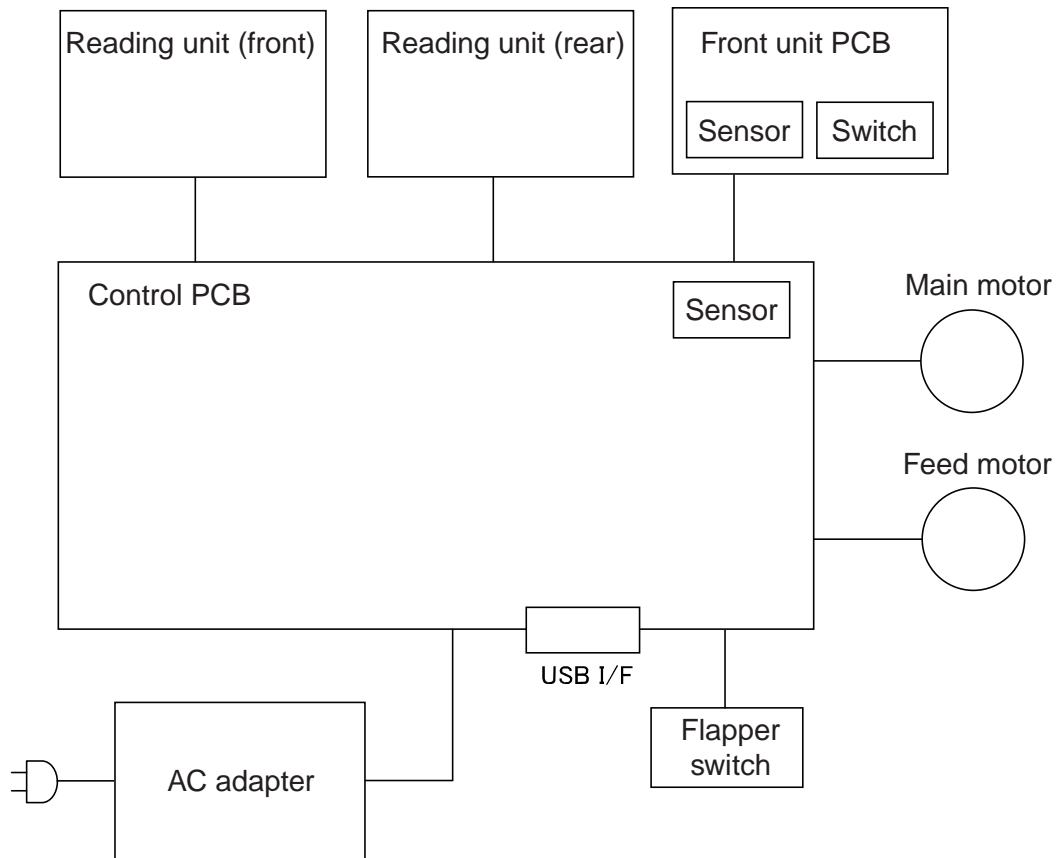
Figure 2-104

5. Timing Chart

The timing chart when you separately pickup 2 sheets of document without temporarily suspending the machine is shown below.

Once the machine starts scanning, it activates the feed motor and the main motor to feed the document.

Note: ▨ indicates the feeding state at the maximum speed.
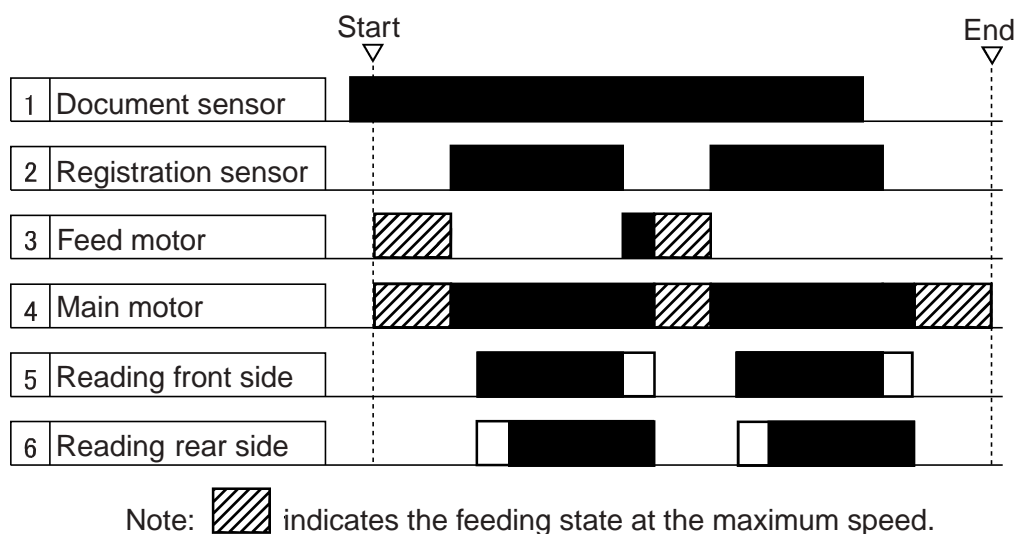
Figure 2-105

II. READING SYSTEM

1. Reading Unit

The sectional view of the reading system is shown below. The reading units (front and rear) have the same configuration but the different holder shapes.
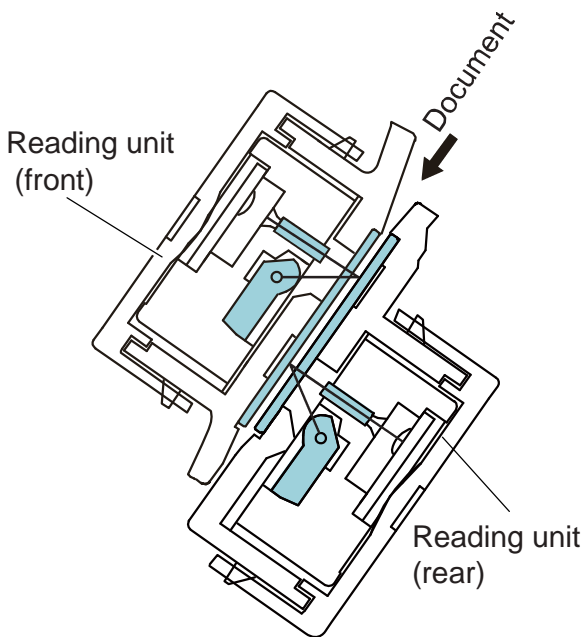
Figure 2-201

This configuration with two opposing reading units enables the machine to read both front and rear sides of a document in a single scan.

The read image data are sent to the image processing section of the control PCB.

To prevent reading speed from decreasing, the image data is divided into three and output in parallel.

The reading unit consists of CIS unit, holder, and case.

The CIS unit consists of CIS PCB, lens array, LED (R/G/B), light guide, and case.

The reading glass and white reference sheet are mounted on the holder.

Photosensitive pixels are mounted on the CIS PCB with a density of 600 dpi in a line. The effective reading width is 216 mm, and the number of effective picture elements is 5107.

A set of three basic color LEDs, red, green, and blue (RGB), is mounted only on the one side. This single-side illumination causes a shadow on a document, which may effect on the image data quality.

In the binary or grayscale modes, image data are read with composite light generated by lighting the RGB LEDs at the same time. In the color mode, the LED is successively lit, and reads image data with each color. As documents are being fed at regular speed while image data are read, the reading positions of RGB are shifted slightly.

In the color dropout mode, only the LED of a designated color lights. In the color emphasis mode, the LED of a color other than a designated color lights.

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2. Shading

This section explains the reading mechanism of the white reference sheet for determination of the shading correction value.

The sectional view of the reading unit is shown below. Note that it is shown horizontally for the description.

White reference sheet

White reference sheet
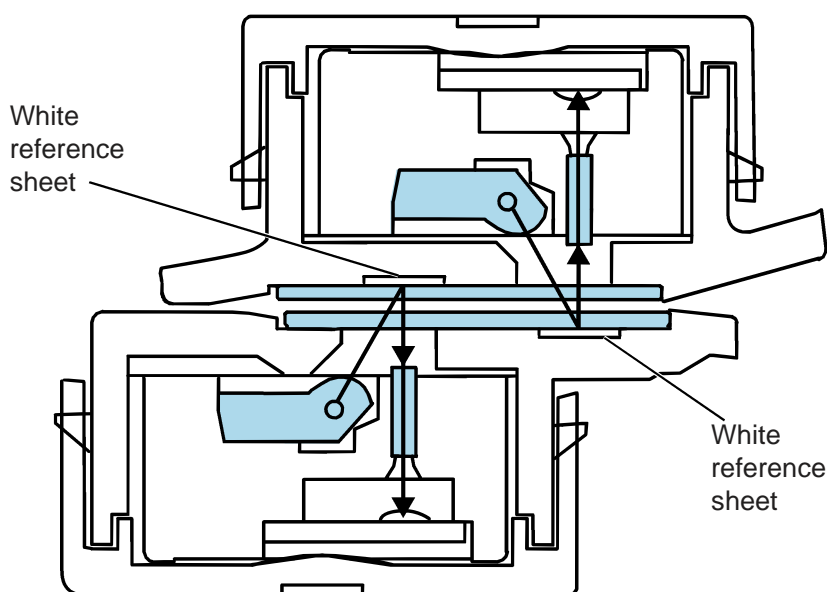
Figure 2-202

This machine can read the white reference data at the document reading position, unlike other scanners having the black background color, since its background color is white. Therefore, there is neither need to feed the shading sheet nor to move the internal white reference sheet or the reading units.

For example, when the lower reading unit reads the white reference data, the LED emitted from the lower unit is reflected from the white reference sheet on the upper unit to be input to the sensor on the CIS PCB.

Since the white reference sheet is placed under the reading glass, feeding document does not cause dirt on it. Note that executing shading while the reading

glass is dirty can cause poor images such as white lines occurring in the images.

When this machine is turned ON or starts scanning, it reads the white reference data to determine the shading correction value.

However, the slightly different optical paths to the light receiving element are used for the actual document and the white reference sheet. Therefore this machine needs fine adjustment of the shading correction value using the service mode and the shading sheet. This fine adjustment is necessary after replacing the reading unit or after replacing the control PCB recording the shading correction value.

III. FEED SYSTEM

1. Feeding Mechanism

The sectional view of the feed system is shown below.
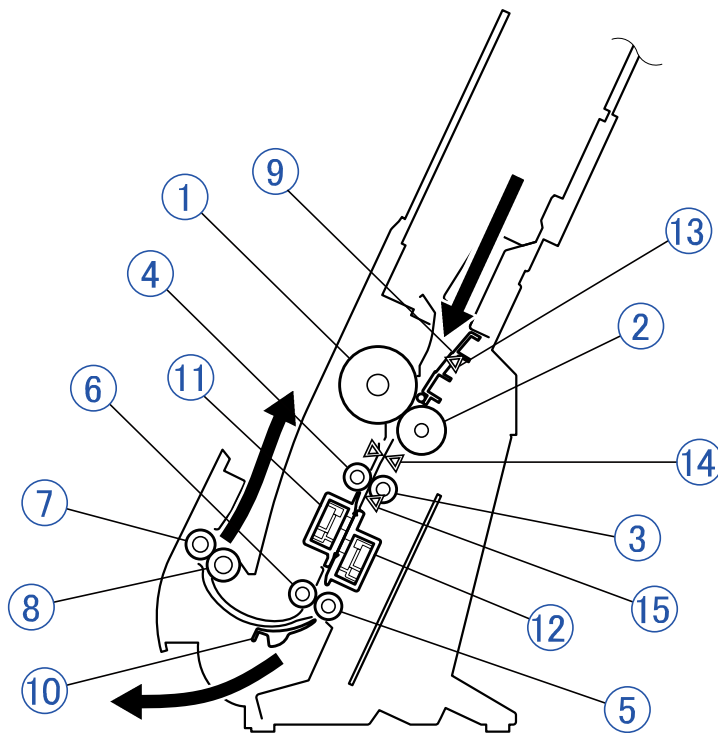
Figure 2-301

① Feed roller
② Retard roller
③ Registration roller (drive)
④ Registration roller (follower)
⑤ Eject roller (drive)
⑥ Eject roller (follower)
⑦ U-turn eject roller (drive)

⑧ U-turn eject roller (follower)
⑨ Document pressure plate
⑩ Flapper
⑪ Reading unit (front)
⑫ Reading unit (rear)
⑬ Document sensor detection point
⑭ Ultrasonic sensor detection point
⑮ Registration sensor detection point

1) Feed path

The feed path of this machine is a U-turn path that is slightly tilted from vertical. (Approx. 65 degrees)

This makes it possible to reduce the actual amount of floor space used.

The straight path can be used by switching the position of the flapper in the eject unit. When feeding cards, orient the card sideways and use the straight path.
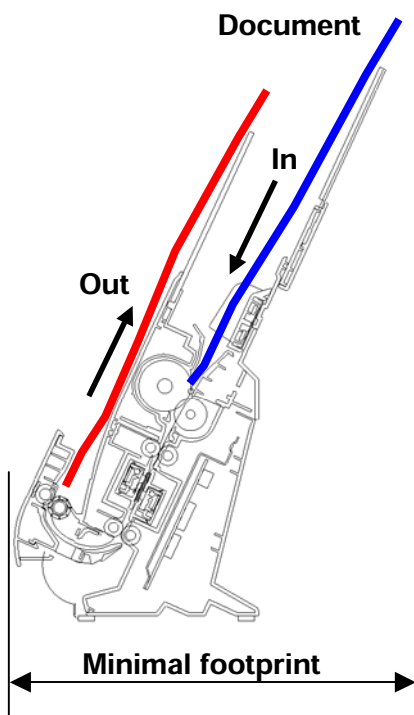
Figure 2-302

2) Drive

The feed motor drives the feed roller and the retard roller, and the main motor drives the registration roller, eject roller, and U-turn eject roller.

The scanning condition determines each drive speed.

3) Feed

The following shows a cross-sectional diagram of the feed unit before starting the feed. The document pressure plate is in the lowered position.

When a document is placed in the feed slot, the edge of the document lines up at the end plate. When a scan is started, the document platen moves and the document begins to feed by being pressed against the feed roller.

Misfeeds and double feeds have been reduced by installing an end plate, increasing the diameter of the feed roller, and making the retard roller movable up and down.

The front side of the placed document is fed by the document pressing against the feed roller.
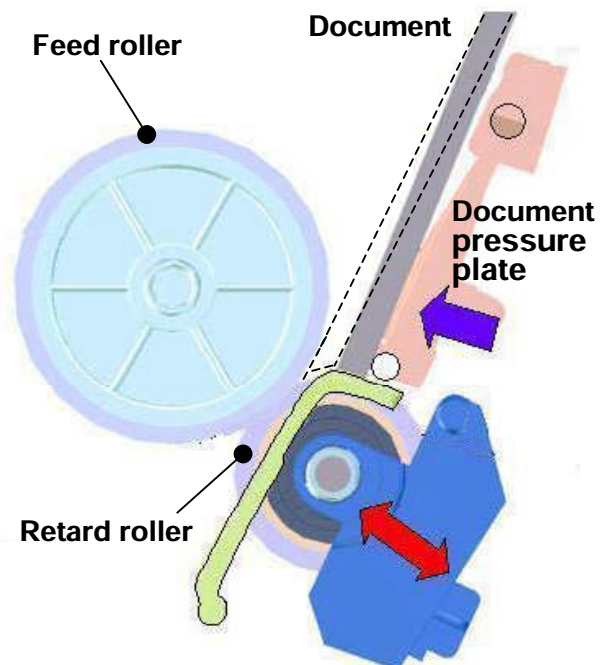
Figure 2-303

4) Separation

Separation of the documents is performed by the retard roller.

When the feed selection lever is selected as normal (feed), and the overlapped documents enter into the clearance between the feed roller and the retard roller as shown in Figure 2-304, the document in contact with the feed roller is fed in the feed direction and the retard roller does not rotate so that the document in contact with the retard roller is not pushed in.

If the pickup exchange lever is switched to non-separation position, the retard roller rotation becomes free and the separation function becomes invalid.

To provide space between the trailing edge of a document and the leading edge of the next document, the drive speed of the feed roller is slightly lower than the drive speed of the registration roller and eject roller. If it is left as it is, the document is braked when it touches the feed roller and the registration roller, and therefore, a one-way clutch is built into the gear used in the feed roller drive system to follow the drive speed of the registration roller.

Since the torque limiter is built in the retard roller, when the outside pressure on the roller exceeds the specified value into the feed direction, the roller begins to rotate in the same direction. This would also prevent the document damage when the user pull the jammed document out.

Feed roller

Retard roller
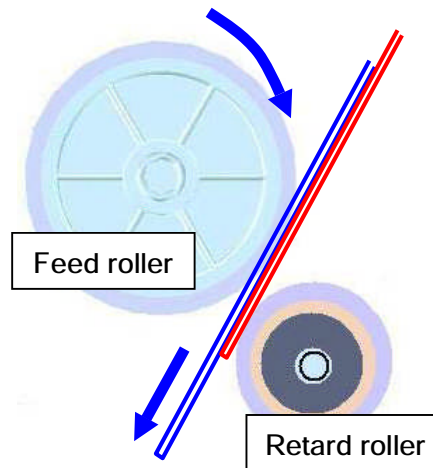
Figure 2-304

5) Eject

This machine is equipped with both a U-turn path and a straight path. The eject selection lever is used to switch them. The eject selection lever is connected directly to the flapper.

The difference is shown in the following diagram.

a. U-turn path

| Eject selection lever | Flapper |
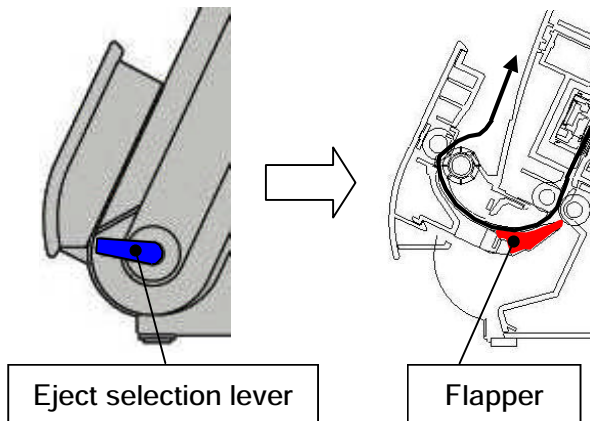
b. Straight path

| | Straight path |
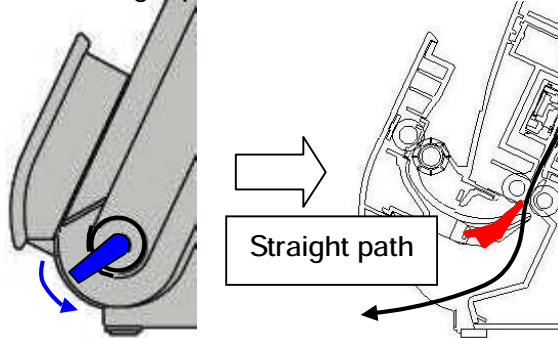
Figure 2-305

6) Sensor

The document sensor is mounted on the feed slot, and the registration sensor is mounted behind the registration roller. The ultrasonic sensor for double feed detection is mounted in front of the registration roller.

2. Feed Error Detection

1) Paper Jam Detection

Paper jams are detected by the registration sensor. The types of the document jams are described as follows.

a) Pickup Delay Jam (Pickup Error)

The leading edge of the document was not detected by the registration sensor within the specified time after the machine starts scanning.

b) Early Reach Jam

The leading edge of the following document was detected after the trailing edge of the document was detected by the registration sensor before the document has been fed for a specified length.

c) Residual Jam

The trailing edge of the document was not detected even though the document has been fed for the maximum specified length after the leading edge of the document was detected by the registration sensor.

d) Fast Feed Jam

The trailing edge of the document was detected after the leading edge of the document was detected by the registration sensor before the document has been fed for the minimum specified length.

e) Non-removal Jam

The machine starts scanning while the document is detected by the registration sensor and still remains inside this machine.

2) Double Feed Detection

There are 2 double feed detection methods: the document length detection by the registration sensor and the document overlapping detection by the ultrasonic sensor.

Figure 2-306

◆ Registration sensor

The registration sensor uses the first document length of the scanned batch as a reference to detect the document length. The 35 mm or more difference from the standard is interpreted as a double feed.

◆ Ultrasonic sensor

The ultrasonic drive sensor transmits the ultrasonic and the ultrasonic receive sensor receives the ultrasonic signal to gain a specific signal level. When overlapping documents are fed, the signal level is different from when properly feeding a single document. This machine interprets this difference as a double feed.

Note that since this level of difference occurs depending on the presence of a layer of air, a double feed will not be detected if the document is tightly adhered by static electricity or adhesive. Furthermore, "double feed" is judged if this level of difference is detected continuously for a specific amount of time. As a result, if the overlap between sheets is less than 50 mm when a document is being fed, it might not be judged as a "double feed" because the detection time is short.
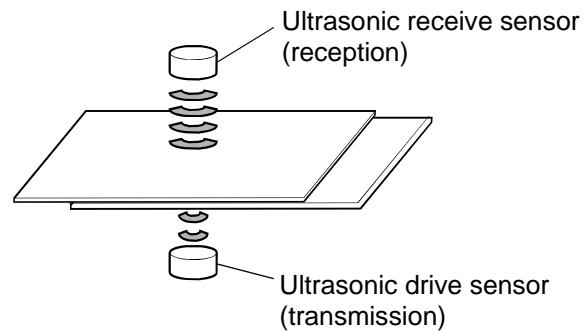
IV. CONTROL SYSTEM

1. Control Circuits

The machine is controlled by the control PCB and front unit PCB. The block diagram and the function list of major ICs are shown below.
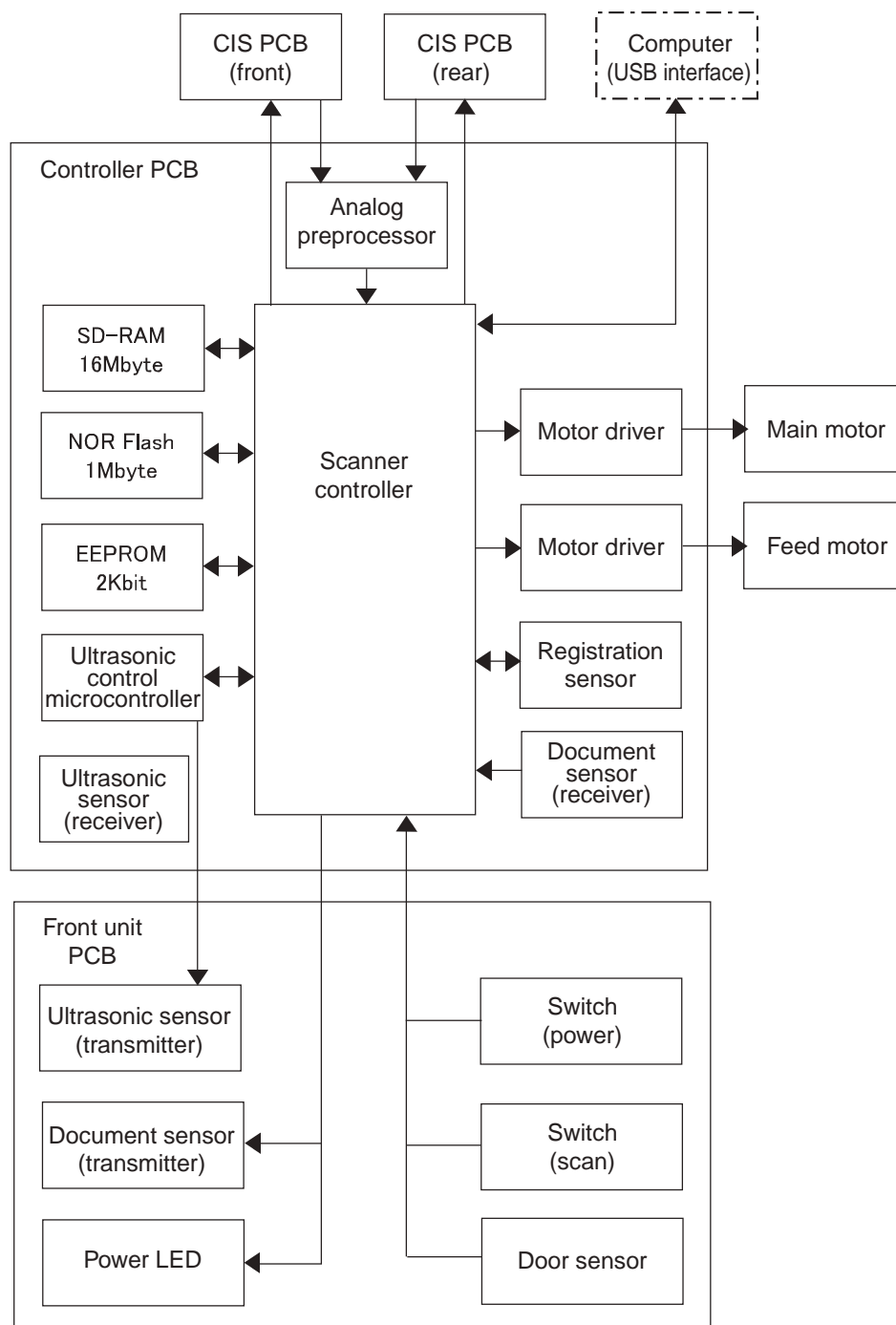
Figure 2-401

◆ **Function list of major ICs (control PCB)**

IC No.	Name	Function
IC201	Scanner Controller	Controls scanning system
IC611	Analog preprocessor	Performs analog gain/offset adjustment, and A/D conversion
IC114	EEPROM Memory	Stores each setting
IC115	SD-RAM Memory	Saves image data temporarily, and serves as a work memory for the Scanner Controller
IC117	NOR Flash Memory	Stores firmware
IC19	Motor driver	Drives the main motor
IC20	Motor driver	Drives the feed motor
IC23	Ultrasonic Control Microcontroller	Controls transmission and reception of ultrasonic waves and double feed detection

Table 2-401

CANON DR-C125 FIRST EDITION

2. Image Processing

A block diagram of the image processing is shown below.

```
┌─────────────────────────────────────────────────────────────┐
│ Control PCB                                                   │
│ ┌──────────┐←────────────────┐  ┌─────────────────────────┐  │
│ │ CIS PCB  │                 │  │ Scanner controller      │  │
│ │ (front)  │──→┌───────────┐ │  │ • LED light control     │  │
│ └──────────┘×3 │ Analog    │ │  │ • 10 bit→8 bit          │  │
│               │ processor  │→│  │                         │  │
│               │ • Offset   │ │  │                         │  │
│ ┌──────────┐  │ adjustment│  │  │                         │  │
│ │ CIS PCB  │──→│ • Gain    │  │  │                         │  │
│ │ (rear)   │×3 │ adjustment│  │  │                         │  │
│ └──────────┘←──│ • A/D     │  │  │                         │  │
│               │ conversion │  │  │                         │  │
│               └───────────┘   │  └─────────────────────────┘  │
└───────────────────────────────────────────────────────────────┘
```

USB I/F

Computer

Data reordering

Shading correction

Color / black & white detection   (when on)

Resolution conversion

Color   Grayscale

Color correction (three-dimensional)

Bleed-through reduction (when on)

One-dimensional gamma correction

Edge enhancement

Other processing
• Auto-size detection
• Deskew
• Image rotation
• Skip blanks
• File creation
• Other

Binarization

Color   Grayscale   Binary

Data after image processing

Figure 2-402

Analog signals proportionate to the density of each picture element are divided by three and output in parallel to the analog processor on the scanner PCB from the CIS PCB. The resolution of the output data is either 300 dpi or 600 dpi according to the user settings.

The analog processor carries out offset adjustment, gain adjustment, and A/D conversion. Analog signals are converted into 10 bit digital signals in the analog processor. Then the image data is transferred to the scanner controller and converted from 10 bits to 8 bits.

After that, the image data is output to the computer through the USB interface.

The computer performs the shading correction and the image processing according to the user settings.

Since this machine has a white background, black frame removal and punch hole removal are not necessary.

CANON DR-C125 FIRST EDITION

V. POWER SUPPLY

1. Power Supply

The machine uses an AC adapter for its power supply. Its rated input voltage is 100-240 VAC, 50/60 Hz and whose output is 16 VDC. Use the AC adapter bundled with this machine. The power output from the AC adapter is input to the control PCB.

In case of excess voltage or current applied to the AC adapter output, the safety system cuts the power. In this case, unplug the AC plug. After removing the cause, plug it back.

The power switch for the machine is mounted on the front unit PCB. When the switch is turned on, a DC/DC converter activates to generate each of the DC voltages and supply power to each of the components.

When no documents have been fed or there has been no communication via this USB I/F for an extended period of time, the machine enters the sleep mode (Energy Star mode). When the machine is in the sleep mode, the electrical circuits enter a sleeping state. However, the CPU does not enter a sleeping state. This machine automatically returns from the sleep mode when it receives communication from a computer or when a key on the operation panel is pressed.

If the power supplied from the USB interface is disconnected, such as if the USB cable is disconnected or the computer is turned off, the machine turns off. The power also turns off if the machine does not perform any operations for a long period of time (4 hours).
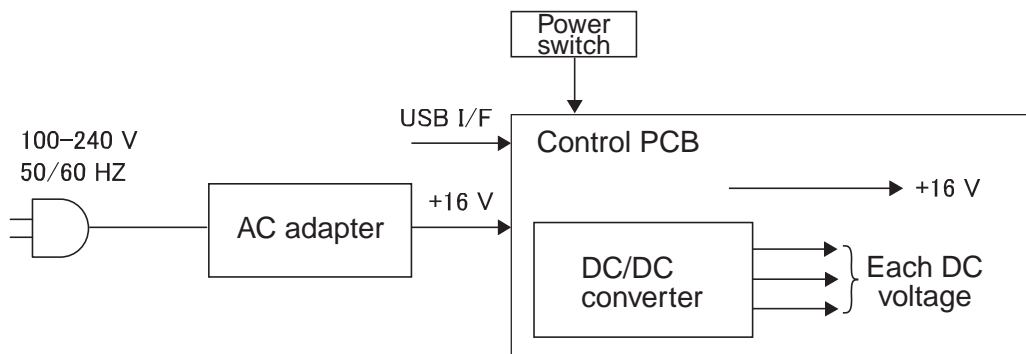
Figure 2-501

VI. LAYOUT OF ELECTRICAL COMPONENTS

1. Sensors/Motors
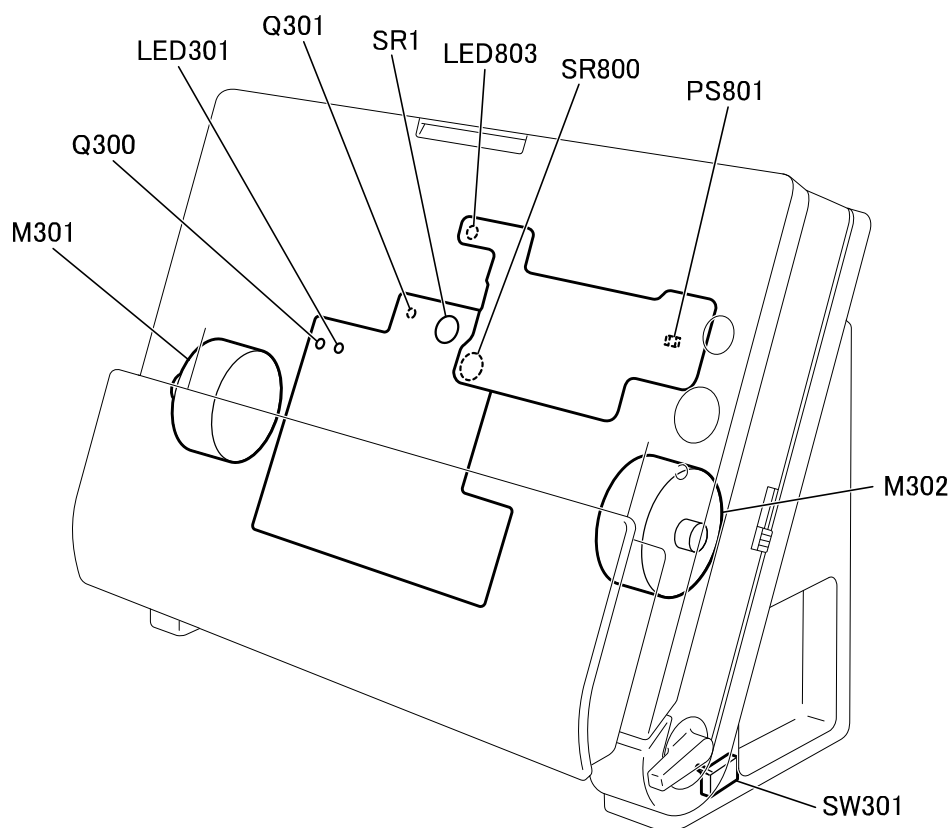
Figure 2-601

Category	Name	Location	Symbol
Sensor	Document sensor (receiver)	Control PCB	Q301
	Document sensor (transmitter)	Front unit PCB	LED803
	Registration sensor	Control PCB	Q300/LED301
	Ultrasonic sensor (receiver)	Control PCB	SR1
	Ultrasonic sensor (transmitter)	Front unit PCB	SR800
	Door sensor	Front unit PCB	PS801
	Flapper switch	Base unit (right)	SW301
Monitor	Feed motor	Base unit (left)	M301
	Main motor	Base unit (right)	M302

Table 2-601

CANON DR-C125 FIRST EDITION

VII.   PARTS LAYOUT ON EACH PCB

1. Control PCB
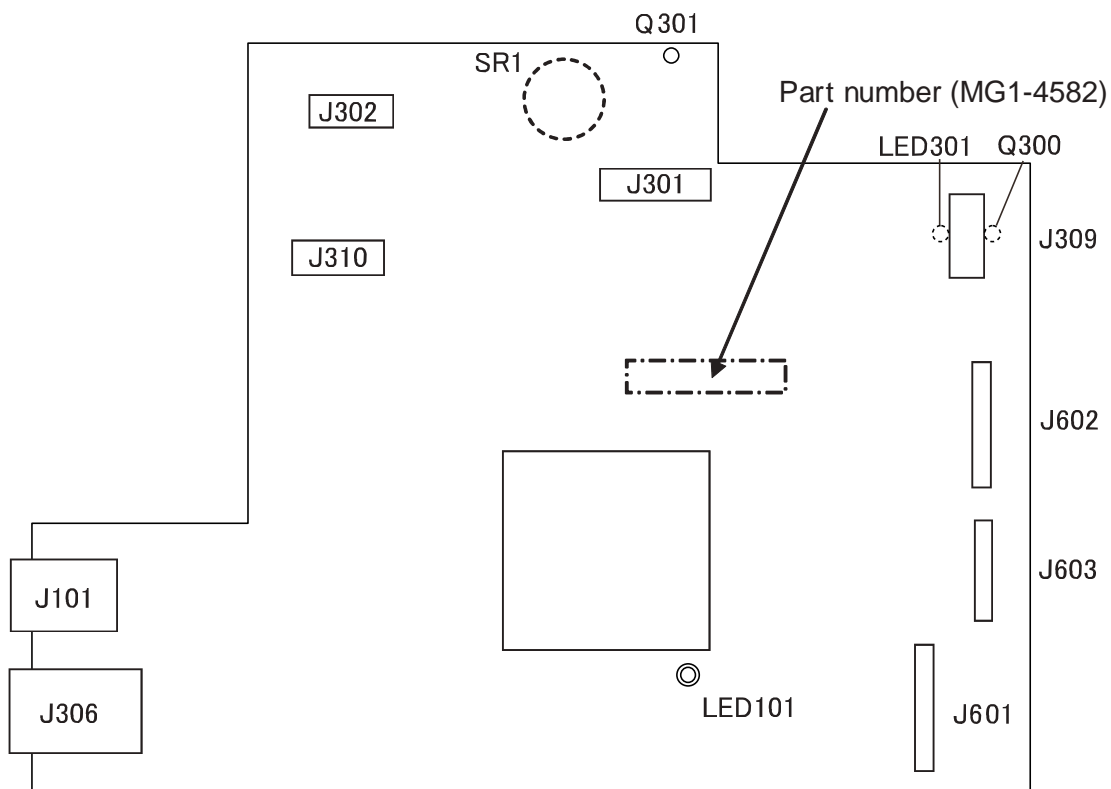
Figure 2-701

Connector		Details
J101	–	AC adapter
J302	11P	Front Unit PCB
J303	2P	Flapper switch
J306	–	USB interface
J309	4P	Feed motor
J310	4P	Main motor
J601	15P	CIS PCB (front)
J602	15P	CIS PCB (rear)

Table 2-701

Symbol	Details
LED101	Blinks' CPU operation normal
LED301	Registration sensor (transmitter)
Q300	Registration sensor (receiver)
Q301	Document sensor (receiver)
SR1	Ultrasonic sensor (receiver)

Table 2-702

2. Front Unit PCB
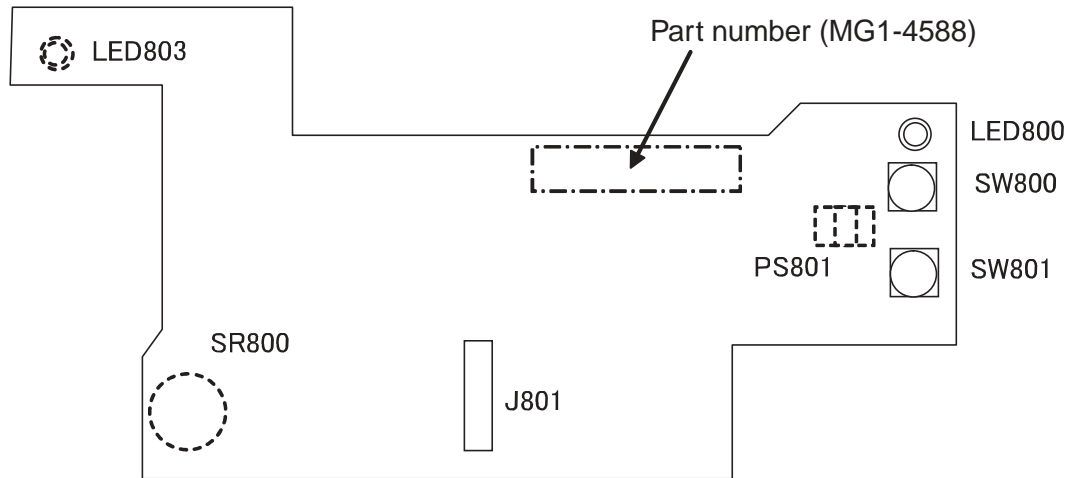
Figure 2-702

Connector		Details
J801	11P	Control PCB

Table 2-703

Symbol	Details
LED800	Front: Power indicator
LED803	Rear: Document Sensor (transmitter)
PS801	Rear: Door Sensor
SR800	Rear: Ultrasonic sensor (transmitter)
SW800	Power switch
SW801	Start switch

Table 2-704

      CANON DR-C125 FIRST EDITION

CHAPTER 3

DISASSEMBLY & REASSEMBLY

The machine shown in the photographs of the figures in this chapter may be different from some mass-produced machines.

* Photos used in this chapter

This chapter is described based on the old model DR-C125. Therefore, the photos in this chapter are many of DR-C125's ones (includes trial parts). If it does not occur the problem in the servicing works, the photos of the DR-C125 will be used as the new models. Some photos are different on the color of outside parts. Also the color between the DR-C225/C225W and DR-C225 II/ C225W II is different. For your reference, it is shown below. The DR-C225 II/C225W II is more blacker in color.
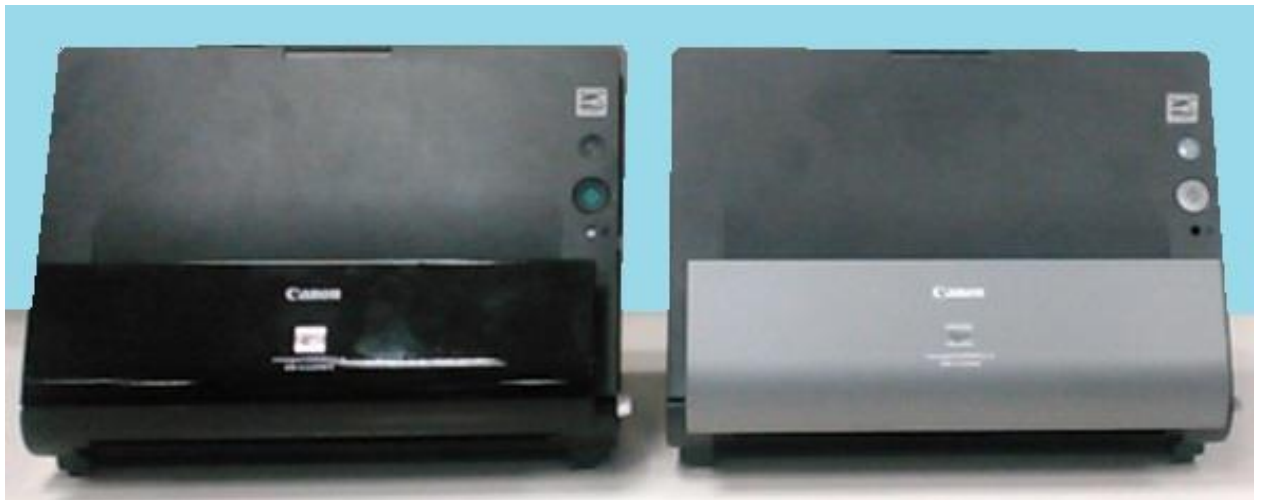
DR-C225 II/C225W II	DR-C225/C225W

Figure 3-1 (front)

DR-C225 II/C225W II	DR-C225/C225W

Figure 3-2 (right)

I. EXTERNAL PARTS

1. Left Cover

1) Insert a tool with a thin flat end into the 6 pairs of fitting parts ① (2 each on the front, rear and bottom marked with a symbol) in sequence to spread open the gap, and then remove the left cover ②.

Note: Take care to avoid scratching the cover with the tool. You should unhook the rear and bottom fitting parts first.

[front] [rear]

Figure 3-101

[bottom]
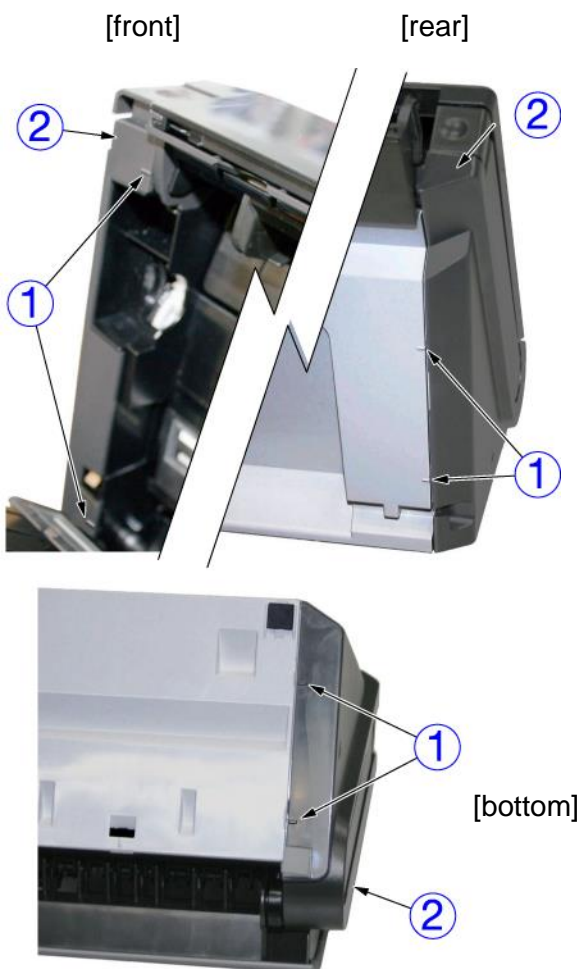
Note: Once you have removed the left cover, the cable cover ① and front unit ② can be removed. Take care to avoid accidentally dropping or damaging it.
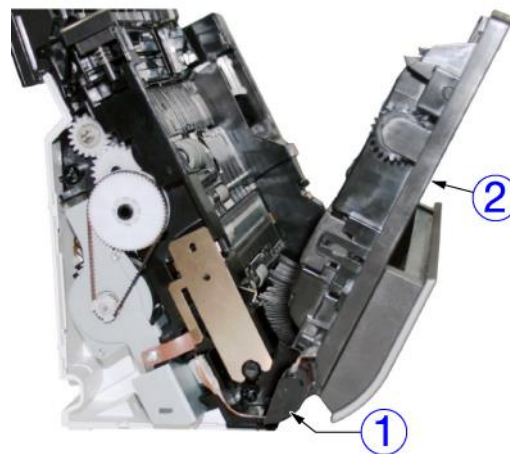
Figure 3-102

◆ **Notes on assembling**

Attach the cable cover so that the cable would not be caught in parts. Then insert the cable through the cut-out ① in the left cover and attach the cover. There should not be any gaps.

Figure 3-103

      CANON DR-C225 SERIES CHAPTER 3 REVISION 1

2. Right Cover

1) Insert a tool with a thin flat end into the 5 pairs of fitting parts ① (1 on the front and 2 each on the rear and bottom marked with a symbol) in sequence to spread open the gap, and then remove the right cover ②.

Note: Take care to avoid scratching the cover with the tool. You should unhook the rear and bottom fitting parts first.

[front]   [rear]

[bottom]
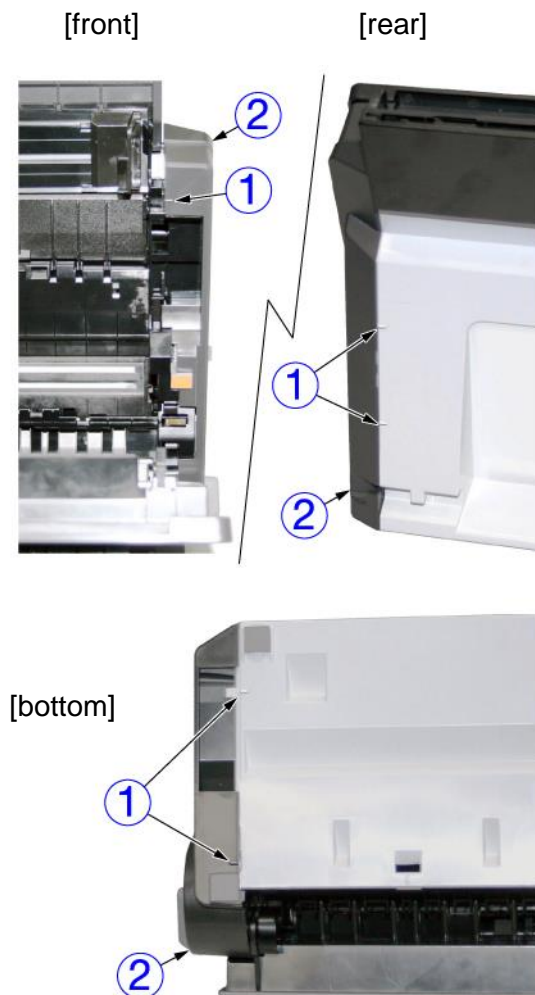
Figure 3-104

Note: Once you have removed the right cover, the eject selection lever ① and the door sensor lever on the base side can be removed. Take care to avoid accidentally dropping or damaging it. Remove them.

Figure 3-105

◆ **Notes on assembling**

Ensure that you attached the door sensor lever on the base side correctly.

After attaching the eject selection lever to the cover, attach the cover. Ensure that you align the positions of the fitting parts on the eject selection lever and flapper (straight or U-turn). There should not be any gaps.

After assembling, check that the door sensor lever and the eject selection lever operate correctly.

3. Rear Cover

1) Remove the right and left covers.
2) Unhook the protrusion from the groove ① on both sides, and remove the document feed tray and upper cover assembly ②.
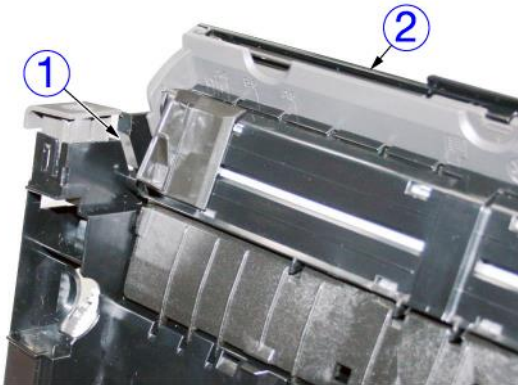
Figure 3-106

3) Use a tool to unhook the 4 pairs of fitting parts ① (2 each on the upper plate) and remove the rear cover ②.
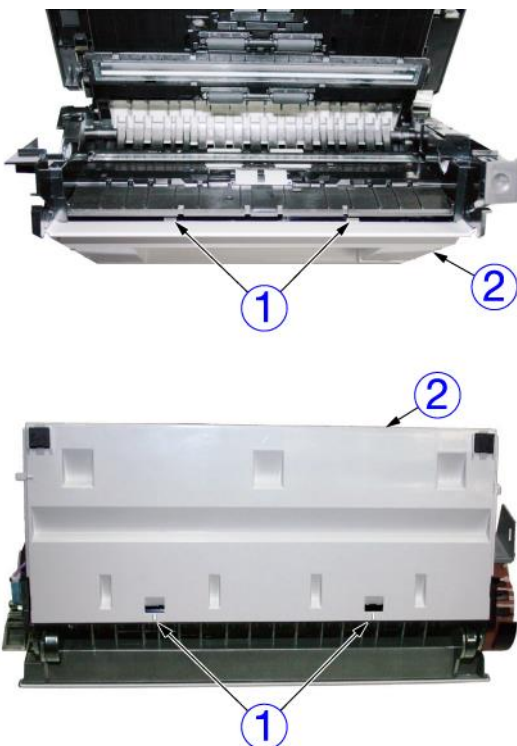
Figure 3-107

4. Document Feed Tray

1) Remove the right and left covers.
2) Remove the document feed tray and upper cover assembly.
Note: Refer to "3. Rear Cover".
3) Tilt the document feed tray ① (with document guides), unhook one side of the fitting part ②, and then remove the document feed tray.
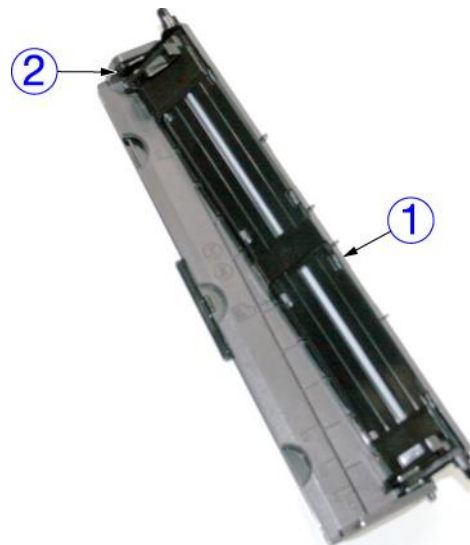
Figure 3-108

4) Bend the document feed tray ① (with attached extension plates) and cover ② to unhook the fitting part ③ inside, and then slide in the direction of the arrow to separate.

Figure 3-109

◆ **Notes on assembling**
Ensure that the document feed tray (with document guides) is attached in a correct way.

CANON DR-C225 SERIES CHAPTER 3 REVISION 1

5. Front Unit

1) Remove the right and left covers.

Note: Remove the cable cover also.

2) Remove the rear cover.

3) If the Wi-Fi model, Remove the Wi-Fi unit ①.

Figure 3-109A

Figure 3-111

4) Remove the screw ① (BH, M3) and the 2 connectors ②, and remove the 3 flat cables ③ (each internal wire is copper foil) from the cable guide of the main body.
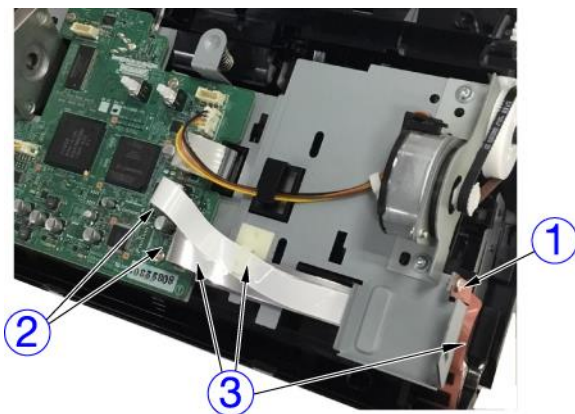
Figure 3-110

5) Open the front unit ①, remove the shaft ② from the left side, then unhook the fitting part to pull the shaft out from the opposite side and remove the front unit.
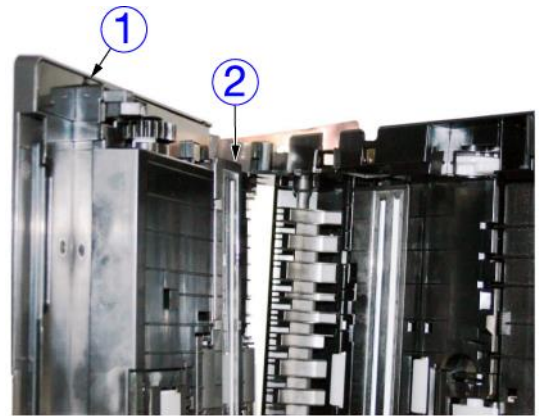
II. FRONT UNIT

1. Eject Pocket

1) Remove the front unit.
   (Page 3-5)
2) Open the eject pocket ① , slide it horizontally to remove the shafts ② on both sides from the holes, and then remove the eject pocket.
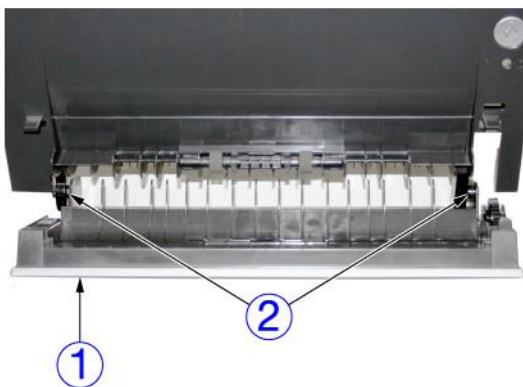
Figure 3-201

Note: Once you have removed the eject pocket, U-turn roller (follower) can also be removed. The U-turn roller can be removed from the fitting parts by pulling it out.

2. Front Cover

1) Remove the front unit.
   (Page 3-5)
2) Remove the eject pocket.
   (Page 3-6)
3) Use a tool to unhook the 10 pairs of fitting parts ① in sequence to spread open the gap, and then remove the front cover ②.

**Note:** Take care to avoid scratching the cover with the tool. You should unhook the bottom fitting part first.
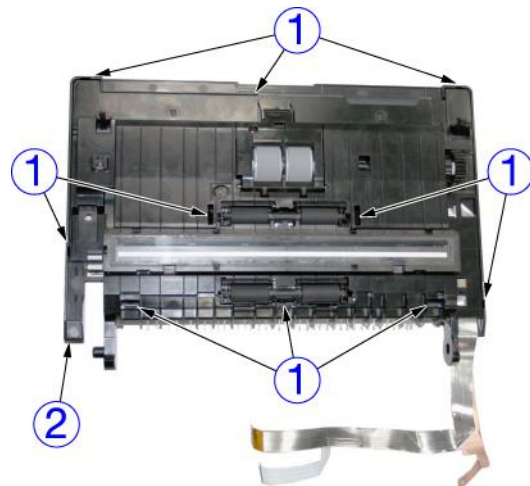
Figure 3-202

Note: Once you have removed the front cover, the button ① and eject support ② can be removed. Take care to avoid accidentally dropping or damaging it.
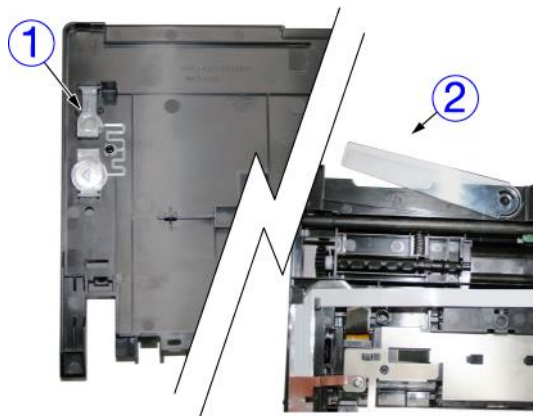
Figure 3-203

◆ **Notes on assembling**

In order to prevent the internal cables from becoming pinched during assembly, ensure that they do not protrude from the cable guide, align the positions of the front cover and the joint part on the main body side, and push them together. There should not be any gap.

3. Front Unit PCB

1) Remove the front unit.
2) Remove the front cover.
3) Remove the open/close shaft ① while holding down the coil spring ②. Then remove the cable ③ from the connector and unhook the 4 pairs of fitting parts ④ to remove the front unit PCB ⑤.

Note: Hold down the coil spring to prevent it from shooting off. There are sensors and LEDs mounted on the back side of the PCB.
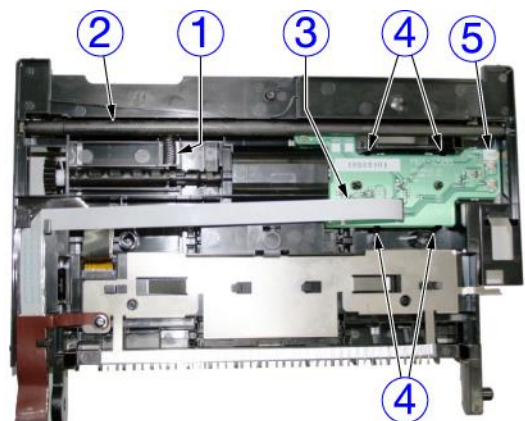
Figure 3-204

◆ **Notes on assembling**

Mount the front unit PCB before attaching the open/close shaft.

When attaching the open/close shaft, insert both ends of the shaft into the holes on the base and then attach the coil spring.

4. Feed Roller Drive Shaft

1) Remove the front unit.
   (Page 3-5)
2) Remove the front cover.
   (Page 3-6)
3) Spread open the fitting part ① and remove the feed roller drive shaft ②.
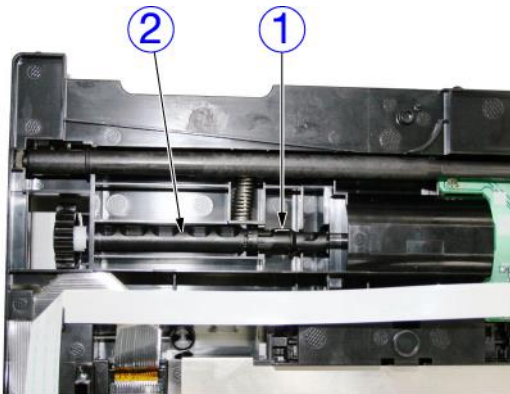
Figure 3-205

5. Follower Roller

Note: The rollers on the registration side and the eject side are the same component.

1) Open the front unit, spread open the fitting parts ① on both sides, and then remove the follower roller ②.

Note: In the below figure, the roller in the registration side is removed.

Figure 3-206

     CANON DR-C225 SERIES CHAPTER 3 REVISION 1
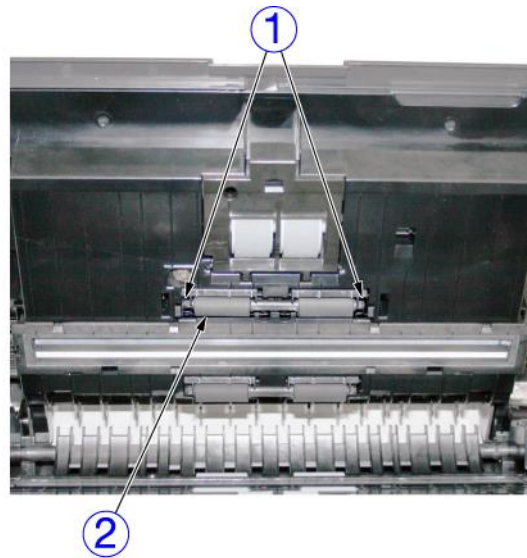
III. BASE UNIT

1. Control PCB

1) Remove the left and right covers.
   (Page 3-2), (Page 3-3)
2) Remove the rear cover.
   (Page 3-4)
3) If the Wi-Fi model, Remove the Wi-Fi unit ①. (Page 3-14)
4) Remove the 6 cables that are connected to the control PCB ① from the connectors. Remove the 5 screws ② (BH, M3) and remove the control PCB.

Note: There are sensors mounted on the back side of the PCB.
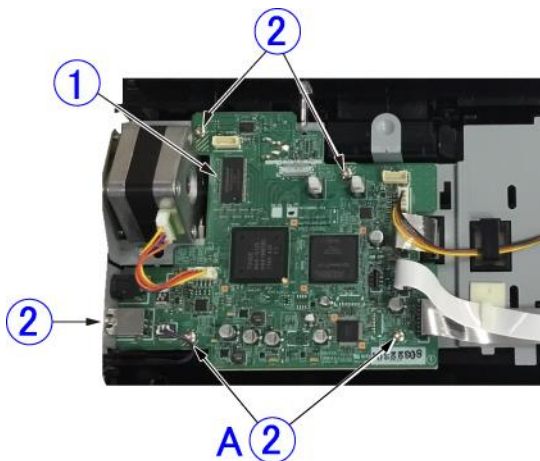
Figure 3-301

◆ **Notes on assembling**

Since there are protrusions on the screw unit marked A in the above diagram for determining the position, place it into the holes on the PCB. Do not forget to tighten the screws for the USB connector.

2. Feed Motor

1) Remove the left and right covers.
   (Page 3-2), (Page 3-3)
2) Remove the rear cover.
   (Page 3-4)
3) If the Wi-Fi model, Remove the Wi-Fi unit ①. (Page 3-14)
4) Remove the connector ① and 2 screws ② (TP, tapping, M3), and then remove the feed motor ③.

Note: Once you have removed the motor, the timing belt, pulley, and gear can also be removed. The timing belt is the same component as the timing belt on the main motor side.

The motor is attached with the mounting plate. Do not remove the mounting plate.
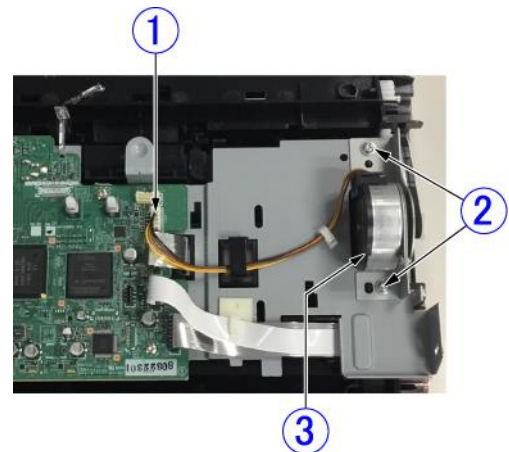
Figure 3-302

3. Main Motor

1) Remove the left and right covers.
   (Page 3-2), (Page 3-3)
2) Remove the rear cover.
   (Page 3-4)
3) Remove the connector ① and 2 screws ② (BH, M3), and then remove the main motor ③.

Note: Once you have removed the motor, the timing belt can also be removed.
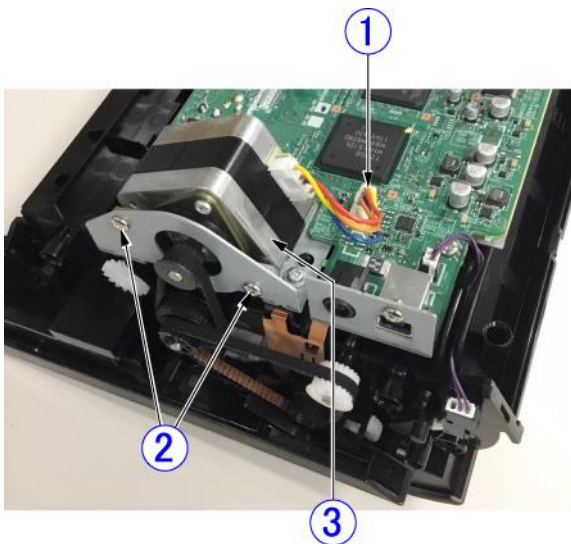
Figure 3-303

4. Drive Roller

Note: The rollers on the registration side and the eject side are the same component.

1) Remove the left and right covers.
   (Page 3-2), (Page 3-3)
2) Remove the rear cover.
   (Page 3-4)
3) If the Wi-Fi model, Remove the Wi-Fi unit ①. (Page 3-14)
4) Remove the feed motor and main motor.
   (Page 3-9), (Page 3-10)
   Remove any other cables connected to the control PCB.

Figure 3-304

5) Remove the screw ① (BH, M3), the 2 screws ② (TP, tapping, M3) and the coil spring ③ on the back side. Then remove the mounting plate with attached PCB ⑤ while ensuring that it does not touch the light guide ④ (for the document sensor).

Note: Once you have removed the mounting plate, the light guide (for the registration sensor) on the base side can also be removed.

Figure 3-305

6) Remove the timing belt ① (longer) on the main motor side. Spread open the leading edge fitting parts of the 2 pulleys ② and remove the pulleys.

Note: Once you have removed the timing belt ① (longer), the timing belt ③ (shorter) and the pulley ④ can also be removed.
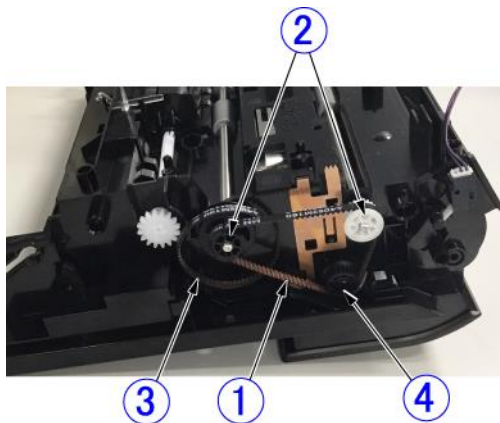
Figure 3-306

7) Remove the light guide ① (for the registration sensor). Spread open the fitting part of the bearing ② on the target roller side, and remove the drive roller ③.
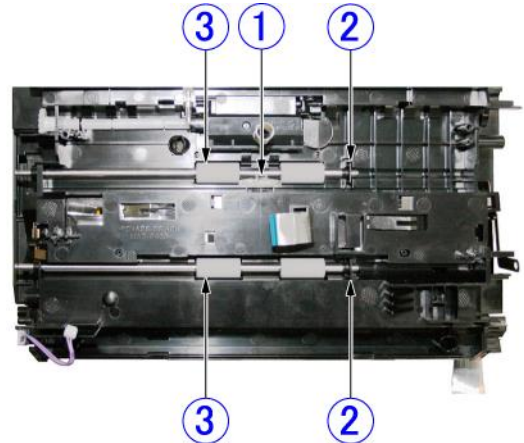
Figure 3-307

◆ **Notes on assembling**

Push the bearing of the roller all the way in, and fit together the fitting part.

Insert the roller shaft all the way into the end by aligning the shape of the roller shaft with the hole in the pulley. Before attaching the mounting plate, you should check that the light guide for the registration sensor has been installed. Also, feed the cable for the rear reading unit (FFC) through the hole in the mounting plate.

5. Retard Roller Drive Shaft

1) Remove the left and right covers.
   (Page 3-2), (Page 3-3)
2) Remove the rear cover.
   (Page 3-4)
3) Remove the feed motor and main motor.
   (Page 3-9), (Page 3-10)
4) Remove the mounting plate with attached PCB and the pulley of the registration side drive roller.

Note: Refer to "4. Drive Roller".
   (Page 3-10)

5) Spread open the fitting part ① and remove the retard roller drive shaft ②.

Note: Once you have removed the drive shaft, the link shaft ③ can also be removed.
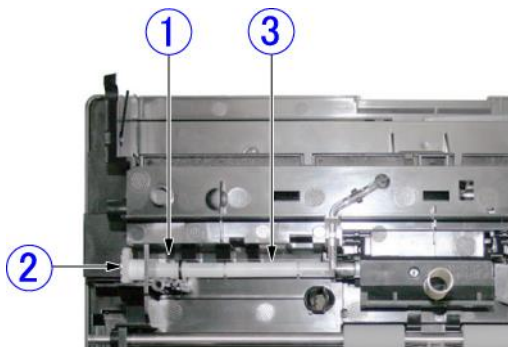
Figure 3-308

◆ **Notes on assembling**
   Insert the drive shaft by aligning the shape of the end of the drive shaft with the hole in the link shaft. The shape of the opposite end of the link shaft should be aligned with the retaining shaft in the same way. The link shaft is left-right symmetrical.

6. Document Pressure Plate

1) Remove the left and right covers.
   (Page 3-2), (Page 3-3)
2) Remove the rear cover.
   (Page 3-4)
3) Bend the base ① on the right side and the document pressure plate ② to unhook the fitting part ③ on the right side, then unhook the fitting part ⑤ on the left side by rotating the document pressure plate towards you and loosening the 2 far end ④ to remove the document pressure plate.

Note: Since the protrusion of the fitting part on the right side is smaller than on the left side, you should remove it from the right side. Once you have removed the document pressure plate, the inside coil spring can also be removed.

Figure 3-309

CANON DR-C225 SERIES CHAPTER 3 REVISION 1
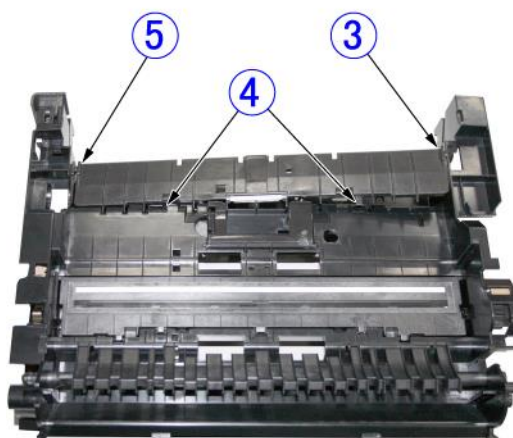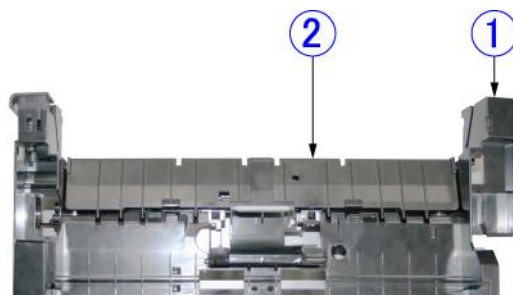
◆ **Notes on assembling**

Install the coil spring ① before attaching the document pressure plate. Attach the fitting part on the left side with the pin ② on the drive shaft standing up, and attach the fitting part on the right side while rotating the pulley on the feed motor side and slightly tilting the pin so that the pin is above the protruding part of the document pressure plate. Take care to avoid the coil spring shooting off.

After assembling, check that the document pressure plate works properly by rotating the pulley right and left.
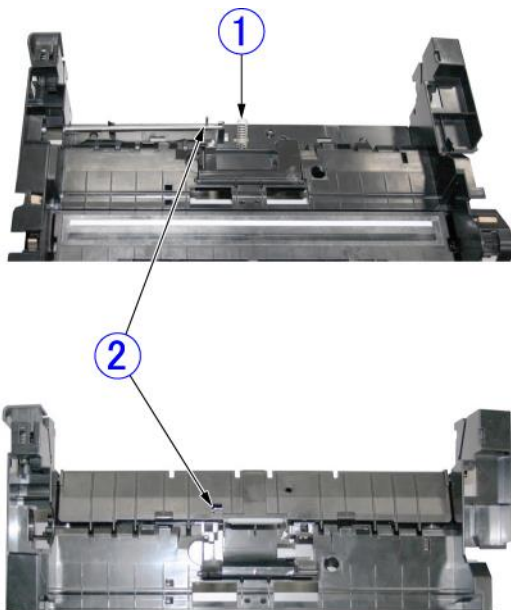
Figure 3-310

7. Flapper

1) Remove the front unit.
(Page 3-5)
2) Press down on the fitting part ① of the stop plate from above and unhook it from the hole in the base. Then, unhook the fitting part ② on the opposite side and the fitting parts ③ while moving the stop plate slightly to remove the stop plate ④.
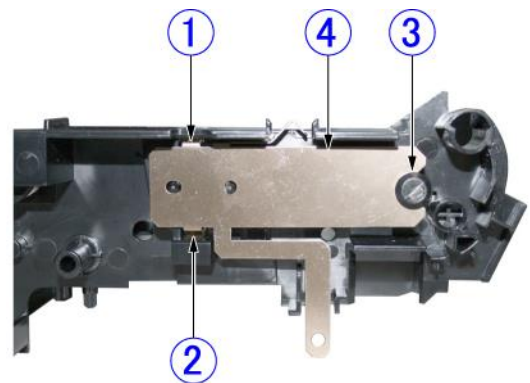
Figure 3-311

3) Slide and rotate the flapper ① to release it from the holes on both sides, and then remove it from the base.
Note: Take care to avoid damaging the flapper detection switch lever ② on the right side panel.
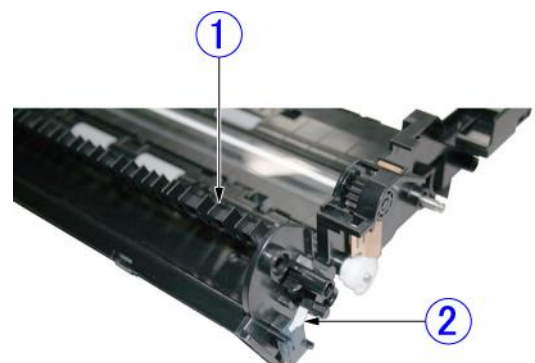
Figure 3-312

◆ **Notes on assembling**

Insert the fitting parts on the stop plate are securely into the holes in the base.

8. Wi-Fi Unit

1) Remove the left and right covers.
   ,
2) Remove the rear cover.
3) Remove the 2 cables ① and the reset switch (key top) ②. And pull the whole Wi-Fi unit in front to relieve the fittings on the rear side, then remove the Wi-Fi unit.
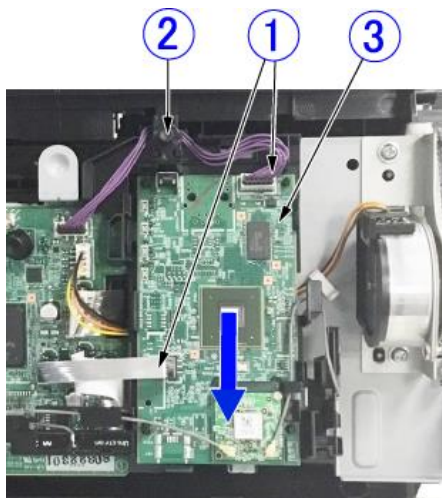
Figure 3-313

◆ **Notes on assembling**

Insert the 4 extrusions ① on the rear side of the Wi-Fi unit into the holes ② of the mounting plate, and slid it along the mounting plate.
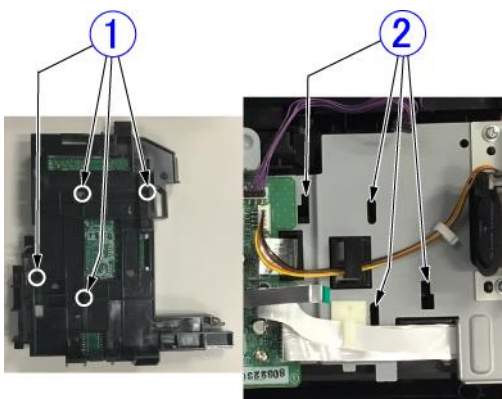
Figure 3-314
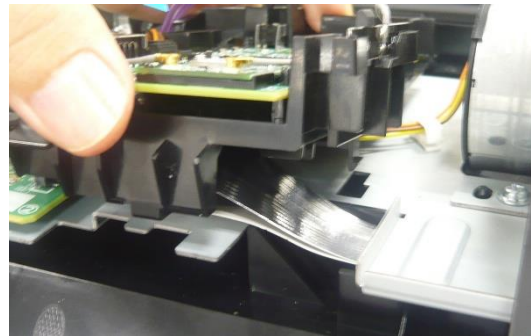
Figure 3-315

◆ **After replacing parts**

Each Wi-Fi unit should have independent MAC Address. Therefore, after replacing the Wi-Fi unit, you need to set new MAC Address.

Refer to the Chapter 5 (revised) for details.

IV. READING UNIT

1. Reading Unit (Front)

Note: The reading units (front and rear) have different holder shapes.

1) Open the front unit, spread open the fitting parts ① on both sides, and then pull the reading unit (front) ② out.

Note: Do not pull it excessively because the cable is connected to it.

Figure 3-401

2) Remove the cable ① (FFC) from the connector.

Figure 3-402

◆ **Notes on assembling**

Connect the cable and then push the cable inside before pushing in the reading unit.
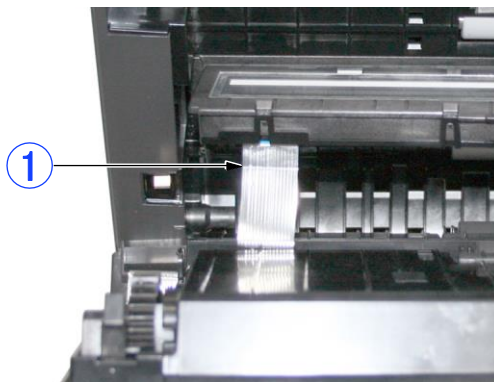
2. Reading Holder (Front)

Note: This component has the reading glass and white reference sheet mounted on it. This component should not be disassembled unless necessary because once the component has been removed, there is a risk of dust getting inside the reading unit. When disassembling this component, take care to prevent dust from getting inside. Furthermore, take care to avoid touching the inner side of the glass and the surface of the lens array.

1) Remove the reading unit (front).
   (Page 3-15)

2) Place the reading holder ① at the bottom and unhook the 8 pairs of fitting parts ② (4x2) using a tool with a thin flat tip to remove the case ③. Then remove the CIS unit from the reading holder ①.

Note: Be careful not to damage the hooks when unhooking the fitting parts. Once you have removed the case, the CIS unit can also be removed, so hold it to avoid dropping it.
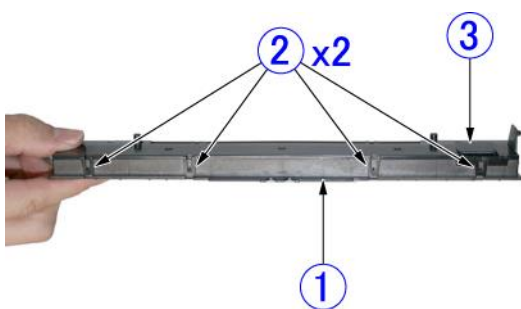
Figure 3-403

◆ **Notes on assembling**
   Push until all of the fitting parts are securely fastened. There should not be any raised parts and gaps.

3. Reading Unit (Rear)

Note: The reading units (front and rear) have different holder shapes.

1) Open the front unit, insert a tool with a thin leading edge approximately 4 mm wide diagonally into the hollow ① on the right side. Spread open the hook inside with the tool, and then push it into the side of the reading unit (rear) ② to lift it up slightly. Lift it up during open the hook.
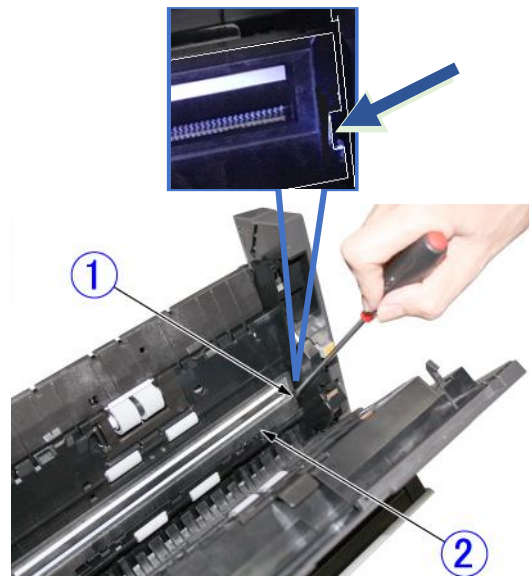
Figure 3-404

◆ The sectional view of the fitting pats

Figure 3-405

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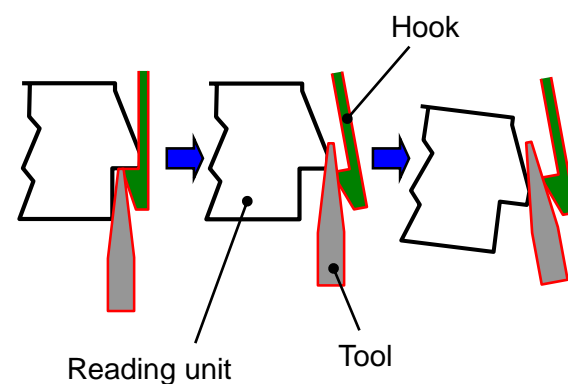
2) Pull out the reading unit (rear) ① even further, and then unhook the fitting parts on the opposite side and pull the reading unit out towards you.

Note: Do not pull it excessively because the cable is connected to it.
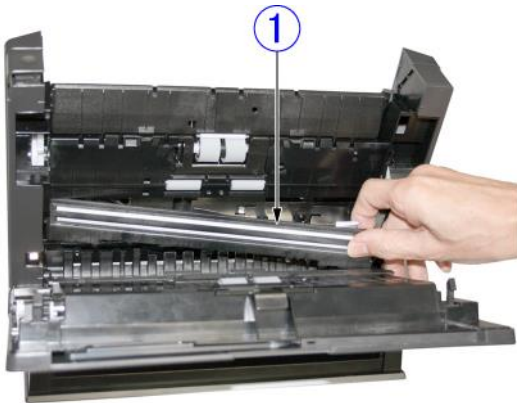
Figure 3-406

3) Remove the cable ① (FFC) from the connector.
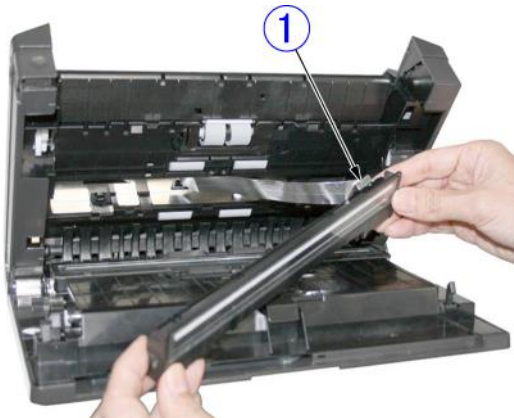
Figure 3-407

◆ **Notes on assembling**
Connect the cable and then push in the reading unit so that the cable returns to its original folded shape.

4. Reading Holder (Rear)

Note: This component has the reading glass and white reference sheet mounted on it. This component should not be disassembled unless necessary because once the component has been removed, there is a risk of dust getting inside the reading unit. When disassembling this component, take care to prevent dust from getting inside. Furthermore, take care to avoid touching the inner side of the glass and the surface of the lens array.

1) Remove the reading unit (rear). (Page 3-16)

2) Place the reading holder ① at the bottom and unhook the 8 pairs of fitting parts ② (4x2) using a tool with a thin flat tip to remove the case ③. Then remove the CIS unit from the reading holder ①.

Note: Be careful not to damage the hooks when unhooking the fitting parts. Once you have removed the case, the CIS unit can also be removed, so hold it to avoid dropping it.
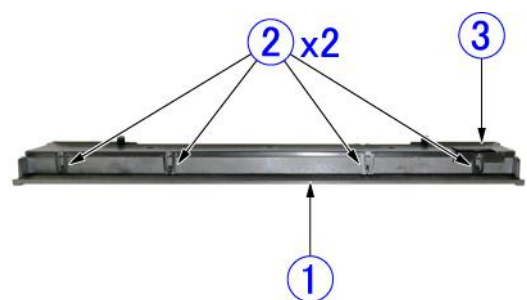
Figure 3-408

◆ **Notes on assembling**
Push until all of the fitting parts are securely fastened. There should not be any raised parts and gaps.

CHAPTER 4

INSTALLATION & MAINTENANCE

I.   INSTALLATION

This machine is installed by the user. The user should be advised to install the scanner by reading the Setup Guide thoroughly. This section gives an overview of the procedure. For details, refer to the user manual.

1. System Requirements

The recommended system is as follows.

1) Computer
   CPU: Intel Core 2 Duo 1.6 GHz or higher
   Memory: 1 GB or more
   Hard disk: 1 GB or more of free space
   USB interface: Hi-speed USB 2.0
   Monitor: Resolution 1024 x 768 (XGA) or higher
   Optical drive: Able to read DVDs

2) OS
   Microsoft Windows XP
   Microsoft Windows XP x64 Edition
   Microsoft Windows Vista
   (32/64 bit edition)
   Microsoft Windows 7
   (32/64 bit edition)
   Mac OS X

Note: For details on each version, refer to the user manual.

2. Checking the Accessories

Open the package, and take out the main body and its accessories.

① Main body
② USB cable
③ AC adapter
④ Power cord
⑤ Reference Guide
   (Basic operation edition)
⑥ Setup disk
⑦ Warranty, etc. (depends on the shipping region)

3. Removing the Packing Material

Remove all of the tape and protective material that is attached to the main body.
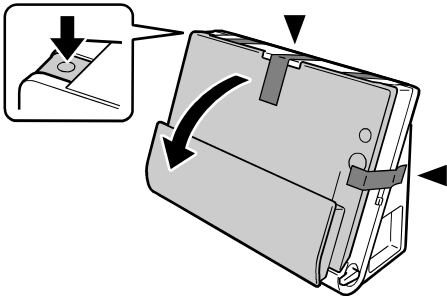
Figure 4-101
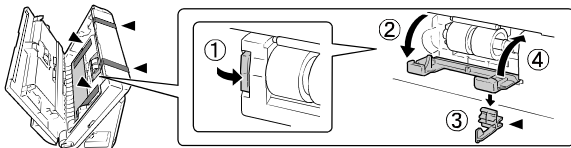
Figure 4-102

4. Installing the Software

Install the following software from the included setup disk that is required in order to use the scanner.
- CaptureOnTouch
- Scanner driver

Note: The software should be installed before connecting the machine to a computer.

The following shows an outline of the installation on Windows.
1) Login using an account with Administrator privileges.
2) Before installing the software, exit all other applications.
3) Load the setup disk into the DVD drive of the computer.
4) The setup menu starts automatically.
5) Click [Typical Installation].
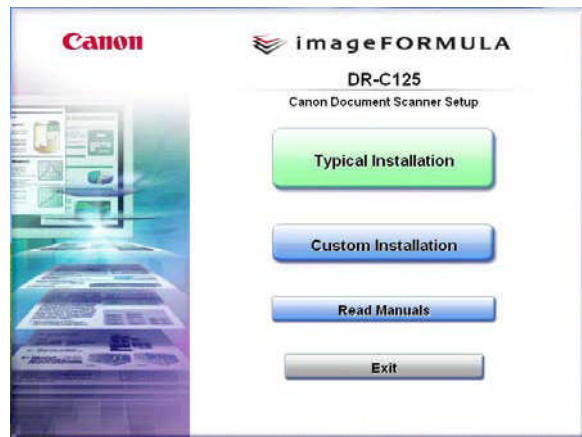
Figure 4-103

Finish the installation by following the on-screen messages.

CANON DR-C125 FIRST EDITION

5. Connecting to a Computer

Note: Always use the power cord and AC adapter supplied with the machine.

1) Connect the power cord to the AC adapter.
2) Insert the plug from the AC adapter into the connector on the main body, and connect the power cord to the outlet.
3) Check that the power switch of the machine is off. Of the power is on, turn it off.
4) Connect the machine and the computer using the included USB cable.
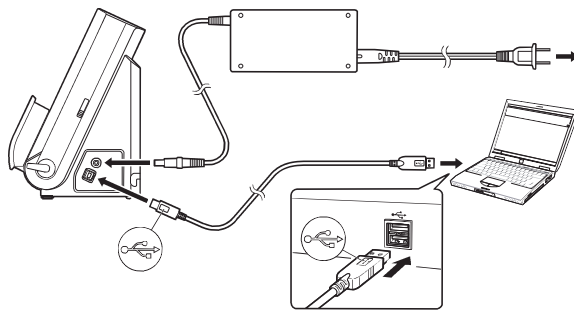
Figure 4-104

6. Power On

When you turn this computer connected to the computer ON, the plug-and-play function recognizes this computer, and the device driver is automatically installed.

1) Press the power button. The power button lights when the power turns ON.
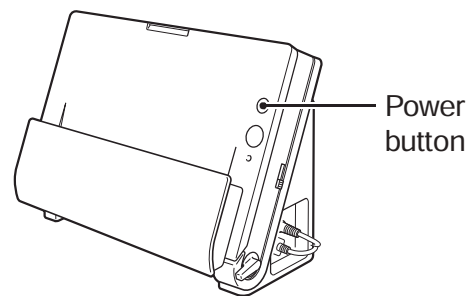
Power button

Figure 4-105

The preparation is now complete. Check whether scanning is really performed. Refer to the "User Manual" for the details.

Note: To turn the power OFF, hold down the power button until the light goes off.

II. PARTS TO BE REPLACED

1. Periodically Replaced Parts

This machine does not have any periodically replaced parts.

2. Consumable Parts

1) Parts replaced by users

No.	Parts name	Parts number	Expected life	Remarks
1	Feed roller	MA2-9416-000	100,000 sheets	Because of the worn rollers, it is necessary to replace when the feed error are occurred after cleaning.
2	Retard roller	MA2-7326-020		

Note: The items above are assigned as service parts and an exchange roller kit is assigned as commercially available products for a set.

Table 4-201

2) Replaced by service technicians

None

CANON DR-C125 FIRST EDITION

3. Major Parts List

The list below shows the major service parts, except for the parts replaced by users.

Refer to the "Parts Catalog" for the details.

No.	Parts name	Parts number	Q'ty	Remarks
1	Control PCB	MG1-4582-000	1	
2	Front unit PCB	MG1-4588-000	1	
3	Reading Unit (front)	MG1-8311-000	1	Includes reading holder
4	Reading Unit (rear)	MG1-8310-000	1	
5	Reading Holder (front)	MF1-4715-000	1	A reading glass attached
6	Reading Holder (rear)	MF1-4714-000	1	A reading glass attached
7	Feed motor	MG1-4639-000	1	
8	Main motor	MG1-4586-000	1	
9	AC adapter	MG1-4578-000	1	Outside of China
10	AC adapter (China)	MG1-4579-000	1	China only

Table 4-202

III. MAINTENANCE

1. User Maintenance

Refer to the "User Manual" for the details.

1) List

[△:Clean, ●: Replace]

No.	Location/Parts	Intervals		Details
		As necessary	100,000 sheets	
1	Main body	△		Use a cloth slightly dampened with water and well wrung out to remove any dirt, and then use a clean, dry cloth to wipe the main body.
2	Reading glass	△		Use a soft, clean, and dry cloth to wipe off any dirt.
3	Retard roller	△	●	Use a cloth slightly dampened with water and well wrung out to remove any dirt, and then use a clean, dry cloth to wipe the main body.
4	Feed roller	△	●	
5	Other rollers	△		Note: Remove the retard/feed roller from the main body before cleaning.
6	Feed path	△		Use such as air blowers to remove any dust and paper particles that have accumulated on the feed path.

Table 4-301

2) Locations to be cleaned

• Main body

• Inside eject pocket

Figure 4-301

Figure 4-302

CANON DR-C125 FIRST EDITION
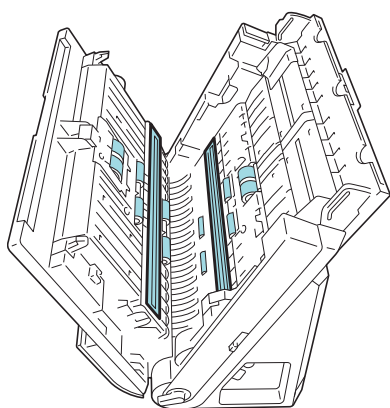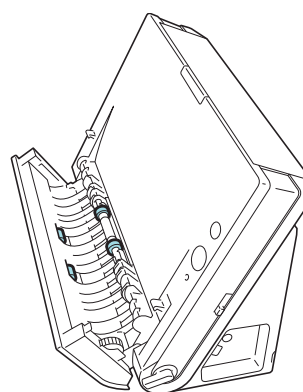
3) Replace Rollers Display
Once the number of sheets fed exceeds the guide for replacement of 100,000 sheets, a screen displaying the message [Replace Rollers] is displayed the next time the computer recognizes the machine. The following shows the screen in Windows.

Figure 4-303

4) Method for Replacing Rollers
◆ Retard roller
When attaching the roller, align the cut-out section of the roller with the axle.
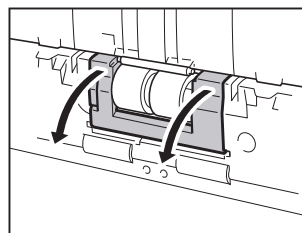
Figure 4-304
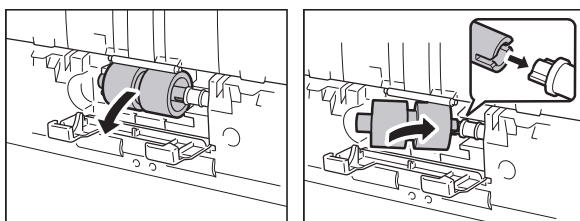
Figure 4-305

◆ Feed roller
When attaching the roller, align the cut-out section of the roller with the axle.
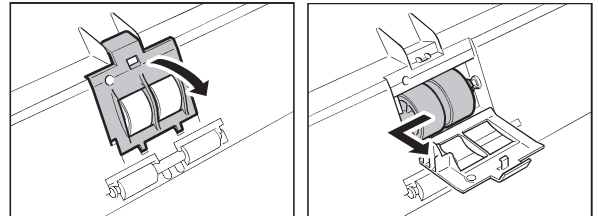
Figure 4-306
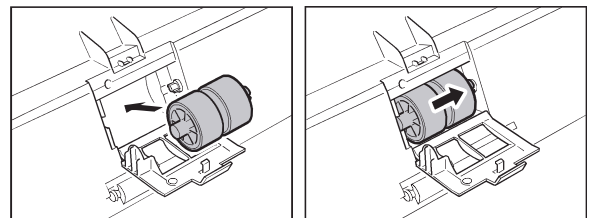
Figure 4-307

5) Resetting after replacement
The counters need to be reset after replacing the rollers. The following shows the method for doing this in Windows.
• Start Windows, and login with administrator privileges.
• Click the [Start] button on the computer, and then click [All Programs], [Canon DR-C125], and [Canon imageFORMULA Utility] in order.
• "The Canon imageFORMULA Utility" starts, and the screen is displayed.
• Select [Canon DR-C125 USB] and then click [Properties].
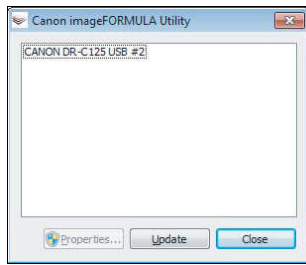
Figure 4-308

- On the next screen, click the [Maintenance] tab. Next, click [Reset].
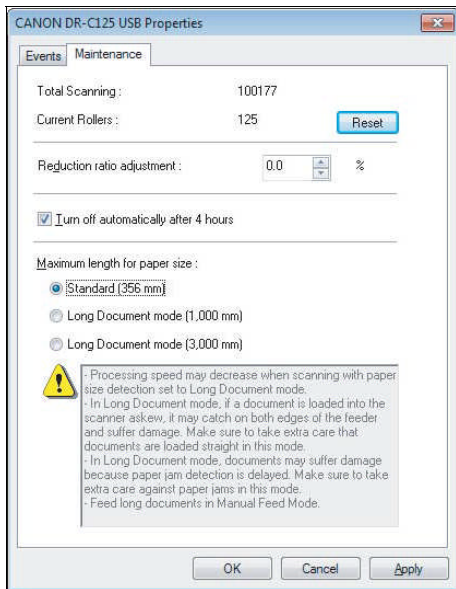
Figure 4-309

- Click [OK] and then close the property.

2. Service Maintenance

For this machine, no periodical maintenance item by the service technicians is specified.

However, when visiting a user, check whether the reading glasses and the rollers are dirty. If they are very dirty, instruct the user to follow the "user maintenance" procedures. Recommend the user to replace consumable parts if necessary. Furthermore, remove the cover, check that there is no paper dust or other foreign matter inside the main body, and then perform cleaning.

CHAPTER 5

TROUBLESHOOTING

I. ERROR DISPLAY

1. Main Body

Although this machine does not have an error display unit, errors are indicated by the power button on the control panel of the main body.

When the machine state is normal, the power button lights up in blue. When the machine is unable to scan, such as when the front unit is open or when a paper jam occurs, the power button flashes.
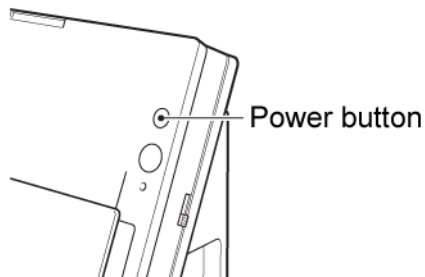
Figure 5-101

2. Computers

Error messages are displayed on the screen of the computer connected to the machine. Each of the different pieces of software (applications, drivers, OSs) have their own unique messages which they control.

There are many user-related messages, such as when the user performs an incorrect operation. Users should resolve problems according to the error messages.

The following shows an example of an error message when using CaptureOnTouch V4 (Windows).
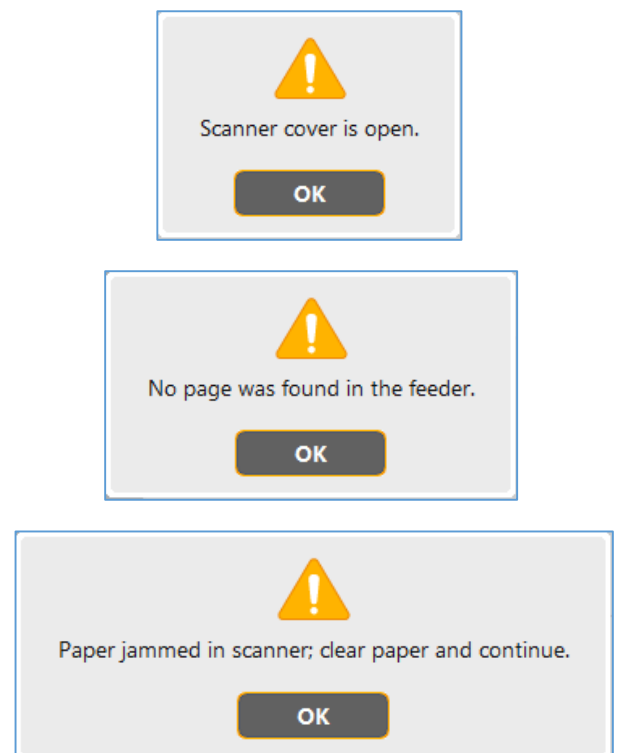
Figure 5-102

II. SERVICE MODE

1. Outline

To execute the service mode, install the software (service tool) for the service mode, which is stored in the packaged setup disc in the computer for servicing. However, it is better to use the latest service tool that has been distributed by data base and others for servicing.

The system requirements for the computer are equivalent to those indicated in the "User Manual". When the processing speed drops due to the CPU or memory capacity, the service mode is still available. Note that the service mode is only supported on Windows OS.

This service tool can be used for the DR-C225 series only, not for the DR-C125/C125W.

The service screen is shown below.
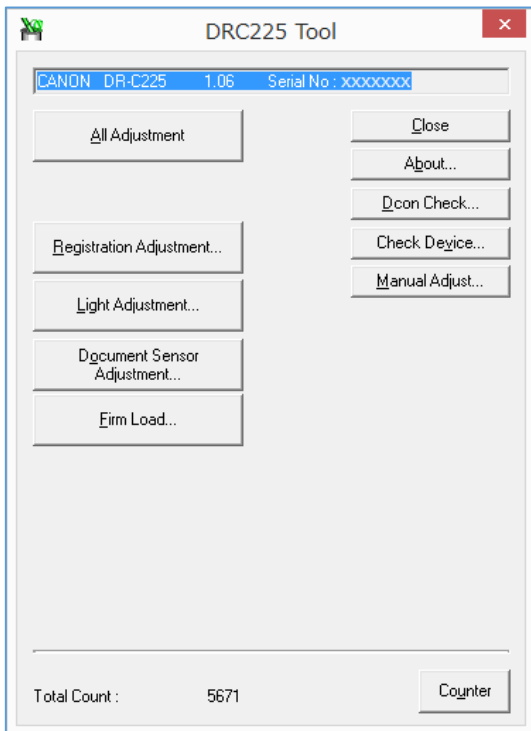
Figure 5-201

On the service screen, there are buttons to select each specified mode. Each service mode starts from this screen.

A list of the modes is show below.

No.	Button displayed/description
1	All Adjustment Performs all adjustments of the following No.2-4, relating to image reading.
2	Registration Adjustment Performs the registration adjustment.
3	Light Adjustment Performs fine adjustments to the shading correction value.
4	Document Sensor Adjustment Fixes the initial value of the amount of light received of the document sensor.
5	Firm Load Changes the firmware.
6	About Displays the version of the service mode.
7	Dcon Check Checks operations of the hardware inside of the machine, such as an operation key, sensor, and motor.
8	Check Device Displays the internal version of the device. Reset the serial number and Wi-Fi related.
9	Manual Adjust Manually adjusts the scale and registration of images.
10	Counter Displays and updates the counters.

Table 5-201

2. How to Install

Procedure to install service tool: Never install it in the user's computer.

Note: In here, it is described the procedures using the setup disc. However, it is able to use the latest service tool that has been distributed by data base and others for servicing.

1) Turn ON the computer for servicing to start OS (Windows).

2) Set the setup disc packaged with this machine.

3) An installation screen for the user is displayed, but ignore this, right-click the [Start] button, and select "Explorer".

4) Open the folder "\Driver\Tools" in the setup disc. Copy the file "DRC225Tool.exe" from that folder to any driver on the computer for servicing.

Note: Install the driver for this machine and also install the CaptureOnTouch as necessary. Please refer to the "User Manual" on installation of them.

However, when checking a specification such as the scanning speed, the system requirements for a computer described in the "User Manual" should be satisfied.

Note: Keep the name of the folder and the password confidential from the user.

3. How to Start and Finish

◆ How to start

1) Start the computer for serving.

2) If an icon of CaptureOnTouch is displayed on the task bar, click the icon to terminate it.

Note: Refer to the "User Manual" for the details of how to operate CaptureOnTouch.

3) Connect the USB cable and then turn on the machine.

4) Run the installed file "DRC225Tool.exe".

Figure 5-202

5) Password dialogue box appears, and enter six characters as "market" and select [OK].
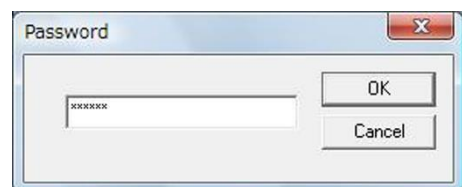
Figure 5-203

6) Service screen appears.

Note: Do not run any other application software such as CaptureOnTouch or turn off the machine while the service tool is running. If the tool becomes unresponsive, you should restart the computer.

◆ How to finish
Select [Close] on the service screen.

Note that if you have executed [Firm Load], you should also turn the power off this machine to ensure that the firmware is overwritten reliably.

4. Registration Adjustment

This mode performs adjustments on a reading-start position and reading-end position for feed direction automatically.

If the leading- and trailing-edge positions of a scanned image are improper, perform this adjustment.

Also run this mode after replacing or reassembling the reading unit or the registration detection related part, or after replacing the control PCB recording the adjustment data.

This mode and the other adjustment items can be performed at the same time. For details, refer to the "All Adjustment" item.

◆ Adjustment sheet
The dedicated sheet is required to execute this mode. However, you can create the sheet by drawing a black line on available paper, so it is not specified as a service tool. Prepare it for yourself. The sheet is required:

1) The material may be normal white copy paper, recycled paper or shading sheet (TKM-0332/0349) that is used in the next section.

Note: If the shading sheet is used, it can be shared with "Light Adjustment".

2) To have the black leading edge and the white trailing edge, whose width is 2 mm or more.

3) Paper size is basically A4 size or LTR size, and the above-mentioned shading sheet.

4) To cause neither jams nor skews.

Example: Blacken the leading edge of a A4 size or LTR size paper with a black pen. Use the sheet after the ink has dried. Do not use a pencil. The shading sheet may be used. Not only one side, but also both sides may be painted in black.

"A4 or LTR"

Black width 2 to 4mm

"Shading Sheet" TKM-0332/0349

Black width 2 to 4mm
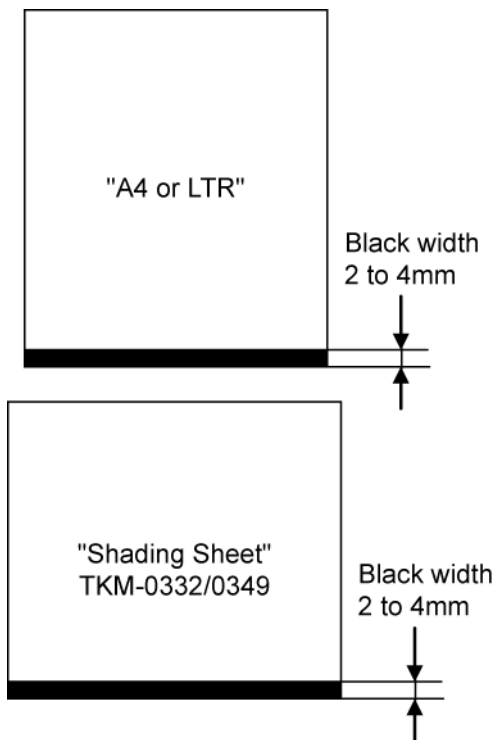
Figure 5-204

◆ Operation Procedure

1) Clean feed path, roller, and reading glass.
2) Place a piece of the registration adjustment sheet you prepared. Make sure to set the document guides to fit the sheet to prevent skews.

Note: The black edge needs to be detected as the leading edge of the sheet with the front side reading sensor. Place the sheet so that the black edge is the front and the leading edge when fed. If both sides have been filled with black, then either side can be fed as the leading edge. Do not place extra sheets.
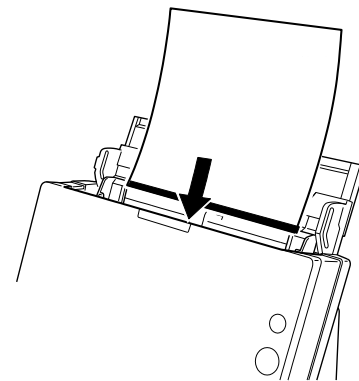
Figure 5-205

3) On the service screen, select [Registration Adjustment].
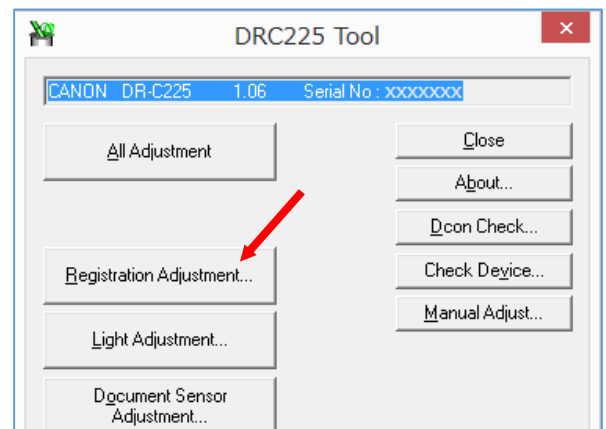
Figure 5-206

4) The adjustment proceeds automatically while the progress screens are displayed.
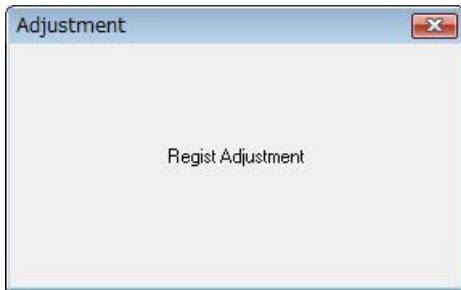
Figure 5-207

5) The sheet is fed. After the adjustment is complete, the progress screen disappears and the screen returns to the service screen.

5. Light Adjustment

This mode performs fine adjustments on the shading correction values since the reading point differs between the white reference sheet inside of the reading unit and the actual document.

If the scanned image quality is degraded, perform this adjustment. Also perform this adjustment after replacing the reading unit or after replacing the control PCB recording the adjustment data.

This mode and the other adjustment items can be performed at the same time. For details, refer to the "All Adjustment" item.

◆ Adjustment sheet

The shading sheet is required to execute this mode. Use TKM-0332 or TKM-0349. Do not use a sheet with any dirt or creases.

Note: Shading sheets with a black line for "Registration Adjustment" can also be used.

◆ Operation Procedure

1) Clean feed path, roller, and reading glass.
2) Open the document guides fully extended, then place a shading sheet you prepared to fit the width between the document guides.

Note: Do not place extra sheets.

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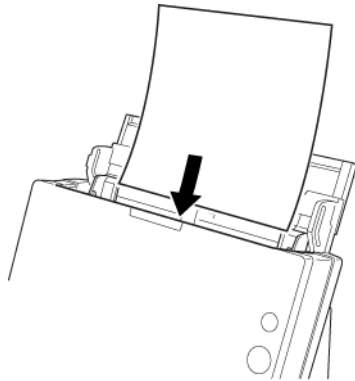
Figure 5-208

3) On the service screen, select [Light Adjustment].
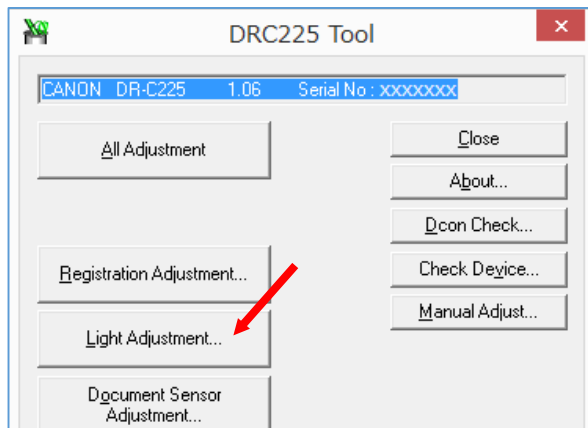
Figure 5-209

4) The adjustment starts automatically. The sheet is fed, and a progress screen is displayed.

Figure 5-210

5) Even after the sheet has been ejected, the data may be processed inside the machine. The progress screen disappears, and a warning screen is

displayed. Do not turn OFF the machine or perform any operations until the warning screen disappears.

Figure 5-211

6) After the adjustment is complete, the warning screen disappears.

6. Document Sensor Adjustment

This mode is used to adjust the initial value of the quantity of light received when the document is not set at the sensor section so that the document sensor functions correctly.

The value performed at the factory is set when the sensor is shipped from the factory, but the adjustment is carried out if the document sensor does not detect a document correctly because the ambient amount of light is very different and so on. Also run this mode after replacing the control PCB on which data is stored.

This mode can be executed together with other adjustment items. For details, refer to the "All Adjustment" item.

◆ Operation Procedure

1) Clean the window for the document sensor.

Note: Do not set the document.

2) On the service screen, select [Document Sensor Adjustment].

Figure 5-212

3) The adjustment starts automatically and ends instantaneously.

Note: A progress screen is displayed, but it cannot often be confirmed because it is displayed instantaneously.
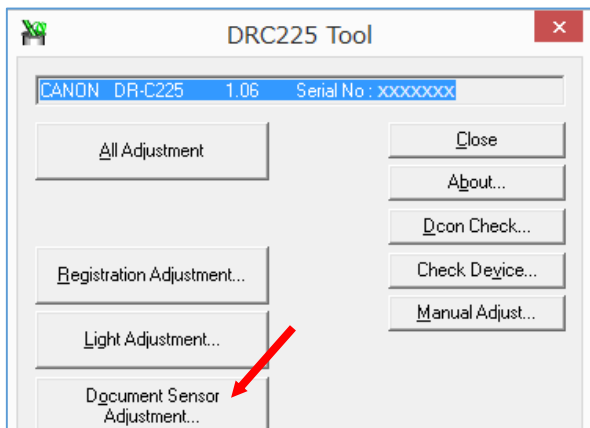
7. All Adjustment

This mode performs "Registration Adjustment", "Light Adjustment", and "Document Sensor Adjustment" in sequence. For the purposes of each of these adjustments, refer to the corresponding sections.

◆ Adjustment sheet

As the shading sheet and the registration adjustment sheet, use sheets described in the previous section. However, make sure that the width of the registration adjustment sheet is the same 219 mm as that of the shading sheet to prevent skews.

Note: Two shading sheets with a black line for registration adjustment may be used.

◆ Operation Procedure

1) Clean feed path, roller, and reading glass.

2) Open the document guides fully extended, then place a prepared registration adjustment sheet as the front sheet and a prepared shading sheet as the back. Insert them properly not to cause skew.

Note: Do not place extra sheets.
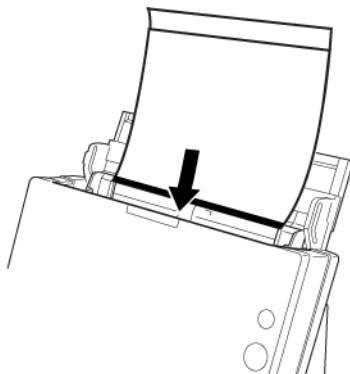
Figure 5-213

3) On the service screen, select [All Adjustment].
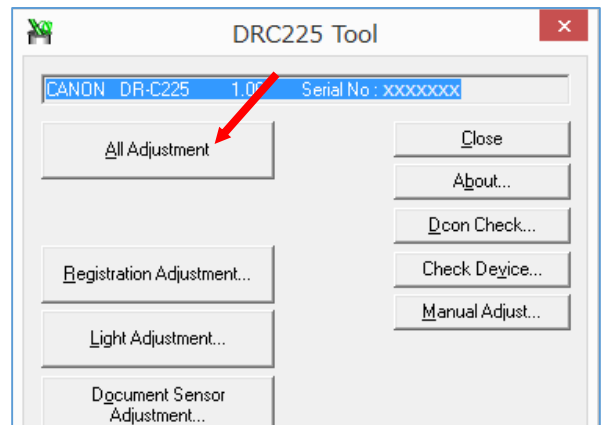
Figure 5-214

4) The adjustment starts automatically. The sheets are fed and the progress screen is displayed.
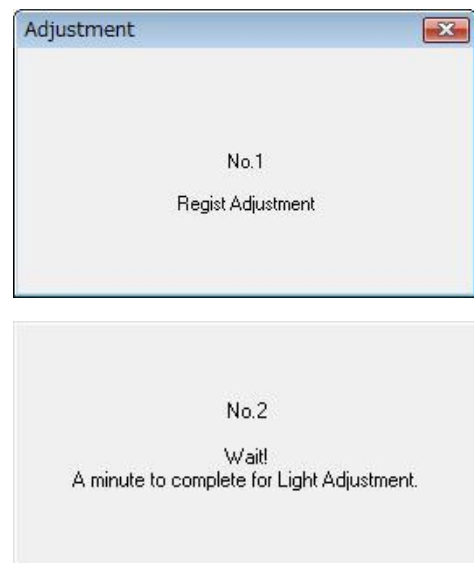
Figure 5-215

5) Even after the shading sheet has been ejected, the data may be processed inside the machine. The progress screen disappears, and a warning screen is displayed. Do not turn OFF the machine or perform any operations until the completion screen is displayed.

Figure 5-216

6) Finally, [Document Sensor Adjustment] is executed. After the adjustment is complete, the completion screen is displayed. Click [OK].
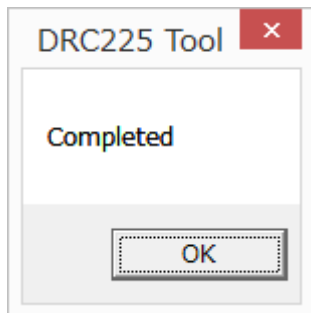
Figure 5-217

8. Dcon Check

This mode checks operations of each hardware inside of the machine.

◆ Basic screen

1) On the service screen, select [Dcon Check].
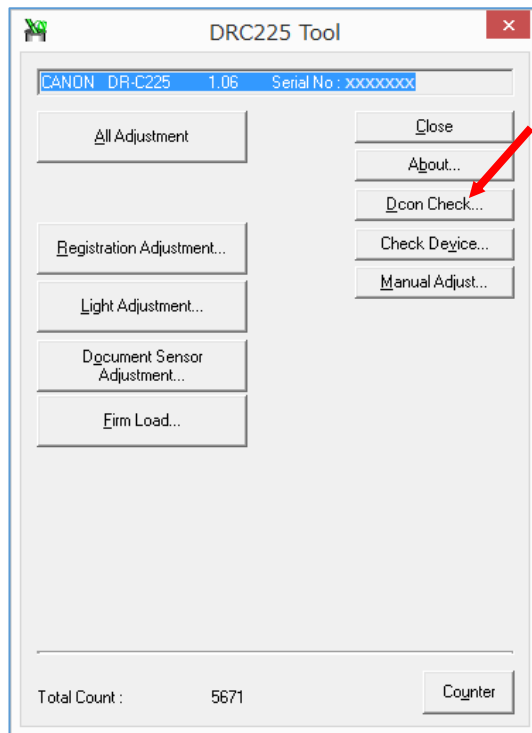
Figure 5-218

2) The [DCON Check] screen is displayed. Select a menu to execute on this screen.
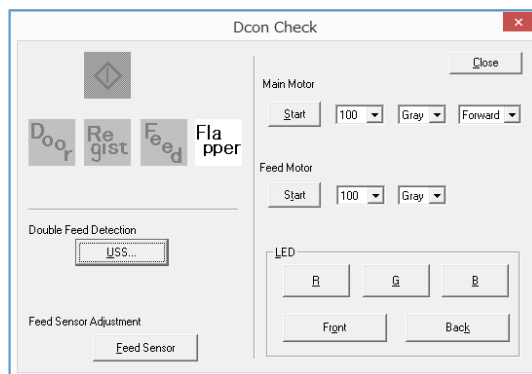
Figure 5-219

a. Sensors and switches

The operation states of sensors and switches are shown below. The following diagram indicates that the "Flapper Switch" is on.

Figure 5-220

Icon	Name and Description
	Start button (start switch) This icon appears when the Start button is pressed.
	Door sensor This icon appears when the front unit is open.
	Registration sensor This icon appears when the registration sensor detects paper. (Note)
	Document sensor This icon appears when the document sensor detects paper. (Note)
	Flapper switch The icon appears when the flapper is set to straight eject.

Table 5-202

Note: The registration sensor and document sensor icons light even if the front unit is open.

The document sensor is indicated here by "Feed".

b. Motors

Checks the operation of the main and feed motors. Select a resolution and a reading mode, then select [Start] to make the motor turn at the speed that meets the condition. Select [Stop] to stop the motor.
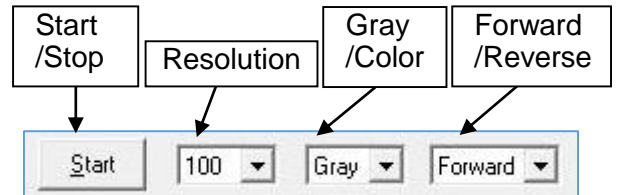
Figure 5-221

c. CIS unit LED

When the corresponding LED button is selected, the LED lights. Make sure to open the front unit fully before selecting the button. Select the button again to turn off the LED.
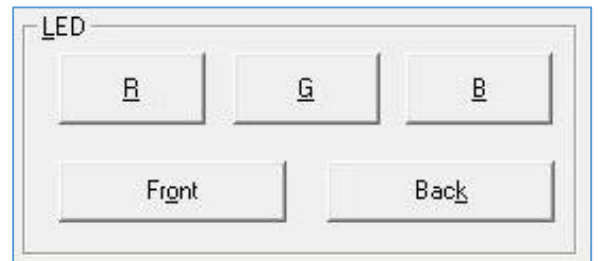
Figure 5-222

d. Ultrasonic sensor

Pressing the [USS] button displays the [USS] screen.
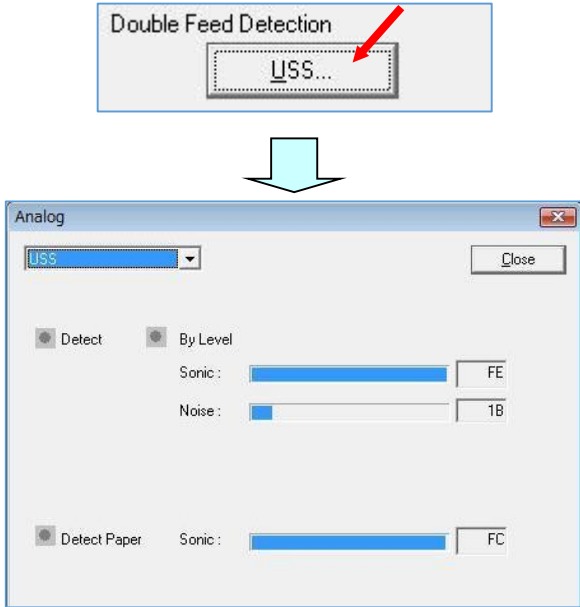
Figure 5-223

Placing a single sheet of paper on the ultrasonic sensor turns on the "document lamp" in red. Placing overlapping paper on the sensor turns on the two "double feed lamps" in red. The screen when double-feeding is detected is shown below.
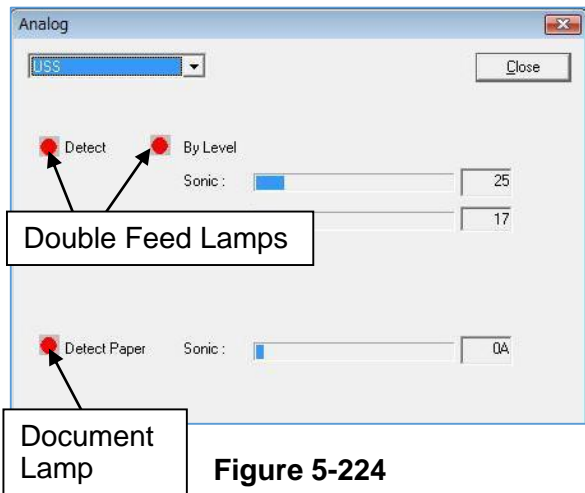
Figure 5-224

e. Document sensor

Pressing the [Feed Sensor] button displays the [Feed Sensor Adjustment] screen.

Note: The document sensor is called the "Feed Sensor" here.
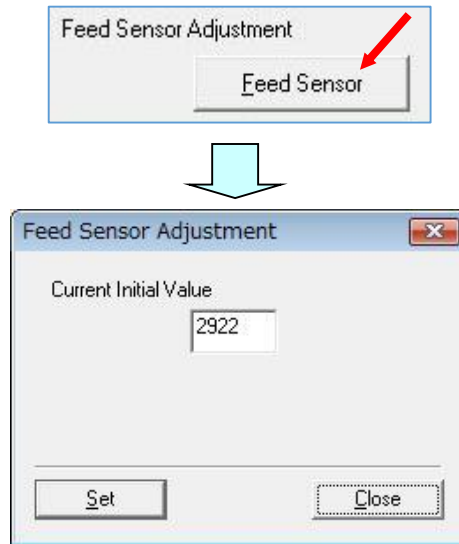
Figure 5-225

The current analog value of the document sensor is displayed. Although this is not normally used in the market, it allows data to be provided for design inspection.

If you have changed this value by mistake, execute [Document Sensor Adjustment] again.

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9. Check Device

This mode displays versions of the main body firmware and the internal devices of the main body. The serial number is also displayed and set.

On the service screen, select [Check Device] to display the [Check Device] screen.
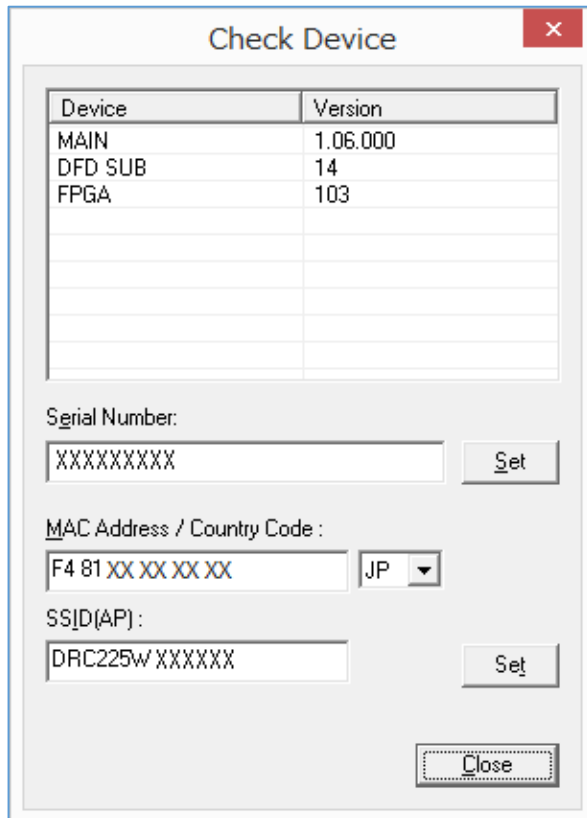
Figure 5-226

a. Device/ Version

- [MAIN]
  Main body firmware
- [DFD SUB]
  Ultrasonic sensor
- [FPGA]
  Image procedure

Note: Version of the main body firmware can be also confirmed on the user's driver screen.

b. Serial Number

Serial number data is saved on the control PCB. If this PCB is replaced, enter the serial number shown on the rating label at the main body and select "Set" on the right side.

c. MAC Address/ Country Code

SSID (AP)

These are data for the Wi-Fi model, and saved on the control PCB. If this PCB or Wi-Fi unit is replaced, you need to enter these data.

Note: If the model without Wi-Fi, invalid characters are displayed.

Figure 5-226A

◆ After replacing the control PCB

1) Check the contents of the label on the rear side of the main body.
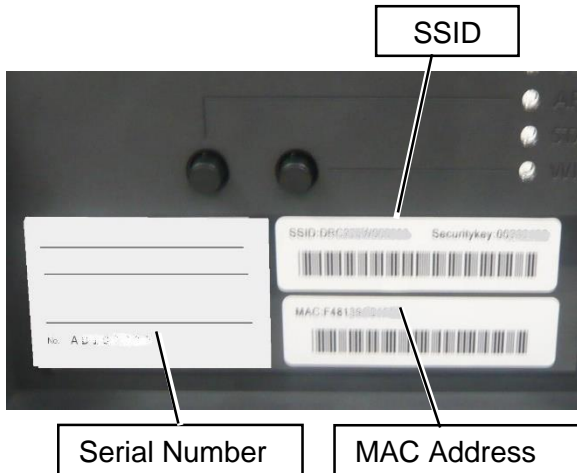
Figure 5-226B

2) Input the items (MAC Address/Country Code, and SSID) as the same as the label in the [Check Device] screen.

Figure 5-226C

3) After inputting, select the "Set" button.

Note 1:

The "MAC address" should be 12 characters. You don't need to input space between characters. After selecting the "Set" button, it makes correct spaces automatically.

Note 2:

The country code should be selected according to region and channel number in used.

"US"----11ch, North America

"JP"-----13ch, Japan

"GB"----13ch, others

And the parts number of the control PCB is different depend on the channel number.

Note 3:

It takes a couple of seconds from selecting the "Set" button to completing.

◆ After replacing the Wi-Fi unit

1) A MAC Address label is enclosed with the new Wi-Fi unit. You need to replace this label to the MAC Address label attached on the rear side of the main body.
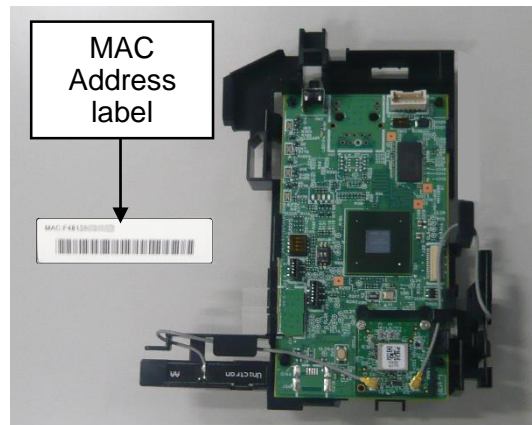
Figure 5-226D

2) Input the MAC Address as the same as the new MAC Address label, and then set it in the [Check Device] screen.

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10. Manual Adjust

This mode is used to manually adjust the scale parameter of images. It can also be used to manually adjust the registration position. It is used to correct changes due to the friction of the roller or to perform fine adjustment of automatic adjustment values. This mode should also be executed after replacing the control PCB that records the adjustment data.

◆ Basic screen

On the service screen, click [Manual Adjust] to display the [Scaling Control] screen.
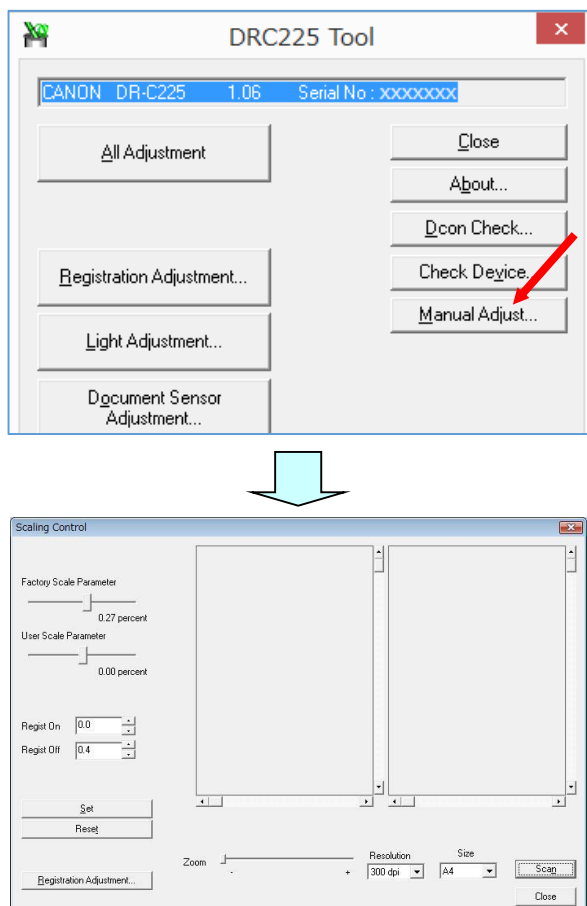
Figure 5-227

◆ Description of the Scaling Control Screen

Figure 5-228

No.	Details
①	Factory Scale Parameter The factory default scale parameter setting value. Can be changed using the slide bar. Units are percentage of the entire length. The setting range: ±1.0 (%) The [+] direction increases the length of the image.
②	User Scale Parameter This setting value is added to ① above. The setting range: ±3.0 (%) Other details are the same as ①. The setting value of ① + ② is applied.
③	Registration On: The setting value of the reading start position. Off: The setting value of the reading end position. Can be changed by directly entering in the data box or by using the scroll arrows. The setting range: ±5.0 mm The [+] direction delays the timing. For example, if set to On[1.0], 1mm of the leading edge of the image is cut off. Note: In this machine, Only the [On] side is valid. Also more than 2 mm in the minus direction is invalid.

No.	Details
④	Set / Reset Set: Sets the changed values. Reset: Returns the setting values to "0".
⑤	Registration Adjustment Click this button to execute [Registration Adjustment].
⑥	Scanned Image Displays the scanned image. The left side is the front image and the right side is the back image. You can move the image using the scroll bars. Note: In this machine, only the front image is used.
⑦	Zoom Enlarges the image in ⑥ above using a slide bar.
⑧	Resolution / Size Selects the resolution and size of the scan using pull-down menus. Other scanning conditions cannot be selected.
⑨	Scan Click this button to begin the scan.

Table 5-203

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◆ Outline procedure

The following flow chart shows an overview of the whole scale parameter procedure when performing automatic and manual registration adjustment. And then page numbers for detail in the service manual and major points of procedure are described.
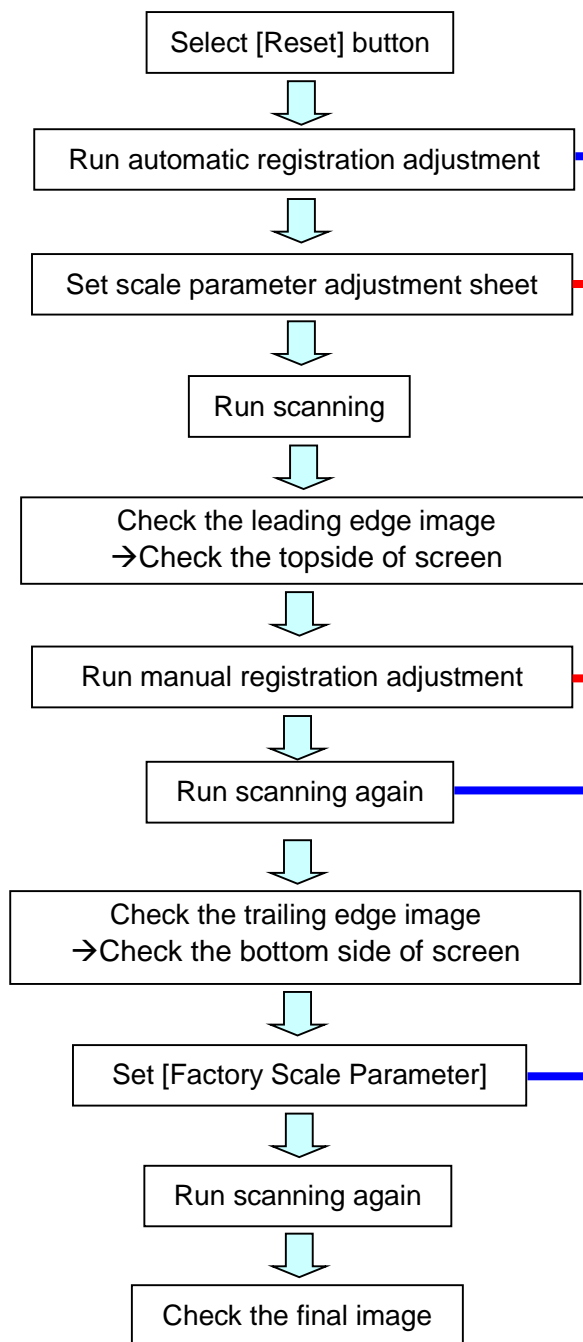
Note: Document setting and Screen display
The service tool doesn't have a function for the "face-up feeding".

Feeding Type	Document Setting	Screen Display
Face-up Feeding	F	Topside ⅃
Upside down Feeding	Topside ⅃	Topside F

Table 5-204

```
┌─────────────────────────────┐
│   Select [Reset] button     │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│ Run automatic registration  │
│        adjustment           │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│ Set scale parameter         │
│    adjustment sheet         │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│        Run scanning         │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│ Check the leading edge image│
│ →Check the topside of screen│
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│ Run manual registration     │
│        adjustment           │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│     Run scanning again      │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│ Check the trailing edge     │
│ image                       │
│ →Check the bottom side of   │
│  screen                     │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│ Set [Factory Scale Parameter]│
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│     Run scanning again      │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│    Check the final image    │
└─────────────────────────────┘
```

Figure 5-228A

*Automatic registration adjustment
□Refer to page 5-4 or 5-19 for detail.
□Use the registration adjustment sheet.

*Manual registration adjustment
□Refer to page 5-20 for detail.
□Use the scale adjustment sheet.
□Set to the "Auto Size".
□Check the topside of the screen.
□[+] direction delays the timing.
□Select the "Set" button after setting.

*Scale parameter adjustment
□Refer to page 5-18 for detail.
□Use the scale adjustment sheet.
□Set to the "A4" or "Letter".
□Check the bottom side of the screen.
□[+] direction increases the length.
□Select the "Set" button after setting.

a. Scale parameter adjustment (manual)

Performs adjustment using the front side image. The same values are applied to the reverse side image as the front side.
If the image leading edge position is different, perform registration adjustment first.

◆ Adjustment sheet

Prepare a single sheet of A4 or LTR size paper printed with a pattern that makes the positions of the leading and trailing edges clear.
Service tool: You can use the TKM-0271 test sheet or a hand-made test sheet as shown below.
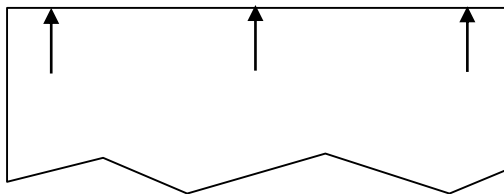
Figure 5-229

◆ Operation Procedure

1) The [Scanning Control] screen is displayed.
2) Place a single adjustment sheet, and align the document guides.
   You should place the sheet with the patterned face towards you and the leading edge at the bottom (inside the machine).
3) Set the resolution and size, and then click the [Scan] button.

Note: Paper size is "A4" size or "Letter" size.

4) The scanned image is displayed. (Refer to Figure 5-231)
5) Use [Zoom] to enlarge the leading edge of the image and ensure that the position of the leading edge is correct. (Refer to Figure 5-232)

Note: If the position of the leading edge is incorrect or the image is skewed, perform the scan again.
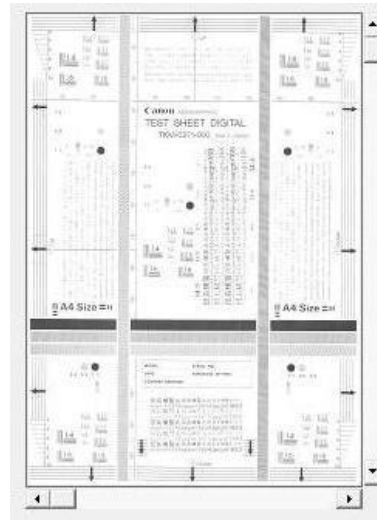
Figure 5-230
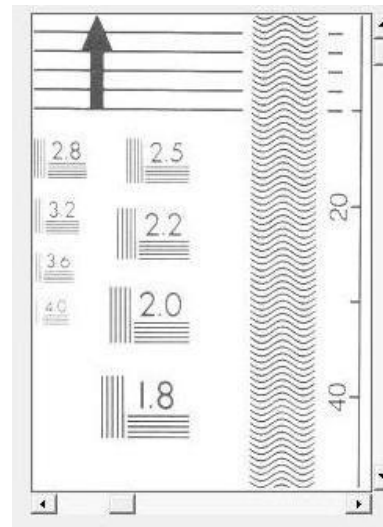
Figure 5-231

6) Check the trailing edge image next and set the adjustment values. For example if you want to extend by 2.0mm with A4 size, then since $2.0 \div 297 = 0.67\%$, set the value of [User Scale Parameter] to "0.67". After you have set the value, click the [Set] button.

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Note: The [User Scale Parameter] setting value and the scale parameter adjustment value in [Utility/USB Properties/Maintenance] on the user operation screen are linked. Note that the user value is displayed to one decimal place with the value rounded.
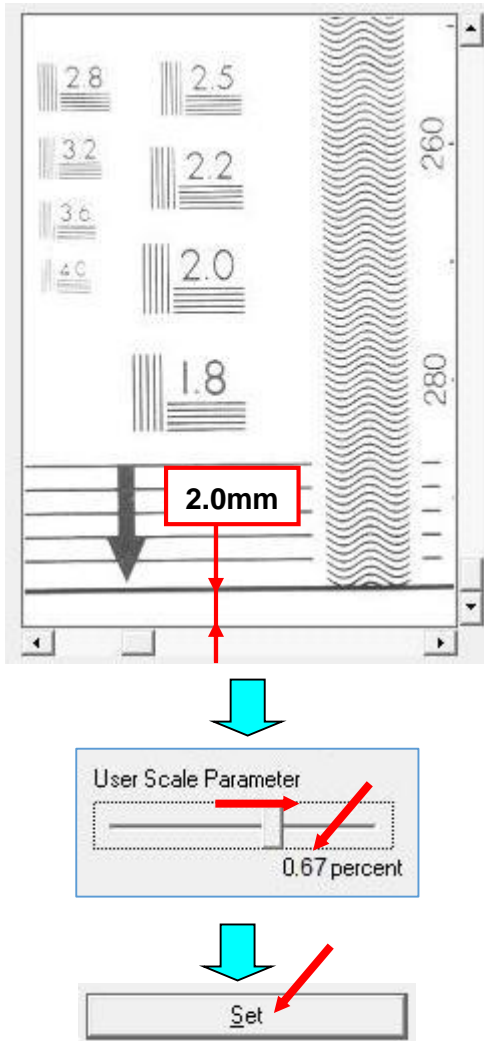
Figure 5-232

7) Place the adjustment sheet and scan again. Check the displayed image.

Note: Repeat the procedure again if the adjustments were not corrected properly.
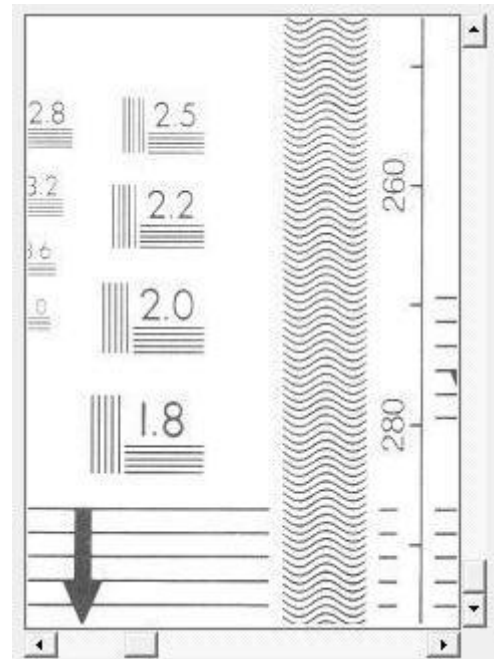
Figure 5-233

b. Automatic Registration Adjustment

The function of the [Registration Adjustment] button is the same as section "4. Registration Adjustment", and is linked to the setting value. Place the registration adjustment sheet and then click this button. The set values are then displayed.
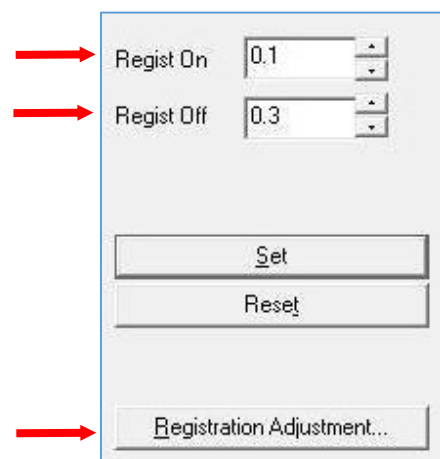
Figure 5-234

c. Manual Registration Adjustment

Registration adjustment is normally performed in automatic mode. This adjustment is a mode that performs fine adjustment of the result of the automatic registration adjustment. Note that it does not reduce variations in the registration position.

Note: This machine has a "Face-up feeding" function, in which case the document is fed into the machine from the trailing edge. In this "Manual Adjust" mode of the service tool, do not make a mistake because the edge that feeds into the machine first is defined as the leading edge.

"Face-up feeding"

```
┌─────────────────────────┐
│ Leading edge of         │
│ the document            │
│                         │
│        123ABC           │
│                         │
│ Trailing edge of        │
│ the document            │
└─────────────────────────┘
```

Feed direction   Leading edge for
                        [Manual Adjust]
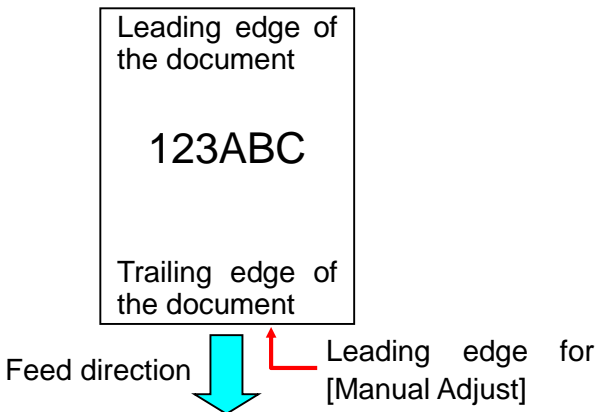
Figure 5-235

◆ Operation Procedure
1) Load the scale parameter adjustment sheet the same as for scale parameter adjustment and scan the image. However, set the size to "Auto Size".

Note: Always set to "Auto Size" when performing "Face-up feeding" adjustment.

2) Check the position of the leading edge on the topside of screen.

3) Change the adjustment value by directly entering the value into the data box or by using the scroll arrows.
This additional change value is added to

the value previously set by the automatic adjustment.
For example, if the value is already [0.1], enter [-0.9] if you want to add 1mm, or enter [1.1] if you want to subtract 1mm.

4) After entering the values, click the [Set] button.

5) Scan the image again and check the position.
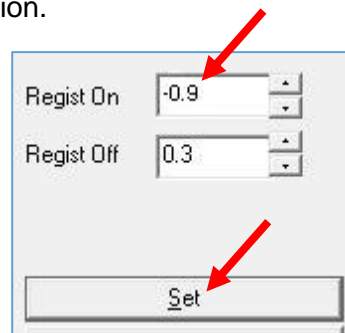
Figure 5-236

d. Procedure after replacing the control PCB

This section gives the procedures for performing scale parameter adjustment and manual registration adjustment after replacing the control PCB.

In particular, this gives the procedure for when you want to set the scale parameter adjustment value displayed in the user operation screen to "0.0".

◆ Without performing automatic registration adjustment
This section gives the procedure for when automatic registration adjustment has already been executed using [All Adjustment] or [Registration Adjustment], and not to execute in this mode.

1) Set the values of [Factory Scale Parameter] and [User Scale Parameter] to "0.00" and then click the [Set] button. (Refer to Figure 5-237)

Note: If you cannot set the slide bar to exactly

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"0.00", select the slide bar using the mouse pointer and then set the value using the arrow keys on the computer.

2) Place the scale parameter adjustment sheet and display the screen. For details, refer to the "Scale Parameter Adjustment" section.

3) Execute manual registration adjustment if required. For details, refer to the "Manual Registration Adjustment" section.

4) Check the trailing edge of the image and set the scale parameter adjustment values. Note that these are the [Factory Scale Parameter] values. For more details, refer to the "Scale Parameter Adjustment" section.

Note: Note that if the roller friction is severe, the adjustment may not be possible with [Factory Scale Parameter] alone. In this case, you should also use [User Scale Parameter], or replace the roller.
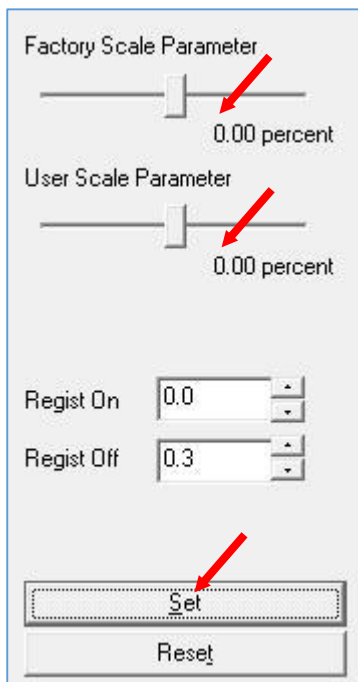
Figure 5-237

◆ With performing automatic registration adjustment

This section gives the procedures for performing automatic registration adjustment in this mode.

1) Click the [Reset] button. All of the values change to zero. (Refer to Figure 5-238)

2) Execute automatic registration adjustment. For details, refer to the "Automatic Registration Adjustment" section.

3) Next, perform the procedure from Step 2 in the previous section "Without performing automatic registration adjustment ".
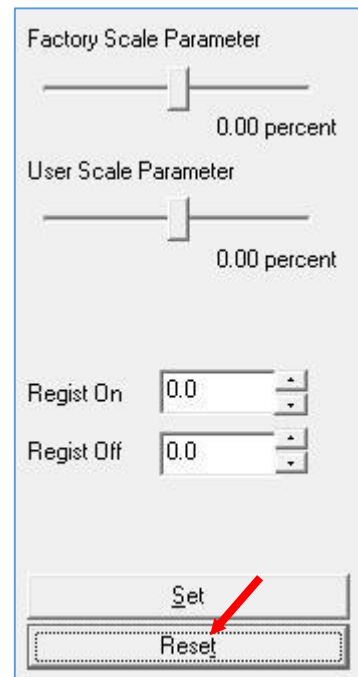
Figure 5-238

11. Firm Load

Firmware is changed in this mode. For details, refer to service information provided when firmware is changed. Do not use this mode by mistake.

◆Operation Procedure

1) On the service screen, select [Firm Load].
2) The screen is displayed requiring the file in which software is stored to be selected.
3) Select and open the file.
4) It is loaded automatically and a progress screen is displayed.
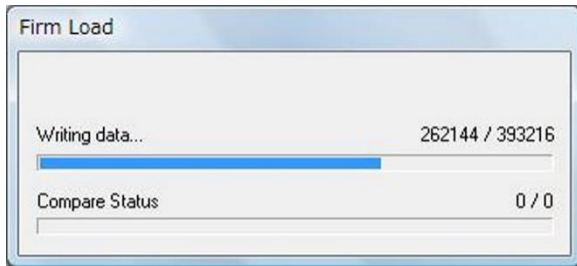
Figure 5-240

5) When the load is finished, the progress screen disappears and the service screen returns. The cumulative number of sheets displayed at the bottom of the service screen is "0: zero".
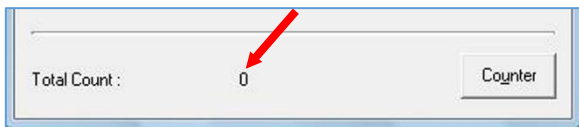
Figure 5-241

6) Exit the service tool.
7) Reset the scanner power.

8) Start the service tool and verify that the version and the total scanning count displayed on the service screen are correct.
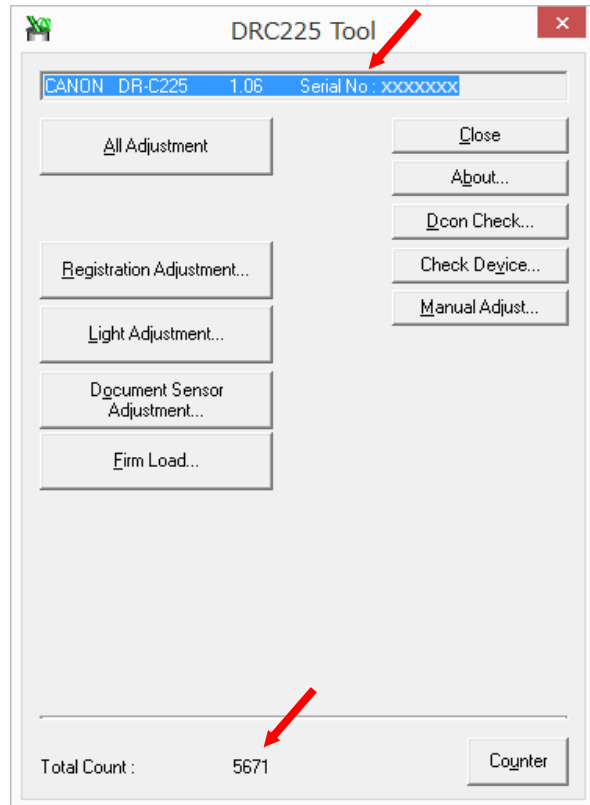
Figure 5-242

Note: Do not turn the power OFF including the USB cable is removed during loading. If the power is turned OFF, it returns to its original state when restarted, but this is not guaranteed.

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12. About

This mode displays a detailed version of the service tool.

On the service screen, select [About] to display the version screen.

Press [OK] to close the version screen.

Figure 5-243

13. Counter

This mode is used to display/change the sheet fed count and the number of paper jams.
Note: Do not change the value of each item by mistake. Change it only if necessary.

a. Message

On the service screen, select [Counter] to display the [Counter] screen.

- [Total Count]
  Total sheet fed count
- [P01 Jam Count]
  Number of documents jams in the pickup section
- [P02 Jam Count]
  Number of residual jams
- [P03 Jam Count]
  Number of fast feed jams
- [Roller Count]
  Sheet fed count of the roller being used (Number of feeds after reset)
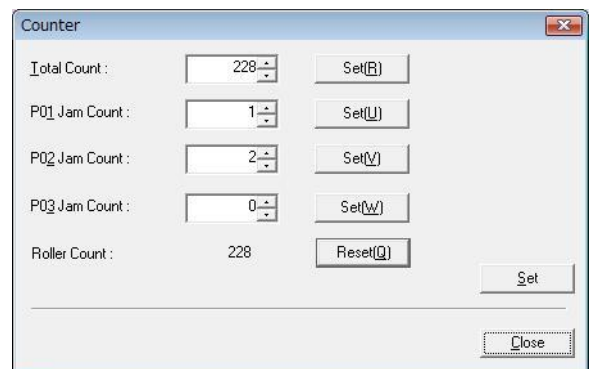
Figure 5-244

b. Change

These values are changed when the control PCB is replaced. After the replacing the control PCB, input the same values as before the replacement. If you don't know the values before the replacement, input the estimated values.

After changing the value, select the [Set] button at the right side of each item to finalize it. Pressing the [Set] button in the lower right portion of the screen finalizes values for all items. Note that [Roller Count] has a [Reset] button instead of a [Set] button. Click this [Reset] button to set the value to "0 (zero)". Do not click the [Reset] button by mistake because it is linked to the operation of the [Replace Rollers] counter for the user.

If you replace the control PCB or change the [Total Count], then the counter for [Replace Rollers] is also updated. Since the [Replace Rollers] message may be displayed the next time the user turns the power on or the counter for the [Current Roller] may take on an invalid value, you should check the counter for the [Current Roller] after exiting service mode and reset it if necessary.

14. Mechanical Feed Mode

Although it is not part of the service mode using the service tool, this machine is equipped with a mechanical feed mode for checking the state of the feed transport without using a computer. You use this mode as necessary. Note that you should not disclose this mode to users. Press the buttons on the control panel in the following sequence to enter mechanical feed mode.

◆ Entering mechanical feed mode

While holding down the Start button, press the power button until the lamp lights up, and then immediately release the button, and then press the button one more time after the lamp flashes three times. Upon entering this mode, the lamp flashes continuously. Once you have entered the mode, release the Start button. The timing when you are able to enter this mode is short, and you might fail. You should try again until you enter the mode. It is better to use a computer if available.

◆ Feeding paper

While the machine is in this mode, place paper and press the Start button to begin feeding the paper.

◆ Exiting mechanical feed mode

Hold down the power button continuously until the lamp stops flashing. This is the same as turning the power off normally.

15. Log Files

The Windows version of the software for this machine collects log files of user usage status information, and is equipped with a function for obtainment these log files.

Since the log files are designed to be useful for resolving problems, the user may be asked to do the operation to recover the files.

The following gives an overview of the log files and the procedure for recovering them.

◆ Start screen
1) CaptureOnTouch/Environmental settings/ Maintenance screen
2) Scanner driver//Basic/About screen

◆ Types of information
1) User operations
2) Errors
3) Settings
4) Debugging (note that this excludes default settings)
5) Latest information when recovering the files

◆ Obtain procedure (refer to Figure 5-245)
The Scanner driver is used for description following.
1) Open the Advanced screen for the scanner, and click the [About] button.
2) Click the [Log File Settings] button in the bottom of "About" screen.
3) Click the [Execute] button in the Log File Settings screen.
4) The Save Settings screen is displayed. Select the appropriate location to save the files.
5) The files are saved with [xxx.dat] attached.

Note: [Full] Setting
On the Log File Settings screen, the type of log file can be set to [Full] or [Mini]. The default setting is [Mini].
If you need the [Full] information, set to

[Full] and click the [OK] button. Then, perform the steps to reproduce the problem and perform the recovery operation. Note that when set to [Full], the scanning speed may be reduced.
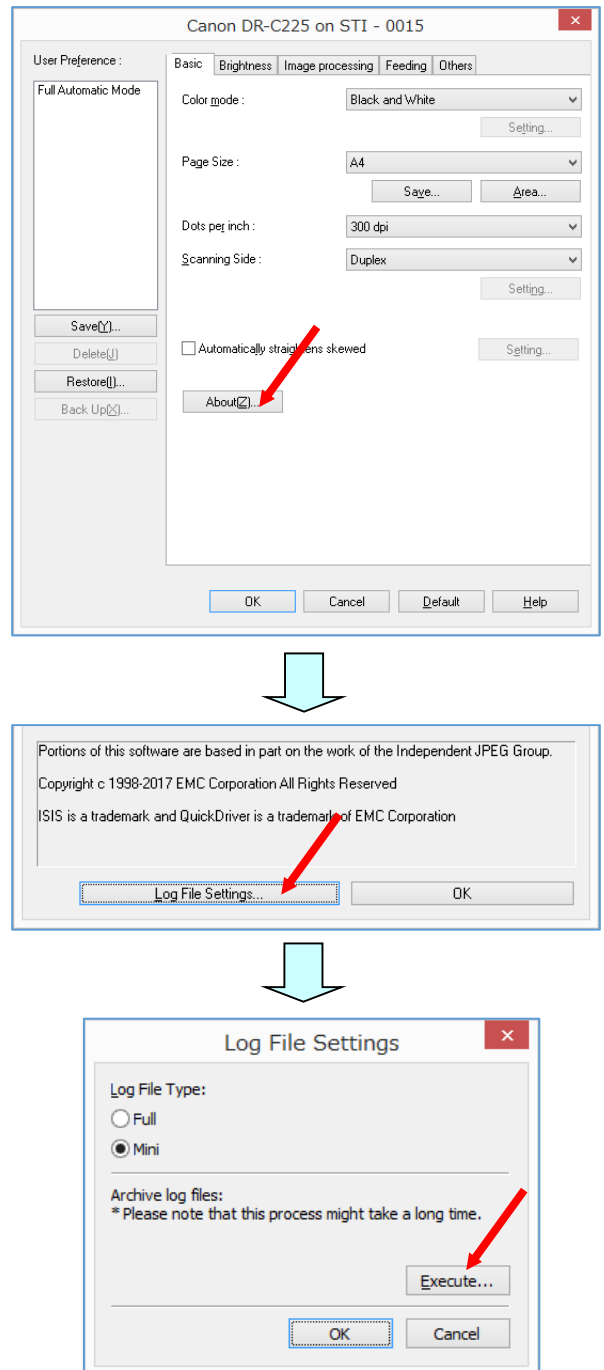
Figure 5-245

◆ Save location of log files

The original log files of the log files to send are saved on the user computer. The maximum size of the log files is approx. 200 MB. Once this limit is exceeded, old data is deleted. Data is also deleted after one year has passed.

Reference: Log files analysis

The log files analysis cannot be executed in the market. Although the special application needs to display.

   CANON DR-C125 FIRST EDITION

III. LIST OF FAILURES

The lists below give the major failures conditions and their causes. Refer to the next section for details of the causes and the measures to be taken.

1. Operation Failures

Note: Major causes of each failure are marked "X".

No.	Cause / Failure	System/ Software	Hard-ware	Connec-tion	Dirt/ dust	Docu-ment	Settings
1	Power does not come ON.		X	X			
2	No scanner is found.	X		X			X
3	Scanner does not start.	X	X	X			X
4	Scanning does not feed properly.		X		X	X	
5	Scanning speed is slow.	X					X
6	The eject location is incorrect.		X				X

Table 5-301

2. Image Failures

Note: Major causes of each failure are marked "X".

No.	Cause / Failure	System/ Software	Hard-ware	Connec-tion	Dirt/ dust	Docu-ment	Settings
1	All black/all white/all streaked.	X	X		X		X
2	Too dark/too light.				X		X
3	Streaks in image.		X		X		
4	Image slanted.					X	X
5	Wrong image size.					X	X
6	Text cannot be seen.					X	X
7	Moire in image.					X	X
8	Top/bottom of image incorrect.						X

Table 5-302

CANON DR-C125 FIRST EDITION

IV. OPERATION TROUBLESHOOTING

When an operation problem occurs, check the error message displayed on the display connected to a computer. Also perform an operation check on each of the sensors and motors using the service mode.

1. Power Does Not Come ON

The power indicator is not lit.

Note: Make sure you are using the power cord and AC adapter supplied with the machine.

Cause/Faulty Locations	Step	Check Item	Result	Action
Connection of power cord	1	Is the power cord connected?	NO	Connect the cord correctly.
AC power supply voltage	2	Is the power outlet supplying power at the rated voltage?	NO	Explain to the user that this is not a problem with the machine.
Connection of AC adapter	3	Is the AC adapter connected?	NO	Connect the adapter correctly.
Power button	4	Is the power button on?	NO	Turn the power button on. Make sure it is set to on, not to auto.
Power cord	5	Does replacing the power cord fix the problem?	YES	Done.
AC adapter	6	Does replacing the AC adapter fix the problem?	YES	Done.
Front unit PCB	7	Is the cable connected?	NO	Connect the cable correctly.
			YES	Replace the front unit PCB.
Control PCB	8	Does replacing the control PCB fix the problem?	YES	Done.

Table 5-401

2. No Scanner is Found

Note: You should install the driver on the computer before connecting the scanner.

Cause/Faulty Locations	Step	Check Item	Result	Action
Power Supply	1	Is power supplied to the machine?	NO	Perform "1. Power Does Not Come ON".
Connection of the USB cable	2	Is the USB cable connected?	NO	Connect the cable correctly.
Computer and USB interface	3	Are the computer and USB interface compatible?	NO	Use compatible equipment.
Wi-Fi settings (Wi-Fi model)	4	Is it set to OFF of the switch [WIRELESS] on the rear?	NO	Set to OFF for the USB connection.

Table 5-402

3. Scanning Does Not Start

Note: The "cover open" and "no document" error messages may be displayed and scanning may not start due to sensor problems.

Cause/Faulty Locations	Step	Check Item	Result	Action
System	1	Does the resetting of scanner power and the restarting of computer fix the problem?	YES	Done.
Software	2	Was the problem solved by reinstalling the scanner driver or application?	YES	Done.
Wi-Fi settings (Wi-Fi model)	3	Does the repeating of Wi-Fi settings fix the problem?	YES	Done.
Connection of the connector (control PCB)	4	Are the motor and sensor connectors connected correctly?	NO	Connect the connectors correctly.
Drive transmission system	5	Is the transmission system of the motors normal? Are parts such as gears and belts normal?	NO	Attach the parts correctly. Replace the parts.
Motors	6	Is the operation normal when you perform an operation check with the service mode?	NO	Check the cable connections. Replace the motors.
Sensors	7	Is the operation normal when you perform an operation check with the service mode?	NO	Check the attachment of sensors and sensor levers. Check the connections of sensor cables.
Front unit PCB	8	Does replacing the front unit PCB fix the problem?	YES	Done.
Control PCB	9	Does replacing the control PCB fix the problem?	YES	Done.

Table 5-403

4. Scanner Does Not Feed Properly

Note: The "paper jam" and "double feed" error messages may be displayed due to sensor problems.

Cause/Faulty Locations	Step	Check Item	Result	Action
Document	1	Specified document? (thickness, size, fold or curl)	NO	Use documents compliant with the specified.
Placing documents	2	Are documents stuck together?	YES	Fan the documents well.
	3	Is the position of the document guide correct?	NO	Correct the position.
	4	Is the position of the feed selection lever correct?	NO	Set the feed selection lever to the correct position.
Rollers	5	Are the rollers attached correctly?	NO	Attach the rollers correctly.
	6	Are they dirty or deformed?	NO	Clean or replace the rollers.
Parts in feed path	7	Parts touching documents installed properly? (no float, slant or gaps)	NO	Attach the parts correctly.
	8	Is the surface touching documents smooth? (No scratches or burrs)	NO	Replace faulty parts.
Drive transmission system	9	Does an abnormal noise occur while feeding? Are any of the gears damaged or the belts loose?	YES	Attach the parts correctly. Replace inferior parts.
Motors	10	Is the operation normal when you perform an operation check with the service mode?	NO	Check the cable connections. Replace the motors.
Sensors	11	Is the operation normal when you perform an operation check with the service mode?	NO	Check the attachment of sensors and sensor levers. Check the connections of sensor cables.
Front unit PCB	12	Does replacing the front unit PCB fix the problem?	YES	Done.
Control PCB	13	Does replacing the control PCB fix the problem?	YES	Done.

Table 5-404

5. Scanning Speed is Slow

The basic speed of this machine is 25 ppm. (A4/200 dpi)

The speed is further reduced if high resolution, color settings, or special functions are selected.

If the scanning speed is still slow after taking the above into consideration, the cause may be as follows.

Cause/Faulty Locations	Step	Check Item	Result	Action
Insufficient computer memory	1	Is the memory sufficient?	NO	Increase the memory.
	2	Are other applications running?	YES	Close the other applications.
	3	Are resident applications such as a virus protection program running?	YES	Close the service-type applications.
	4	Is there insufficient hard disc space?	YES	Increase the hard disc space.
Hi-speed USB 2.0 not supported	5	Is the USB port supported?	NO	Use a computer that supports it.
	6	Is the USB cable supported?	NO	Use the included USB cable.
	7	Is the USB hub supported?	NO	Use a USB hub that supports it.
The log file setting is [Full]	8	Is the log file setting set to [Full]?	YES	Set to [Mini].

Table 5-405

6. The Eject Location is Incorrect

This machine is equipped with both a U-turn eject and a straight eject.

Cause/Faulty Locations	Step	Check Item	Result	Action
Eject selection lever	1	Is the position of the eject selection lever correct?	NO	Set the eject selection lever to the correct position.

Table 5-406

V. IMAGE TROUBLESHOOTING

◆ Image Samples
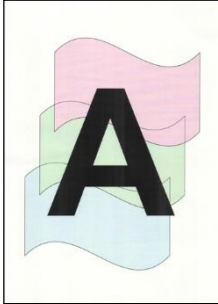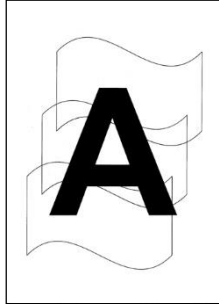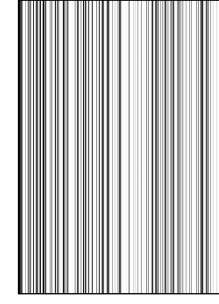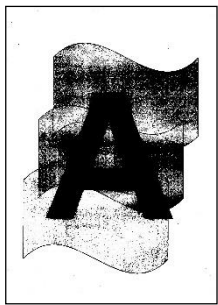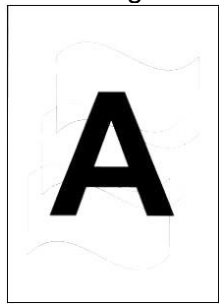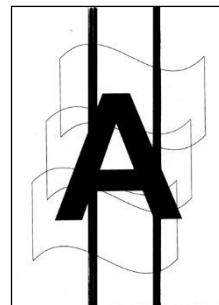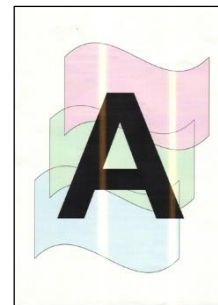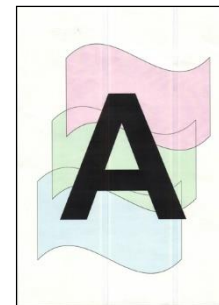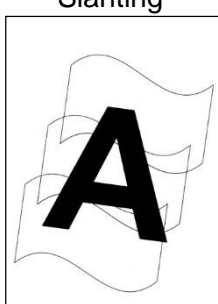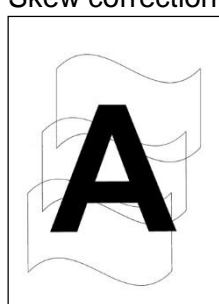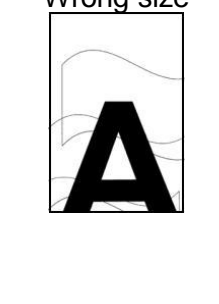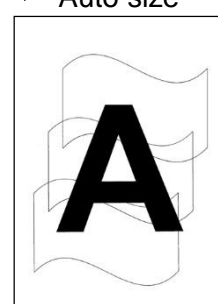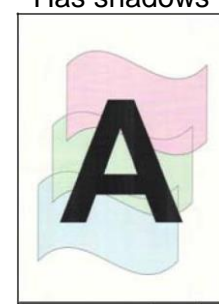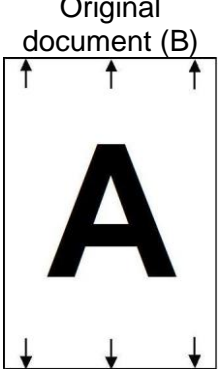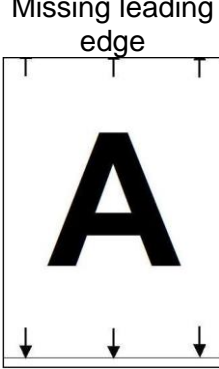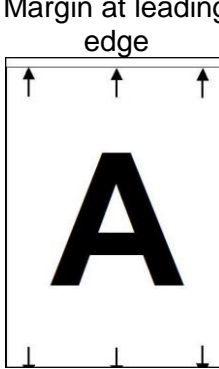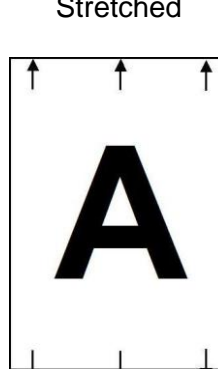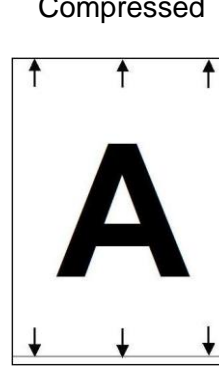
Document	Normal (B&W)	All black	All white	All streaked
Too dark	Too light	Streaks 1	Streaks 2	Streaks 3
Slanting →	Skew correction	Wrong size →	Auto size	Has shadows
Original document (B)	Missing leading edge	Margin at leading edge	Stretched	Compressed

Table 5-501

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Note: The level of reproducing the image depends on types of documents and setup conditions. Changing setup conditions sometimes works.

1. All Black/All White/All Streaked

The image is all black, all white, or all streaked.

Cause/Faulty Locations	Step	Check Item	Result	Action
Placing documents	1	Is the document placed with the front/back around the right way?	NO	Place properly.
Setup of "Brightness"	2	"Brightness" setup properly?	NO	Change the setup. Change "Contrast" if necessary.
System	3	Was the problem solved by resetting the power of the scanner or restarting the computer?	YES	Done.
Reading Unit	4	Reading-related cables connected properly?	NO	Connect properly.
	5	Was the problem solved by replacing the reading unit?	YES	Done.
Control PCB	6	Was the problem solved by replacing the control PCB?	YES	Done.

Table 5-502

2. Too Dark/Too Light

The image cannot be seen properly because the brightness is inappropriate.

Cause/Faulty Locations	Step	Check Item	Result	Action
Setup of "Brightness"	1	"Brightness" setup properly? Normally middle value is fine, but this may need to be changed, depending on the document.	NO	Change the setup.
Setup of "Contrast"	2	"Contrast" setup properly?	NO	Change the setup.

Table 5-503

CANON DR-C225 SERIES CHAPTER 3 REVISION 1

3. Streaks in Image

Streaks in the feeding direction may appear in the image due to dirt on the reading glass. Dirt on the feeding rollers may also be transferred to the document.

When white streaks appear in the image, this is due to shading correction being performed when the reading glass is dirty.

Cause/Faulty Locations	Step	Check Item	Result	Action
Reading glass	1	Is the reading glass clean?	NO	Clean the reading glass. Replace the reading holder (reading glass) if it is damaged.
Roller	2	Is the surface clean?	NO	Clean or replace it.
Feed Unit	3	Is the feed path clean?	NO	Clean it.
CIS unit	4	Is the inside of the CIS unit clean?	NO	Clean or replace the reading unit.
Light Adjustment	5	Have you executed Light Adjustment?	NO	Execute Light Adjustment.

Table 5-504

4. Image Slanted

If the document is fed at an angle, the image will become slanted.

Cause/Faulty Locations	Step	Check Item	Result	Action
Placing documents	1	Is the document placed properly?	NO	Place properly.
	2	Are the document guides adjusted to fit the document width?	NO	Correct the position.
Setup of "Skew correction"	3	Was "Skew correction" set?	NO	Set it. You can correct the slant of an image using image processing.
Feeding documents	4	Are documents fed straight?	NO	Perform the checks in "IV. RESOLVING MALFUNCTIONS, 4.The Document Does Not Feed Properly".

Table 5-505

5. Wrong Image Size

There are margins around the image, or some of the image is missing.

Note: Set the paper size to "auto detection" when scanning batch of different size documents.

Cause/Faulty Locations	Step	Check Item	Result	Action
Setup of "Paper size"	1	Is the setup of "Paper size" correct?	NO	Change the setup.
Placing documents	2	Was the document placed in the correct position?	NO	Place the document in the correct position.
Setup of "Auto detection" for the paper size	3	Was "Auto detection" set?	NO	Set it.
Registration adjustment	4	Have you executed automatic registration adjustment or manual registration adjustment?	NO	Execute the adjustments.
Scale parameter adjustment	5	Have you executed scale parameter adjustment?	NO	Execute the adjustment.

Table 5-506

6. Text cannot be Seen

When the background includes colors or patterns, text may be hidden by the background when scanning in black and white. There are special modes such as [Advanced Text Enhancement] etc. for solving this problem.

Note: The problem may not be fixed, depending on the type of document.

Cause/Faulty Locations	Step	Check Item	Result	Action
Setup of "Mode"	1	Was the problem solved by setting to "Color" or "Grayscale"?	YES	Done.
	2	Was the problem solved by setting to a special mode such as [Advanced Text Enhancement] etc.?	YES	Done.
Setup of "Brightness"	3	Was the problem solved by changing the setup of "Brightness"?	YES	Done.

Table 5-507

     CANON DR-C225 SERIES CHAPTER 3 REVISION 1

7. Moire in Image

The moire effect occur when photos from magazines, catalogs, etc. are scanned at a low resolution.

Cause/Faulty Locations	Step	Check Item	Result	Action
Setup of "Moire Reduction"	1	Is "Moire Reduction" set?	NO	Set it.
			YES	Increase the resolution. Set to "High Quality Moire Reduction".

Table 5-508

8. Top/Bottom of Image Incorrect

This machine is equipped with a "Face-up feeding" function that is enabled by default.

Cause/Faulty Locations	Step	Check Item	Result	Action
[Orientation] setting	1	Is the [Orientation] setting correct?	NO	For [Face-up feeding], disable [Upside-Down Feeding], otherwise enable it.

Table 5-509

VI. AFTER REPLACING PARTS

Some of the parts used in this machine require adjustments and settings after being replaced or disassembled and reassembled.

You should check the feed and images after replacing parts or reassembling and reassembling the machine.

◆ Control PCB

1) Execute [All Adjustment] or [Registration Adjustment] and [Light Adjustment] of service mode.
2) Input the serial number in the [Check Device] of service mode.
3) For the Wi-Fi model, input the MAC Address /Country Code, and SSID in the [Check Device] of service mode.
4) Change the value in the [Counter] of service mode.
5) Set the scale parameter in [Manual Adjust] of service mode.

◆ Wi-Fi Unit

Change the MAC Address label, and then input the MAC Address in the [Check Device] of service mode.

◆ Reading Unit

Execute [All Adjustment] or [Registration Adjustment] and [Light Adjustment] of service mode.

◆ Registration Related Parts

If problems occur in the leading edge or trailing edge positions of images scanned after replacing or reassembling registration related parts such as the registration sensor (control PCB), execute [Registration Adjustment] of service mode.

◆ Document Sensor Related Parts

After replacing or reassembling document sensor related parts such as the document sensor (front unit PCB/control PCB), execute [Document Sensor Adjustment] of service mode.

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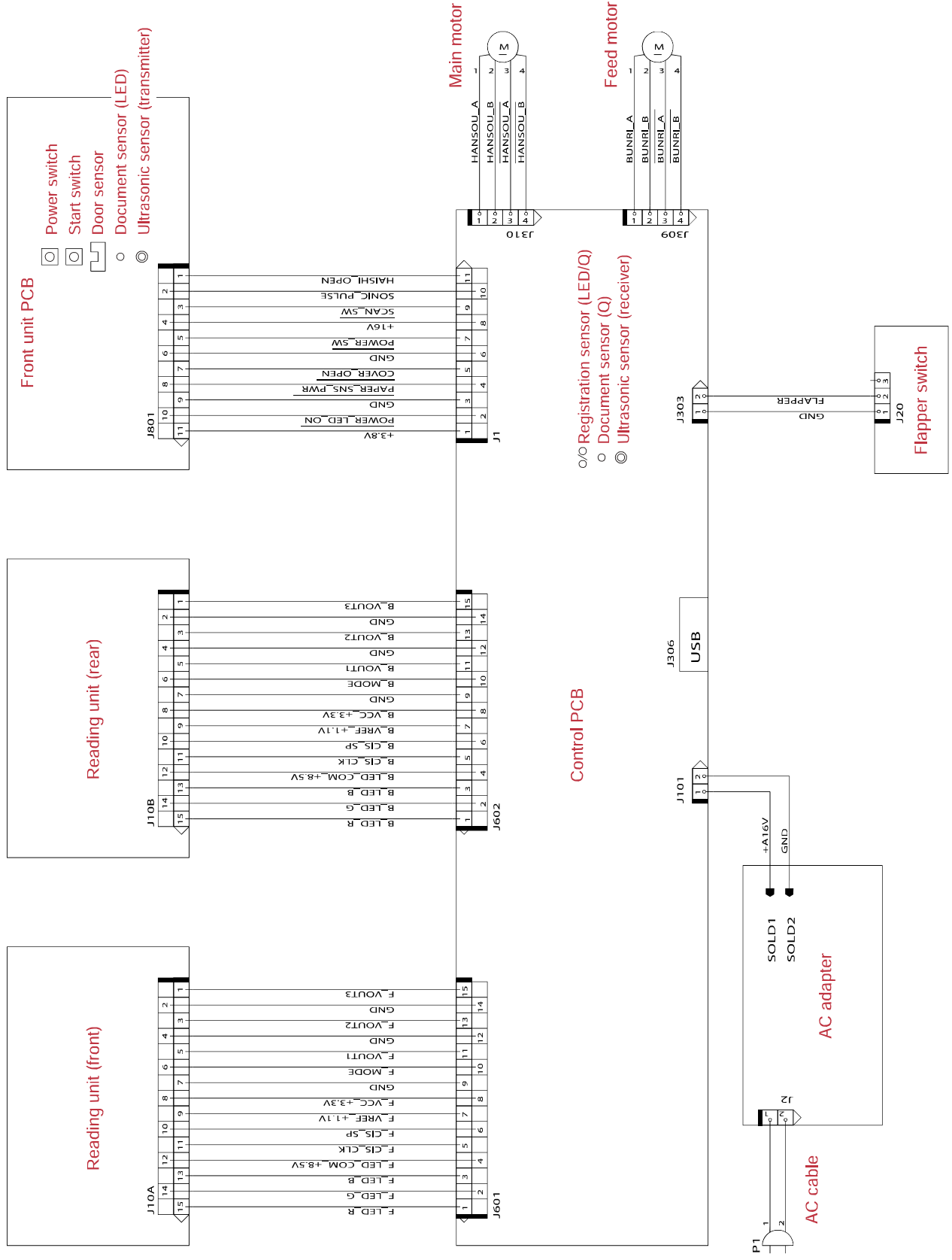
APPENDIX

I. GENERAL CIRCUIT DIAGRAM

Front unit PCB

- Power switch
- Start switch
- Door sensor
- ○ Document sensor (LED)
- ◎ Ultrasonic sensor (transmitter)

Reading unit (rear)

Reading unit (front)

Main motor

Feed motor

- ○/○ Registration sensor (LED/Q)
- ○ Document sensor (Q)
- ◎ Ultrasonic sensor (receiver)

Control PCB

Flapper switch

AC adapter

AC cable

J801 / J1

1	HAISHI_OPEN	11
2	SONIC_PULSE	10
3	SCAN_SW	9
4	+16V	8
5	POWER_SW	7
6	GND	6
7	COVER_OPEN	5
8	PAPER_SNS_PWR	4
9	GND	3
10	POWER_LED_ON	2
11	+3.8V	1

J10B / J602

1	B_VOUT3	15
2	GND	14
3	B_VOUT2	13
4	GND	12
5	B_VOUT1	11
6	B_MODE	10
7	GND	9
8	B_VCC_+3.3V	8
9	B_VREF_+1.1V	7
10	B_CIS_SP	6
11	B_CIS_CLK	5
12	B_LED_COM_+8.5V	4
13	B_LED_B	3
14	B_LED_G	2
15	B_LED_R	1

J10A / J601

1	F_VOUT3	15
2	GND	14
3	F_VOUT2	13
4	GND	12
5	F_VOUT1	11
6	F_MODE	10
7	GND	9
8	F_VCC_+3.3V	8
9	F_VREF_+1.1V	7
10	F_CIS_SP	6
11	F_CIS_CLK	5
12	F_LED_COM_+8.5V	4
13	F_LED_B	3
14	F_LED_G	2
15	F_LED_R	1

J310

1	HANSOU_A	1
2	HANSOU_B	2
3	HANSOU_A	3
4	HANSOU_B	4

J309

1	BUNRI_A	1
2	BUNRI_B	2
3	BUNRI_A	3
4	BUNRI_B	4

J303 / J20

1	GND	3
2	FLAPPER	2
		1

J306 USB

J101

| 1 | +A16V |
| 2 | GND |

J2

SOLD1
SOLD2

P1

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A-1

APPENDIX

II. LIST OF SPECIAL EQUIPMENT

The list of special tools needed for service works on this machine is the following.

Note that these are the same as used for other machines or are self-made.

No.	Tool name	Tool number	Rank	Usage/Remarks
1	Shading sheet	TKM-0326 TKM-0332	B	For the light adjustment 10 sheets/1 set
2	Registration adjustment sheet		B	For the registration adjustment Created from copier paper or shading sheet by service technicians.
3	Scale parameter adjustment sheet	TKM-0271 or self-made	B	For the manual adjust Can also be created from copier paper by the service technician.
4	Test sheet	TKM-0271	A	For normal image display checking 10 sheets/1 set

Table A-201

Note: Rank notation:

A: Equipment that each service technician must carry.

B: Equipment that can be shared among a group of 5 service technicians.

C: Equipment that each workshop needs to have.

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