

DR-1210C

SERVICE MANUAL

FIRST EDITION

Canon

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Use of this manual should be
strictly supervised to avoid
disclosure of confidential
information.

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

Features, 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 electrical block diagram and parts catalog, 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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CHAPTER 1

GENERAL DESCRIPTION

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I. FEATURES

1. Two-Way Scanning

Feeder and flatbed scanning

2. High Quality Color Scanning

3-line, 600dpi CCD

3. Feeder Scanning Speed (200 dpi, A4, simplex)

11.5 sheets/min. (black and white, grayscale), 11 sheets/min. (color)

4. Easy Scanning

Enhanced job functionality and increased job function buttons

5. Installed and Maintained by Users

The roller unit and the separation pad can be replaced by users as consumable parts.

6. Intended as a Consumer Scanner to Minimize Servicing

Servicing in field is limited as possible.

Assignment of service parts is minimized.

7. OEM Supplied Product

Designed and manufactured by outside company and made in China.

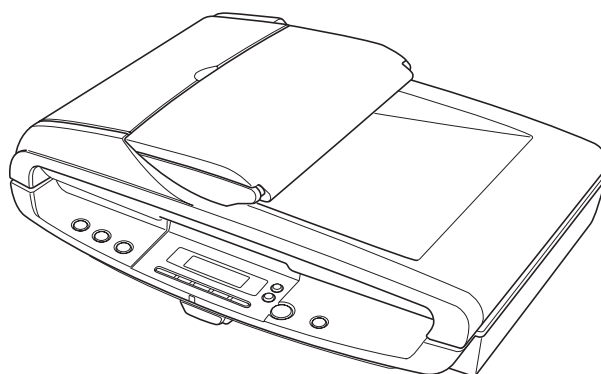


Figure 1-101

"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.

II. SPECIFICATIONS

1. Appearance/Installation

No.	Item	Specifications
1	Type	Desktop, flatbed scanner with feeder
2	Voltage models	1) 100V model: 100 VAC, 50/60 Hz 2) 120V model: 120 VAC, 60 Hz 3) 220-240V model: 220-240 VAC, 50/60 Hz
3	Rating power	1) Main body All models: 24 VDC, 0.6 A * Packaged AC adapter must be used. 2) Packaged AC adapter Input 100V model: 100 VAC, 50/60 Hz, 65/75 VA 120V model: 100-120/127 VAC, 50/60 Hz, 1.0 A 220-240V model: 200-240 VAC, 50/60 Hz, 0.5 A Output All models: 24 VDC, 1.25 A
4	Power consumption	1) During operation: 18 W maximum 2) Fluorescent lamp switched off: 5 W (100/120V models), 5.5 W (220-240V model) 3) During power switch set off: 0.5 W (100/120V models), 0.75 W (220-240V model) * Conforming to the International ENERGY STAR Program.
5	Operating environment	10 to 32.5°C (50 to 90.5°F), 20 to 80% RH * No condensation allowed.
6	Noise	1) Feeder scan Sound power level: Less than 66 dB 2) Flatbed scan Sound pressure level: Less than 50 dB
7	Dimensions *Details to be described later.	Tray closed: 471 (W) × 380 (D) × 165 (H) mm
8	Weight	Approximately 6.1 kg (excluding AC adapter)
9	Output interface	Hi-speed USB2.0
10	Expected product life (In-house information)	One of the following items, whichever comes first: 1) 3 years 2) Sheet fed: 100,000 sheets (A4) * Parts needed to replace. * Daily duty cycle is 400 sheets. 3) Flatbed: 20,000 sheets (A4)
11	Installation	By users
12	Packaged software	ISIS/TWAIN driver, CapturePerfect3.0, Adobe Acrobat7.0, Job registration tool, others
13	Consumable parts (commercial goods)	Separation pad, roller unit

Table 1-201

*Dimensions

unit: mm

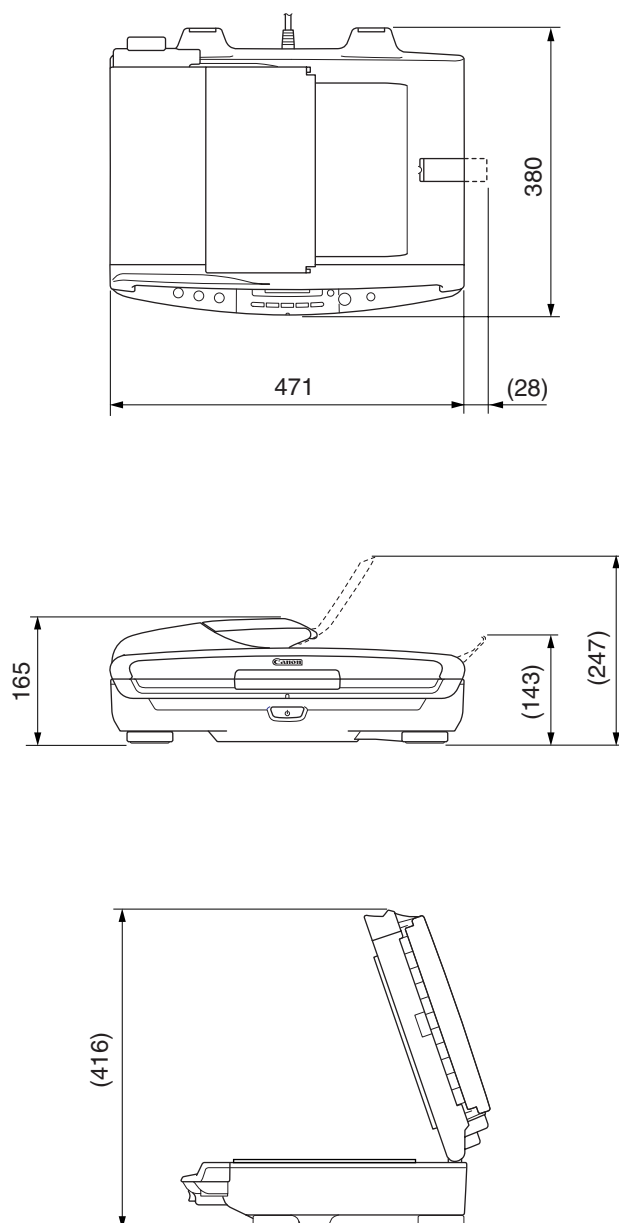


Figure 1-201

2. Feeder (ADF)

No.	Item	Specifications		
1	Document size	1) Width: 148 to 216 mm 2) Length: 100 to 356 mm * Maximum typical size: A4/legal		
2	Document weight (thickness)	52 to 128 g/m ² (0.06 to 0.15 mm)		
3	Document requirements	1) Carbon-backed paper: Unusable 2) Punch holed paper: square holes unusable 3) Folded, wrinkling or curled paper: To be straightened before set. * Any other document uneasy to feed should be scanned on the flatbed.		
4	Document storage	1) Pickup: Up to 3.5 mm including curls, or up to 35 normal copy papers 2) Eject: Same as the pickup storage.		
5	Type of reading sensor	CCD		
6	Reading sensor picture element	Density of element: 600 dpi Effective elements: 5340 pixel × 3 lines (226 mm)		
7	Reading sensor output	4 analog outputs (R/G/B/grayscale)		
8	Light source	Cold cathode fluorescent lamp (CCFL)		
9	Background color	Black		
10	Reading side	Simplex only		
11	Reading size	Maximum: 216 × 356 mm, Maximum typical size: A4/legal		
12	Scanning speed (Document size: A4)	Resolution	Black and white/ Grayscale	Color
		200 dpi	11.5 ppm	11 ppm
		300 dpi	11.5 ppm	11 ppm
		400 dpi	5.3 ppm	2.7 ppm
		600 dpi	5.3 ppm	2.7 ppm
		* Default values should be applied to other function settings. The values listed above may differ depending on the computer and other specifications.		

Table 1-202

3. Flatbed (FB)

No.	Item	Specifications		
1	Reading size	Maximum: 216 × 297 mm, Maximum typical size: A4/LTR		
2	Reading sensor	The same one for the feeder		
3	Light source	The same one for the feeder		
4	Background color	Black		
5	Scanning speed (Document size: A4)	Resolution	Black and white/ Grayscale	Color
		200 dpi	5 sec	5 sec
		300 dpi	5 sec	5 sec
		400 dpi	10 sec	18 sec
		600 dpi	10 sec	18 sec
		* Smoothing is not available in color mode. Default values should be applied to other function settings. The values listed above may differ depending on the computer and other specifications.		

Table 1-203

4. Other Functions *Packaged software CapturePerfect3.0 used

No.	Item	Specifications
1	Output mode	1) Binary (black and white, error diffusion, advanced text enhancement) 2) Grayscale (8 bits) 3) Color (24 bits)
2	Output resolution	100 × 100 dpi, 150 × 150 dpi, 200 × 200 dpi, 240 × 240 dpi, 300 × 300 dpi, 400 × 400 dpi, 600 × 600 dpi
3	Image processing	1) Brightness adjustment (255 steps) 2) Contrast adjustment (7 steps) 3) Gamma correction (standard/custom) 4) Edge emphasis (5 steps) 5) Automatic size detection 6) Deskew (skew correction) 7) Black border removal 8) Punch hole removal 9) Text orientation
4	Other functions	1) Job function 2) Pre-scan
5	Operation/display section	1) Start and stop buttons 2) Job buttons (fixed × 3, option × 5, scroll × 2) 3) Status display LCD 4) Power switch

Table 1-204

Specifications are subject to change for improvement.

III. 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 switch the power off and unplug the power cord.

Be careful not to get clothing (ties, long hair, etc.) caught in the 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. 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.

3. Electromagnetic Wave Interference Countermeasures

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.

4. User Manual

Read each user manual thoroughly prior to use of this machine.

5. Disposal

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

The fluorescent lamp used as the light source in this machine contains mercury, though slight amount. If separating the flatbed assembly parts including the fluorescent lamp from the machine for disposal, refer to "Appendix III. SCRAPPING". Note, however, that once the flatbed assembly is removed, the quality cannot be assured even if reassembled. Therefore, do not disassemble the flatbed assembly except the operation panel during ordinary servicing.

IV. NAME OF PARTS

1. Front Side

◆ Feeder

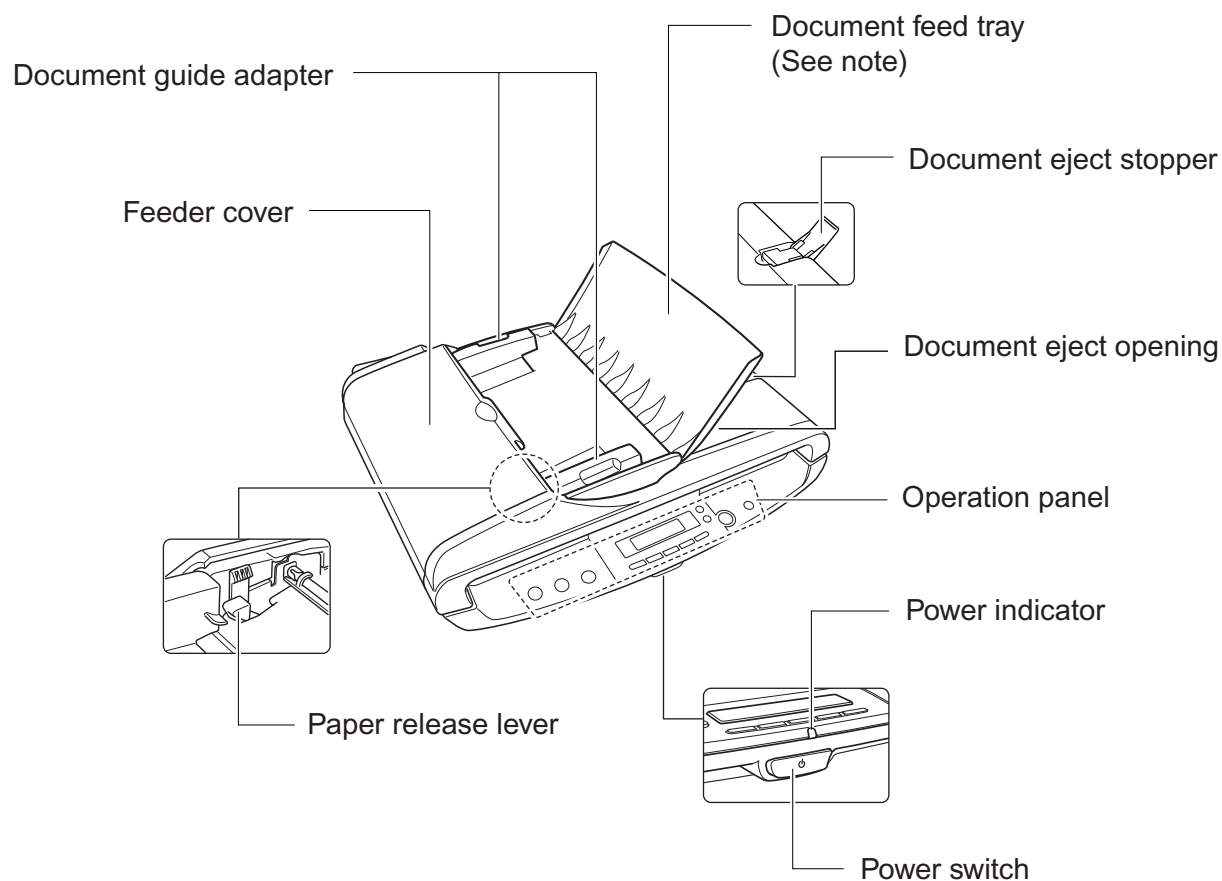


Figure 1-401

Note: The service part called the “pickup tray” includes the document guide adapter.

◆ Flatbed

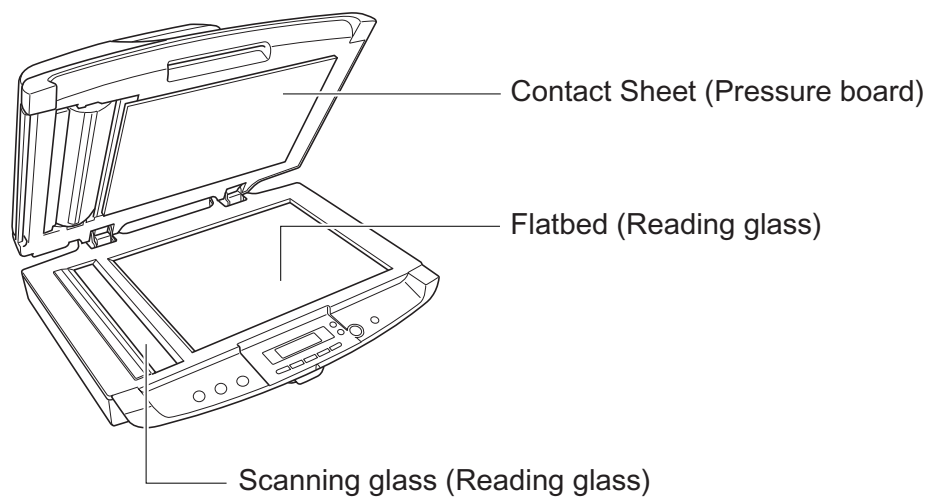


Figure 1-402

Note: Names enclosed in parentheses are used in CHAPTER 2 and subsequent sections of this manual. They are shown for reference.

2. Rear Side

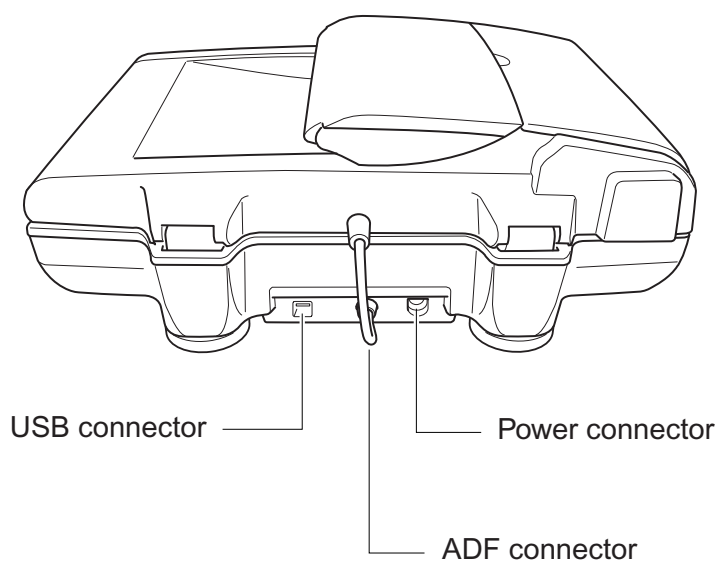


Figure 1-403

3. Bottom Side

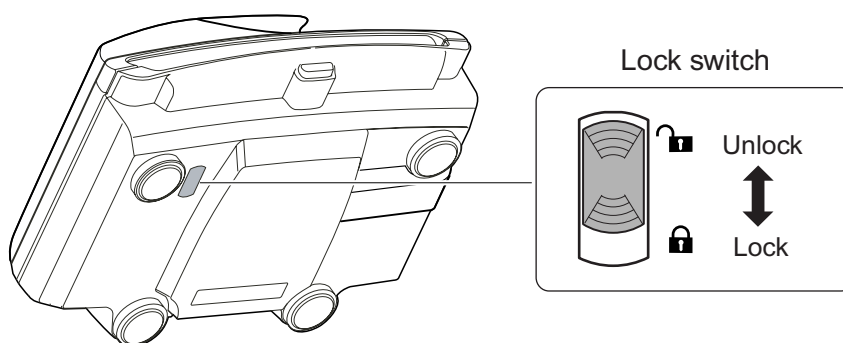


Figure 1-404

4. Operation Panel

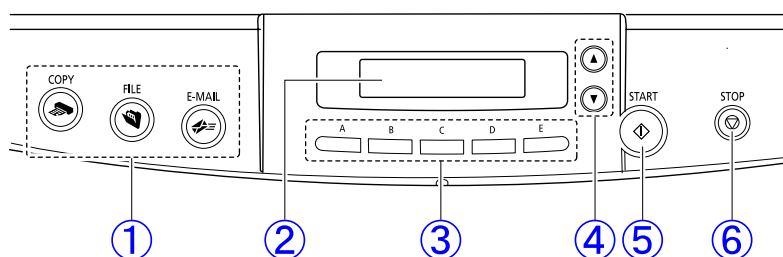


Figure 1-405

- ① Job buttons
COPY: Print; FILE: Save; E-MAIL: Attach to mail
- ② Display panel
Job title/Status/Message
- ③ Selectable job buttons (A-E)
Jobs assigned by user.
- ④ Scroll buttons
Scrolls registered job.
- ⑤ START button
Executes job/Starts scanning.
- ⑥ STOP button
Stops scanning/Cancels error message.

V. USER OPERATION

For details, refer to the user manuals of this machine and the software that is used.

For installation and maintenance, refer to "Chapter 4, INSTALLATION/MAINTENANCE".

1. ISIS Driver Screen

The operation screens shown below are that of CapturePerfect3.0. This software uses the ISIS driver.

1) Basic setup dialog box

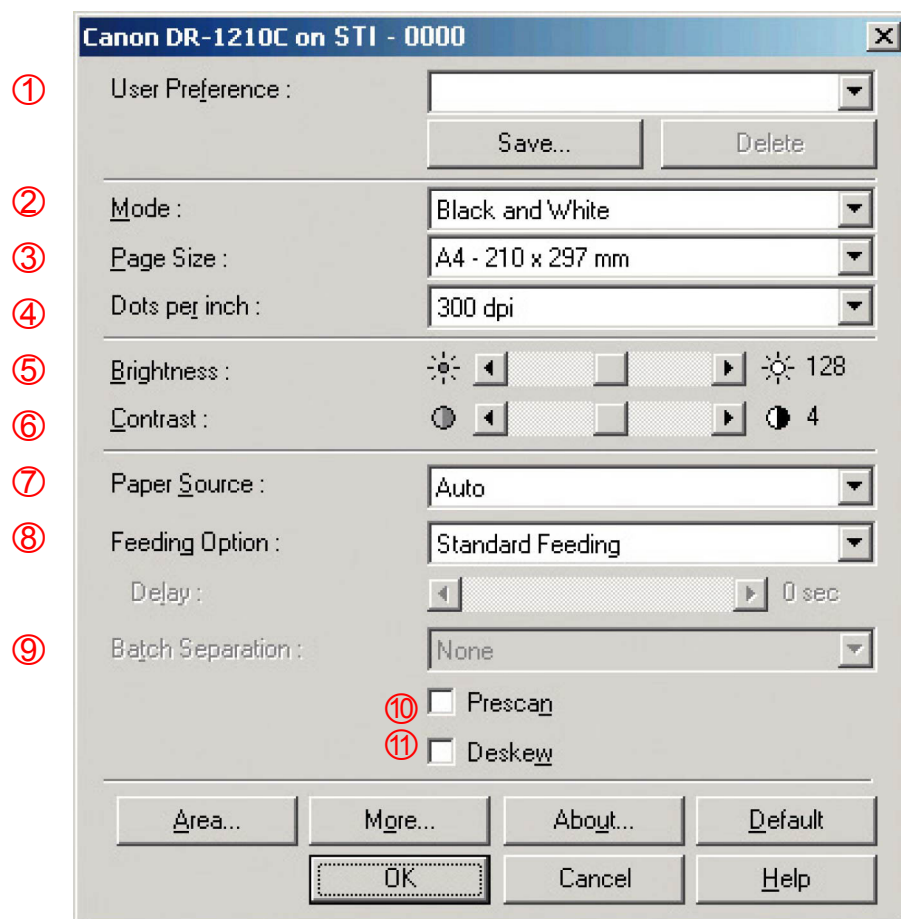
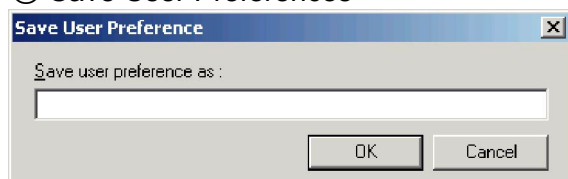


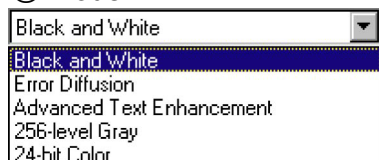
Figure 1-501

Note: The circled numbers have been adapted to those in the user manual. (Same in subsequent figures.)

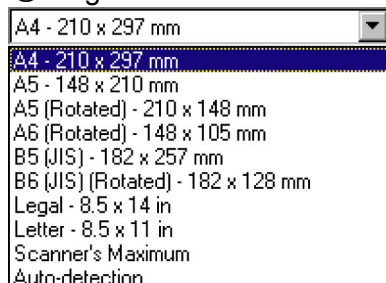
① Save User Preferences



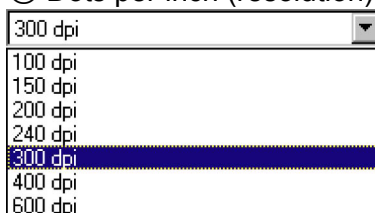
② Mode



③ Page Size



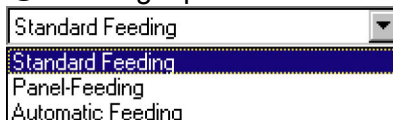
④ Dots per inch (resolution)



⑦ Paper Source



⑧ Feeding Option



⑨ Batch Separation



Figure 1-502

2) Scan area dialog box

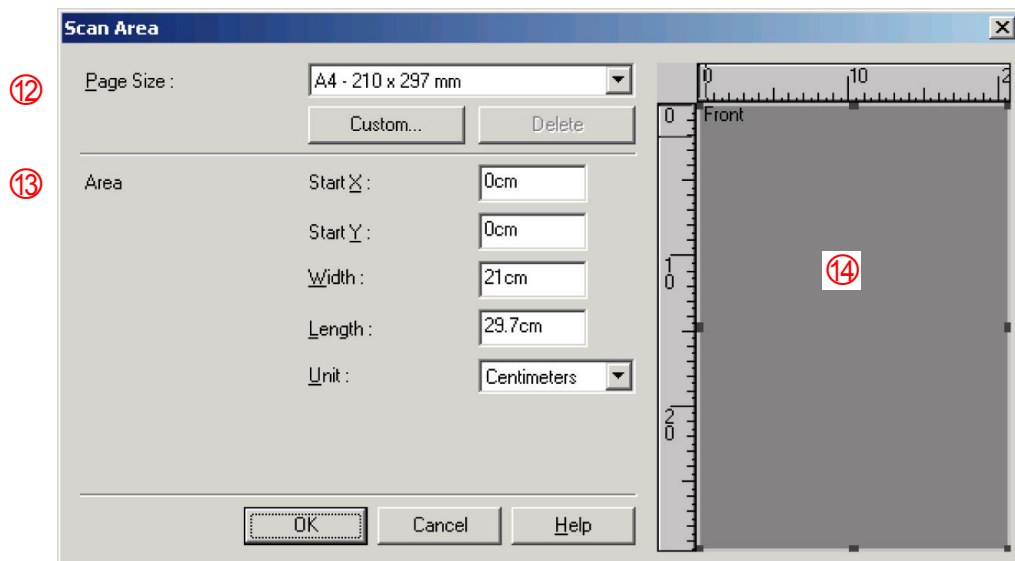


Figure 1-503

3) Advanced settings dialog box

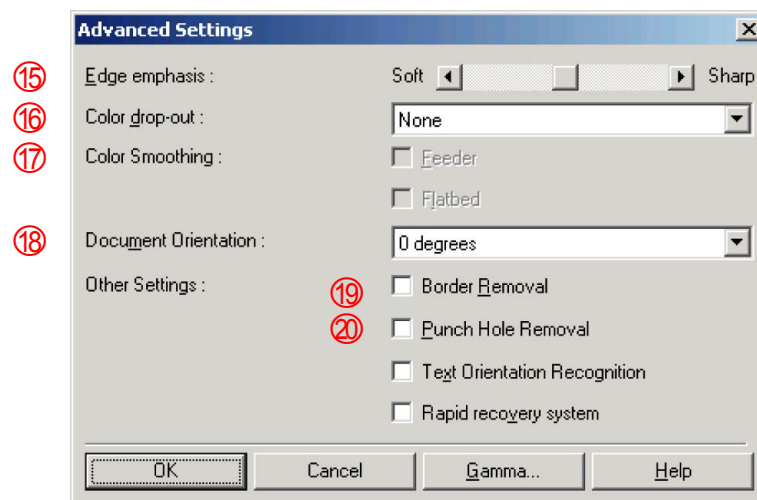


Figure 1-504

2. Job Registration Tool Screen

1) Job registration tool dialog box

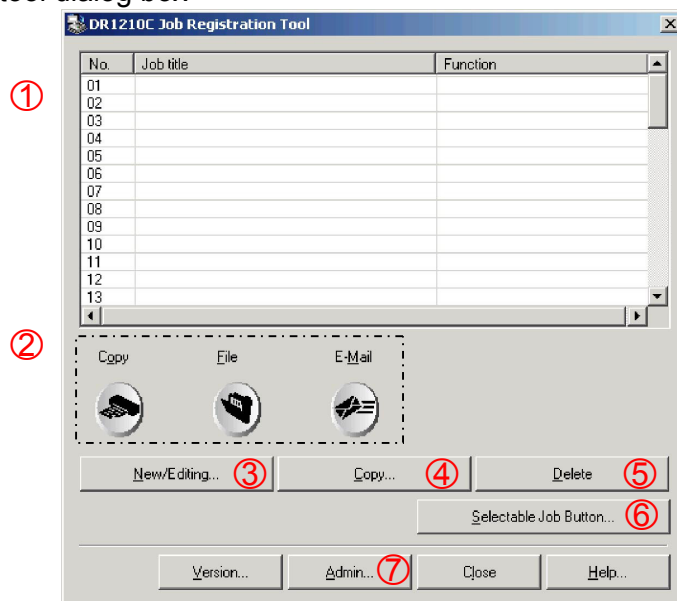
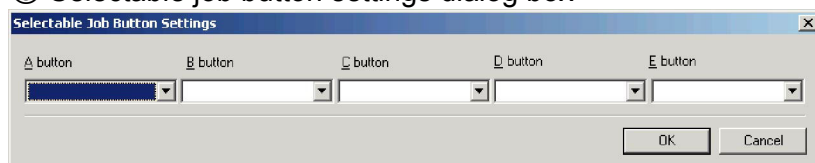
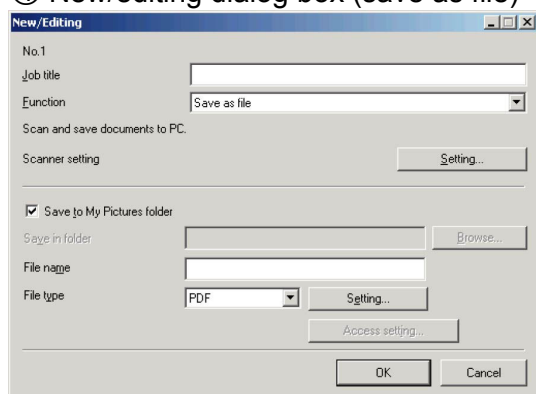


Figure 1-505

③ Selectable job button settings dialog box

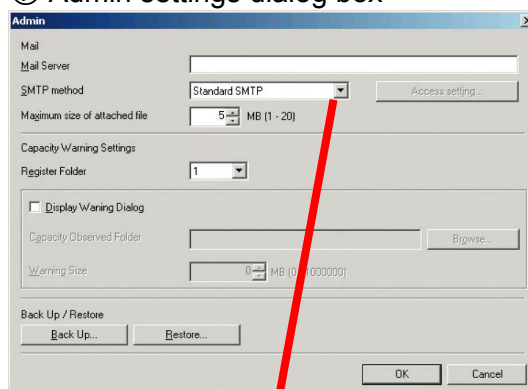


④ New/editing dialog box (save as file)



*See next page for details.

⑦ Admin settings dialog box



● SMTP method

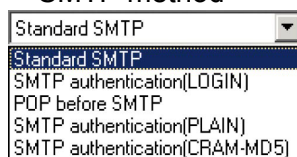
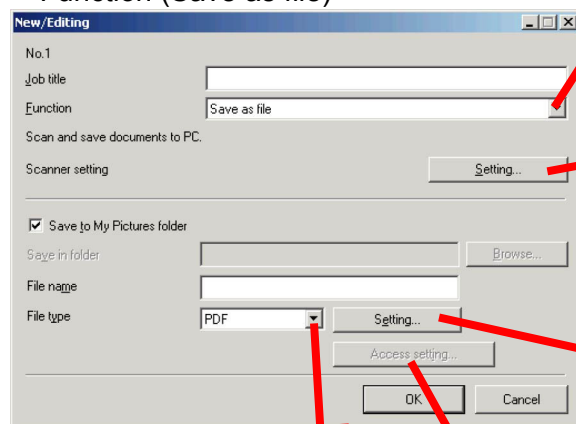


Figure 1-506

2) New/editing dialog box

● Function (Save as file)



⑨ Function

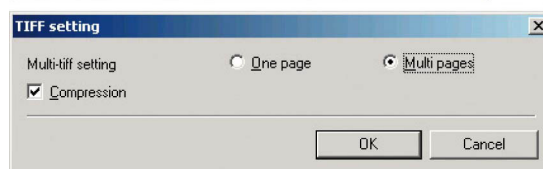
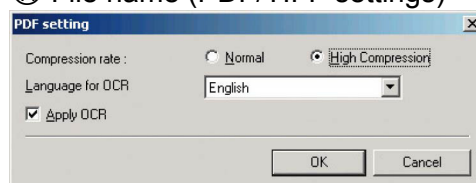


⑩ Scanner settings

Opens the TWAIN driver's basic setup dialog box.

*Use the TWAIN driver as the job function.

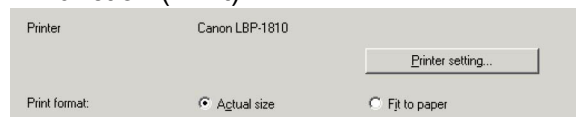
⑭ File name (PDF/TIFF settings)



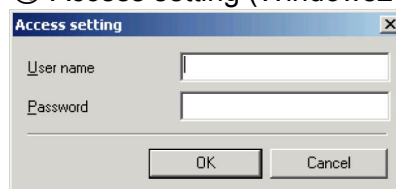
● File type



● Function (Print)



⑮ Access setting (Windows2000/XP)



● Function (Attach to E-mail)



● Function (Send by E-mail)



⑯ Add E-mail address

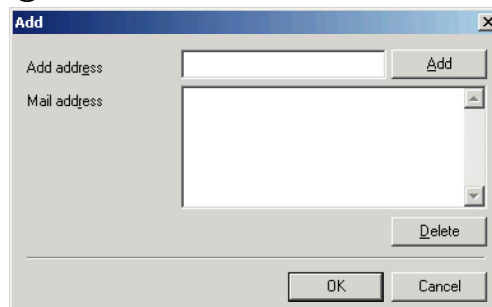


Figure 1-507

3. Clearing Paper Jam

The display shows an error indication if document is jammed in the feeder. Follow the procedures described below to clear it.

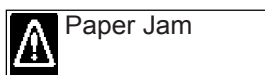


Figure 1-508

- 1) Remove the document left on the document feed tray and in the document eject opening.

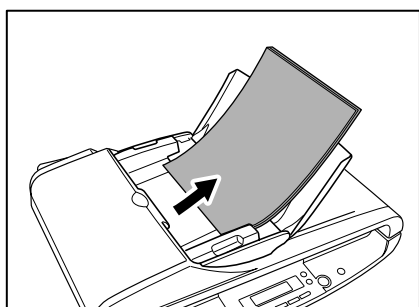


Figure 1-509

- 2) Open the feeder cover and check the state of the jammed document. If no document is left in the feeder cover, check the back of the feeder and the document eject opening as well.

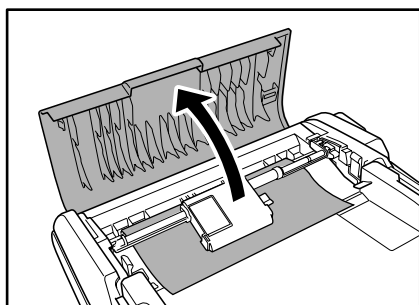


Figure 1-510

- 3) Remove the jammed document carefully so as not to break it. If the separation pad section catches the document, lay the paper release lever towards the roller shaft as shown below, then remove the document. Otherwise, the roller unit may be removed to clear the jam.

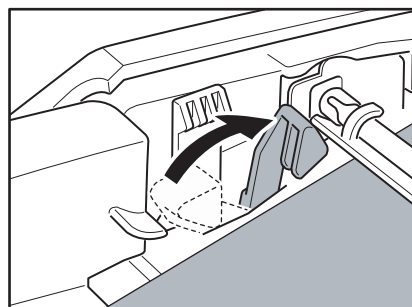


Figure 1-511

Note: If the jammed document is not folded or skewed, close the feeder cover and press the STOP button. This automatically ejects the document. Note, however, that once the ADF sensor detects the document, it is not ejected even if the STOP button is pressed.

- 4) Return the paper release lever and/or the roller unit after clearing the jam. Close the feeder cover gently.

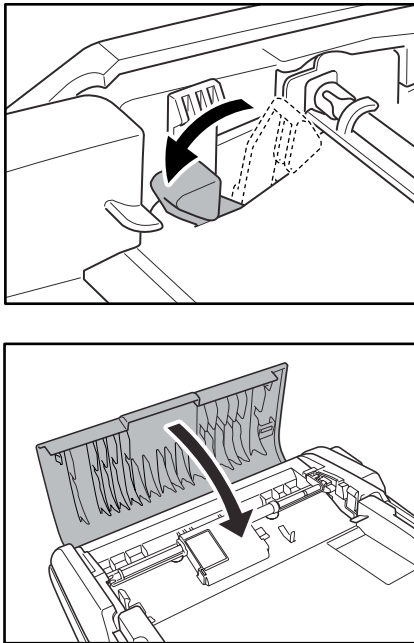


Figure 1-512

- 5) Press the STOP button to clear the error indication.

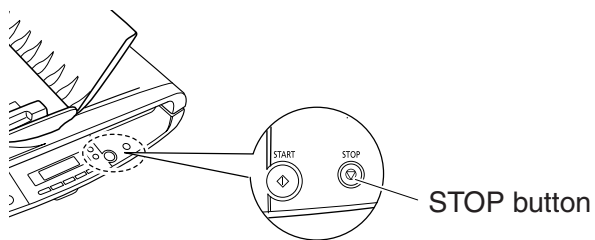


Figure1-513

CHAPTER 2

FUNCTIONS & OPERATION

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I. OUTLINE

1. System Configuration

The figure below shows the system configuration.

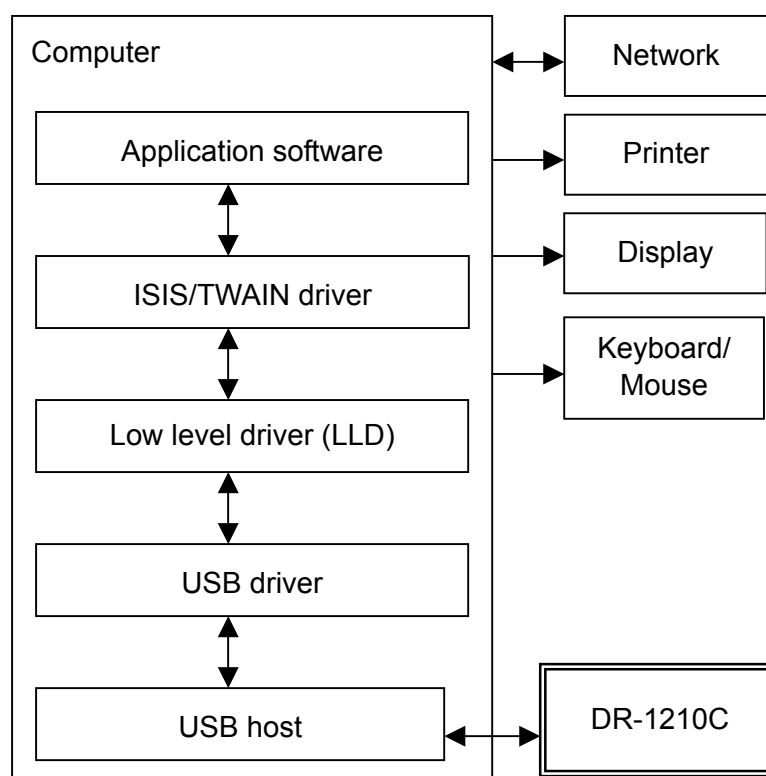


Figure 2-101

Item	Function
DR-1210C	Reading images and making output to computer
Computer	Controlling system
Application software	Saving and searching images
ISIS/TWAIN driver	Setting conditions and processing images
Low level driver (LLD)	Controlling DR-1210C (equivalent to firmware)
USB driver	Interface between LLD and USB host
USB host	Interface for image data input

Table 2-101

2. Machine Configuration

The figure below shows the configuration of this machine.

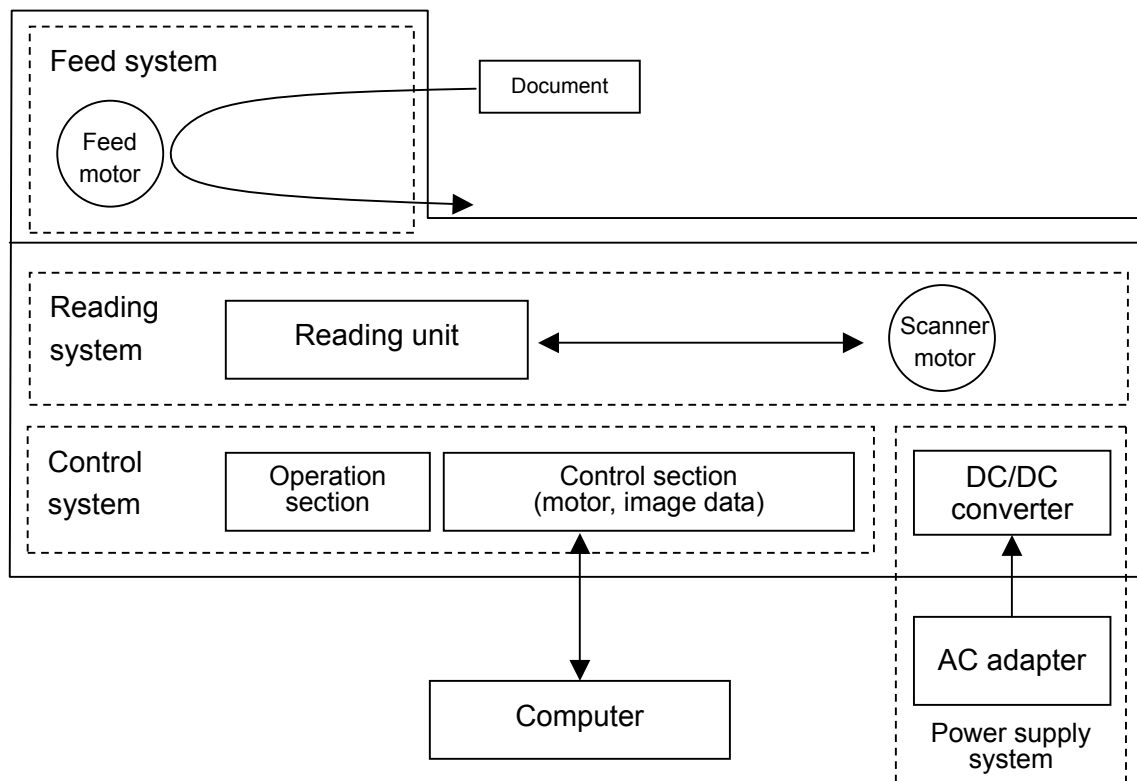


Figure 2-102

- 1) Reading system
Using the reading unit, the reading system reads the image data.
- 2) Feed system
Feeds documents from pickup to ejection.
- 3) Control system
Consists of the operation section and the control section which controls the motors and image data.
The control system controls the image data reading according to commands sent from the operation section or the computer. It further processes the read image data and outputs it to the computer. Note, however, that the computer also processes the image data.
- 4) Power supply system
Consists of a packaged AC adapter, DC/DC converters and regulators set on the internal PCB.
The system generates DC power from AC adapter, which is supplied to the individual sections.

3. Outline of Electric Circuit

The figure below shows the outlines of the block diagram.

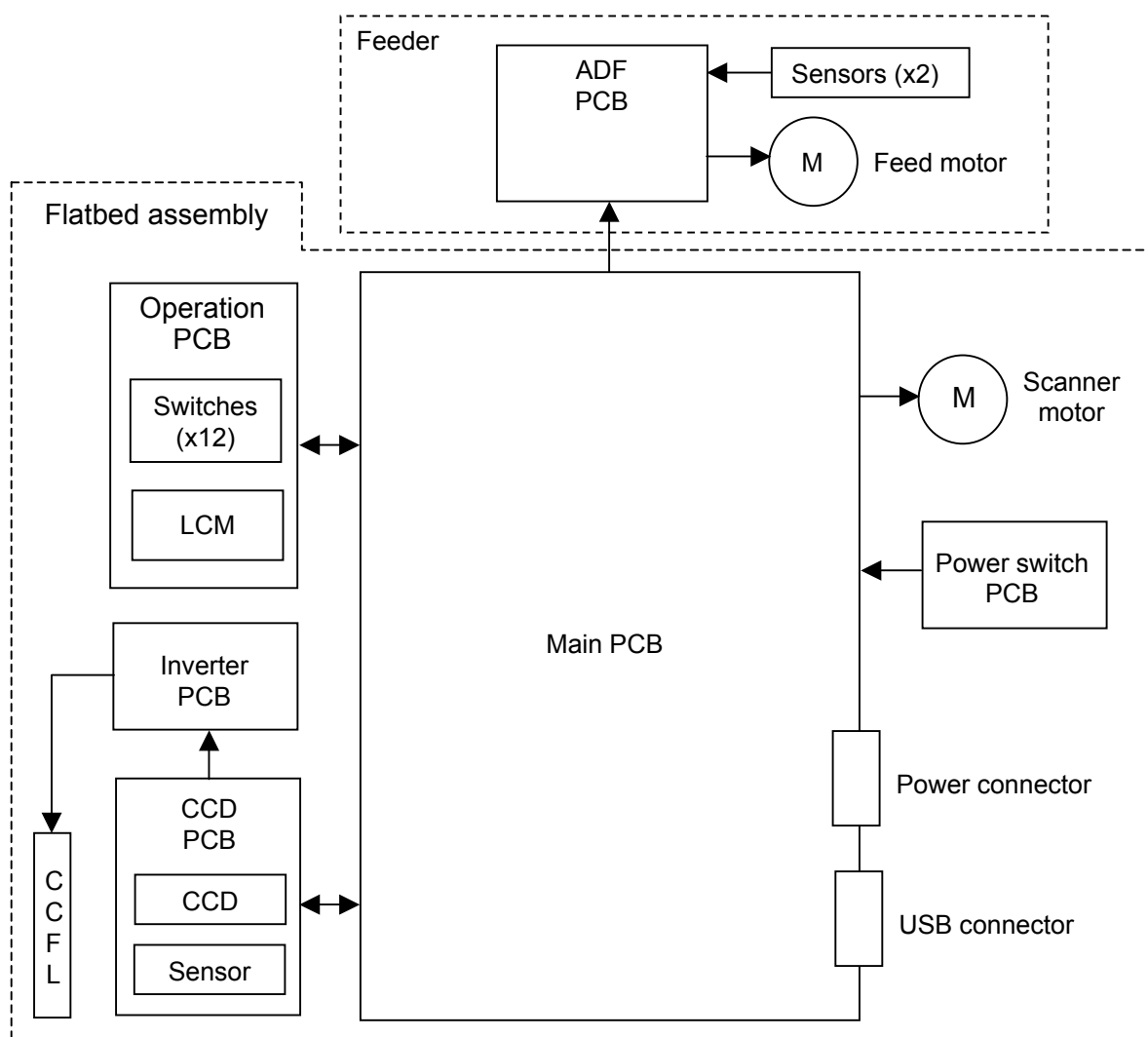


Figure 2-103

The main PCB is built in the flatbed assembly. This PCB has the IC to control the scanner, which controls this machine but has no firmware. The low level driver (LLD) installed in the computer has the functions as a firmware.

The CCD PCB, the inverter PCB and the fluorescent lamp (CCFL) are built in the reading unit, which is connected to the main

PCB via the CCD PCB.

The electric circuit of the feeder is connected to the main PCB via the ADF PCB.

In addition, the machine is equipped with motors to feed documents and move the reading unit.

II. READING SYSTEM

1. Outline

The figure below shows the reading system layout.

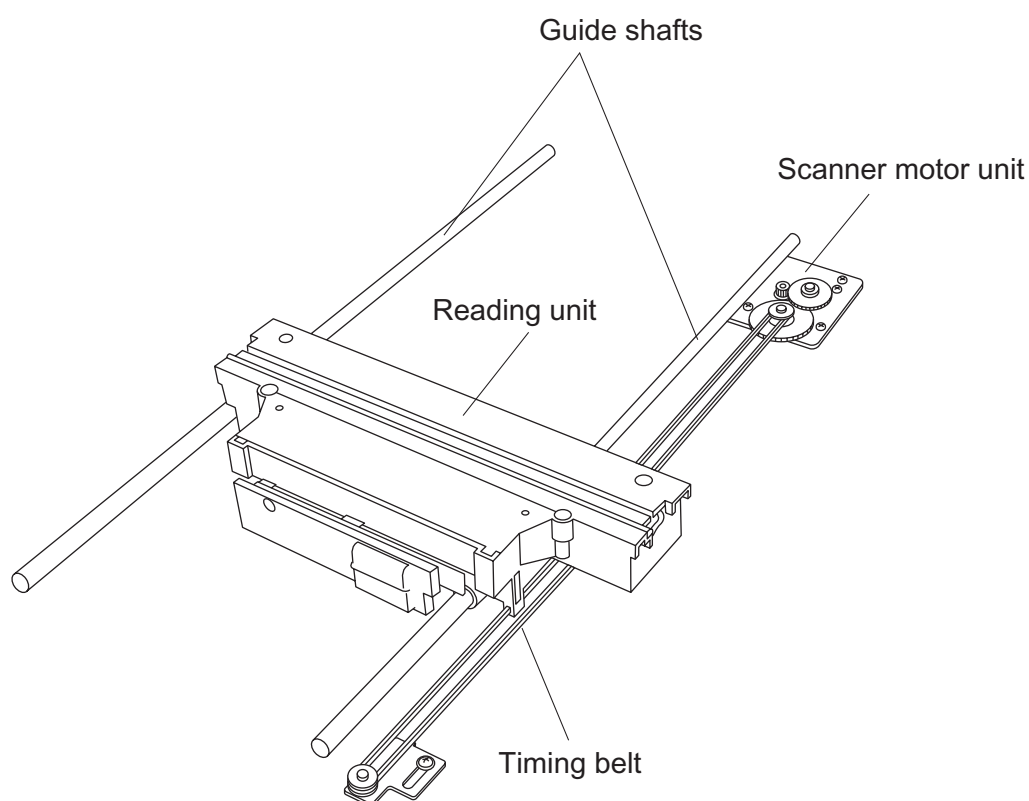


Figure 2-201

The feeder scanning and the flatbed scanning use the same reading unit to read images. To move the reading unit, the machine has a scanner motor unit, a timing belt and a pair of guide shafts.

For feeder scanning, the reading unit is placed at a specific position and the document moves. For flatbed scanning, on the other hand, the document does not move and the reading unit moves.

The figure below shows a sectional view of the image reading section.

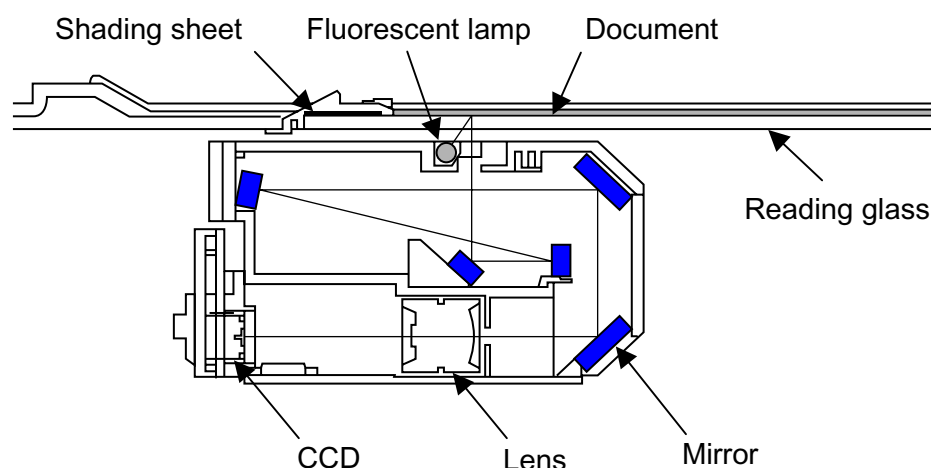


Figure 2-202

The light emitted by the light source (fluorescent lamp) passes through the reading glass, is reflected by the document, then goes into the reading unit. In the reading unit, the incident light is reflected by five mirrors, passes through a lens and reaches the CCD. The CCD PCB converts the data to analog signals, which are output to the main PCB.

As the light source, the machine uses a cold cathode fluorescent lamp (CCFL), which is generally called a fluorescent lamp. The CCD is a three-color (R/G/B), three-line sensor having a picture element density of 600 dpi and an effective picture element of 5340 pixels. It is noticeable that the CCD can make analog grayscale outputs besides the R/G/B outputs.

The shading sheet is placed between the reading glass and the flatbed cover, so

that it is aligned to the home position of the reading unit. The reading unit has a sensor to detect the home position.

After such events as the machine power is turned on, the driver setting is changed and an error occurs, the machine reads the shading sheet data and calculates the corrected values prior to scanning.

In addition, the machine reads the shading sheet data prior to each scanning operation to ensure the light intensity from the fluorescent lamp. In case of low or unstable light intensity from the fluorescent lamp, which may be encountered after the machine power is turned on and the machine is resumed from the power saving mode, the machine goes into the warming up state, showing "Warming up" on the display, and does not carry out scanning before resuming the normal condition.

2. Flatbed Scanning

The figure below shows the flow of the flatbed scanning operation.

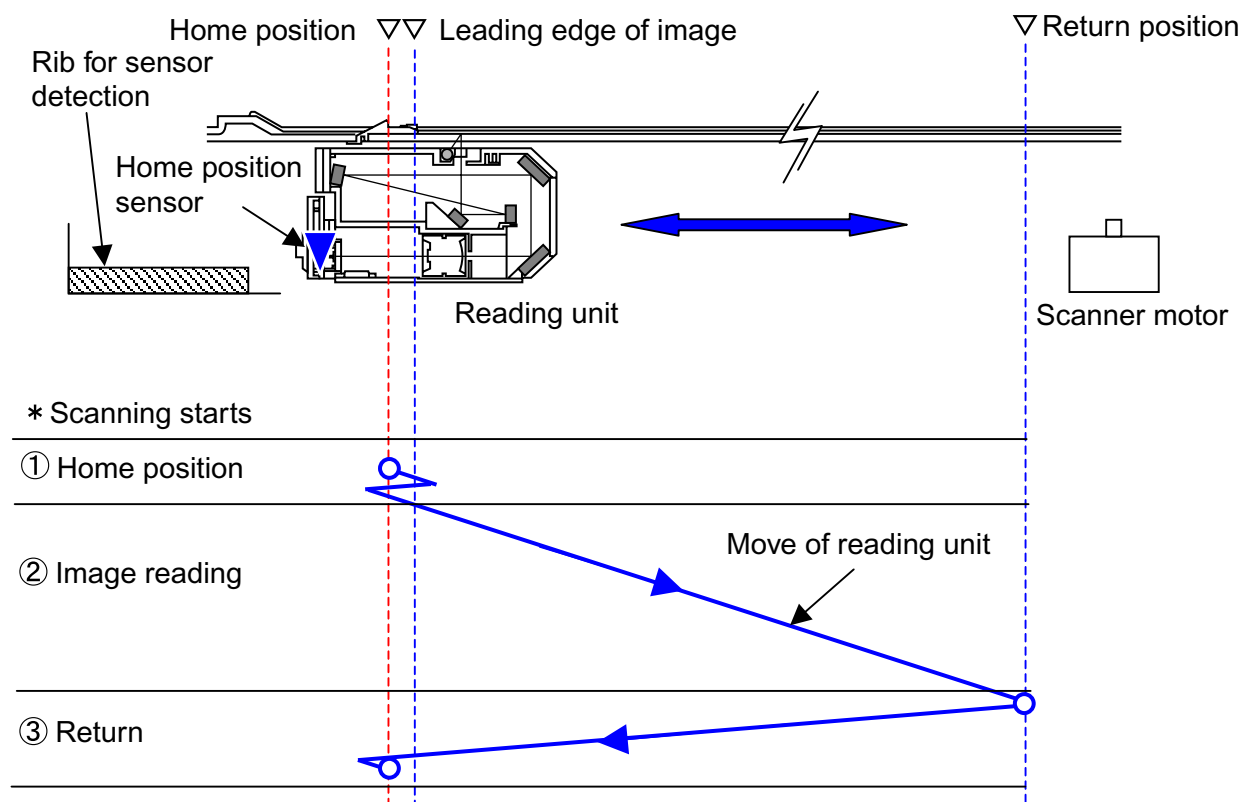


Figure 2-203

When the scanning start signal is output, the reading unit moves forward and backward from the home position to read the shading sheet and reconfirm the home position. Then it moves at a speed appropriate

to the reading conditions, reading the image within the required area. Thereafter, the reading unit goes back to the home position at a specified speed, then stops there.

3. Feeder Scanning

The figure below shows the flow of the feeder scanning operation.

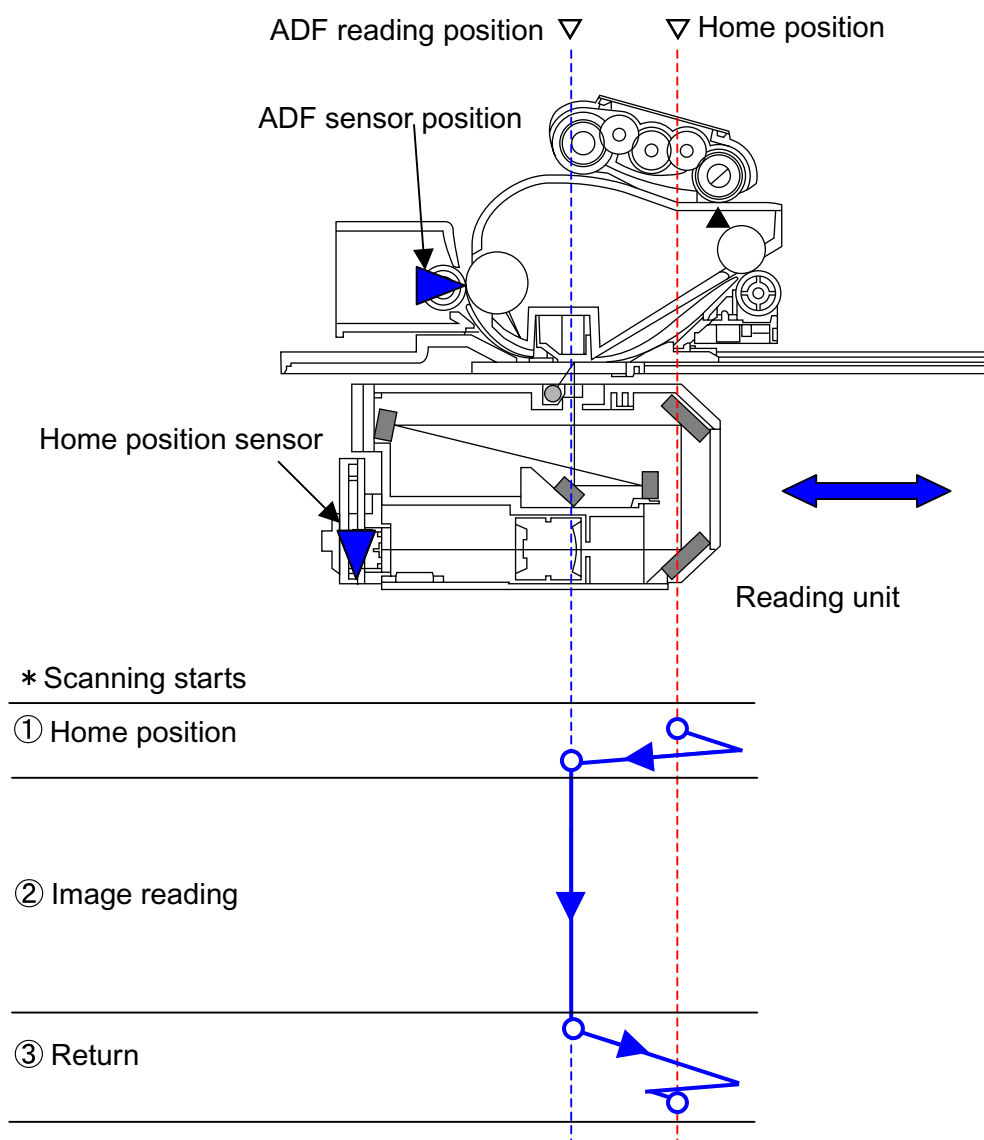


Figure 2-204

In the same way as the flatbed scanning, when the scanning start signal is output, the reading unit reads the shading sheet and reconfirms the home position. Then it

moves to the ADF reading position and reads the image there. After completing image reading, the reading unit goes back to the home position.

III. FEED SYSTEM

1. Basic Configuration

The figure below shows a sectional view of the feed system.

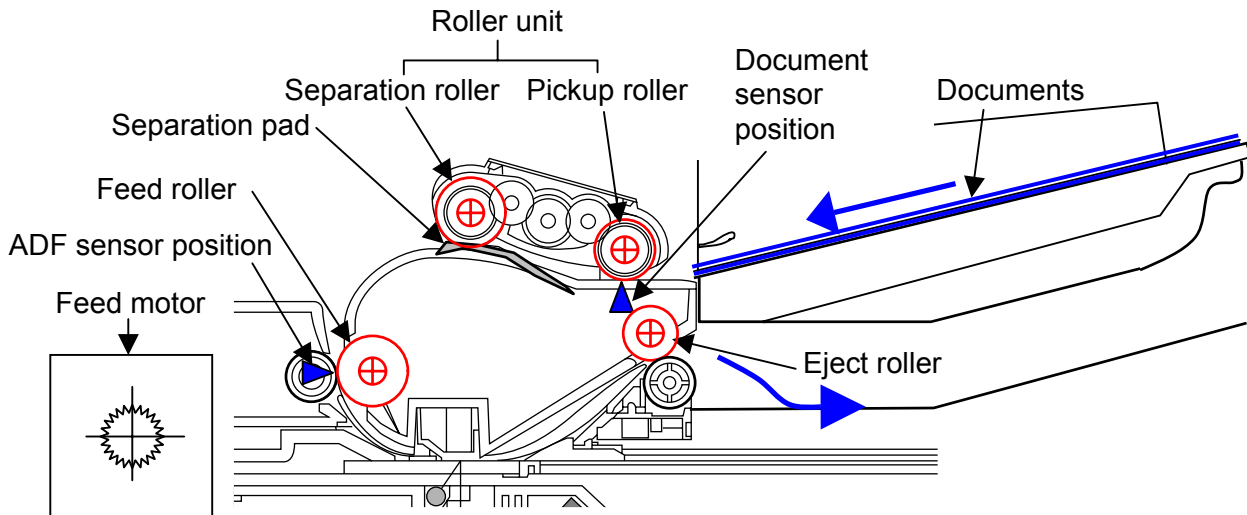


Figure 2-301

The feed system consists of a document setting section, a feed section and an eject section. After fed by the pickup roller, the documents are separated one sheet by another by the separation roller and the separation pad. The unit consisting of these rollers is called the roller unit. The feed roller feeds the document to the image reading

position and lastly the eject roller ejects the document. These rollers are driven by the feed motor and the gears.

To control the operation, the feed section has a document sensor and an ADF sensor, which detect the document by the shift of the detection lever.

The figure below shows the appearance of the pickup side of the feed system.

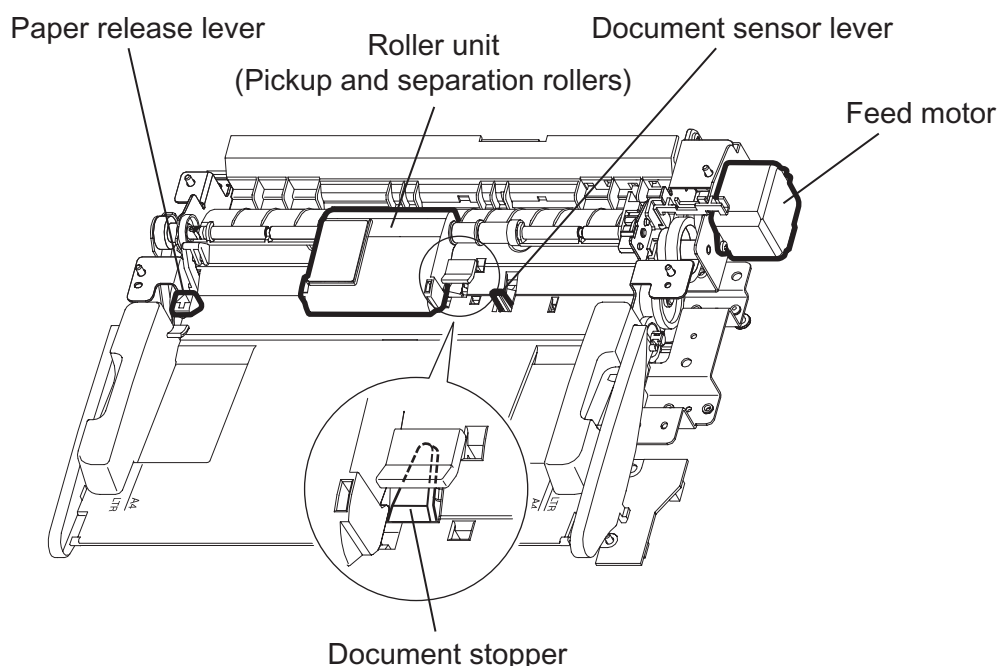


Figure 2-302

The “paper release lever” appears on the left side of the above figure. If it is laid towards the far side, the separation pad is lowered, releasing the separation mechanism. If the document is jammed, use this lever to release the separation mechanism to easily remove the jammed document. When closed, the feeder cover pushes the paper release lever to the original position, that is, the separation mechanism is set again. The conventional, sheet-fed type scanners release the separation when scanning one sheet. On the other hand, this machine has a flatbed and uses it in principle for one-sheet scanning.

The “document sensor lever” is placed on the right side of the roller unit. When correctly set, the document pushes and rotates this lever, which turns the document sensor on. Unless the document is pushed

until the document sensor is turned on, the machine does not determine that the document is set.

The “document stopper” is mounted beneath the roller unit. After the document sensor is turned on, the document being pushed towards the far side reaches the end of this stopper. When the feed action starts, the roller unit, and at the same time the stopper, lower down, so that they do not interrupt the document feed. Note, however, that a document of a great number of sheets or hard documents may push the stopper down, causing the leading edge of the document to reach the separation area. However, the document is correctly fed.

2. Sequence of Operation

The figure below shows a timing chart of the feeder scanning in case where the machine uses a document of two sheets and the default conditions (black and white, 300 dpi, A4).

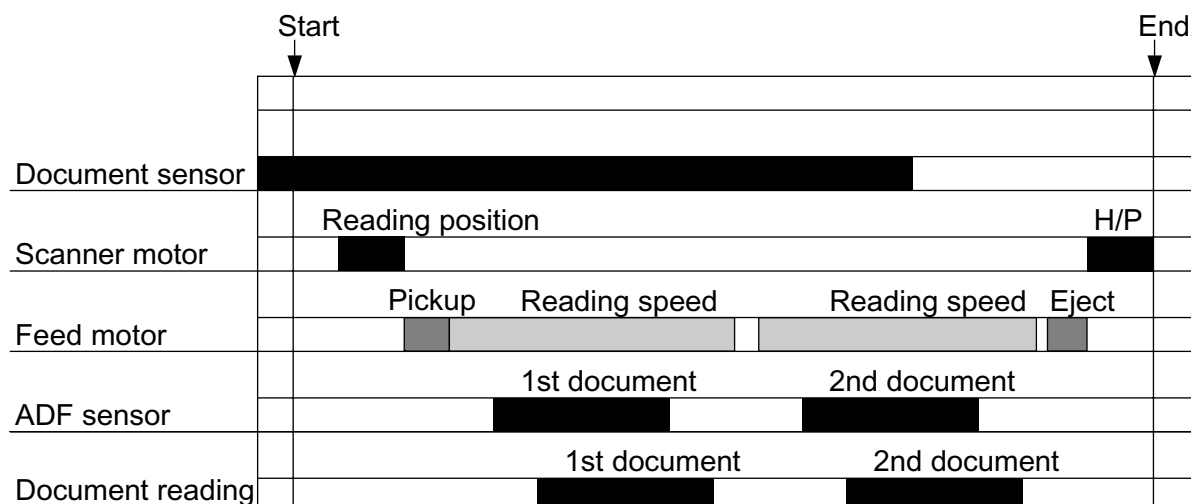


Figure 2-303

When the scanning start signal is output while the document sensor is set on and preparation including warming up of the fluorescent lamp is complete, the scanner motor starts running and moves the reading unit to the reading position for the feeder scanning. Then the feed motor runs at the pickup speed and sends the 1st document to the feed section. After feeding the document for the specified length, the feed motor keeps feeding at the changed reading speed appropriate to the scanning conditions. Image reading starts after the ADF sensor is set on and the specified length of document is fed. The document is scanned for a length appropriate to the scanning conditions.

The feed motor keeps running until the 1st document is fed to the eject area and the 2nd document, to the position just before the ADF sensor. The feed motor restarts feeding at the reading speed after the machine

completes sending of the image data of the 1st document.

The machine repeats the same procedures to read the image of the 2nd document. Then the feed motor stops for a moment, then ejects the document at the eject speed. When the pickup area has no more document and the document sensor is turned off, the machine determines the present document as the last one and ejects it at the eject speed.

Error signal "Paper Jam" is output in the following events.

- ◆ Even after the machine starts feeding and the specified time passes, the ADF sensor does not detect the document.
- ◆ Even after the ADF sensor detects the document and the specified time passes, the ADF sensor detects the document.

IV. CONTROL SYSTEM

1. Control Block Diagram

The main PCB controls this machine. However, it has no firmware. The low level driver (LLD), which is installed on the computer in conjunction with the driver, has the functions as a firmware. When the scanning start command is executed, the scanning conditions are written on the memory for controller (IC1) on the main PCB.

In addition, the operation panel is equipped with an operation PCB for the operation buttons and a liquid-crystal module (LCM) for display.

The figure below shows a control block diagram of the main PCB and the functions of major ICs.

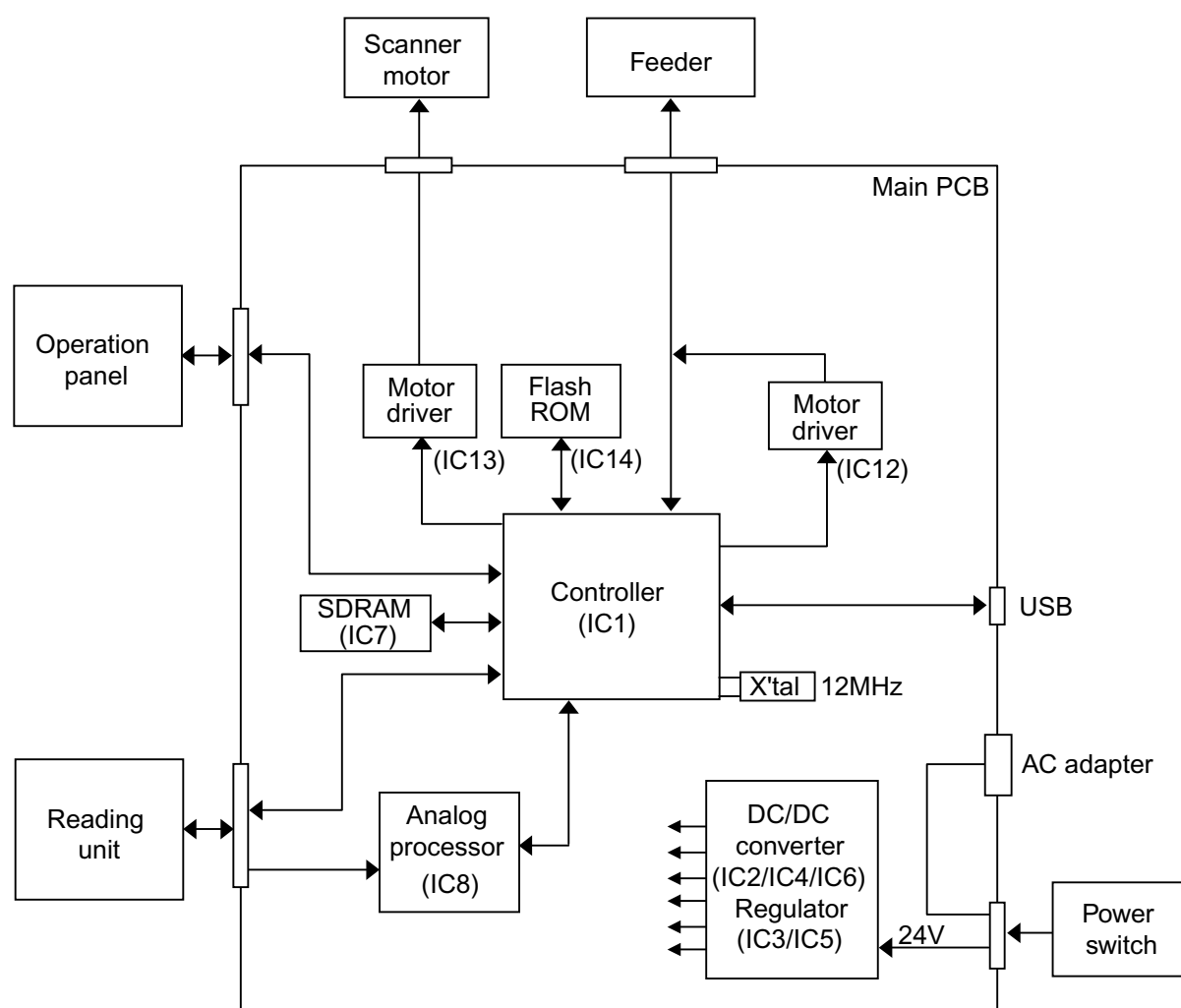


Figure 2-401

No.	Name	Function
IC1	Controller	Controls the scanner and the USB interface (ASIC).
IC2	DC/DC converter	Generates 14 VDC.
IC3	Regulator	Generates 5 VDC (for analog).
IC4	DC/DC converter	Generates 3.3 VDC (for digital).
IC5	Regulator	Generates 3.3 VDC (for analog).
IC6	DC/DC converter	Generates 5 VDC (for digital).
IC7	SDRAM	Saves the image data: 32 MB (16 M × 16 bits)
IC8	Analog processor	Processes the image data and A/D conversion.
IC12	Motor driver	Drives the feed motor.
IC13	Motor driver	Drives the scanner motor.
IC14	Flash ROM	Saves the control data: 128 KB (128 K × 8 bits)

Table 2-401

2. Image Processing

The figure below shows a block diagram of image processing executed by this machine.

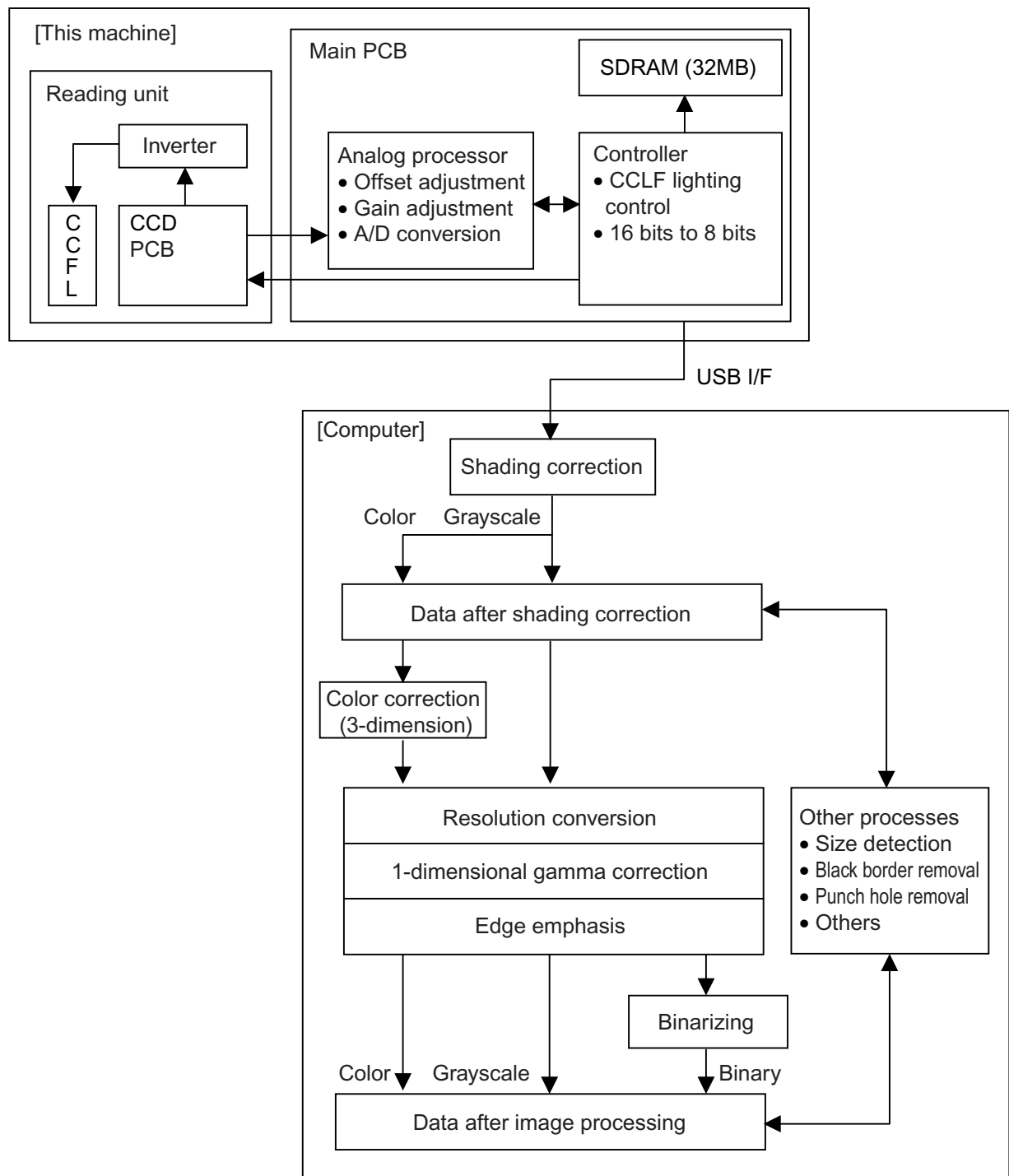


Figure 2-402

Corresponding to the density of each picture element, the CCD PCB outputs an analog signal to the analog processor on the main PCB.

The analog processor adjusts the offset and the gain and executes A/D conversion. Thereby the analog signal is converted to a 16bit digital signal. Then the image data is output to the controller, where it is tentatively saved in the SDRAM. This 16bit signal is converted to an 8bit signal at this time.

The image data is then output to the computer via the USB interface.

All the image processing executed by this machine is as described above. Any other image processing is carried out inside the computer. Refer to the Figure 2-402 for details. Inside the computer, the image is processed as set by the user.

In case of a resolution of 300 dpi or less, however, this machine converts the resolution from 600 dpi to 300 dpi. If smoothing is specified, the resolution is kept at 600 dpi.

V. ELECTRICAL PARTS LAYOUT

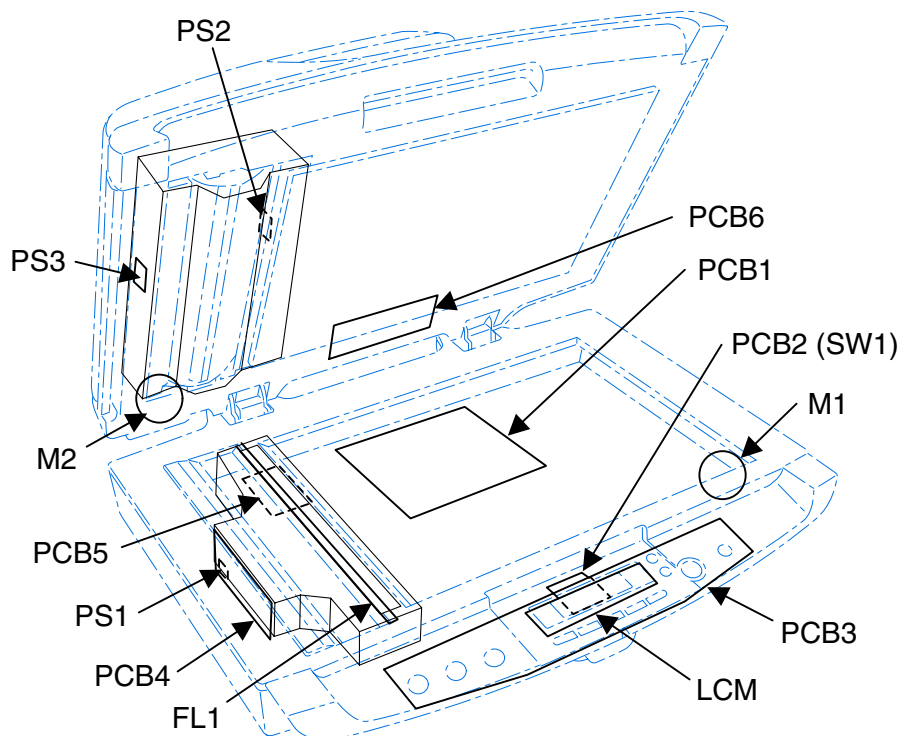


Figure 2-501

Category	Name	Symbol
Flatbed assembly	Home position sensor (HP sensor)	PS1
	Scanner motor	M1
	Main PCB	PCB1
	Power switch PCB	PCB2
	Operation PCB	PCB3
	CCD PCB	PCB4
	Inverter PCB	PCB5
	Fluorescent lamp (CCFL)	FL1
	Liquid-crystal display module	LCM
Feeder	Document sensor	PS2
	ADF sensor	PS3
	Feed motor	M2
	ADF PCB	PCB6

Table 2-501

VI. PARTS LAYOUT ON EACH PCB

Only the PCBs that are assigned as service parts are described here.

1. ADF PCB

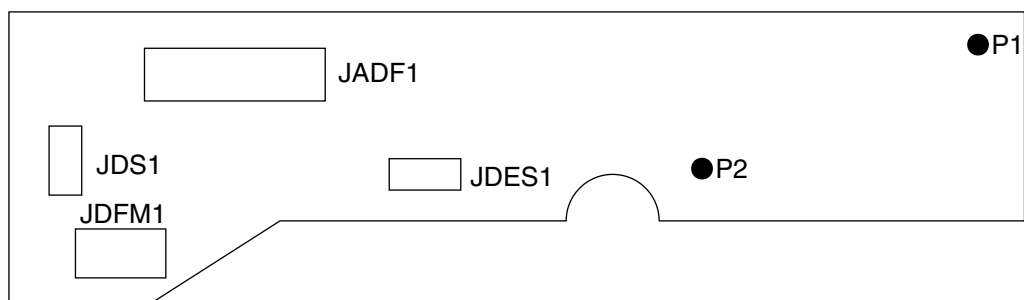


Figure 2-601

Connector		Description
JDFM1	4P	Feed motor
JDES1	3P	ADF sensor
JADF1	9P	Flatbed assembly
JDS1	3P	Document sensor

Table 2-601

CHAPTER 3

DISASSEMBLY & REASSEMBLY

I. OVERALL FLOWCHART	3-1	II. PARTS PROCEDURES	3-2
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I. OVERALL FLOWCHART

The overall flow of disassembly is shown below by the part.

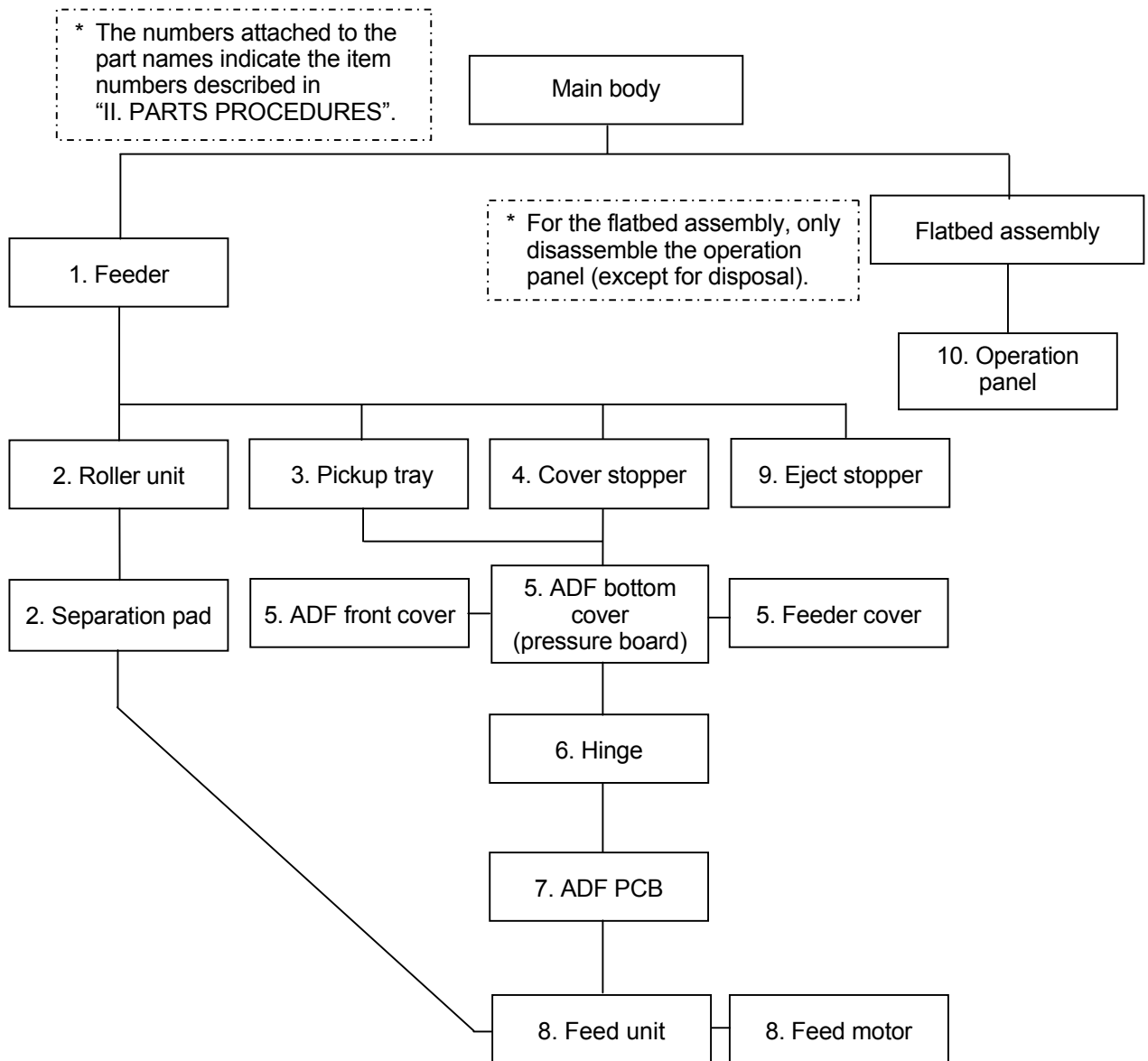


Figure 3-101

II. PARTS PROCEDURES

1. Feeder (Entire)

- 1) Disconnect the ADF connector ①.

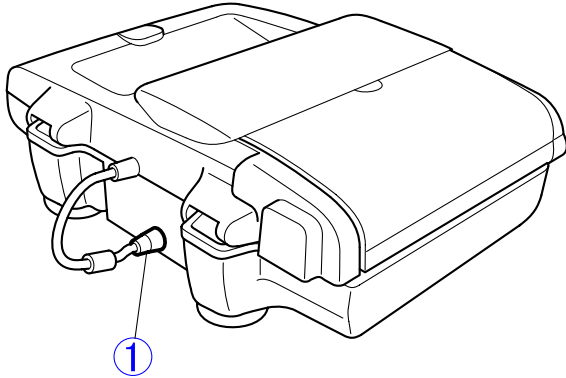


Figure 3-201

- 2) Open the feeder ①. And lift the feeder up straightly a little. Then slant it backwards and remove it.

Note: Put the removed feeder on a clean surface. Be careful not to damage or soil the outer cover, the pressure board and the feed unit.

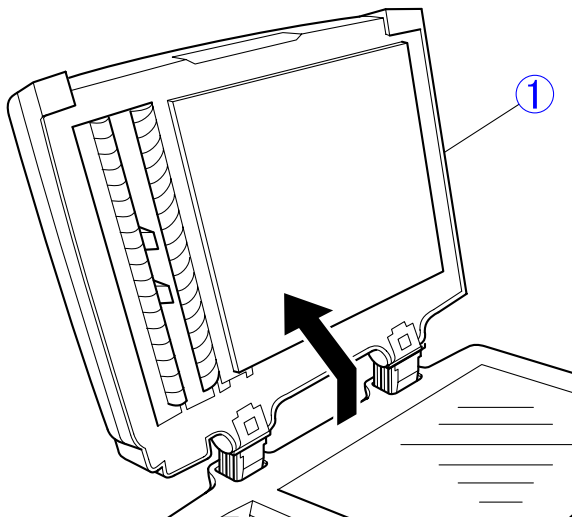


Figure 3-202

2. Roller Unit/Separation Pad

Note: Refer to section in "CHAPTER 4, III. MAINTENANCE" (P.4-12).

3. Pickup Tray

- 1) Open the feeder cover.
- 2) Open the document guide adapters ① and remove the 2 screws ② (M3 × L10, self-tapping).

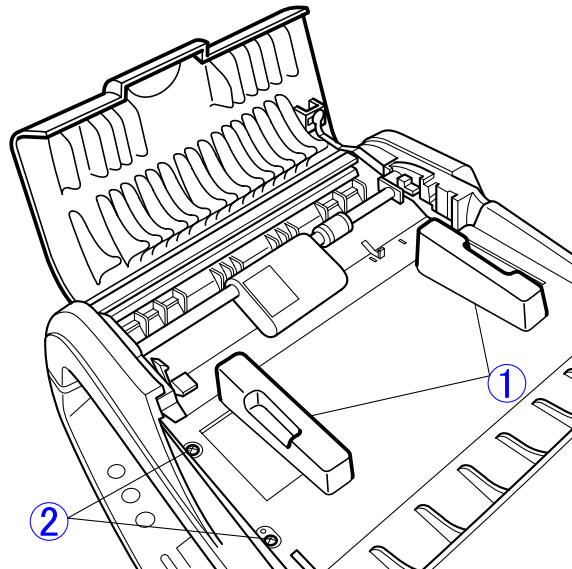


Figure 3-203

- 3) Lift the front side of pickup tray ① a little. Then slide it forward. Unhook the 2 fitting parts ② on the other side and remove the pickup tray.

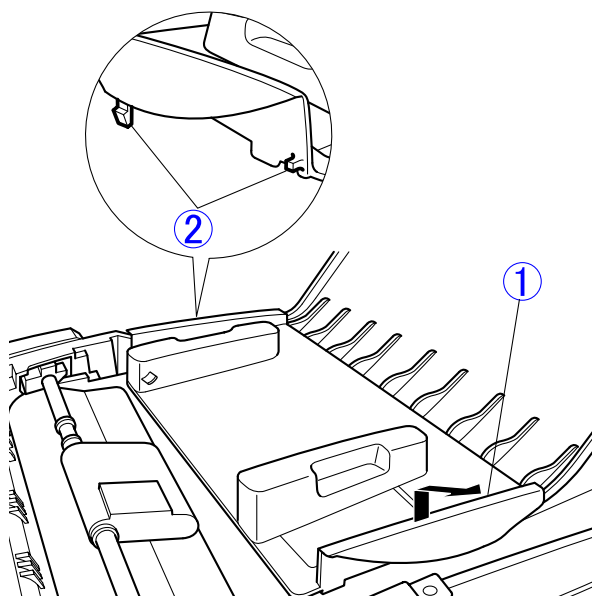


Figure 3-204

Note: When assembling, hook the 2 fitting parts on the other side first.

4. Cover Stopper

- 1) Open the feeder cover ①.

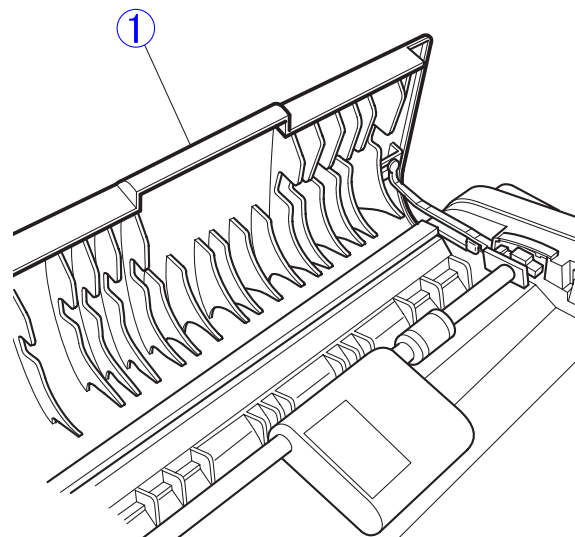


Figure 3-205

- 2) While slanting, unhook the fitting parts ① on the ADF upper cover side.

Note: Other parts can be disassembled in this state. Take the following procedure to remove the cover stopper.

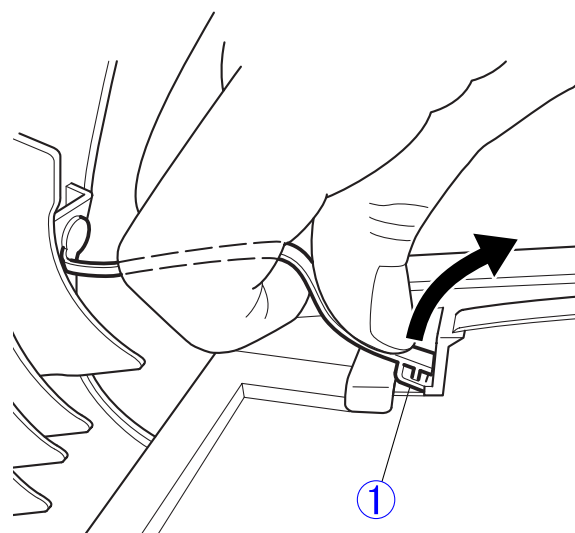


Figure 3-206

- 3) By turning the fitting parts ① on the feeder cover side, fit it to the notch ② in the feeder cover so that the fitting parts can be easily unhooked. Straightly pull the cover stopper ③.

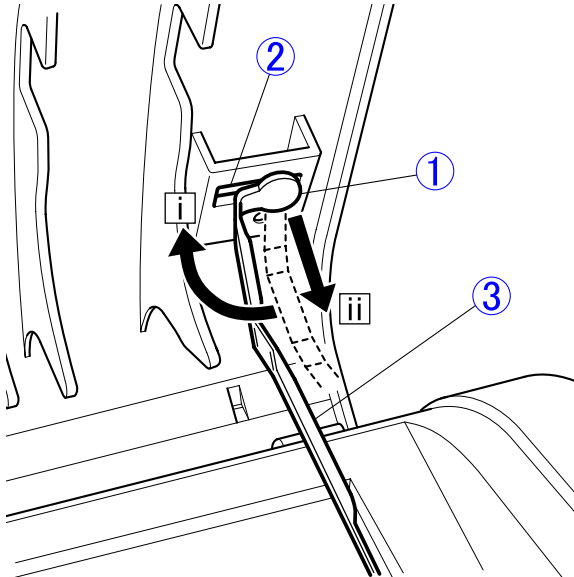


Figure 3-207

5. ADF Bottom Cover, ADF Front Cover and Feeder Cover

Note: During removal of the ADF bottom cover, it is possible to remove the ADF front cover and the feeder cover as well. Note that the reassembling procedures are different from the disassembling procedures. The pressure board must be installed to replace the ADF cover. The following shows each procedure.

◆ Disassembling procedures

- 1) Remove the pickup tray and the cover stopper.
- 2) Remove the feeder (entire).
- 3) Facing the pressure board side upward, put the removed feeder on a clean, stable surface.

- 4) Peel off the 2 screw head seals ① from the sides of each of the right and left hinges (4 seals in total).

Note:As the screw head seals will be stuck again later, do not lose them or soil the sticking surfaces. If exposed, the screw heads may induce static electricity, possibly causing failures.

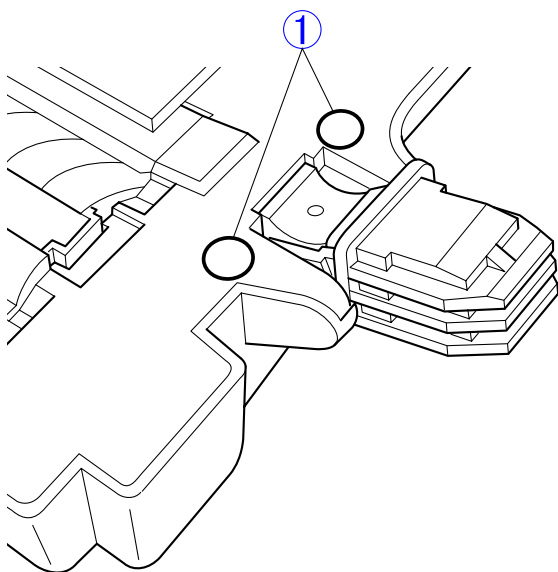


Figure 3-208

- 5) Remove the 2 screws ① (M4 × L10), 2 screws ② (M4 × L12, self-tapping), 4 screws ③ (M3 × L6, self-tapping) and 2 screws ④ (M3 × L10, self-tapping).

Note:Since the types of the screws are different, take care to use them in the correct places.

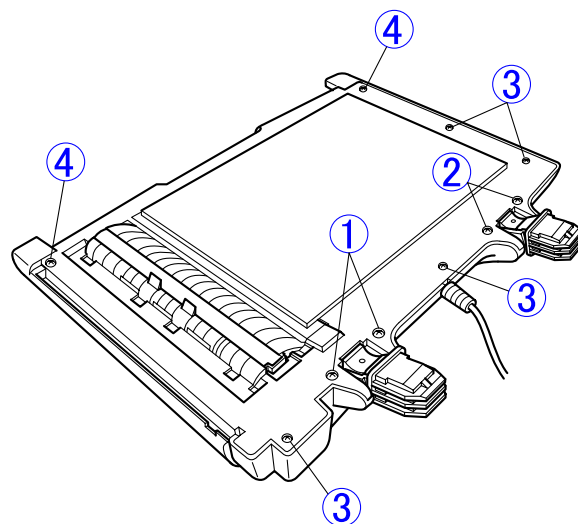


Figure 3-209

- 6) Lift up the ADF bottom cover ① a little at the hinge side.

Note:This unhooks the fitting parts on one side of feed cover.

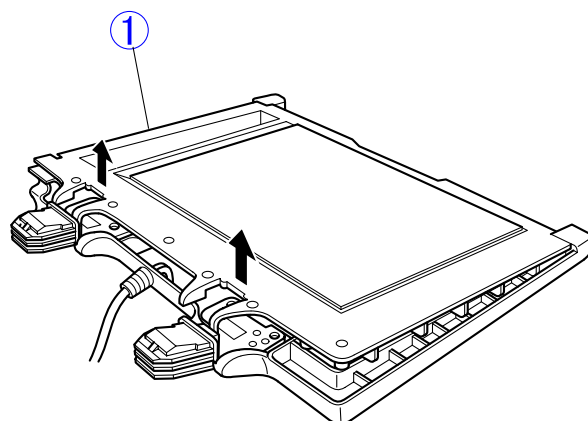


Figure 3-210

- 7) Face the feeder surface upward again. Using a tool having a thin, flat tip, press down the fitting parts ② on the ADF front cover ① and unhook it. Make a gap between the ADF front cover and the ADF top cover ③.

Note: Do not press down the fitting parts too much. It may damage them.

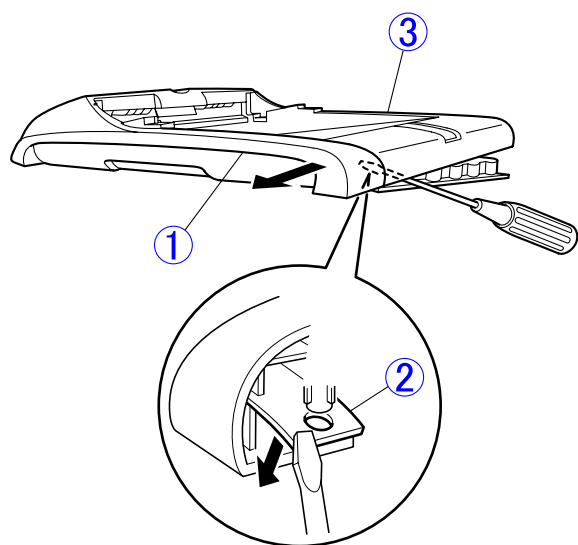


Figure 3-211

- 8) Insert a tool having a thin, flat tip in the gap ① around section A, slightly turn it and unhook the fitting parts inside.

Then repeat the same action for section B to enlarge the separation between the ADF front cover and the ADF top cover.

Note: Take care when carrying out this step as the outer surface of the cover is damaged easily. It is recommended to wrap the tool tip with cloth and so forth for the cover protection.

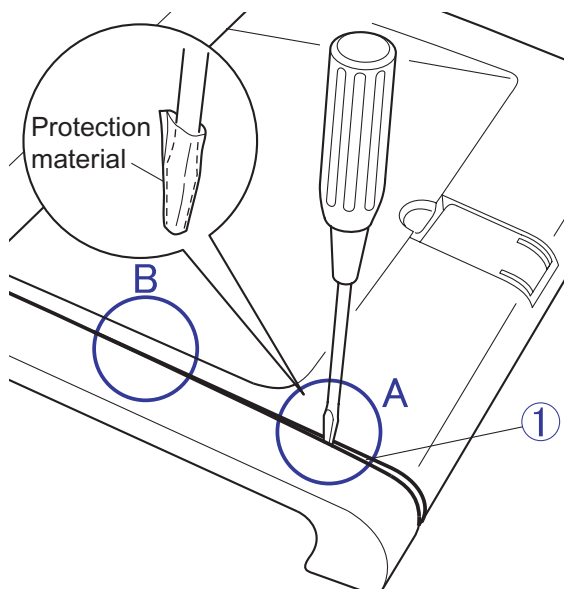


Figure 3-212

- 9) Stick a tool having a thin, flat tip into the two concavities ①, slightly turn it and unhook the fitting part inside.

Note: Take care when carrying out this step as the outer surface of the cover is damaged easily.

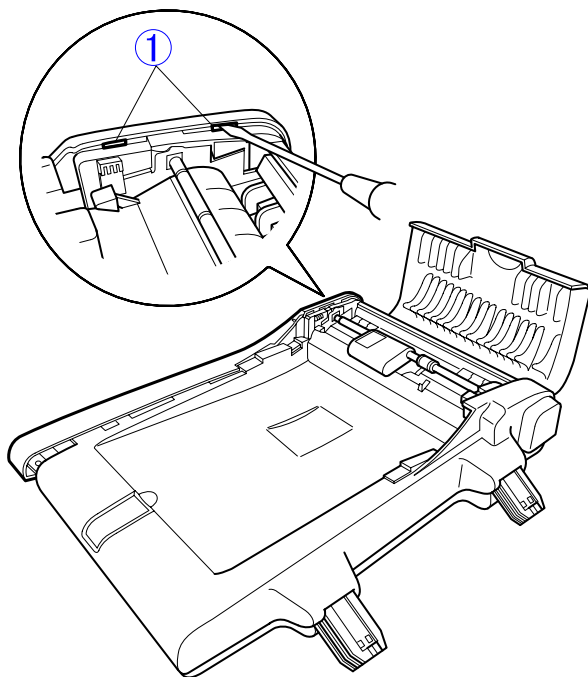


Figure 3-213

- 10) Put the ADF bottom cover on a table so as not to drop any parts when removed. Opening the ADF front cover ①, separate it from the ADF bottom cover. This also removes the feeder cover ②.

Note: Inside section A, there are the fitting parts for the ADF front cover, which are similar to ones unhooked in step 7. If it is uneasy to remove the ADF front cover, press down the fitting parts to remove it.

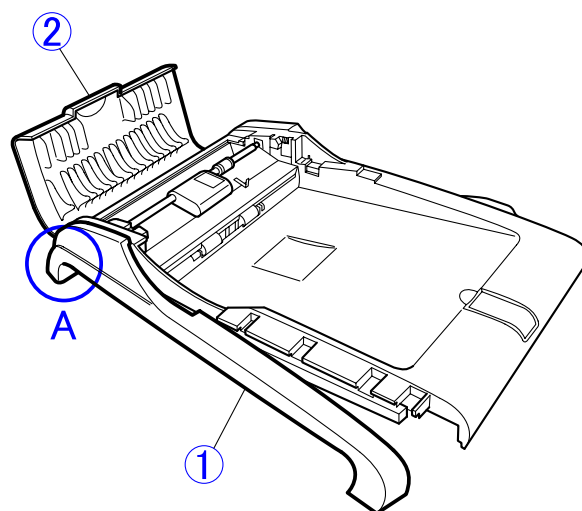


Figure 3-214

◆ Reassembling procedures

- 1) Remount the feeder cover ① in the original position. Then remount the ADF bottom cover ② in the original position.

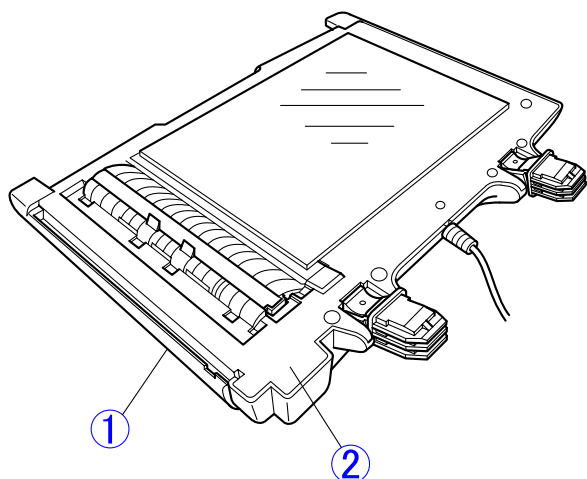


Figure 3-215

- 2) Insert the fitting parts ② on both sides of ADF front cover ① into the sections between protuberant parts on the top and bottom covers. Then press the entire ADF front cover for complete fitting.

Note: Press the ADF front cover so that there is no gap between the covers.

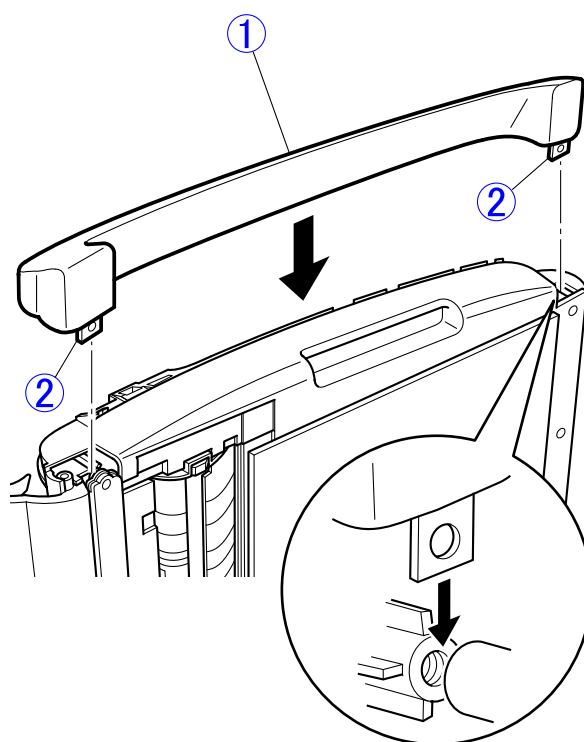


Figure 3-216

- 3) Tighten the 2 screws ① (M4 × L10), 2 screws ② (M4 × L12, self-tapping), 4 screws ③ (M3 × L6, self-tapping) and 2 screws ④ (M3 × L10, self-tapping).
Then stick the 4 screw head seals ⑤.

Note: Use the correct screws in the correct places. Be sure to stick the screw head seals.

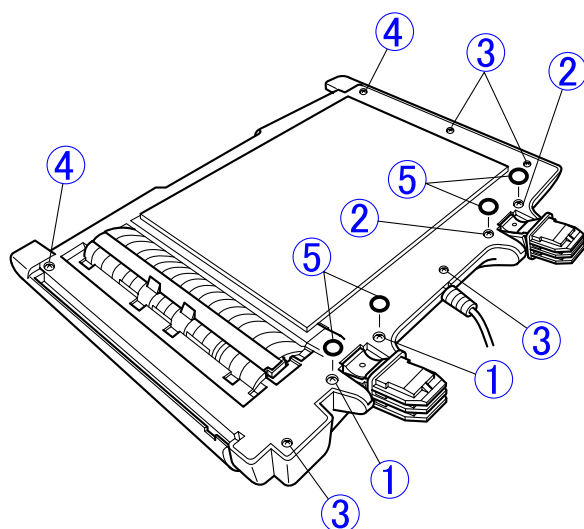


Figure 3-217

◆ Replacement procedures

The new pressure board is required to be stuck on the ADF bottom cover to the correct position to fit the reading glass. Therefore the ADF bottom cover assigned as a service part does not have the pressure board stuck on it. Prepare both and stick the pressure board on the ADF bottom cover according to the following procedures.

- 1) Assemble the ADF bottom cover before sticking the pressure board on it.

Note: Be sure to stick the screw head seals.

- 2) Peel off the release papers from the adhesive tapes on the pressure board ①. Place the pressure board on the reading glass, aligning it with a "positioning mark" ②.

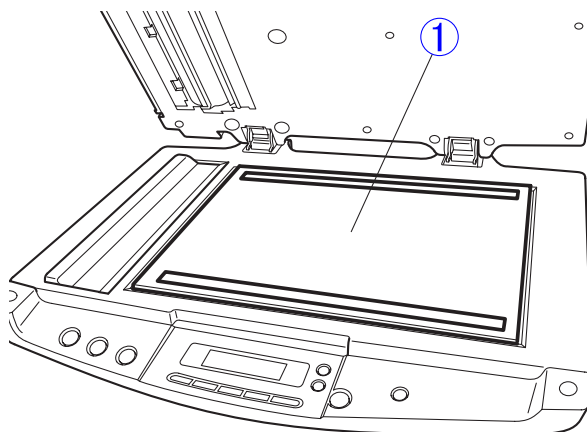


Figure 3-218

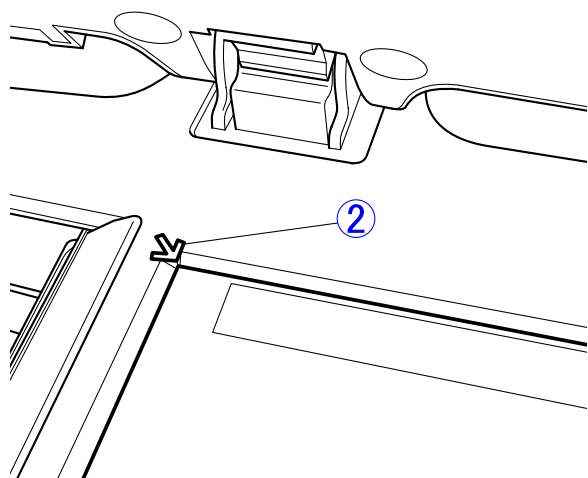


Figure 3-219

- 3) Slowly close the feeder. Then lightly press it to stick the pressure board.

6. Hinges

- 1) Remove the ADF bottom cover.
- 2) Remove the 2 screws ① (M4 × L6) and remove the hinge (left) ②. Remove the 2 screws ③ (M4 × L8, self-tapping) and remove the hinge (right) ④.

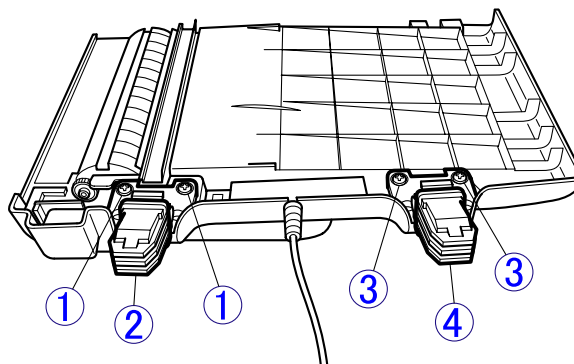


Figure 3-220

Note: The right and left hinges are the same parts.

7. ADF PCB

- 1) Remove the ADF bottom cover.
- 2) Remove the hinge (left).
- 3) Remove the 3 screws ① (M4 × L8, self-tapping) and screw ② (M4 × L6) and remove the hinge mounting plate ③.

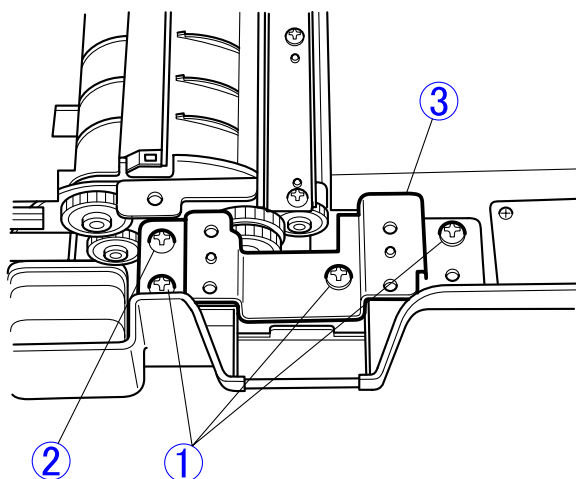


Figure 3-221

- 5) Remove the screw ① (M3 × L6, self-tapping) and shift the ADF PCB ② a little.

Note: Do not draw the ADF PCB too much because the motor cables and other cables are connected to it.

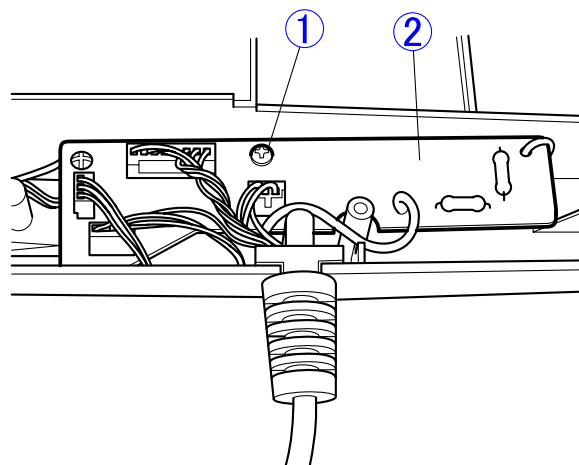


Figure 3-223

- 4) Remove the screw ② (M3 × L6, self-tapping) that holds the ground cable ①.

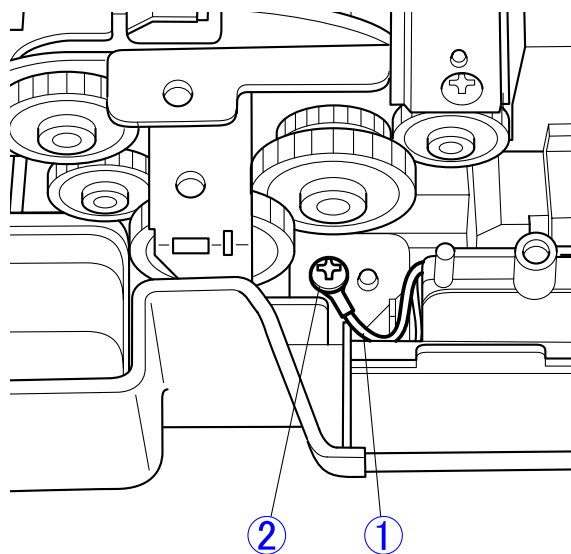


Figure 3-222

- 6) Draw the cable ① out of the groove in the cover. Remove the 3 connectors ② and remove the ADF PCB ③ (with ADF cable).

Note: Take care not to break the cables and damage the wire insulations.

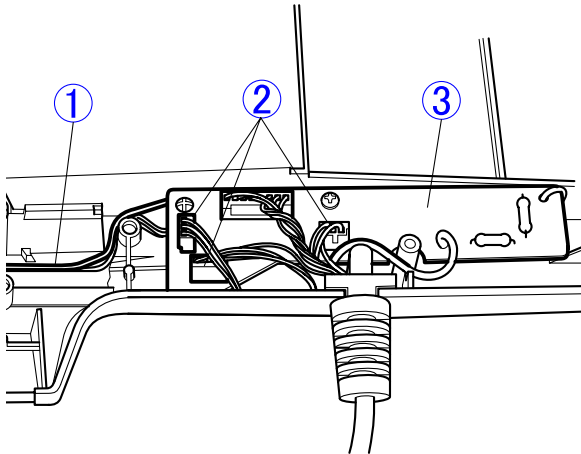


Figure 3-224

Note: For reassembling, hold the ground cable first, then hold the hinge mounting plate. In addition, insert the 2 sensor cables in the correct connectors. The red cable for document sensor must be inserted in JDS1 (white) and the black one for ADF sensor, in JDES1 (black).

8. Feed Unit/Feed Motor

Note: The motor can be removed when disassembling the feed unit.

- 1) Remove the ADF bottom cover.
- 2) Remove the hinge (left).
- 3) Remove the hinge mounting plate.
- 4) Remove the ADF PCB.
- 5) Draw the cables ① out of the groove in the cover one by one. Then, remove the screw ② (M3 × L6, self-tapping).

Note: Take care not to break the cables and damage the wire insulations.

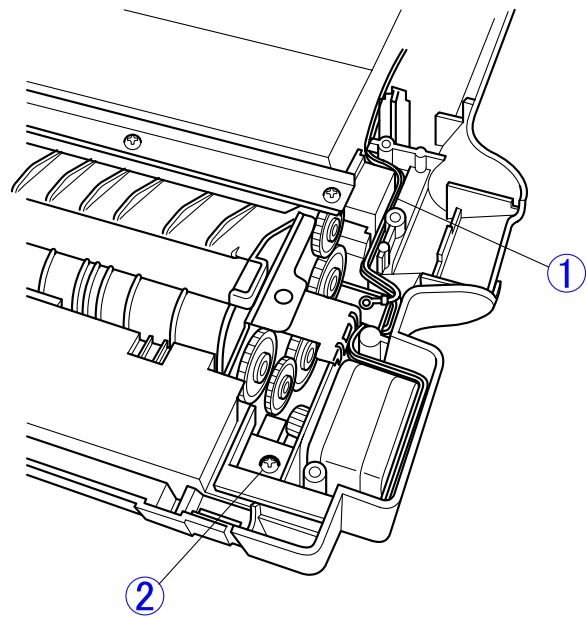


Figure 3-225

- 6) Remove the 2 screws ① (M3 × L6, self-tapping) on the other side. Slowly lift up the feed unit ② (with motor) and remove it.

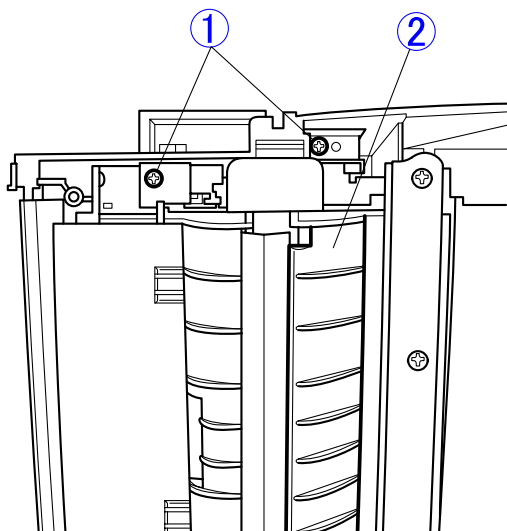


Figure 3-226

- 7) Remove the 2 screws ① (M3 x L4) and draw the feed motor ② a little forward. Then fit the motor gear to hole ③ and remove the feed motor.

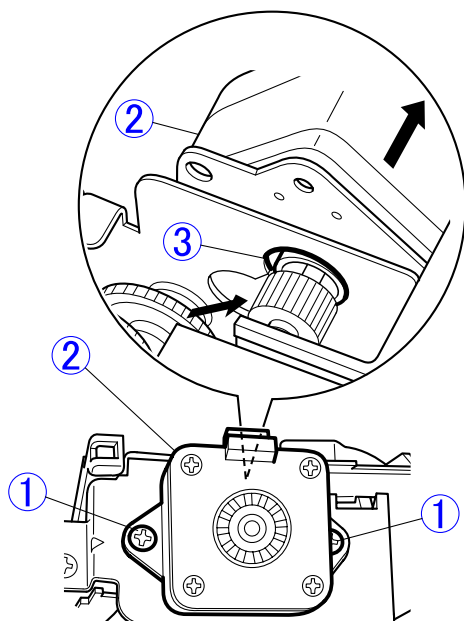


Figure 3-227

- 8) Remove the roller unit ① and the separation pad ②.

Note: The feed unit (service part) does not include the feed motor, the roller unit and the separation pad.

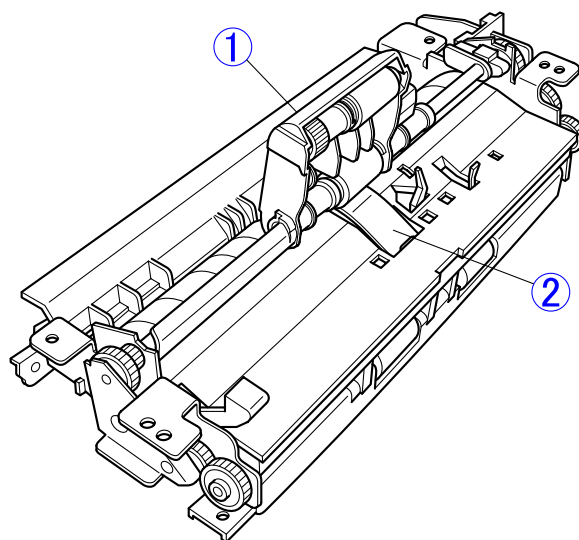


Figure 3-228

Note: When reassembling the feed unit, it must be positioned at the correct place and there must be no clearance. In addition, lay the cable in the groove in the cover to avoid it from being caught.

9. Eject Stopper

- 1) Open the eject stopper ①.

While bending side ② inward, unhook the fitting parts ③ and remove the eject stopper.

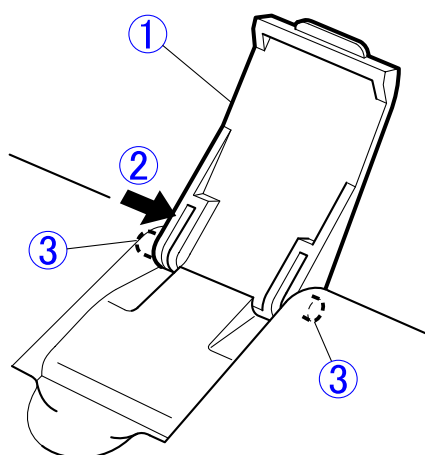


Figure 3-229

10. Operation Panel

Note: The operation panel is a component included in the flatbed assembly. When replacing it, be careful not to make such foreign matters as paper powder and dust fall into the flatbed from gap. Do not remove any other parts (upper cover, etc.) from the flatbed assembly.

- 1) Remove the 4 screws ① (M3 x L6, self-tapping) on the bottom side.

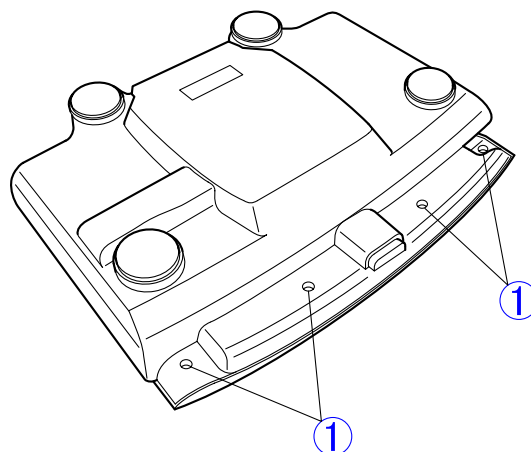


Figure 3-230

- 2) Pressing the 2 areas around sections A on the operation panel ① downward, turn the operation panel, unhook the fitting parts inside, then slowly remove the operation panel.

Note: Do not draw the operation panel too much because a cable is connected to it.

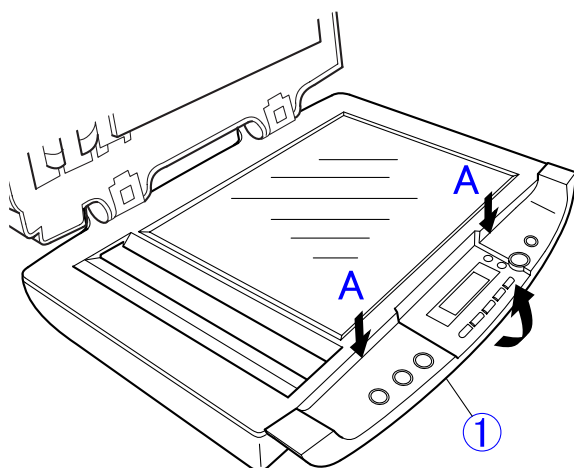


Figure 3-231

- 3) Disconnect the cable ① and remove the operation panel ②.

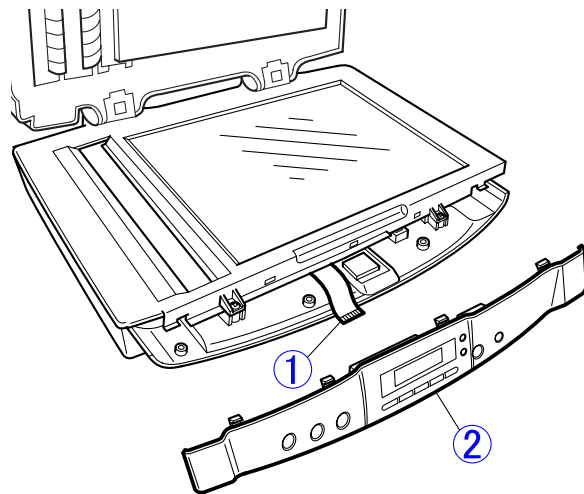


Figure 3-232

Note: In these procedures, the light guide for the power indicator may be removed from the operation panel. Do not lose it.

CHAPTER 4

INSTALLATION & MAINTENANCE

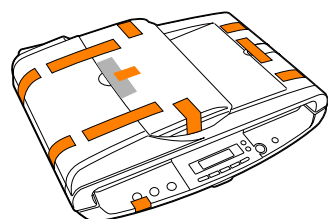
I.	INSTALLATION	4-1	III.	MAINTENANCE	4-11
II.	PARTS REPLACEMENT.....	4-9			

I. INSTALLATION

This machine is a user-installed device. For installation, refer to “Easy Start Guide” packaged with the product. The installation procedures are as follows.

1. Checking the Packing List

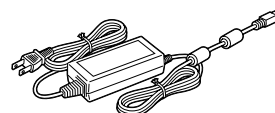
Unpack the product and make sure that it contains all of the following accessories. Note that the packaged accessories may differ depending on the sales region.



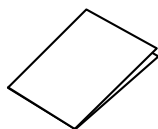
DR-1210C



USB cable



AC adapter



Easy Start Guide



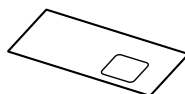
User's Guide



DR-1210C
Setup Disc



Adobe Acrobat
Setup Disc



Warranty Card
(Depending on
the sales region)



Registration Card/
Information, etc.
(Depending on
the sales region)

Figure 4-101

Note: It is recommended to keep the packaging and the packing materials for storing and transporting the machine.

2. Removing the Protection Materials/Releasing the Lock

- 1) Peel off the tape on the operation panel and release the lock switch.

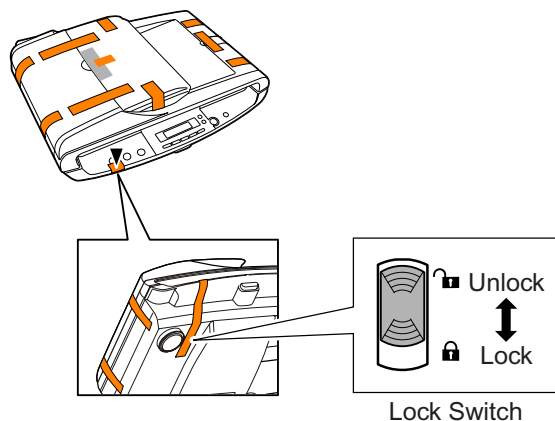


Figure 4-102

- 2) Peel off all pieces of tape except the one that holds the center of the pickup tray.

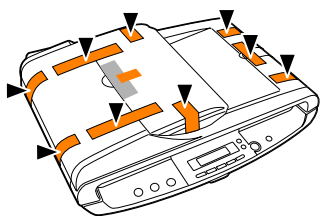


Figure 4-103

- 3) Peel off the tape holding the pickup tray and open it.

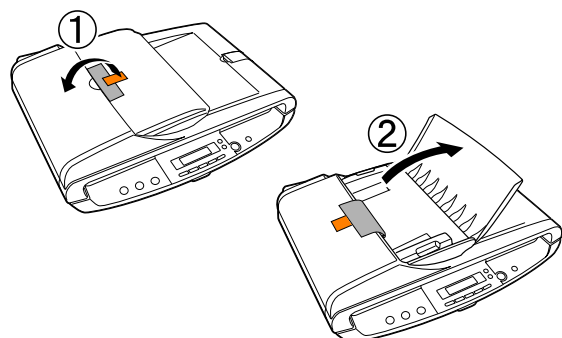


Figure 4-104

- 4) Open the feeder cover and move the paper release lever in the direction shown by the arrow.

Note: Moving the paper release lever causes the separation pad to lower.

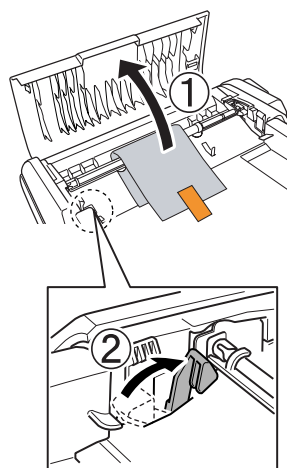


Figure 4-105

- 5) Remove the protective sheet (for roller).

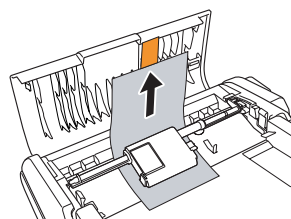


Figure 4-106

- 6) Return the paper release lever to its original position and gently close the feeder cover.

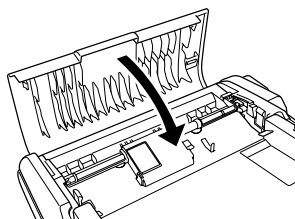


Figure 4-107

- 9) Gently close the feeder.

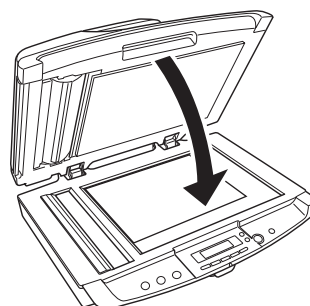


Figure 4-110

- 7) Gently close the pickup tray.

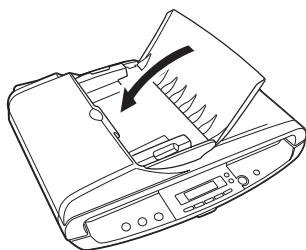


Figure 4-108

- 8) Open the feeder and remove the protective sheet (for feeder).

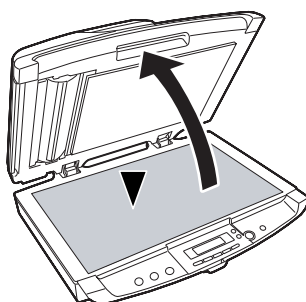


Figure 4-109

3. Installing the Software

Precautions

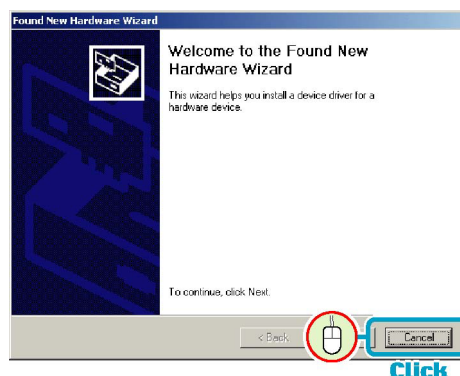
- ◆ Install the software before connecting the scanner to the computer.
- ◆ Be sure to log on to the OS (Windows) with administrator privileges.
- ◆ Close all other applications before installing the software.
- ◆ Check the operating environment of the computer system.

Unless the recommended conditions are satisfied, such specifications as the scanning speed may not be satisfied. Refer to user manual for details.

- * CPU: Pentium4 1.8 GHz or higher
- * Memory: 256 MB or more
- * HDD: Empty capacity of 1 GB or more
- * Hi-Speed USB2.0 interface:
I/F supplied with computer as standard or recommended product supplied by Adaptec
- * The OS must be one of those listed below:
Windows 2000 Professional SP4 or later
Windows XP Professional SP2 or later
Windows XP Home Edition SP2 or later

1) Turn the computer power on.

Note: If the scanner is connected and the computer power is turned on before the software is installed, the following wizard screen appears. Click the [Cancel] button to close the wizard. Install the software before connecting the scanner.



Wizard Screen (Windows2000)

Figure 4-111

- 2) Insert the DR-1210C Setup Disc into the CD drive. The setup wizard automatically starts up.

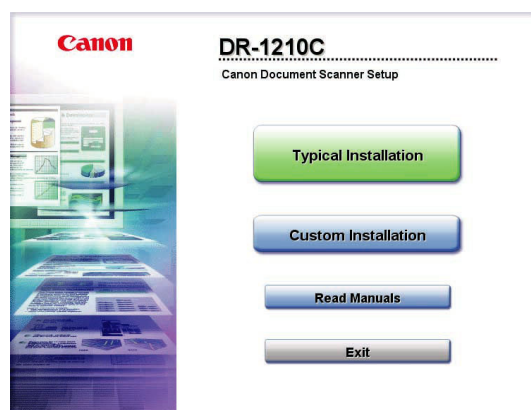
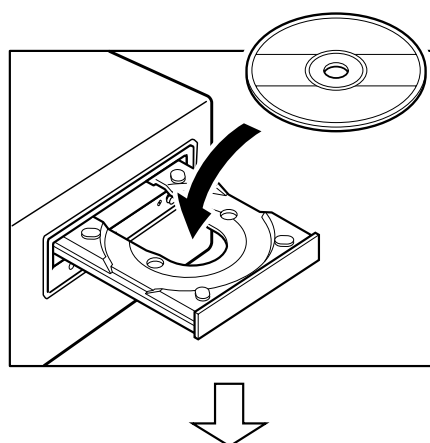


Figure 4-112

3) Click [Typical Installation].

All the software is installed. Refer to user manual for the other options.

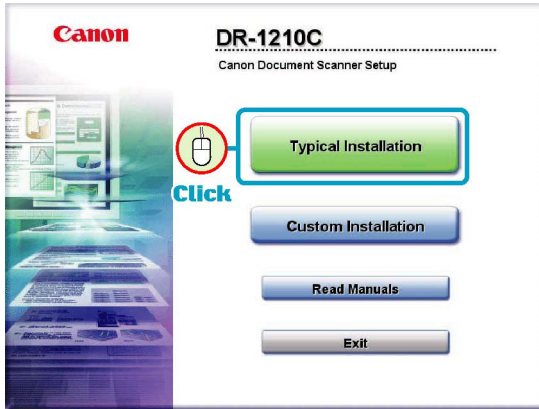


Figure 4-113

4) Click [Install].

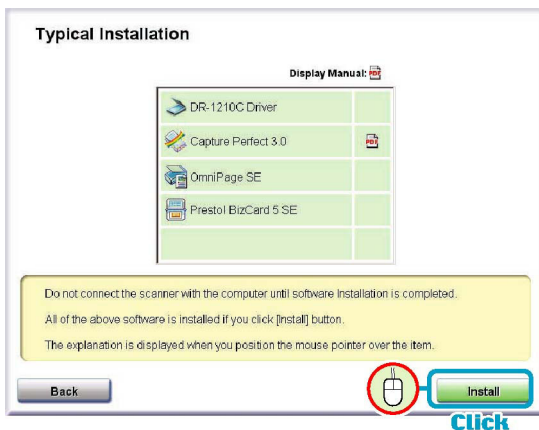


Figure 4-114

5) Click [Next].

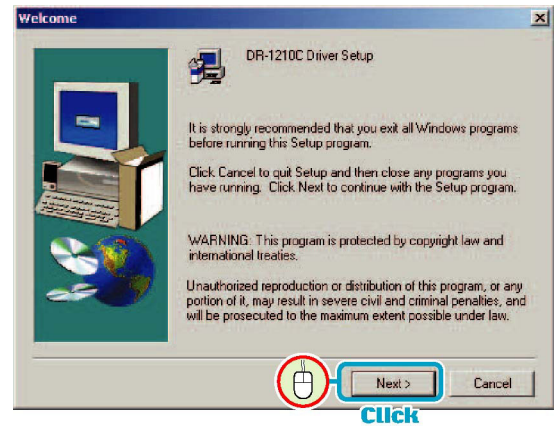


Figure 4-115

- ◆ The mid procedures are abbreviated. Following the screen messages, proceed on installation of the items listed below. Refer to “Easy Start Guide” for details.
 - * DR-1210C Driver (including job tools)
 - * CapturePerfect3.0
 - * Other items (differing depending on sales region)
- ◆ Click [Exit] to complete.



Figure 4-116

4. Connecting to the Computer/Power on

Precautions

- ◆ Use only the packaged AC adapter.
- ◆ Connect the scanner while the scanner power is turned off.
- ◆ Be sure to log on to the OS (Windows) with administrator privileges.

- 1) Check that the ADF connector is fully inserted.
- 2) Insert the AC adapter plug into the scanner.
- 3) Insert the power plug into a power outlet.
- 4) Using the USB cable, connect the computer and the scanner.

Note: The shape of the power plug differs depending on the sales region.

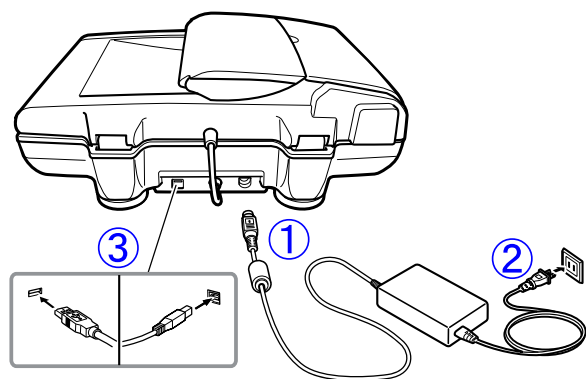


Figure 4-117

- 5) With the computer connected, turn the scanner power on. The power indicator goes on and message "Ready" appears on the display panel.

Note: Be sure that all the necessary software has been installed on the computer and the OS (Windows) has been started up.

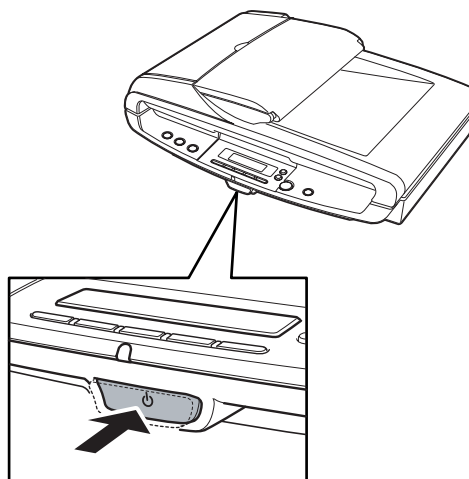


Figure 4-118

- ◆ Note that there are two types of "Ready" messages.



Figure 4-119

Message "A" indicates that the scanner is recognized and ready to scan.

Message "B" indicates that the scanner has started up but is not ready to scan because the computer does not recognize it.

Check the connection to the computer unless message "A" appears.

- 6) Windows recognizes “DR-1210C” as a new device.
- 7) Depending on the type of Windows, the procedures of driver installation (allocation) differ as follows.

◆ Windows2000

Automatically installs the driver and shows a confirmation window. Click [Yes] to complete.

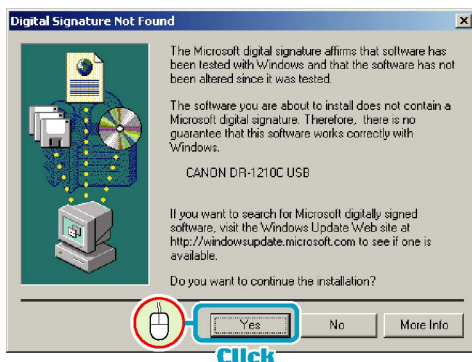


Figure 4-120

◆ WindowsXP

“Found New Hardware Wizard” starts. Operate the following steps.

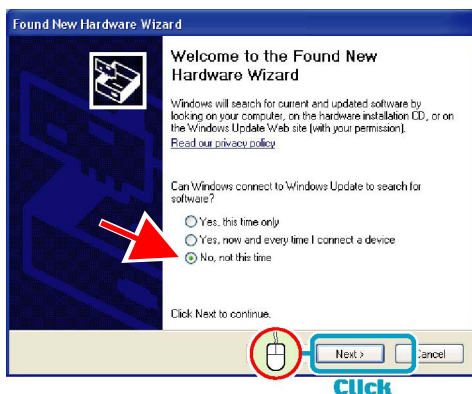


Figure 4-121

- * The above wizard does not appear in case of SP1.

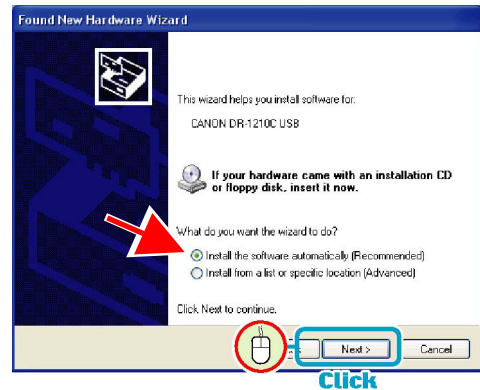


Figure 4-122

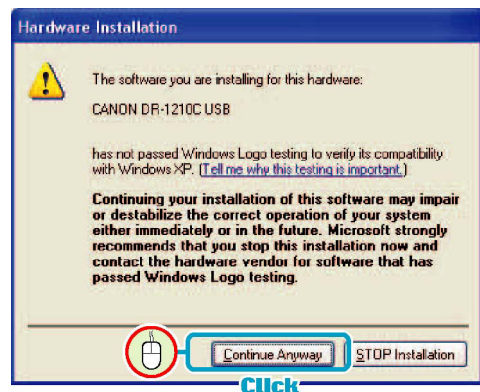


Figure 4-123

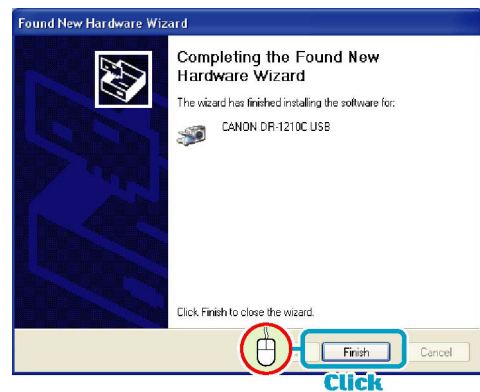


Figure 4-124

5. Scanning

Using the job function, check the operation first. “Easy Start Guide” explains feeder scanning by use of the [FILE] button.

- 1) Thoroughly fan the pages of the document.

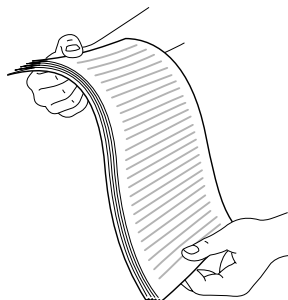


Figure 4-125

- 2) Place the document in the feeder and adjust the document guide adapters.

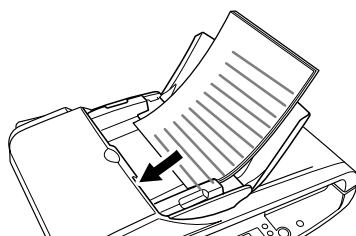


Figure 4-126

- 3) Press the [FILE] button.

Scanner starts scanning.

Note: After the power is turned on, the scanner takes more time than usual for warming up of the fluorescent lamp, etc. before getting ready for scanning operation for the first time.

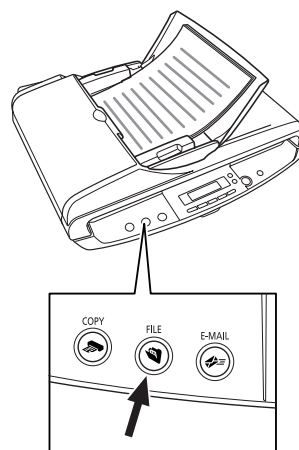


Figure 4-127

- ◆ Press the [FILE] button, and the display panel shows the scanner states one by one.
 - ◆ Scanning and data sending should be in the default conditions. The scanning condition is “black and white with 300 dpi” and the directory of file storage is “\My Document\My Pictures”. The file is in the PDF format, having a file name consisting of a 17-digit number that represents the date and time of scanning.
- 4) When “Sending complete.” appears on the display, the scanning operation completes. Check the saved image.
 - 5) If necessary, repeat scanning of the image in other conditions to check the results.

II. PARTS REPLACEMENT

1. Periodically Replaced Parts

This machine does not have any periodically replaced parts.

2. Consumable Parts

The consumable parts are as listed below. All of them are to be replaced by the user. They are assigned as products or service parts.

Note: This machine includes no feed counter.

No.	Part Name	Product Code	Expected life	Remarks
1	Roller unit	1541B001AA	100,000 sheets	To be replaced when cleaning does not clear feed failures.
2	Separation pad	1541B002AA	50,000 sheets	

Table 4-201

Reference: Differences between periodically replaced parts and consumable parts

1. The periodically replaced parts are those that must be replaced periodically. They are usually assigned as service parts, which must be replaced by service technicians. Note, however, that those periodically replaced parts that have limited storage periods are assigned as commercially available products.
2. The consumable parts are those that are replaced when in failure. They are assigned as products and/or service parts. The users or the service technicians replace them.

3. Major Parts List

The list below shows the major service parts.

Refer to "Appendix II. PARTS CATALOG" for details. The part numbers in the list are those of the OEM.

Note: Other than the operation panel, the parts inside the flatbed assembly are not assigned as service parts. Therefore, the product (entire) should be replaced.

No.	Part Number	Q'ty	Part Name	Remarks
1	910400010420	1	ADF front cover	
2	910400010430	1	Pressure board	
3	910400010440	1	ADF bottom cover	
4	910400010450	2	Hinge	
5	910400010460	1	Feed unit	
6	910400010470	1	Feed motor	
7	910400010480	1	Pickup tray	
8	910400010490	1	ADF PCB	
9	910400010500	1	Feeder cover	
10	910400010510	1	Roller unit	Consumable part
11	910400010520	1	Separation pad	Consumable part
12	910400010540	1	Eject stopper	
13	910400010620	4	Screw head seal	
14	910400010630	1	Cover stopper	
15	910400010650	1	Operation panel	
16	680200002900	1	AC adapter (JP)	100 V
17	680600001500	1	AC adapter (US)	120 V
18	680300007800	1	AC adapter (EUR)	220-240 V
19	680400001400	1	AC adapter (AUS)	220-240 V CA
20	680400001500	1	AC adapter (UK)	220-240 V UK
21	680300007900	1	AC adapter (MLC)	220-240 V CN

Table 4-202

III. MAINTENANCE

1. User Maintenance

Refer to user manual for details.

1) List

No.	Location/Part	Item	Details
1	Main body	Cleaning	Wipe the surfaces with a cloth dipped into water and wrung tightly, then wipe dry.
2	Feed path	Cleaning	Using a blower, etc., remove dust and paper powder from the document feed opening and inside of the feeder.
3	Reading glass	Cleaning	Wipe with a clean and dry cloth. See section 2).
4	Pressure board	Cleaning	
5	Roller unit	Cleaning, replacement	Remove the roller unit from the main body. Wipe the surfaces with a cloth dipped into water and wrung tightly, then wipe dry. The roller unit and the separation pad are consumable parts and the roller unit should be replaced after an expected life of 100,000 sheets and the separation pad, 50,000 sheets. See section 3).
6	Separation pad	Cleaning, replacement	

Table 4-301

2) Reading glass and pressure board

Where to clean is as follows.

◆ Reading glass

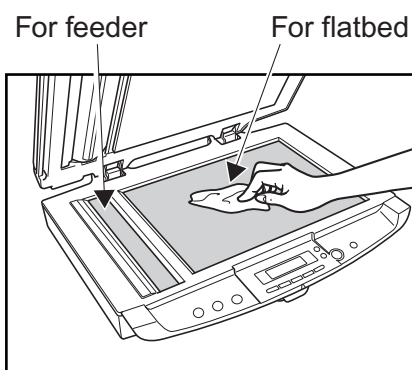


Figure 4-301

◆ Pressure board

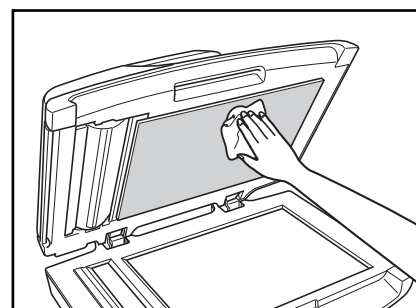


Figure 4-302

3) Roller unit and separation pad

How to remove/attach the roller unit and the separation pad and where to clean are as follows.

- ◆ Gently open the feeder cover.

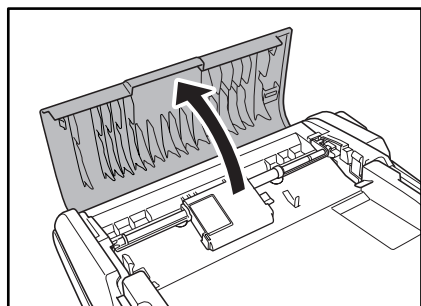


Figure 4-303

- ◆ Raise the roller locking lever.

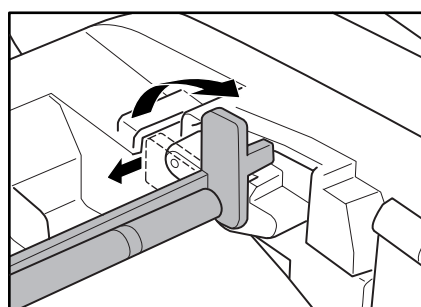


Figure 4-304

- ◆ Remove the roller unit, detaching the locking lever side ① first.

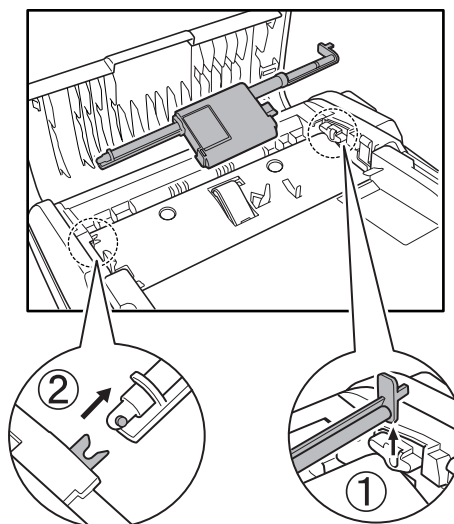


Figure 4-305

- ◆ Holding both sides of the separation pad, remove it.

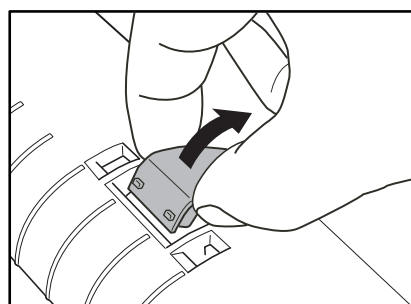


Figure 4-306

- ◆ Clean the roller and the separation pad.

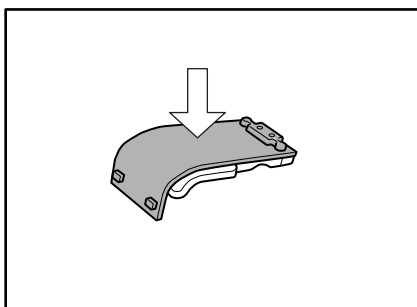
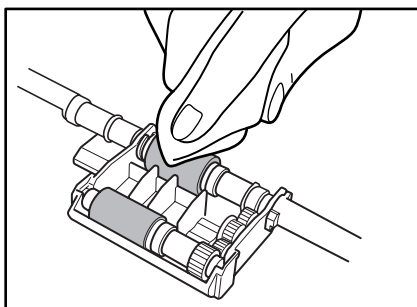


Figure 4-307

- ◆ Align the fitting parts of the separation pad and press it until it clicks.

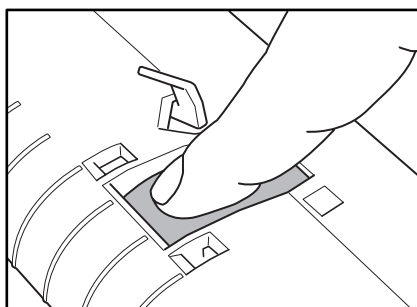
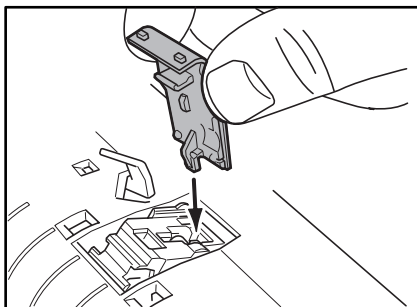


Figure 4-308

- ◆ Reinstall the roller unit, attaching pin side ① first, then locking lever side ②.

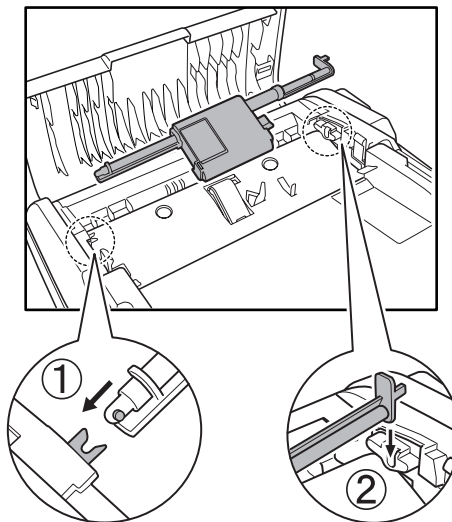


Figure 4-309

- ◆ Lay the locking lever to lock the roller unit.

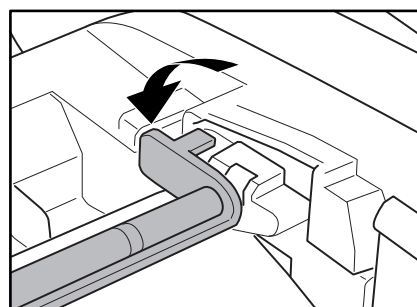


Figure 4-310

- ◆ Close the feeder cover.

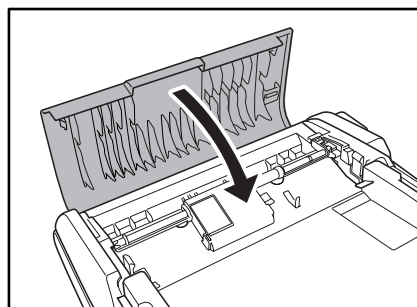


Figure 4-311

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 glass and the roller are dirty. If they are very dirty, instruct the user to follow the “user maintenance” procedures. Recommend the user to replace consumable part(s) if necessary.

To transport this machine, lock the reading unit using the lock switch.

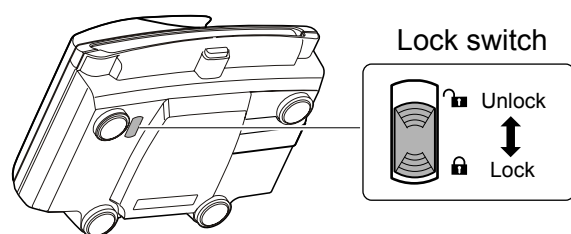


Figure 4-312

CHAPTER 5

TROUBLESHOOTING

I. ERROR DISPLAY	5-1	IV. IMAGE TROUBLESHOOTING.....	5-14
II. LIST OF ERRORS	5-5	V. VERSION INDICATION.....	5-20
III. OPERATION TROUBLESHOOTING	5-7		

I. ERROR DISPLAY

1. Operation Panel

The operation panel displays error messages. The details are as described below. Note that these messages may not appear instantaneously.

For the detailed causes and counter-measures, refer to “III / IV. OPERATING / IMAGE TROUBLESHOOTING”.

1) Scanner recognition

This machine has two types of “Ready” messages.

One shows that the machine power is on and the other, that the computer recognizes the machine.

No.	Display	Meaning
1-1	 Ready	Power on (Before recognized)
	 Ready	After recognized

Table 5-101

In case where the driver (including job tools) has been installed, the “Power on” ready message turns to the “Recognized by computer” ready message immediately after the machine power is turned on.

Should the “Recognized by computer” ready message not appear, there must be failure(s) in the USB cable connection and/or software installation. Check and take measures.

2) Hardware errors

The error messages from the driver are as listed below.

No.	Message	Meaning	Primary Measure
2-1	 Paper Jam	The document is jamming. The roller and/or the separation pad are dirty.	Clean or replace the roller and the separation pad.
2-2	 Feeder is not connected	Communications with the feeder impossible. The ADF cable is disconnected.	Connect the ADF cable. Reset the power./Restart the computer.
2-3	 Scanner is Locked	The scanner is locked by lock switch in the reading unit. Or the reading unit is in an abnormal condition.	Release the lock switch. Reset the power./Restart the computer.
2-4	 Calibration Error	Failed in retrieval of shading correction data.	Reset the power./Restart the computer.
2-5	 Lamp Error	The lamp is not lit. Light intensity is abnormal.	Reset the power./Restart the computer.
2-6	 Hardware Error	Unknown hardware abnormality occurs.	Reset the power./Restart the computer.

Table 5-102

3) Job errors

The error messages from the job tool are as listed below. These errors are mainly caused by improper job registration setting

by the user and failures in the internet system. Refer to the message to identify the related items.

Note: The related functions are marked "X".

No.	Message	Save as file	Print	Attach to E-mail	Send by E-mail
3-1	Can't access folder.	X			
3-2	Can't initialize printer.		X		
3-3	Print failed.		X		
3-4	Mail application is not exist.			X	
3-5	Log-on failed.			X	
3-6	File size too large.			X	X
3-7	Connection timed out.				X
3-8	Host is not found.				X
3-9	No route to host.				X
3-10	Connection refused.				X
3-11	Port Number incorrect.				X
3-12	Connection reset.				X
3-13	Mail Server replied an error.				X
3-14	Canceled to send mail or Failed to send mail.				X
3-15	Sending failed.	X	X	X	X

Table 5-103

2. Computer

The display connected to the computer shows error messages. The details of the messages may differ depending on the software in use.

Note that the computer does not show any error message when scanning is executed by the job. Error messages are shown only on the scanner operation panel.

The user is advisable to refer to the error messages and take measures for such

events as user's own mistakes in operation and document jams. If the user cannot solve the problem, however, the service technician should do.

The followings are the major error messages appearing when CapturePerfect 3.0 is used. Most of them are the same as those shown by other DR scanners but some are specific to this machine.

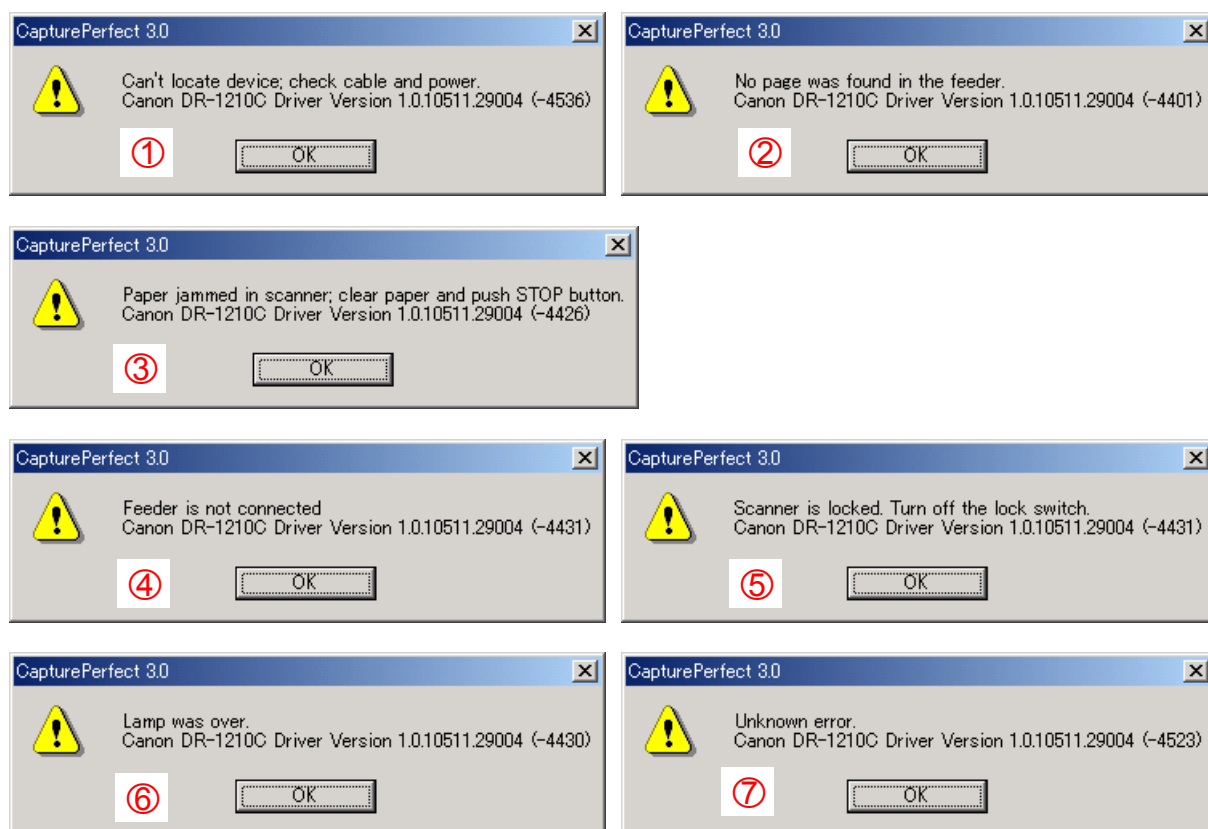


Figure 5-101

II. LIST OF ERRORS

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

Because no service mode and no software for servicing are available in this

machine, the service technician is required to operate in the same way as the user does when checking the machine operation. Use the driver packaged with the product and appropriate application software.

1. Operation Errors

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

No.	Error \ Cause	System/ Software	Hard- ware	Connec- tion	Dirt	Docu- ment	Setting
1	No power.		X	X			
2	Not recognized by computer.	X		X			
3	Scanning does not start.	X	X	X			X
4	Slow scanning speed.	X					X
5	Motor does not work.		X				
6	Document is not fed.		X				X
7	Jam/double feed/skew.		X		X	X	

Table 5-201

2. Images Errors

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

No.	Error \ Cause	System/ Software	Hard- ware	Connec- tion	Dirt	Docu- ment	Setting
1	Completely black/ completely white.		X		X		X
2	Too dark/too light.				X		X
3	Black borders around image.					X	X
4	Image skews.					X	X
5	Moire on image.					X	X
6	Spots and streaks on image.		X		X		
7	Outer areas of im- age disappear.					X	X

Table 5-202

III. OPERATION TROUBLESHOOTING

1. No Power

The power indicator and display do not light.

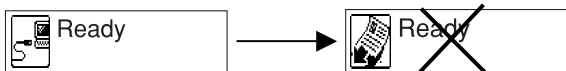
The fluorescent lamp of the reading unit does not light.

Cause/Faulty location	Step	Check item	Result	Action
Connection of power cord	1	Are the power cord and the AC adapter connected?	NO	Connect properly.
AC power supply voltage	2	Is the specified voltage supplied to the power outlet?	NO	Explain user that the trouble is not with this machine.
Power cord, AC adapter	3	Is the problem solved by replacing the power cord and the AC adapter?	YES	End.
Operation PCB, Flatbed assembly	4	Does the fluorescent lamp of the reading unit work?	YES	Properly connect the operation PCB. Or replace the operation panel.
			NO	Faulty flatbed assembly. Replace the main body.

Table 5-301

2. Not Recognized by Computer

After the power is turned on or scanning operation starts, the ready message does not change to the “Recognized by computer” ready message.



Cause/Faulty location	Step	Check item	Result	Action
Connection of USB cable	1	Is the USB cable connected?	NO	Connect properly.
System	2	Is the problem solved by resetting the machine power and restarting the computer?	YES	End.
Scanner driver	3	Is the scanner driver installed?	NO	Install.
USB card	4	Is an appropriate USB card installed?	NO	Ask user to install a recommended card.
USB cable	5	Is the problem solved by replacing the USB cable?	YES	End. Use the packaged USB cable or any other appropriate cable on the market.

Table 5-302

3. Scanning Does Not Start

Error message appears. The reading unit does not work.

Message	Step	Check item	Result	Action
▲----(General)	1	Is the problem solved by resetting the machine power and restarting the computer?	YES	End.
▲Feeder is not connected	1	Is the ADF cable connected?	NO	Connect.
	2	Is the ADF PCB properly connected?	NO	Properly connect.
	3	Is the problem solved by replacing the ADF PCB?	YES	End.
▲Scanner is Locked ▲Calibration Error ▲Lamp Error ▲Hardware Error	1	Is the lock switch released?	NO	Release.
	2	Is the software properly installed?	NO	Properly install.
	3	Is the software version appropriate?	NO	Install an appropriate version.
Job-related error messages	1	Is the job properly set?	NO	Properly set.
	2	Is the system properly working including the network connections?	NO	Ask user to resume the system.

Table 5-303

- ◆ If the scanner does not resume normal operation after taking the above listed actions, the problem may be with the components inside the flatbed assembly such as the scanner motor or the reading unit. Other than the operation panel, the parts inside the flatbed assembly are not assigned as service parts. Therefore, the product should be replaced.
- ◆ Scanning by the job function is impossible if “Disable device events” is selected on the Windows event setting screen.

- ◆ Tens of seconds are required to warming up the fluorescent lamp after the machine power is turned on or the machine is resumed from the power saving mode. This is not a failure. By user operation, however, the user can change the time before the power saving mode is on. Refer to “Lamp Control” on the next page for details.



Figure 5-301

◆ CCFL Control

This machine is designed so that it enters the power saving mode after a 12-minute period of no operations, causing the fluorescent lamp to go off. The “CCFL Control” is used to change the period of time before the machine enters the power saving mode. The user is allowed to change the setting. The overview of the procedures to change the setting is described below. Refer to the user manual for details.

- 1) Open the control panel of Windows and select [Scanners and Cameras Properties].
- 2) Select [CANON DR-1210C USB], then select [Properties].

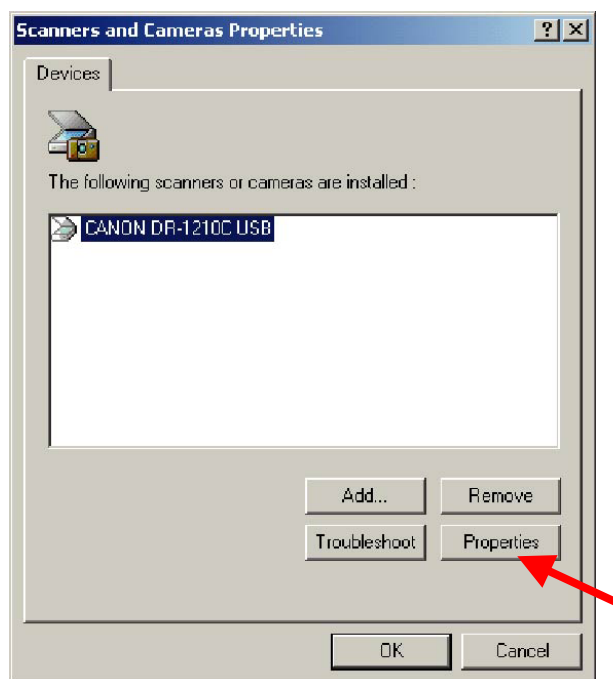


Figure 5-302

- 3) Select [CCFL Control].

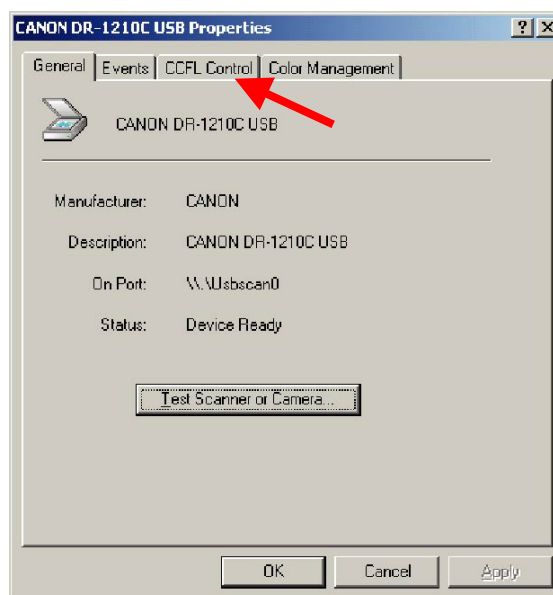


Figure 5-303

- 4) Select [Time before turning off the CCFL (Cold Cathode Fluorescent Lamp)]. It is defaulted to 12 minutes.

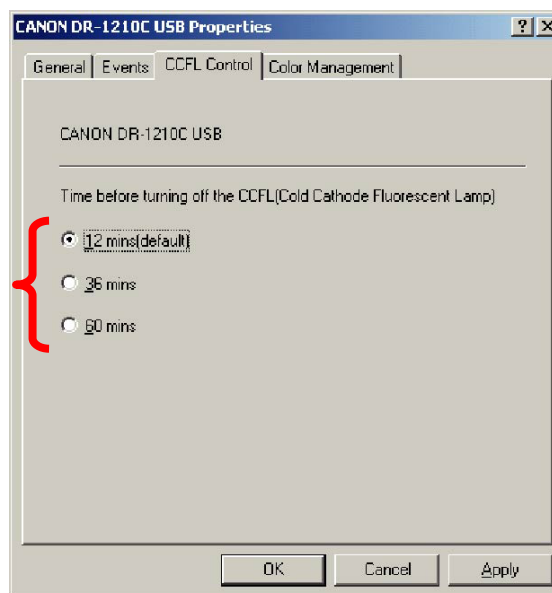


Figure 5-304

4. Slow Scanning Speed

The standard scanning speed of this machine is 12 sheets per minute.

A slower scanning speed than those of other high-speed machines is not a failure.

Selecting higher resolutions, color setting and/or special functions further makes the scanning speed slower.

Should the scanning speed be too slow after taking all of these considerations, the possible causes are as listed below.

Cause/Faulty location	Step	Check item	Result	Action
Insufficient memory capacity in computer	1	Is any other application activated?	YES	Close other applications.
	2	Is any resident application activated such as a virus protection application?	YES	Close resident applications.
	3	Is the hard disk short of empty memory?	YES	Increase empty memory of the hard disk.
Hi-Speed USB2.0 is not supported	1	Is the USB card supported?	NO	Use a recommended USB card.
	2	Is the USB cable supported?	NO	Use a supported USB cable.

Table 5-304

5. Motor Does Not Work

1) Scanner motor = reading unit does not work at all.

Message	Step	Check item	Result	Action
▲Scanner is Locked	1	Is the problem solved by resetting the machine power and restarting the computer?	YES	End.
			NO	Failure in the flatbed assembly. Replace the main body.

Table 5-305

2) Feed motor = roller does not rotate at all.

Message	Step	Check item	Result	Action
▲Paper Jam	1	Is the problem solved by resetting the machine power and restarting the computer?	YES	End.
	2	Is the feed motor properly connected?	NO	Properly connect.
	3	Is the problem solved by replacing the feed motor?	YES	End.
	4	Is the problem solved by replacing the ADF PCB?	YES	End.

Table 5-306

6. Document is Not Fed

Document is not fed at all. Document cannot be detected.

Error message "No page was found in the feeder" appears on the computer display.

Cause/Faulty location	Step	Check item	Result	Action
Scanner setting	1	Is the "Paper Source" properly set? (Auto/Feeder)	NO	Properly set.
Document sensor	2	Does the document sensor lever normally function?	NO	Check the move of the lever and replace the feed unit if necessary.
	3	Is the document sensor properly connected?	NO	Properly connect.
	4	Is the problem solved by replacing the feed unit?	YES	End.

Table 5-307

7. Document is Not Properly Fed (Jam/Double Feed/Skew)

Document is wrinkled or folded. Double feed or skew occurs.

Document feed stops.→



Paper Jam

Cause/Faulty location	Step	Check item	Result	Action
Document	1	Does the document meet the specifications? (Size, thickness, quality, fold, etc.)	NO	Ask user to use documents that meet the specifications. Ask user to use the flatbed.
Document setting	2	Is the document properly set? (Curled, stuck, slant documents, misuse of document guide adapters, etc.)	NO	Properly set document.
Roller unit, Separation pad	3	Are they properly mounted?	NO	Properly mount.
	4	Are the surfaces clean?	NO	Clean or replace the roller unit and/or the separation pad.
Feed unit	5	Is the feed unit properly mounted?	NO	Properly mount.
	6	Is the surface contacting the documents smooth? (Dirt, damages, burrs, etc.)	NO	Clean or replace the feed unit.

Table 5-308

IV. IMAGE TROUBLESHOOTING

◆ Image Samples



Figure 5-401

1. Completely Black/Completely White

Scanned image is completely black, completely white or has black stripes only.

Cause/Faulty location	Step	Check item	Result	Action
"Brightness" setting	1	Is the "Brightness" properly set?	NO	Change the setting. Adjust the "Contrast" in addition if necessary.
"Paper Source" setting	2	Is the "Paper Source" properly set? Completely black image results from selecting flat-bed with no document set there.	NO	Change setting.
ADF cable connection	3	Is the ADF cable connected?	NO	Connect. See note below.
Lock switch position	4	Is the lock switch released?	NO	Release. See note below.
System	5	Is the problem solved by resetting the machine power and restarting the computer?	YES	End.
			NO	Possibly the machine or the software is faulty. Carry out check items listed in "III. OPERATION TROUBLESHOOTING". See note below.

Note: Self diagnosis is executed prior to commencement of first scanning after the machine power is turned on. Should an error be found at this time, the machine gives an error message. Thereafter, however, the error message may not be shown and the scanner may only make an output of completely black or completely white image.

Table 5-401

2. Too Dark/Too Light

Image does not look appropriate due to improper brightness.

Cause/ Faulty location	Step	Check item	Result	Action
"Brightness" setting	1	Is the "Brightness" properly set? The brightness should be set to "Auto" in ordinary case but may be required to change according to the type of document.	NO	Change the setting. Adjust the "Contrast" in addition if necessary.
Dark background document	2	Is the "Advanced Text Enhancement" selected?	NO	Select. Dark background is eliminated and the scanned image looks better.

Table 5-402

3. Black Borders Around Image

Black borders appear around the images.

Note, however, that borders having a thickness of about 1 mm are within the specifications, so they are not a failure.

Cause/Faulty location	Step	Check item	Result	Action
"Page Size" setting	1	Is the "Page Size" properly set?	NO	Change the setting.
Document setting	2	Is the document set at the correct position?	NO	Set at the correct position.
Setting of "Auto-detection" for paper size or "Border Removal"	3	Is "Auto-detection" or "Border Removal" set?	NO	Set. Black border can be removed by image processing.

Table 5-403

4. Image Skews

If the document is set slanting for flatbed scanning or skews when fed for feeder scanning, then the image skews.

Cause/Faulty location	Step	Check item	Result	Action
Document setting	1	Is the document properly set?	NO	Properly set.
"Deskew" setting	2	Is the "Deskew" set?	NO	Set. Slant can be corrected by image processing.
Document feeding	3	Is the document fed straight?	NO	Carry out check items listed in "III. OPERATION TROUBLESHOOTING 7. Document is Not Properly Fed".

Table 5-404

5. Moire on Image

Moire is likely to appear when a photograph is color scanned with a low resolution from a magazine or a catalog.

When the "Color Smoothing" is set on, the averaging function converts the resolution for the data read with a resolution of 600 dpi, suppressing occurrence of moire.

Cause/Faulty location	Step	Check item	Result	Action
"Color Smoothing" setting	1	Is the "Color Smoothing" set?	NO	Set.
			YES	Heighten the resolution.

Table 5-405

6. Spots and Streaks on Image

If the reading glass surface is dirty when the flatbed scanning is used, the state of the spot on the glass (shape and color) appears on the scanned image. In case of the feeder scanning, spots on the feed system including the feed roller etc. appear on the document or those on the reading glass for the feeder make streaks in the feed direction on the scanned image.

On the other hand, white streaks appearing on the scanned images for both flatbed and feeder scanning are caused by dirty shading sheet in most cases. In particular, if white streaks appear outstanding in a slightly light area on a color image, it can be said that it is caused by dirty shading sheet.

Cause/Faulty location	Step	Check item	Result	Action
Roller unit and separation pad (for feeder scanning)	1	Are the surfaces clean?	NO	Clean or replace the roller unit and/or the separation pad.
Feed unit (for feeder scanning)	2	Is the feed path clean?	NO	Clean.
Reading glass	3	Are the reading glasses clean? (for both flatbed and feeder scanning)	NO	Clean. Replace the main body if scratches are found or the back surface is dirty.
			YES	The reading unit or the shading sheet is faulty. Replace the main body.

Table 5-406

7. Outer Areas of Image Disappear

When scanning a document with characters, photographs, illustrations, etc. reaching the edges of it, selecting the “Auto-detection”, the “Deskew” or the “Border Removal” may cause the outer areas to disappear from the scanned image. Because these image processing functions detect the edges of the image as white data in principle, they cannot correctly detect the edges as that are colored. If colored light, however, the characters, etc. may be correctly detected even in the edges.

Cause/Faulty location	Step	Check item	Result	Action
Document	1	Does any of the document edges have black-colored object(s)?	YES	Set off such functions as the “Auto- detection”.
	2	Does any of the document edges have object(s) that is brighter than black?	YES	Scan the document using the “24-bit Color”. This may result in a correctly scanned image.

Table 5-407

V. VERSION INDICATION

1. Driver (Including LLD)

Select the [About] button in the basic setting dialog box of the driver causes the “About” screen to appear. The LLD should be indicated as the firmware.

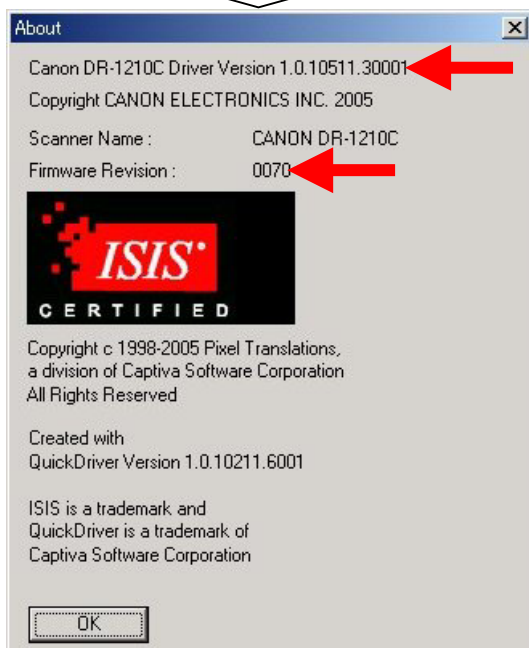
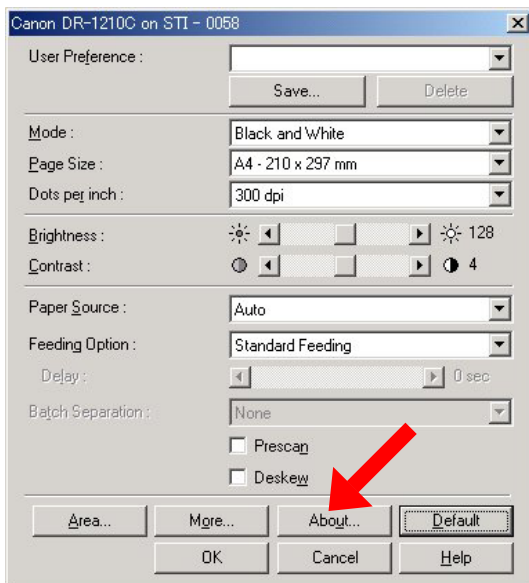


Figure 5-501

2. CapturePerfect3.0

Select [Help] from the start screen of CapturePerfect3.0, then [About]. This shows screens as follows.

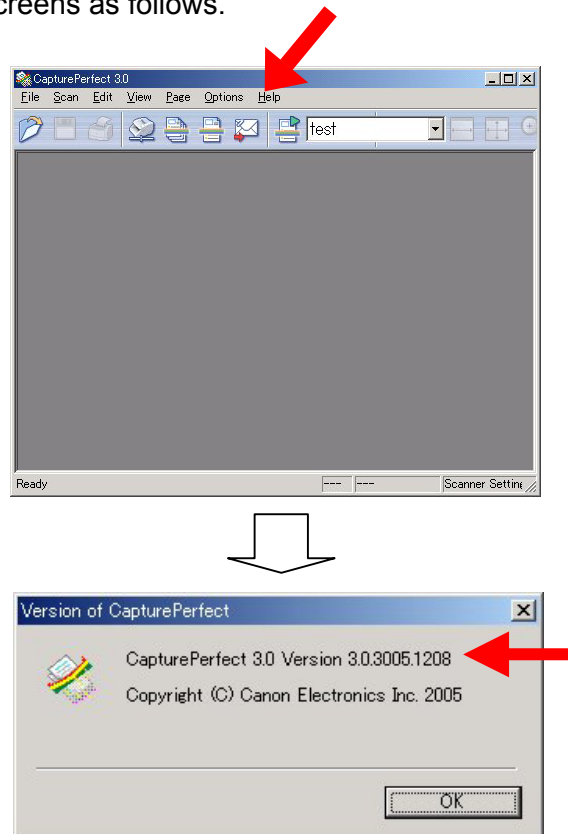
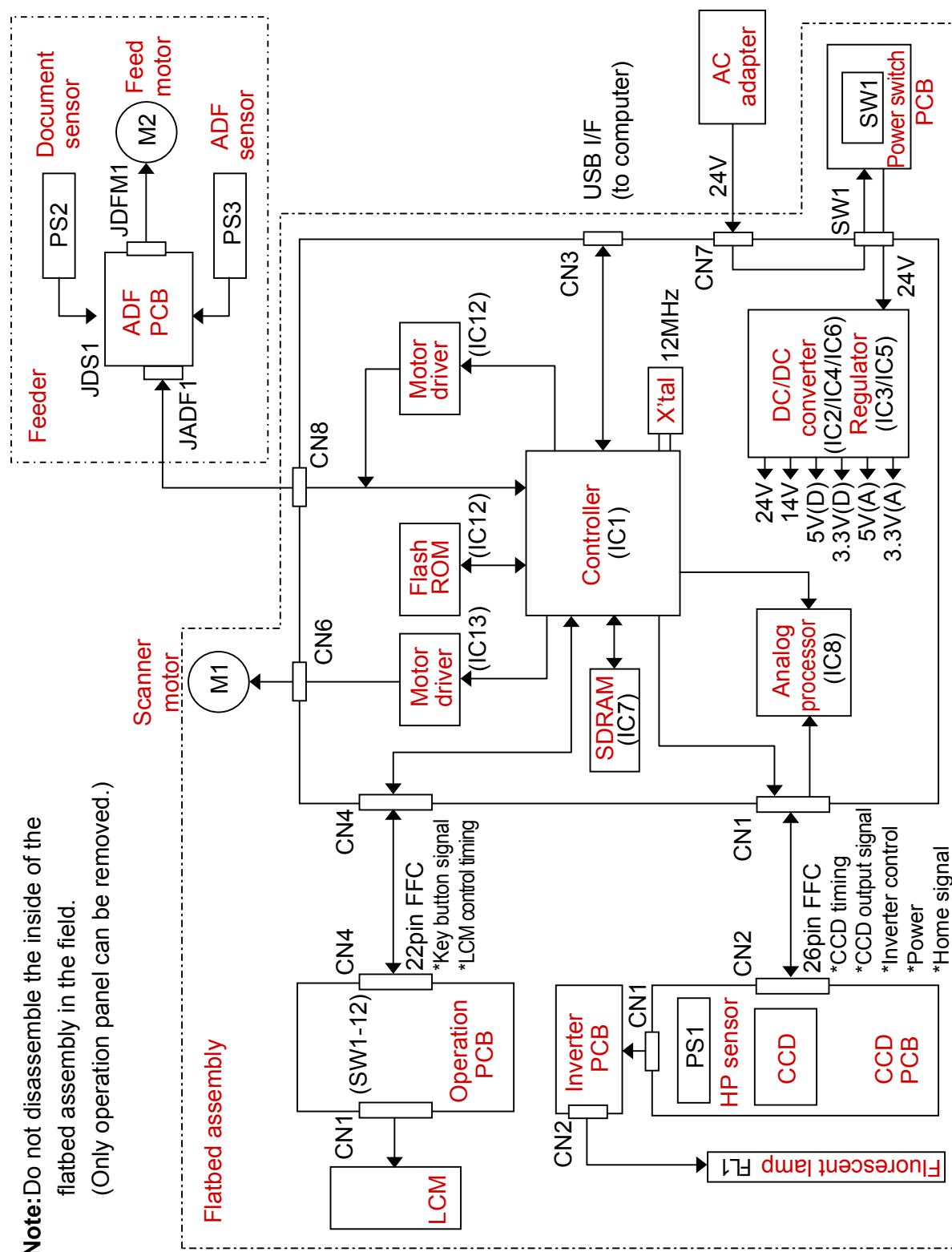


Figure 5-502

APPENDIX

I.	ELECTRICAL BLOCK DIAGRAM	A-1	III.	SCRAPPING	A-4
II.	PARTS CATALOG	A-2			

I. ELECTRICAL BLOCK DIAGRAM



II. PARTS CATALOG

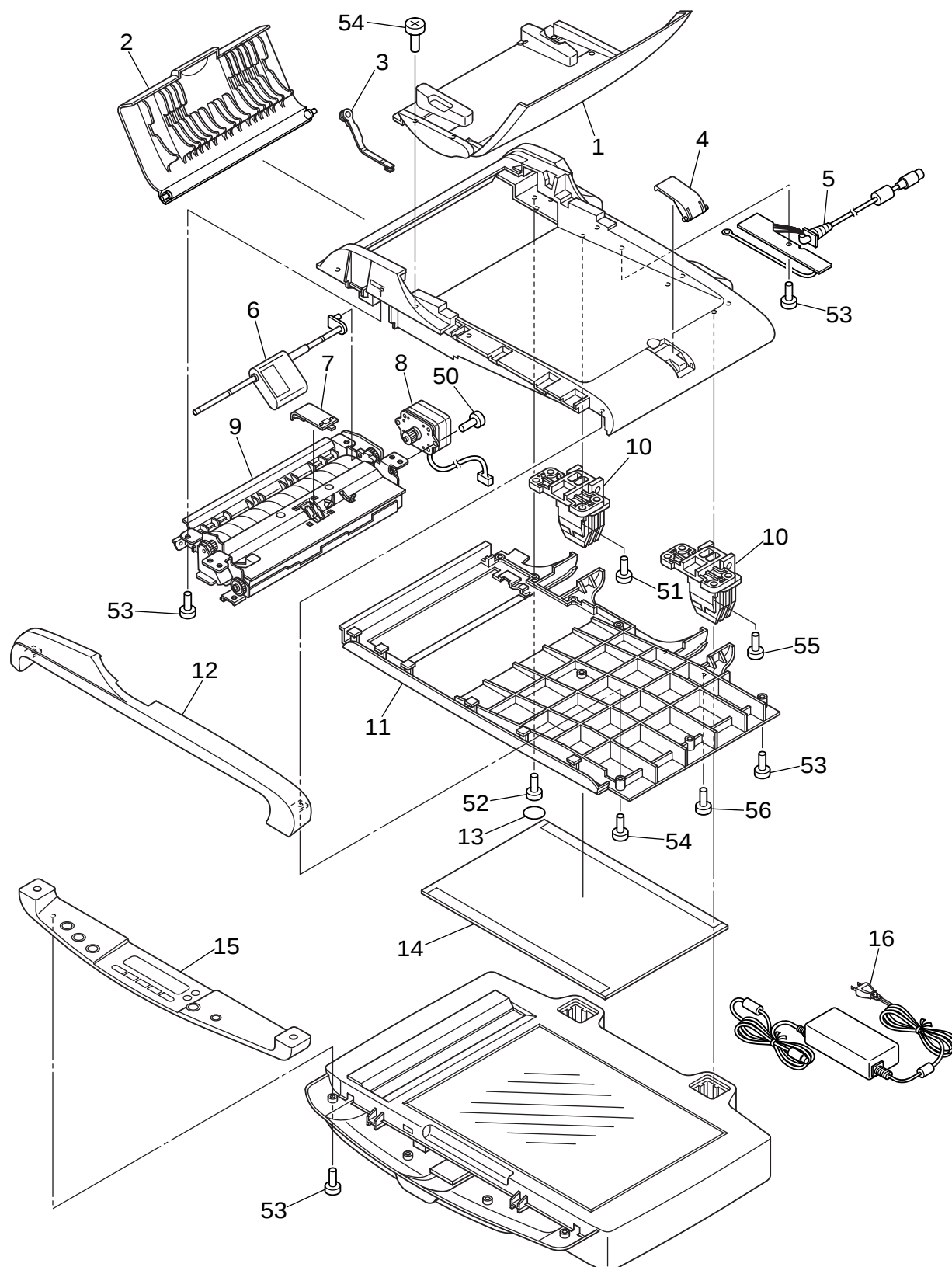


FIGURE & KEY NO.	PART NUMBER	RANK	Q'TY	DESCRIPTION	REMARKS
100-1	910400010480		1	TRAY, PICKUP	
2	910400010500		1	COVER, FEEDER	
3	910400010630	N	1	STOPPER, COVER	
4	910400010540	N	1	STOPPER, EJECT	
5	910400010490		1	PCB ASS'Y, ADF	
6	910400010510		1	ROLLER UNIT, PICKUP	
7	910400010520		1	PAD, SEPARATION	
8	910400010470		1	MOTOR, STEPPING	
9	910400010460		1	FEEDING UNIT	
10	910400010450		2	HINGE	
11	910400010440		1	COVER, ADF BOTTOM	
12	910400010420		1	COVER, ADF FRONT	
13	910400010620	N	4	SEAL, SCREW HEAD	
14	910400010430		1	BOARD, PRESSURE	
15	910400010650		1	OPERATION PANEL UNIT	
16	680200002900		1	AC ADAPTER, 24V 1.25A (JP)	100V
	680600001500		1	AC ADAPTER, 24V 1.25A (US)	120V
	680300007800		1	AC ADAPTER, 24V 1.25A (EUR)	220-240V
	680400001400		1	AC ADAPTER, 24V 1.25A (AUS)	220-240V CA
	680400001500		1	AC ADAPTER, 24V 1.25A (UK)	220-240V UK
	680300007900		1	AC ADAPTER, 24V 1.25A (MLC)	220-240V CN
50	XB1-2300-405		2	SCREW, BH M3x4	
51	XB1-2400-605		2	SCREW, BH M4x6	
52	XB1-2401-005		2	SCREW, BH M4x10	
53	XB4-7300-605		13	SCREW, TAPPING B, BH M3x6	
54	XB4-7301-005		4	SCREW, TAPPING B, BH M3x10	
55	XB4-7400-805		2	SCREW, TAPPING B, BH M4x8	
56	XB4-7401-205		2	SCREW, TAPPING B, BH M4x12	

III. SCRAPPING

When the product is discarded, it is required to remove the parts/units that contain toxic substances. The fluorescent lamp in the reading unit of this product contains mercury, though slight amount. The lamp must be removed in the procedures described below.

Refer to these procedures, in addition, if it is required to separate the other parts of the flatbed assembly for disposal.

Note: Once the outer cover and the internal parts of the flatbed assembly are removed, the quality cannot be assured even if reassembled. Disassemble the flatbed assembly except the operation panel only when discarding the product. Never disassemble it in ordinary servicing work.

1. Fluorescent Lamp

- 1) Remove the feeder ①. Refer to "CHAPTER3, DISASSEMBLY & REASSEMBLY" for details.

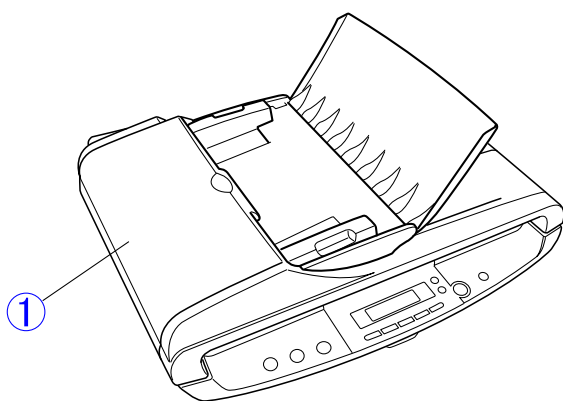


Figure A-301

- 2) Remove the 2 screws ① from the hinge insertion section.

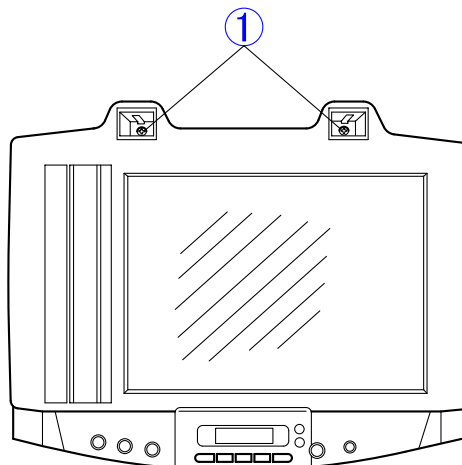


Figure A-302

- 3) Remove the 4 screws ① on the bottom side.

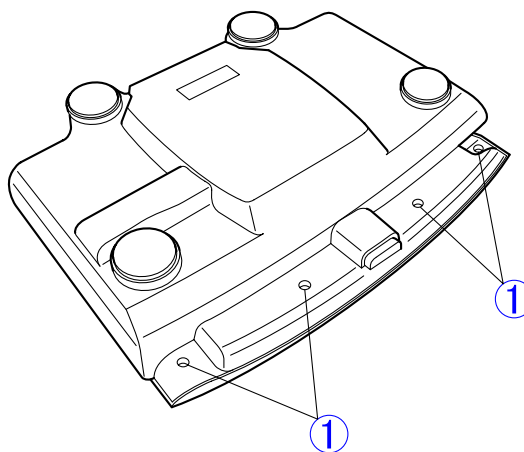


Figure A-303

- 4) Press the two areas around section A on the operation panel ① downward and unhook the fitting parts inside. Turning the operation panel, further unhook the fitting parts inside, then remove the operation panel. The cable connected to the operation panel is also disconnected at the same time.

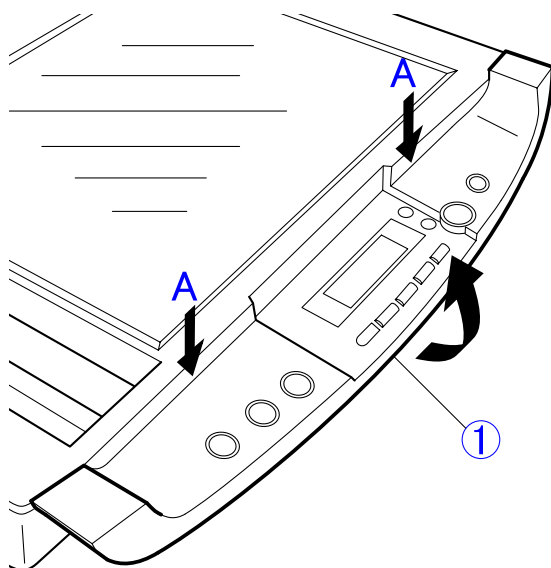


Figure A-304

- 5) Remove the 2 screws ①. Lifting up end of the flatbed cover ② and unhooking the fitting parts inside, remove the flatbed cover.

Note: The fitting parts inside may be broken in the procedures to remove the flatbed cover. It is not a problem, however, because this is for discarding.

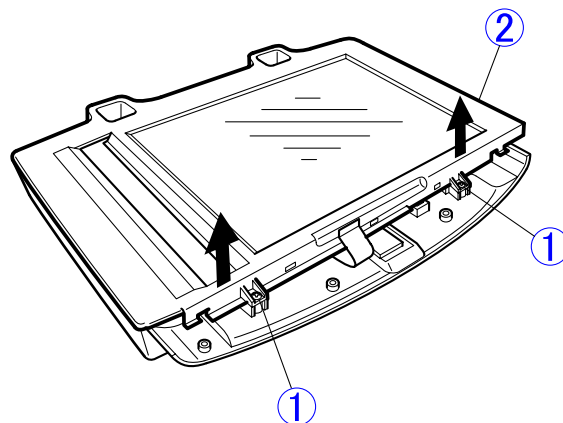


Figure A-305

- 6) Remove the 2 screws ① and cable cover ②. Then disconnect the cable ③ of the reading unit.

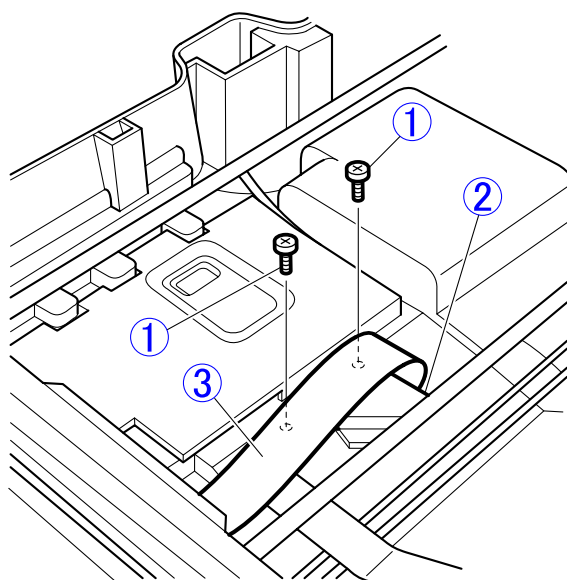


Figure A-306

- 7) Remove the screw ① and the guide shaft stopper ②. Strongly press the tensioner ③ to the direction shown by the arrow, loosen the timing belt ④ and remove it.

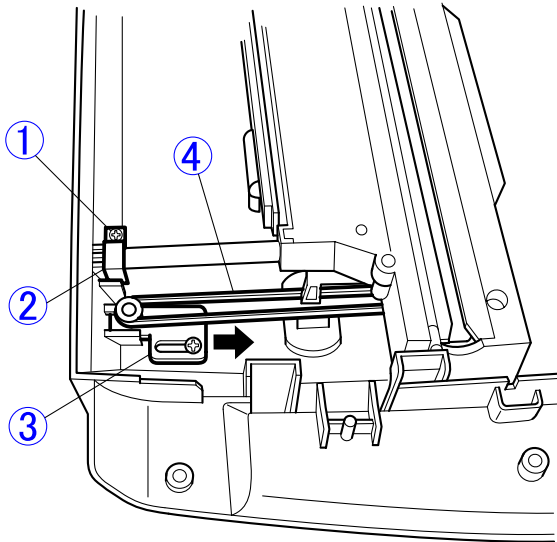


Figure A-307

- 8) Lifting up one end of the guide shaft ①, remove reading unit ② from the guide shaft.

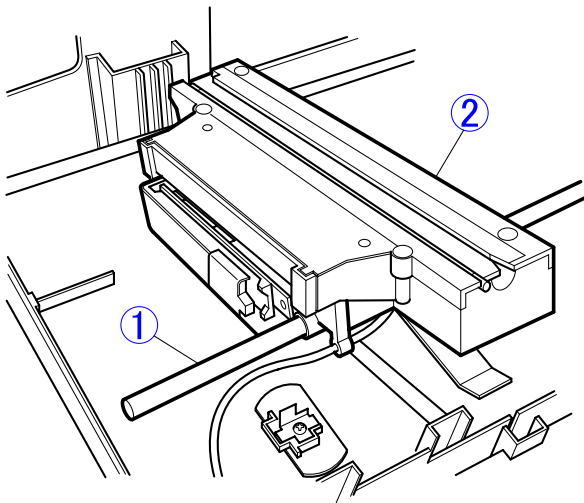


Figure A-308

- 9) Remove the 4 screws (black) ①, slide the cover ② to the direction shown by the arrow and remove it.

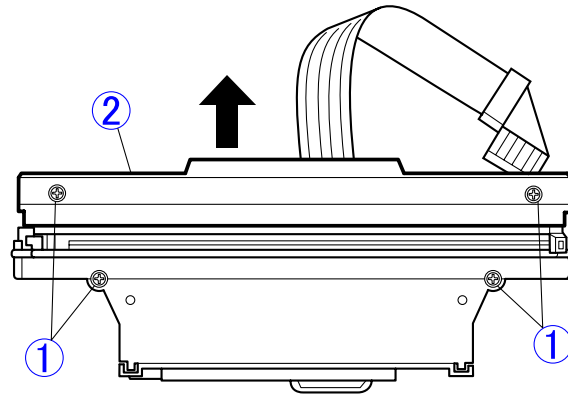


Figure A-309

- 10) Disconnect connector ① and remove the fluorescent lamp ② from the cover ③.

Note: Do not damage the fluorescent lamp.

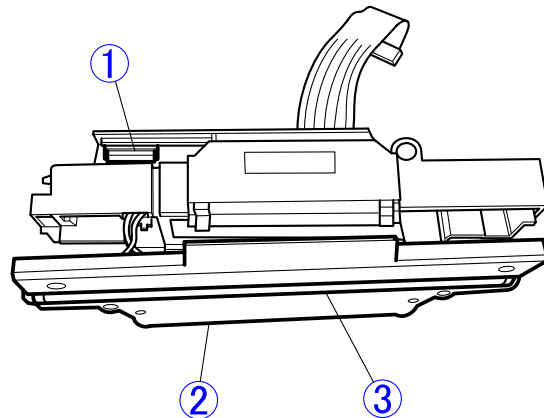


Figure A-310

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