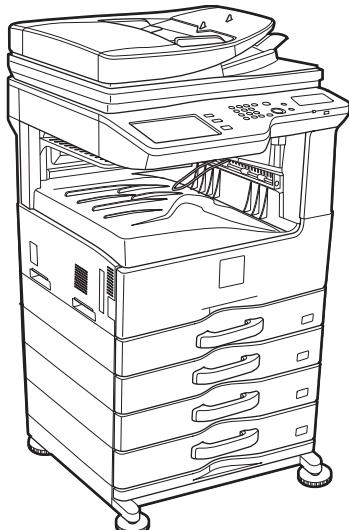


# SHARP SERVICE MANUAL

CODE: 00ZMXM264/S1E



## DIGITAL MULTIFUNCTIONAL SYSTEM

**MX-M264U/M264N  
MX-M314U/M314N  
MODEL MX-M354U/M354N**

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Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

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The contents are subject to change without notice.

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# Symbols in this manual

The lists of symbols used in this manual are shown below.

The meaning of each symbol described in the table must be understood for proper servicing.

## 1. Symbols used for notes and cautions

Symbol	Meaning	
	CAUTION	Indicates a general caution item.
	HIGH TEMP	Be careful of a high temperature in the fusing section.
	HIGH VOLTAGE	Be careful of an electric shock where a high voltage is applied such as the high voltage PWB, the main charger, and the process section.
	DANGER	Indicates danger.
	HANDLE WITH CARE	Indicates a part which requires special care for handling such as the HDD, and the LSU.
	INHIBIT	Indicates inhibit.
	NO ELECTROSTATIC CHARGE	Be careful to keep away from static electricity. (PWB's and electric parts)
	NO DUST, FINGER PRINT, DIRT, SCRATCH	Be careful not to touch directly, such as the optical section, the photoconductor, and the DV roller. Also be careful not to scratch.
	NO SCRATCH	
	NO LIGHT	Be careful not to expose to light, such as the photoconductor, and the test chart.
	NO SOLVENT	Be careful not to use a solvent in cleaning, etc.
	NO DISASSEMEL	Do not disassemble. Not serviceable. Example CCD unit.

Symbol	Meaning	
	OK/GOOD	Indicates a correct procedure or result in an adjustment, etc.
	NO GOOD	Indicates a wrong procedure or result in an adjustment, etc.
	NOTE	Indicates a note.
	IMPORTANT	Indicates an important item.
	REFER	Indicates a reference page, etc.
	NEW	Indicates a new technology, a new method, or a new item.
	EXAMPLE	Indicates a description using an example.

## 2. Symbols used in the work contents

Symbol	Meaning (Work content)	
	Adhesion	Indicates that a seal, etc. is attached.
	Adjustment	Indicates an adjustment.
	Measure a dimension or a size.	Indicates that a dimension or a length is measured.
	Apply grease	Indicates that grease is to be applied.
	Apply conductive grease	Indicates conductive grease is applied
	Cleaning (Dry)	Indicates clean with a dry cloth.
	Cleaning (Wet)	Indicates clean with a cloth dampened with water.
	Cleaning (Alcohol)	Indicates clean with alcohol.
	Cleaning (Blower)	Indicates cleaning is done with a blower/brush.

Symbol	Meaning (Work content)	
	Cleaning (Vacuum)	Indicates that cleaning is performed with a vacuum cleaner.
	Cleaning (Brush)	Indicates that cleaning is performed with a brush.
	Oil	Indicates that oil is applied to lubricate.
	Apply powder.	Indicates that setting power is applied to the photoconductor drum, the transfer belt, etc.
	Replace	Indicates that a part is replaced.
	Check	Indicates that a check (replacement, adjustment, cleaning) is performed.
	Cut	Indicates that cutting is performed.
	Loosen	Indicates that a screw is loosened.
	Connect	Indicates that a connector is connected.
	Disconnect	Indicates that a connector is disconnected.
	Remove a harness.	Indicates that a harness is unsecured.
	Attach a harness.	Indicates that a harness is secured.
	Remove a clamp.	
	Attach a clamp.	
	Release a hook.	Indicates that a hook is released.
	Fix a hook.	Indicates that a hook is fixed.
	Disengage the pawl.	

Symbol	Meaning (Work content)	
	Engage the pawl.	
	Screw lock	Indicates that a screw is secured with adhesive.
	Unlock	
	Turn OFF the power.	
	Disconnect the power plug.	

### 3. Symbols used for kinds of parts

Symbol	Meaning (Kinds of parts)	
	Maintenance part	Indicates a part which is replaced in a maintenance procedure.
	Consumable part	Indicates a consumable part such as a photoconductor, developer, a transfer belt, etc.
	Waste part	Indicates a waste part which is consumed but excluded from the above consumable parts. (A roller, a seal, etc.)
	Unit part	Indicates a part which is designated as a unit.
	Included part	Indicates a part which is included in the package

### 4. Symbols used for additional descriptions

Symbol	Meaning	
	View from the top	Indicates from which angle the drawing is viewed.
	View from the bottom	
	View from the front	
	View from the back	

## NOTE FOR SERVICING

\* About a main unit illustration, it may differ from a target model.

### 1. Precautions for servicing

- When servicing, disconnect the power plug, the printer cable, the network cable, and the telephone line from the machine, except when performing the communication test, etc.  
It may cause an injury or an electric shock.
- There is a high temperature area inside the machine. Use extreme care when servicing.  
It may cause a burn.
- There is a high voltage section inside the machine which may cause an electric shock. Be careful when servicing.
- Do not disassemble the laser unit. Do not insert a reflective material such as a screwdriver in the laser beam path.  
It may damage eyes by reflection of laser beams.
- When servicing with the machine operating, be careful not to squeeze your hands by the chain, the belt, the gear, and other driving sections.
- Do not leave the machine with the cabinet disassembled.  
Do not allow any person other than a serviceman to touch inside the machine. It may cause an electric shock, a burn, or an injury.
- When servicing, do not breathe toner, developer, and ink excessively. Do not get them in the eyes.  
If toner, developer, or ink enters your eyes, wash it away with water immediately, and consult a doctor if necessary.
- The machine has got sharp edges inside. Be careful not to damage fingers when servicing.
- Do not throw toner or a toner cartridge in a fire. Otherwise, toner may ignite and burn you.
- When replacing a lithium battery on a PWB, only use the specified replacement battery.  
If a battery of different specification is used, it may cause a machine malfunction or breakdown.
- When carrying a unit with PWB or electronic parts installed to it, be sure to put it in an anti-static-electricity bag.  
It may otherwise cause a machine breakdown or malfunction.

CAUTION  
DOUBLE POLE/NEUTRAL FUSING  
(200V series only)

### 2. Warning for servicing

- Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements.  
Avoid complex wiring, which may lead to a fire or an electric shock.  
It may cause a fire or an electric shock.
- If there is any abnormality such as a smoke or an abnormal smell, interrupt the job and disconnect the power plug.  
It may cause a fire or an electric shock.
- Be sure to connect the grounding wire. If an electric leakage occurs without grounding, a fire or an electric shock may result.  
To protect the machine and the power unit from lightning, grounding must be made.
- When connecting the grounding wire, never connect it to the following points.
  - Gas tube
  - Lightning conductor
  - A water pipe or a water faucet, which is not recognized as a grounding object by the authorities.
  - Grounding wire for telephone line

It may cause an explosion, a fire or an electric shock.

- Do not damage, break, or stress the power cord.  
Do not put heavy objects on the power cable. Do not stress, forcibly bend, or pull the power cord.  
It may cause a fire or an electric shock.
- Keep the power cable away from a heat source.  
Do not insert the power plug with dust on it into a power outlet.  
It may cause a fire or an electric shock.
- Do not place liquids or foreign metallic objects inside the machine.  
It may cause a fire or an electric shock.
- Do not touch the power cord, insert the phone jack, operate the machine, or perform service on the machine with wet or oily hands.  
It may cause an electric shock.

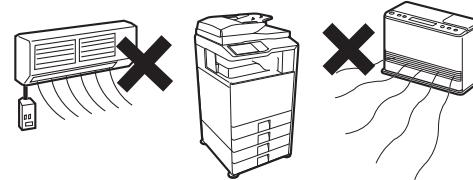
### 3. Note for installing site

Do not install the machine at the following sites.

- Place of high temperature, high humidity, low temperature, low humidity, place under an extreme change in temperature and humidity.**

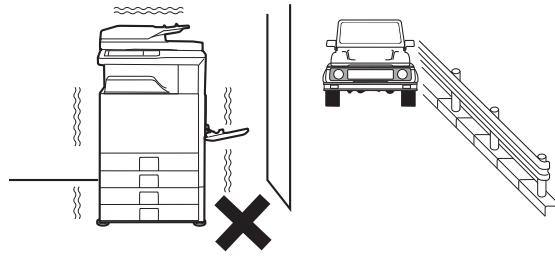
Paper may get damp and form condensation inside the machine, causing paper jam or copy dirt.

For operating and storing conditions, refer to the specifications described later.



- Place of extreme vibrations**

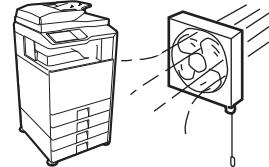
It may cause a breakdown.



- Poorly ventilated place**

An electrostatic type copier will produce ozone.

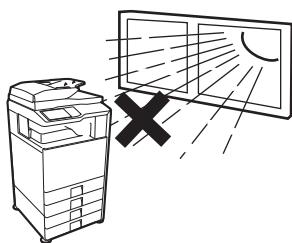
The quantity of ozone produced is designed to a low level so as not to affect human bodies. However, continuous use of such a machine may produce an ozone smell. Install the machine in a well ventilated place.



- **Place of direct sunlight.**

Plastic parts and ink may be deformed, discolored, or may undergo qualitative change.

It may cause a breakdown or output quality problems.



- **Place which is full of organic gases such as ammonium**

The organic photo-conductor (OPC) drum used in the machine may undergo qualitative change due to organic gases such as ammonium.

Installation of this machine near a diazo-type copier and blue print machine may result in poor quality output.



- **Place of much dust**

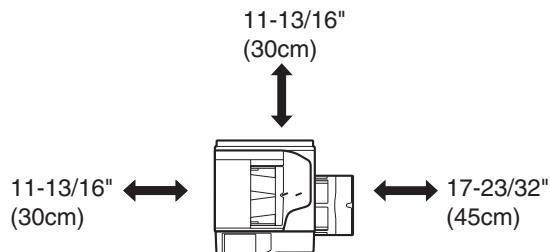
When dust or contaminants enters the machine, it may cause a breakdown or poor quality output.



- **Place near a wall**

The machine will require ventilation.

If ventilation is not proper, poor output or machine failure may result.



- **Unstable or irregular surface**

If the machine is dropped or tips over, it may cause injury or machine malfunction.

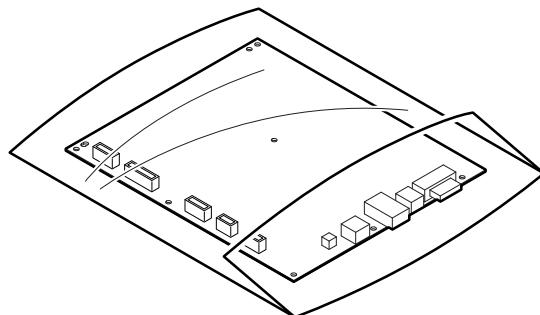
Use an optional desk or an exclusive-use desk.

When using the optional desk, be sure to fix the adjuster and lock the casters.

#### 4. Note for handling PWB and electronic parts

When handling the PWB and the electronic parts, be sure to observe the following precautions in order to prevent against damage by static electricity.

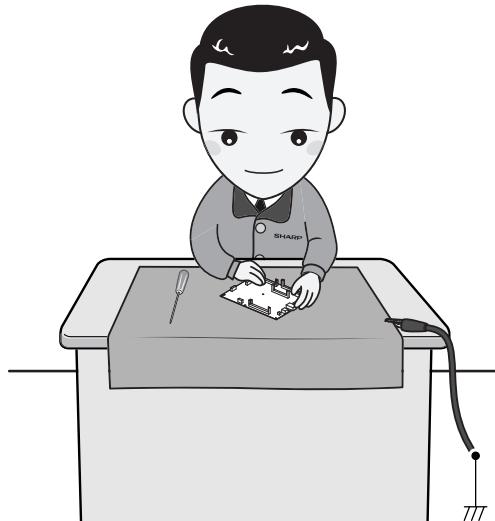
- When in transit or storing, put the parts in an anti-static bag or an anti-static case and do not touch them with bare hands.



- When and after removing the parts from an anti-static bag (case), use an earth band as shown below:
- Put an earth band to your arm, and connect it to the machine.



- When repairing or replacing an electronic part, perform the procedure on an anti-static mat.



## 5. Note for repairing/replacing the LSU

When repairing or replacing, be sure to observe the following items.

- When repairing or replacing the LSU, be sure to disconnect the power plug from the power outlet.
- When repairing or replacing the LSU, follow the procedures described in this Service Manual.
- When checking the operations after repairing the LSU, keep all the parts including the cover installed and perform the operation check.
- Do not modify the LSU.
- When visually checking the inside of the machine for the operation check, be careful not to allow laser beams to enter the eyes.

If the above precaution is neglected or the LSU is modified, ones safety may be at risk.

## 6. Note for handling the drum unit, the developing unit

When handling the OPC drum unit, and the developing unit, strictly observe the following items.

If these items are neglected, a trouble may be generated in the copy and print image quality.

### Drum unit

- Avoid working at a place with strong lights.
- Do not expose the OPC drum to lights including interior lights for a long time.
- When the OPC drum is removed from the machine, cover it with light blocking material. (When using paper, use about 10 sheets of paper to cover it.)
- Be careful not to attach fingerprints, oil, grease, or other foreign material on the OPC drum surface.

### Developing unit

- Be careful not to leave fingerprints, oil, grease, or other foreign material on the developing unit.

### Fusing unit

- Be careful not to "leave" fingerprints, oil, grease, or other foreign material on the fusing roller.

If these items are neglected, a trouble may be generated in the copy and print image quality.

## 7. Screw tightening torque

The screws used in this machine are largely classified into three types.

These types are classified according to the shape of the screw grooves and use positions.

The table below shows the types of the screws and the tightening torques depending on the use position.

When tightening the screws for repair or maintenance, refer to the table.

However, for the other conditions of tightening screws than specified on this table, or under special circumstances, the details are described on the separate page. Refer to the descriptions on such an exception.

**CAUTION:** Especially for the screw fixing positions where there is an electrode or a current flows, use enough care to tighten securely to avoid loosening.

### Screw kinds and tightening torques

Normal screws, set screws (including step screws)

Screw diameter	Material to be fixed	Tightening torque (N·m)	Tightening torque (kgf·cm)	Tightening torque (lbft)
M2.6	Steel plate	0.8 - 1.0	8 - 10	0.6 - 0.7
M3	Steel plate	1.0 - 1.2	10 - 12	0.7 - 0.9
M4	Steel plate	1.6 - 1.8	16 - 18	1.2 - 1.3

Tapping screws (for iron)

Screw diameter	Material to be fixed	Tightening torque (N·m)	Tightening torque (kgf·cm)	Tightening torque (lbft)
M3	Steel plate (Plate thickness 0.8mm or above)	1.0 - 1.2	10 - 12	0.7 - 0.9
M4	Steel plate (Plate thickness 0.8mm or above)	1.6 - 1.8	16 - 18	1.2 - 1.3
M3	Steel plate (Plate thickness less than 0.8mm)	0.6 - 0.8	6 - 8	0.4 - 0.6
M4	Steel plate (Plate thickness less than 0.8mm)	1.2 - 1.4	12 - 14	0.9 - 1.0

Tapping screw (for plastic)

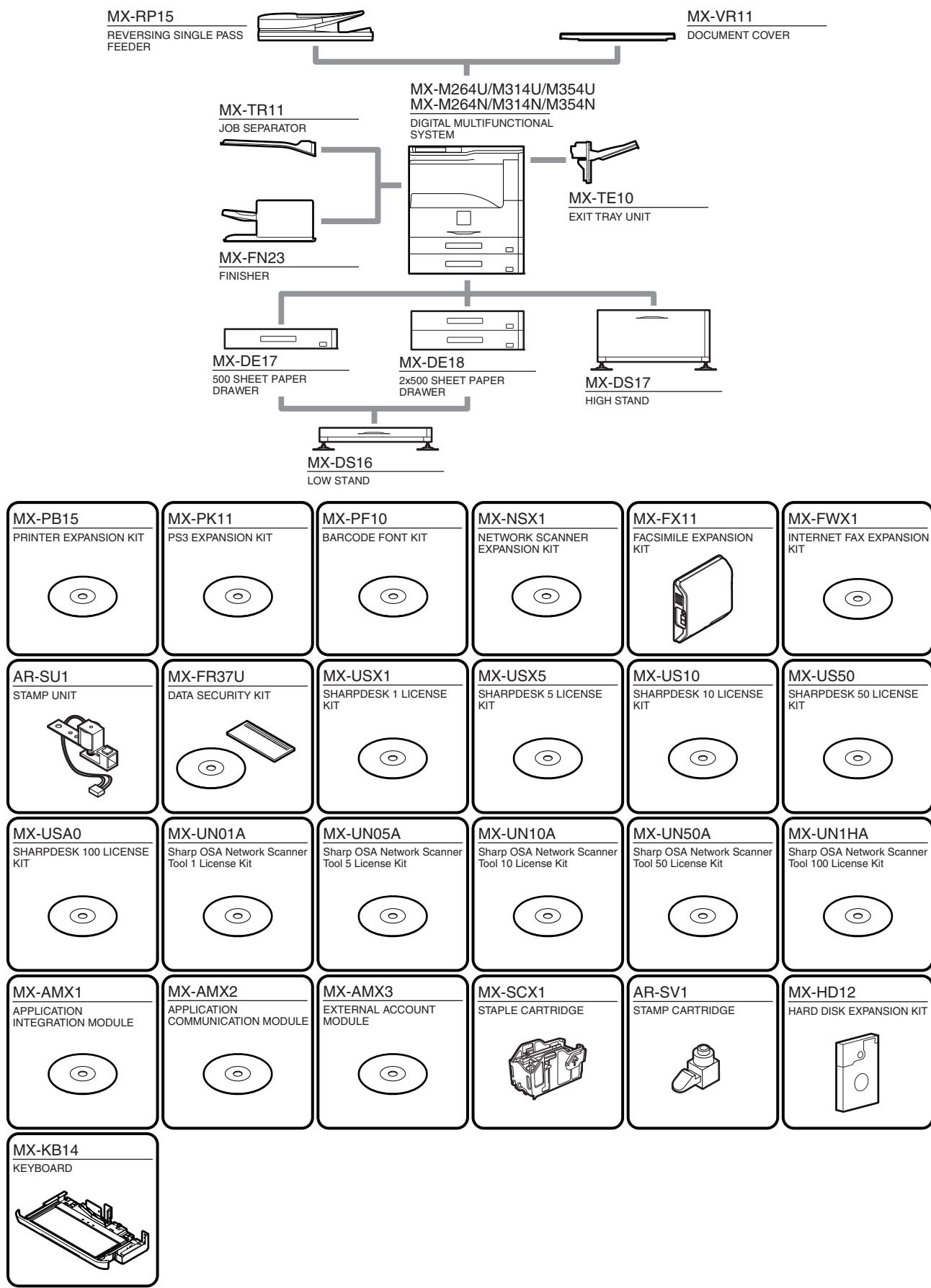
Screw diameter	Material to be fixed	Tightening torque (N·m)	Tightening torque (kgf·cm)	Tightening torque (lbft)
M3	Plastic resin	0.6 - 0.8	6 - 8	0.4 - 0.6
M4	Plastic resin	1.0 - 1.2	10 - 12	0.7 - 0.9

## 8. Relation between model names and names in the manual

Model name	Name in the manual
MX-M264U/MX-M264N	26cpm machine
MX-M314U/MX-M314N	31cpm machine
MX-M354U/MX-M354N	35cpm machine

# [1] PRODUCT OUTLINE

## 1. System configuration



## 2. Option list

	Model name	Name	MX-M264U MX-M314U MX-M354U	MX-M264N MX-M314N MX-M354N	Remarks
Document feed system	MX-RP15	REVERSING SINGLE PASS FEEDER	OPT	STD	
	MX-VR11	DOCUMENT COVER	OPT	---	
Paper feed system	MX-DE17	500 SHEET PAPER DRAWER	OPT	OPT	
	MX-DE18	2x500 SHEET PAPER DRAWER	OPT	OPT	
	MX-DS16	LOW STAND	OPT	OPT	
	MX-DS17	HIGH STAND	OPT	OPT	
Paper exit system	MX-TE10	EXIT TRAY UNIT	OPT	OPT	*1
	MX-TR11	JOB SEPARATOR	OPT	OPT	*2
	MX-FN23	FINISHER	OPT	OPT	*3
Printer expansion	MX-PB15	PRINTER EXPANSION KIT	OPT	STD	
	MX-PK11	PS3 EXPANSION KIT	OPT	OPT	*4
	MX-PF10	BARCODE FONT KIT	OPT	OPT	*4
Image send expansion	MX-NSX1	NETWORK SCANNER EXPANSION KIT	OPT	STD	
	MX-FX11	FACSIMILE EXPANSION KIT	OPT	OPT	
	MX-FWX1	INTERNET FAX EXPANSION KIT	OPT	OPT	*5
	AR-SU1	STAMP UNIT	OPT	OPT	
Authentication/Security	MX-FR37U	DATA SECURITY KIT	OPT	OPT	*5
Application/Solution	MX-USX1	SHARPDESK 1 LICENSE KIT	OPT	OPT	
	MX-USX5	SHARPDESK 5 LICENSE KIT	OPT	OPT	
	MX-US10	SHARPDESK 10 LICENSE KIT	OPT	OPT	
	MX-US50	SHARPDESK 50 LICENSE KIT	OPT	OPT	
	MX-USA0	SHARPDESK 100 LICENSE KIT	OPT	OPT	
	MX-UN01A	Sharp OSA Network Scanner Tool 1 License Kit	OPT	OPT	*6
	MX-UN05A	Sharp OSA Network Scanner Tool 5 License Kit	OPT	OPT	*6
	MX-UN10A	Sharp OSA Network Scanner Tool 10 License Kit	OPT	OPT	*6
	MX-UN50A	Sharp OSA Network Scanner Tool 50 License Kit	OPT	OPT	*6
	MX-UN1HA	Sharp OSA Network Scanner Tool 100 License Kit	OPT	OPT	*6
	MX-AMX1	APPLICATION INTEGRATION MODULE	OPT	OPT	*5
	MX-AMX2	APPLICATION COMMUNICATION MODULE	OPT	OPT	*5
Service	MX-SCX1	STAPLE CARTRIDGE	OPT	OPT	
	AR-SV1	STAMP CARTRIDGE	OPT	OPT	
Other	MX-HD12	HARD DISK EXPANSION KIT	OPT	OPT	
	MX-KB14	KEYBOARD	OPT	OPT	

STD: Standard equipment

OPT: Installable option

\*1: The FINISHER is required.

\*2: Cannot be installed the EXIT TRAY UNIT and the FINISHER concurrently.

\*3: Cannot be installed the JOB SEPARATOR concurrently.

\*4: PRINTER EXPANSION KIT is required.

\*5: HARD DISK EXPANSION KIT is required.

\*6: APPLICATION COMMUNICATION MODULE is required.

## [2] SPECIFICATIONS

### 1. Basic specifications

#### A. Engine Specification

Photo conductor	OPC (Diameter: φ30mm)
Recording	Electronic photo (Laser)
Development	Dry-type dual-component magnetic brush development
Charging	Charged saw-tooth method
Transfer	Transfer roller
Separation	Separation claw method
Cleaning	Counter blade
Fusing	Heat roller
Waste toner disposal	Toner cartridge collection
Toner supply during operation	N/A
Outer color	Pastel white (Natural wave pattern)

#### B. Engine speed (ppm)

##### Tray 1 - 4

Paper size	26cpm machine	31cpm machine	35cpm machine
A3	15	17	20
11" x 17"	14	17	19
8K	16	19	21
B4, 8.5" x 13"	16	20	22
8.5" x 14"	16	20	22
A4, B5, 8.5" x 11", 5.5" x 8.5", 16K, A5 (B5 cannot be applied to the 2-stage paper feed tray.)	26	31	35
A4R, 16KR, 8.5" x 11"R,	18	24	27
B5R	21	24	30

##### Manual paper feed

Paper size	26cpm machine	31cpm machine	35cpm machine
A3	14	17	18
11" x 17"	14	16	17
8K	15	18	19
B4	16	19	20
8.5" x 13"	17	20	22
8.5" x 13.5", 8.5" x 13.4"	16	19	21
8.5" x 14"	16	19	20
A4, B5, 8.5" x 11", 5.5" x 8.5", 16K, A5	23	27	29
A4R, 8.5" x 11"R,	19	22	24
B5R	21	24	26
A6R	23	27	29
Extra	14	16	17
Custom	14	16	17

#### C. Printable area

A3 Wide	N/A	16K	187 x 262mm
A3	289 x 412mm	12 x 18	N/A
B4	242 x 356mm	11" x 17"	271 x 424mm
A4	202 x 289mm	8.5" x 14"	208 x 348mm
B5	168 x 249mm	8.5" x 13"	208 x 322mm
A5	140 x 202mm	Executive	183 x 259mm
A6R	92 x 140mm	8.5" x 11"	208 x 271mm
8K	262 x 382mm	5.5" x 8.5"	132 x 208mm
8.5" x 13.5"	212 x 336mm	8.5" x 13.4"	212 x 333mm
Custom	Min.: 96mm x 141mm; Max.: 297mm x 432mm		

Max. range	AB system: 416 x 293mm (When the resolution is 600dpi: 9826dot x 6920dot) Inch system: 428 x 275mm (When the resolution is 600dpi: 10110dot x 6496dot)
Void Area / Image Loss	Top: 4mm or less Bottom: 4mm or less FR total: 6mm or less

#### D. Engine resolution

Resolution*1	Copy	Writing 600 x 600dpi
	Print	Writing 600 x 600dpi 1,200 x 600dpi (PCL/PS)
Gradation *2 (256 levels)	Copy	Writing 600 x 600dpi x 1bit
	Print	Writing Sharp Advanced Printing Language: 600 x 600dpi x 1bit PCL: 600 x 600dpi x 1bit 1,200 x 600dpi x 1bit PS: 600 x 600dpi x 1bit 1,200 x 600dpi x 1bit

\*1: Resolution: 600dpi (default)

\*2: The dither and error diffusion methods using 8bit input will be performed.

#### E. Scanner section

##### (1) Resolution/Gradation

Scanning Resolution (dpi)		Monochrome
	Platen	600 x 600dpi 600 x 400dpi 600 x 300dpi (default)
	RSPF	600 x 600dpi 600 x 400dpi (default)
Exposure lamp		White LED
Reading gradation		10bit
Output gradation		BW: 1bit Grayscale: 8bit Full Color: each color RGB 8bit

##### (2) Document table

Type	Document table fixed system (Flat bed)
Scanning area	297 x 432mm
Original standard position	Left rear reference
Detection	Yes
Detection size	Automatic detection (Detection types can be changed in the system settings)
Dehumidifying heater (Scanner section)	Supplied as a service parts

#### F. Document feeder

Type	RSPF (Reversing single pass feeder)	
Scan speed	Monochrome (A4/8.5" x 11")	Color (A4/8.5" x 11")
Copy	Single: 50-sheet/min. (600 x 400dpi, 4bit) 36-sheet/min. (600 x 600dpi, 4bit) Double: 20-page/min. (600 x 400dpi, 4bit) 17-page/min. (600 x 600dpi, 4bit)	NA
FAX	Single: 50-sheet/min. (200 x 200dpi, 1bit) Double: 20-page/min. (200 x 200dpi, 1bit)	NA
Internet FAX	Single: 50-sheet/min. (200 x 200dpi, 1bit) Double: 20-page/min. (200 x 200dpi, 1bit)	NA

Scanner	Single: 50-sheet/min. (200 x 200dpi, 1bit) Double: 20-page/min. (200 x 200dpi, 1bit)	Single: 50-sheet/min. (200 x 200dpi, 8bit) Double: 20-page/min. (200 x 200dpi, 8bit)
Original setup direction	Upward standard (1 to N feeding standard)	
Original standard position	Center standard (Rear one-side standard for random feeding)	
Original transport method	Sheet-through method	
Original size	Standard size Inch-1: 11" x 17", 8.5" x 14", 8.5" x 11", 8.5" x 11"R, 5.5" x 8.5", A3, A4 Inch-2: 11" x 17", 8.5" x 13", 8.5" x 11", 8.5" x 11"R, 5.5" x 8.5", A3, A4 Inch-3: 11" x 17", 8.5" x 13.4", 8.5" x 11", 8.5" x 11"R, 5.5" x 8.5", A3, A4 AB-1: 11" x 17", 8.5" x 14", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5 AB-2: 11" x 17", 8.5" x 13", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5 AB-3: 11" x 17", 8.5" x 13", 8.5" x 11", A3, B4, A4, A4R, A5, 8K, 16K, 16KR AB-4: 11" x 17", 8.5" x 13.4", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5 AB-5: 11" x 17", 8.5" x 13.5", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5	
	Long paper	1000 mm (Monochrome binary only) Internet Fax 600 x 600 dpi: Max. 800 mm. When scan 400 dpi or more, long paper is not available.
Mix paper feed (Same series, same width paper)	Enabled	
Random feeding (feeding of different types / different widths)	Enabled Only the following combinations of 2 size types are allowed: A3 and B4; B4 and A4R; A4 and B5; B5 and A5; and 11-inch and 8.5-inch. AMS available. 2-sided scanning is disabled during random feeding.	
Original copy weight	Single: Thin paper: 9 - 13 lb bond (35 - 49 g/m <sup>2</sup> ) Plain paper: 13 - 32 lb bond (50 - 128 g/m <sup>2</sup> ) * Thin paper mode (39 pages/minute) (A4, 8.5" x 11", 600 x 400dpi) / 26 pages/minute (A4, 8.5" x 11", 600 x 600dpi) is set up for the thin paper. Duplex: 13 - 28 lb bond (50 - 105 g/m <sup>2</sup> )	
Max. loading capacity of documents	Max. 100 sheets (21lbs Bond, 80g/m <sup>2</sup> ), or Max. height: 1/2 inch, 13mm or less	
Un-acceptable originals for feeding.	Transparency, second original paper, tracing paper, carbon paper, thermal paper, paper with wrinkles, folds, or breakage, pasted paper, cutout document, document printed with ink ribbon, documents with perforation other than 2- or 3-holes (Perforated document by punch unit is allowed.)	
Detection	Yes	
Paper detection size	Auto detection Inch-1: 11" x 17", 8.5" x 14", 8.5" x 11", 8.5" x 11"R, 5.5" x 8.5", A3, A4 Inch-2: 11" x 17", 8.5" x 13", 8.5" x 11", 8.5" x 11"R, 5.5" x 8.5", A3, A4 Inch-3: 11" x 17", 8.5" x 13.4", 8.5" x 11", 8.5" x 11"R, 5.5" x 8.5", A3, A4 AB-1: 11" x 17", 8.5" x 14", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5 AB-2: 11" x 17", 8.5" x 13", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5 AB-3: 11" x 17", 8.5" x 13", 8.5" x 11", A3, B4, A4, A4R, A5, 8K, 16K, 16KR AB-4: 11" x 17", 8.5" x 13.4", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5 AB-5: 11" x 17", 8.5" x 13.5", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5	
Paper feeding direction	Right hand feeding	
Finish stamp	Option	

Reliability	MCBJ/MCBF: Same as the main unit
Life	Same as the main unit
Power Source	Provided from the main unit
Dimensions	W 580 x D 465 x H 155 mm, W 22-54/64 x D 18-20/64 x H 6-7/64 in.
Weight	Approx. 7.3kg, Approx. 16.1 lbs
Outer color	Warm gray/ Pastel white (2 toned color)
Optional detection	Auto detection supported
Installation / Maintenance	Should be installed by the service technician easily
Packaged items	Glass cleaner (must be storable in the RSPF)

## G. Paper feed section

### (1) Basic specifications

Type	Standard	2-stage paper feed tray + multi manual paper feed tray
	Full option	4-stage paper feed tray + multi manual paper feed tray
Dehumidifying heater		N/A

	Tray	Tray 1	Tray 2	Multi Bypass Tray
Paper capacity	Standard paper (80g/m <sup>2</sup> )	500 sheets	500 sheets	100 sheets
Paper size		Refer to "Size of paper which can be fed".		
Paper size detection		No (Guide adjustment and size input)		Yes
Paper type setting		Refer to "Size of paper which can be fed".		
Changing of paper size		Switched by the user		Switched by the user (Guide adjustment)
Universal handle		Yes		---
Default paper size setting	Inch system	8.5" x 11"		---
	AB system	A4		---
Detection of remaining paper		N/A (Only paper availability is detected)		
Paper size display window		Yes		---

### (2) Extra paper capacity

Paper type	Paper feed tray	Manual feed tray
Envelope	NA	AB system: 10 sheets Inch system: 5 sheets
Transparency	NA	40 sheets
Heavy paper	NA	30 sheets (Max. 200g/m <sup>2</sup> )
Tab paper	NA	30 sheets (Target)
Others	NA	1 sheet

**(3) Size of paper which can be fed**

		Paper Feeding Section				Bypass Tray	
		Standard Tray		Optional Tray			
Paper Size		Tray 1	Tray 2	Tray 3	Tray 4		
Paper Size	12 x 18 (A3W)	—	—	—	—	—	
	11" x 17"	Yes	Yes	Yes	Yes	Yes	
	8.5" x 14" (216 x 356)	Yes	Yes	Yes	Yes	Yes	
	8.5" x 13.5" (216 x 343)	Yes* <sup>5</sup>	Yes* <sup>5</sup>	Yes* <sup>5</sup>	Yes* <sup>5</sup>	Yes* <sup>5</sup>	
	8.5" x 13.4" (216 x 340)	Yes* <sup>5</sup>	Yes* <sup>5</sup>	Yes* <sup>5</sup>	Yes* <sup>5</sup>	Yes* <sup>5</sup>	
	8.5" x 13" (216 x 330)	Yes	Yes	Yes	Yes	Yes	
	8.5" x 11"	Yes	Yes	Yes	Yes	Yes	
	8.5" x 11"R	Yes	Yes	Yes	Yes	Yes	
	7.25 x 10.5R	—	—	—	—	Yes	
	5.5" x 8.5"	Yes	—	—	—	Yes	
	5.5" x 8.5"R	—	—	—	—	Yes	
	A3	Yes	Yes	Yes	Yes	Yes	
	B4	Yes	Yes	Yes	Yes	Yes	
	A4	Yes	Yes	Yes	Yes	Yes	
	A4R	Yes	Yes	Yes	Yes	Yes	
	B5	Yes	—	Yes	Yes	Yes	
	B5R	Yes	Yes	Yes	Yes	Yes	
	A5R	—	—	—	—	Yes	
	A5	Yes	—	—	—	Yes	
	B6R	—	—	—	—	Yes	
	8K	Yes	Yes	Yes	Yes	Yes	
	16K	Yes	—	Yes	Yes	Yes	
	16KR	Yes	Yes	Yes	Yes	Yes	
	A6R	—	—	—	—	Yes	
	Envelope* <sup>1</sup>	—	—	—	—	Yes	
	Custom* <sup>2</sup>	—	—	—	—	Yes	
Paper Type	Thin paper	13 - 16 lb bond (56 - 59g/m <sup>2</sup> )	Yes	Yes	Yes	Yes	
	Plain paper	16 - 28 lb bond (60 - 105g/m <sup>2</sup> )	Yes	Yes	Yes	Yes	
		Recycled paper	Yes	Yes	Yes	Yes	
		Color paper	Yes	Yes	Yes	Yes	
		Letter head	Yes	Yes	Yes	Yes	
		Pre-printed	Yes	Yes	Yes	Yes	
		Pre-punched	Yes	Yes	Yes	Yes	
	Heavy paper	28 lb bond - 110 lb index (106 - 200g/m <sup>2</sup> )	—	—	—	Yes	
		110 lb index - 140 lb index (201 - 256g/m <sup>2</sup> )	—	—	—	—	
	Envelope	75-90g/m <sup>2</sup>	—	—	—	Yes	
	Transparency		—	—	—	Yes	
	Label* <sup>3</sup>		—	—	—	Yes	
	Tab paper* <sup>4</sup>		—	—	—	Yes	
	User settings 1-7		Yes	Yes	Yes	Yes	

\*1: Supported envelop types:

Monarch/Com-10/DL/C5/Custom

\* Custom envelope size is configurable by Sim setting (default: hidden)

\*2: Custom size

	AB system (mm)		Inch system (inch)		
	Min.	Max.	Min.	Max.	
Bypass tray	X	140	432	5-1/2	17
	Y	100	297	5-1/2	11-5/8

Long size paper from the bypass tray: max. 1,200mm is configurable by Sim.

\*3: Supported label paper: SF-4A3F

\*4: Supported tab paper:

A4 tab width: 12 - 20mm

8.5" x 11" tab width: 6.1 - 17mm

\*5: Need to set from Sim

## H. Paper exit section

### (1) Exit Capacity

Output Location	Center	Job Separator	Right Side (Option)
Output Method	Face down		
Output Capacity	500 sheets (80g/m <sup>2</sup> )	Upper tray: 100 sheets (80g/m <sup>2</sup> ) Lower tray: 500 sheets (80g/m <sup>2</sup> )	100 sheets (80g/m <sup>2</sup> )
Output paper size / weight	Refer to "Size of paper which can be discharged".		
Shifting function	Yes	No	
Output paper detection	Yes	No	
Exit tray full detection	No	Yes	

### (2) Shifter

Type	Shifter			
Paper size	Non-offset (Normal output)	Refer to "Size of paper which can be discharged".		
	Offset mode	Refer to "Size of paper which can be discharged".		
Paper weight	All usable paper			
Productivity * When A4/8.5" x 11" is used	Non-offset (Normal output)	Same speed as the main unit (no speed loss)		
Offset range	30mm			
Range of error * When the recommended paper of A4/8.5" x 11" is used		Horizontal direction	Vertical direction	Between jobs
	Non-offset	Not drop from the tray	—	—
	Offset mode	Within 50 mm	Within ±10mm	10mm or more

### (3) Size of paper which can be discharged

Paper Size			Duplex	Output Section			
				Center Tray			Right Exit Tray
				Exit Tray	Job Separator	Offset	
12 x 18 (A3W)			—	—	—	—	—
11" x 17"			Yes	Yes	Yes	Yes	Yes
8.5" x 14" (216 x 356)			Yes	Yes	Yes	Yes	Yes
8.5" x 13.5" (216 x 343)			Yes	Yes	Yes	Yes	Yes
8.5" x 13.4" (216 x 340)			Yes	Yes	Yes	Yes	Yes
8.5" x 13" (216 x 330)			Yes	Yes	Yes	Yes	Yes
8.5" x 11"			Yes	Yes	Yes	Yes	Yes
8.5" x 11"R			Yes	Yes	Yes	Yes	Yes
7.25 x 10.5R			—	Yes	Yes	Yes	—
5.5" x 8.5"			—	Yes	Yes	Yes	—
5.5" x 8.5"R			—	—	—	—	—
A3			Yes	Yes	Yes	Yes	Yes
B4			Yes	Yes	Yes	Yes	Yes
A4			Yes	Yes	Yes	Yes	Yes
A4R			Yes	Yes	Yes	Yes	Yes
B5			Yes	Yes	Yes	Yes	Yes
B5R			Yes	Yes	Yes	Yes	Yes
A5R			—	Yes	—	Yes	—
A5			Yes	Yes	Yes	Yes	—
B6R			—	Yes	—	—	—
8K			Yes	Yes	Yes	Yes	Yes
16K			Yes	Yes	Yes	Yes	Yes
16KR			Yes	Yes	Yes	Yes	Yes
A6R			—	Yes	Yes	Yes	—
Envelope*1			—	Yes	Yes	—	—
Extra			—	Yes	Yes	—	—
Custom*2			Yes	Yes	Yes	—	Yes

			Duplex	Output Section			
				Center Tray			Right Exit Tray
				Exit Tray	Job Separator	Offset	
Paper Type	Thin paper	13-16 lb bond (55 - 59g/m <sup>2</sup> )	—	Yes	Yes	Yes	Yes
	Plain paper	16-28 lb bond (60 - 105g/m <sup>2</sup> )	Yes	Yes	Yes	Yes	Yes
		Recycled paper	Yes	Yes	Yes	Yes	Yes
		Color paper	Yes	Yes	Yes	Yes	Yes
		Letter head	Yes	Yes	Yes	Yes	Yes
		Pre-printed	Yes	Yes	Yes	Yes	Yes
		Pre-punched	Yes	Yes	Yes	Yes	Yes
	Heavy paper	28 lb bond - 110 lb index (106 - 200g/m <sup>2</sup> )	—	Yes	Yes	Yes	—
		110 lb index -140 lb index (201 - 256g/m <sup>2</sup> )	—	—	—	—	—
	Envelope	75 - 90g/m <sup>2</sup>	—	Yes	Yes	—	—
	Transparency		—	Yes	Yes	—	—
	Label		—	Yes	Yes	—	—
	Tab paper		—	Yes	Yes	—	—
	User settings 1 - 7		Yes* <sup>3</sup>	Yes	Yes	Yes	Yes

\*1: Supported Envelop types:

Monarch/Com-10/DL /C5/Custom

Custom envelope size is supported by Sim. Not displayed at the default setting.

\*2: Custom size

		AB System (mm)		Inch System (inch)	
		Min.	Max.	Min.	Max.
Bypass tray	X	140	432	5-1/2	17
	Y	100	297	5-1/2	11-5/8
Duplex	X	182	432	8-1/2	17
	Y	182	297	7-1/4	11-5/8

Long size paper (bypass tray only): support up to 1,200mm by Sim

\* Long size paper ejection is from center tray/inner finisher

\*3: Comply to "Paper type setting"

\*4: Can be input but array is not supported

\*5: Can be input and stapled but array is not supported

\*6: Array of heavy paper more than 130g/m<sup>2</sup> is not supported

\*7: Heavy paper can be stapled only in case of using as front and back cover page with other normal paper

## I. Operation panel

Size	7 inch
Form	Dot matrix LCD, Touch panel
Display dot number	800 x 480 dots (WVGA)
Color	Yes
LCD drive display area (W x D)	152.4 x 91.44
LCD backlight	LED backlight
LCD contrast adjust	Yes
Angle/position adjustment	No tilting mechanism

## J. Controller board

CPU	ARM11: 600MHz ARM9: 400MHz/during 1W energy save mode: 75MHz
Interface	
IEEE1284 Parallel	No
Ethernet	1port
Interface	10Base-T, 100Base-TX, 1000Base-T
Support Protocol	TCP/IP (IPv4, IPv6), IPX/SPX, NetBEUI, EtherTalk
USB 2.0 (high speed) (host)*1	2port (Simultaneous use of the front/rear ports is enable.)
USB 2.0 (high speed) (device)	1port
USB-HUB (host)	Internal: 4port <ul style="list-style-type: none"> <li>• For Front USB Port</li> <li>• For Rear USB Port</li> <li>• Reserved</li> <li>• For the retractable keyboard</li> </ul>
USB certification	No
ACRE expansion I/F	No
Ir-Simple I/F	No
Video I/F	No
Serial I/F (For coin-operated machines/PCI)	1port (The port is on the electric board. D-Sub cable is provided as a service part.)
Memory	See the section "Memory/Hard disk/SD card memory".
Windows Premium Logo certification	No
WHQL certification	Yes

\*1: The USB port can be disabled by Sim

## K. Memory/Hard disk/SD card memory

SD card	ICU (Reus) PWB	HDD*2
	Memory*1	
8GB	2GB	OPT (160GB)

\*1: Memory expansion is not available

\*2: HDD capacity depends on the procurement and sourcing status  
When an option HDD is installed, the SD card of 4GB is required.

Memory area (SD card)	Boot/Program area	
	FAX data storage area	
	Without HDD	With HDD
	512MB	1GB

## L. Warm-up time

Warm-up time	20sec. or less
Pre heat	Yes
Jam recovery time*1	10sec. or less

\* Result may change depending on conditions.

\*1: Conditions: Leave the machine for 60 sec. after door open, standard condition, Polygon stops.

## 2. Copy functions

### A. First copy time

Engine	26cpm machine	31cpm machine	35cpm machine
Platen	4.7 sec.	4.3 sec.	4.0 sec.
RSPF	7.5 sec.	6.9 sec.	6.5 sec.

\* Measuring Conditions

Feed the A4 (8-1/2 x 11) sheet in landscape from tray 1, with the polygon rotating condition.

Value might vary depends on the machine settings/conditions

### B. Job Speed

Engine	26cpm machine	31cpm machine	35cpm machine
S to S	26cpm (100%)	31cpm (100%)	35cpm (100%)

\* Defines the copy speed of when the main unit and a document feeder are used in combination.

\* S to S: copying 1 set of an 11-sheet original in A4 / 8.5" x 11"  
(not including the first copy)  
Monochrome: 600 x 400dpi (default)

### C. Job Effectiveness

BLI Standard (RSPF)

Engine	26cpm machine	31cpm machine	35cpm machine
S to S	25cpm (96.2%)	28cpm (90.3%)	33cpm (94.3%)
S to D	21cpm (80.8%)	23cpm (74.2%)	24cpm (68.6%)
D to D	20cpm (76.9%)	22cpm (71.0%)	23cpm (65.7%)

\* S to S: 10 pages of A4 / 8.5" x 11" document and 5 copies

\* S to D: 10 pages of A4 / 8.5" x 11" document and 5 copies

\* D to D: 10 pages (20 sides) of A4 / 8.5" x 11" document and 5 copies

### 3. Printer function

#### A. Printer driver supported OS

	OS	Custom PCL6 SPDL2	Custom PCL5e	Custom PS	PPD	Sharp Advanced Printing Language	PC-FAX	TWAIN
Windows	98 / Me	No	No	No	No	No	No	No
	NT 4.0 SP5 or later	No	No	No	No	No	No	No
	2000	No	No	No	No	No	No	No
	XP	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	XP x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2003	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2003 x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Vista	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Vista x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2008	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2008 x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 7	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 7 x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM	CD-ROM
Mac	9.0-9.2.2	No	No	No	No	No	No	No
	X 10.2.8	No	No	No	No	No	No	No
	X 10.3.9	No	No	No	No	No	No	No
	X 10.4.11	No	No	No	CD-ROM	No	No	No
	X 10.5 - 10.5.8	No	No	No	CD-ROM	No	Web	No
	X 10.6 - 10.6.8	No	No	No	CD-ROM	No	Web	No
	X 10.7 - 10.7.2	No	No	No	CD-ROM	No	Web	No

#### B. PDL emulation/Font

PDL (Command)	Installed font	Option font
PCL6 compatibility	N model: STD U model: OPT	European outline font = 80 styles Line printer font (BMP) = 1 style
Postscript3 compatibility	OPT	-

### 4. FAX function

#### A. Transmission method

Transmission time	Less than 3 sec (Super G3) Less than 7 sec (G3 ECM)
Compression/ expansion system	MH, MR, MMR,JBIG (Fixed to ECM for MMR or JBIG.)
Modem speed	33.6kbps → 2.4kbps automatic fallback
Resolution	8 x 3.85 line/mm, 8 x 7.7 line/mm, 8.15.4 line/mm, 16 x 15.4 line/mm (Standard memory is used for transmit/receive.)
Intercommunication	G3/Super G3: Standard (V.34, V.17, V.33, V.29, V.27ter)
Communication line	General telephone line (PSTN), ISDN (When TA is installed.) Private Branch Exchange (PBX)
ECM	Yes

#### B. Number of Support Line

Standard	1 line
Expansion	Not provided

#### C. Transmission Mode

RSPF/OC transmission switching	Yes (Switching during the reading is not feasible)
-----------------------------------	--

#### D. Image Quality/Image Process

Half tone reproduction	Equivalent to 256 levels (Valid only when monochrome document is scanned.)
Exposure adjustment	Auto / Manual (5 steps)
FAX quality selection	Standard (8 x 3.85 lines/mm (203.2 x 97.8dpi)) Fine (8 x 7.7 lines/mm (203.2 x 195.6dpi)) Super Fine (8 x 15.4 lines/mm (203.2 x 391dpi)) Ultra Fine (16 x 15.4 lines/mm (406.4 x 391dpi)) Half-tone (Combination with normal character is invalid.)

#### E. Record Size

Max. record width	293mm
Record size	(AB series) A3, B4, A4, A4R, B5, B5R, A5R (Inch series) 11" x 17", 8.5" x 13", 8.5" x 14", 8.5" x 11", 8.5" x 11"R, 8.5 x 5.5R

\* If the document length exceeds A3 size, it is divided and printed.

\* For printing the list, A5R and 8.5" x 5.5"R cannot be used.

## F. Dial

Manual dialing	To be entered by 10-key, # key, * key
Re-dialing	The previous 8 items (max.) can be saved, and one of them can be selected. One-touch call is available.
One-touch dialing	1000 items including the group dialing items
Group dialing	1000 items including the one-touch dialing items
Program dialing	Max. 48 items
Chain dialing	Max. 64 digits including one-touch dialing, 10-key dialing, and pause.
Dial search	Alphabet order search, User index groups
Quick search	Yes
LDAP search	Yes
Sub address	Yes
Password	Yes
Memory box registration	Yes

\* LDAP: Lightweight Directory Access protocol

## G. Memory for Transmit/Receive

FAX transmission data	HDD
FAX reception data	SD card

## H. Function

Transmit function	Calling function	Yes Requires the frequency setting for each destination.
	PBX function	Germany, France only
	Memory transmit	Yes (Definable destinations : 94 destinations)
	On-hook	Yes
	Quick online transmit	Yes
	Direct transmit	Yes
	Manual transmit	Yes
	Auto re-call mode	Yes
	Time indication function	Yes
	Sequential broadcasting function	Yes
	F code interface broadcasting indication function	Yes Only one interface station can be specified.
	F code interface broadcasting function	Yes
	F code confidential send function	Yes
	Polling	Yes Even with another company machine
	Sequential polling function	Yes Even with another company machine
	F-code polling	Yes
	Bulletin board	Yes
	F code bulletin board function	Yes
	Auto reduction transmit	Yes A3 → B4, A3 → A4, B4 → A4
	Rotation transmit	Yes Counterclockwise rotation of 90 degrees
	Duplex transmit	Yes
	Document transmit from OC function	Yes
	Long length original transmit	Only when RSPF is used. Transmission is enable up to 1000mm.
	Mixed documents function	Only when RSPF is used.
	Zoom transmit	Yes
	2 in 1 transmit	Yes
	Card shot transmit	Only when transmitting from OC

Transmit function	Thin paper scan function	Available except for duplex scan
	Edge erase transmit function	Yes Only for the fixed sizes
	Job build	Yes 999 sheets or memory full
	Page division transmit	Yes
	Cover	No
	Index	No
	Transmit message adding function	No
Receive function	Auto receive	Yes
	Manual receive	Yes
	DRD call function	Distinctive Ring Detection North America: Standard, Pattern 1 – 5 Australia/New Zealand/Hong Kong: ON/OFF (TEL/FAX)
	Memory receive	Yes
	Transfer function	Yes Number of registration: 1 item
	Specified receive function	Yes (Number of registration) Rejection numbers: Max.50 items
	Receive data print condition function	Yes
	Receive data staple setting/ Copy number setting	Yes
	Rotation receive	Yes Output by clockwise rotation of 90 degrees
	Divided receive	Yes Divided print is not made in duplex mode.
	Duplex receive	Yes
	F-code confidential receive	Yes
Special function	Print hold	Yes
	Document Admin	Yes
	Inbound Routing	Yes
	Sender registration function	Yes
	Sender print function	Yes
	On-hook dialing function	Yes
	Retransmit function	Yes
	Pause function	Yes Pause time is 1 – 15 sec.
	Sound volume setting function	Yes
	Tone pulse select function	Tone, Pulse, Auto (North America/Taiwan) * For the other destinations, set with the soft switch.
	External phone connection	Yes
	Memory remaining capacity check function	Yes Only the integral part is displayed.
	Back up	Yes
	Registered data read/write function	Yes
	Report/List	Yes
	Destination check function	Yes
	Broadcasting destination display function	Yes
	Transmit job change function	Yes
	Save-energy function	Yes
	Line monitor display function	Yes
	FAST	Yes Facsimile Automated Service Technology
	Time adjust function	Yes Summer time ON/OFF
	PC-FAX	Yes
	Color mode	No

Special function	Sender registration function	Yes Number of registration: 1 for standard sender name and address. And 18 sender names can be registered.
	Default destination setting	No
	Unauthorized scan prevention function	Yes
	Filing-each-page function	No
	Re-operation function	Yes
	User account function	Yes Max. 200 items additionally to the default
	Counter function	Yes

## 5. Image send function

### A. Mode

FAX	FAX to e-mail/FTP
-----	-------------------

### B. Image send function (Push send from the main unit)

#### (1) Support image

Mode	FAX
Compression method	MH, MR, MMR,JBIG

#### (2) Image processing

Mode	FAX
Original scanning color	B/W
Halftone reproduction	Equivalent of 256 steps
Density adjustment	Auto + 5 steps
Selection of image quality	Half tone (Black-white only) ON/OFF
Resolution (depends on file format/transmission method)	Standard character (203.2 x 97.8dpi) (half tone not allowed)
	Fine (203.2 x 195.6dpi)
	Super fine (203.2 x 391dpi)
	Ultra fine (406.4 x 391dpi)

#### (3) Specification of Addresses

Mode	FAX
Address specification	Specification by one-touch/group/direct address entry. Entry from 10-key. (Fax) Selection from LDAP server
Number of One-touch address key registration	Total (number of key): Maximum 1000
Number of Group (1 key) address registration	Number of Group (1 key) address registration : maximum 500 Number of Group key registration : 5000 (Total address number included in /1000 key)
Program	48
Direct entry of addresses	Entry by 10-key, # key
Chain dial	Yes (pause key)
Resend	Call up nearest 8 addresses. *1
Destination confirmation	Yes
Shortcut for address selection (quick key)	Use the 10-key to call up registered numbers of addresses.
Disable direct entry transmission *2	Yes
Disable PC- Fax sending	Yes

\*1: Except for FTP, Desktop, SMB, USB memory, Broadcast.

\*2: When disabled, the address registration is not allowed either.

#### (4) Specification of Multiple Addresses

Mode	FAX
Broadcast	Yes (500 destinations)
Request of serial transmission	Yes

\* Broadcast transmission is allowed. (Monochrome only)

## (5) Transmission function

Mode	FAX
Memory transmission	94 destinations in all
On-hook	Yes
Quick online transmission	Yes
Direct transmission	Yes (Switching: Memory transmission ↔ Direct transmission)
Automatically-reduced transmission	Yes
Rotated transmission	Yes
Scaled transmission	Yes Enlargement/reduction is allowed only from a fixed size to another. Reduction may be done on the receiver side with Fax/Internet Fax sending.
Recall mode	Error Yes
	Busy Yes
	Number/time to be set up through system setup
Long original transmission	Yes Maximum of 1000mm (single side only/black-white 2 values only)
Confidential transmission (Sharp mode)	No
Relay broadcast transmission (Sharp mode)	No
Large capacity original mode	Yes
Scanning of thin paper	Yes
Mixed originals feeder	Yes (Random + MIX)
Default date sender transmission	Yes (ON only)
Preview	No
Side erase	Yes

## (6) Reception function

Mode	FAX
Automatic reception	Yes
Manual reception	No Switching from manual reception to automatic reception. (Allowed only for France and Japan)
Memory reception	Yes
Fixed size reduced reception	Yes
Specified size scaled reception	No
Rotated reception	Yes
Setting of received data print condition	Equal size print (partition not allowed) Equal size print (partition allowed) Equal or reduced size print
2-sided reception	Condition setting through system setting
2-in-1 reception	No
Automatic reduction setting upon receiving A3	Yes
Automatic reduction setting upon receiving letter	Yes (Other than North America and Inch destinations)
Reception from a specific number not allowed, or allowed. (Allow/Reject)	Specified numbers only (50 numbers /20 digits)
External phone connection remote	Yes
Confidential reception (Sharp mode)	No
Received data bypass output	Yes
Index printing	No
Transfer function upon disabling of output.	Yes (1 receiver (of transfer) registration)
Internet Fax/Fax to e-mail (Transfer of Internet Fax/Fax reception data to e-mail, inbound routing)	Yes

Mode	FAX
Exit tray setting	Yes
Insertion of job separator sheet	No
Staple function of received data	Yes
Auto wake up print	Yes
Received data print hold <sup>*1</sup>	Yes
Color toner print when black toner runs out.	No

\*1: This function saves all received data in memory and starts output after password entry. (Confidential reception is excluded.) Setting only on the receiver side.

## (7) Report/list function

Mode	FAX
Image sending activity report	Yes Time-specified output Output with memory full * Maximum of 200 times including both transmission and reception
Transaction report	Yes
Address/phone number table	Yes
Group table	Yes
Program table	Yes
Memory box table (F code)	Yes
Communication original contents print	Always print/Upon error/no print
List of allowed or rejected reception numbers	Yes
Table of control record for each account	No

## (8) Other Functions

Mode	FAX
Time specification	Yes
Polling reception	Yes
Bulletin board transmission	Yes Up to 100 registrations allowed with bulletin board, confidential and relay broadcast all combined. (Free area : 1 registration) Setting of the number of transmission: 1/no limit.
Cover sheet function	No
Transmission message	No
Sender print	Yes
Sender selection	Yes
Page number print	Yes
Date print	Yes (Date can be expressed alternatively)
Polling protection function	Yes
Page partition transmission	Yes
Page connection	No
Confidential (receiver unit)	Yes (F code method)
Relay broadcast instructions	Yes (F code method)
Fax to e-mail (F code) <sup>*1</sup>	Yes
Edge erase	Yes
Center erase	Yes
2 in 1	Yes
Card shot	Yes (Equivalent or enlargement up to the paper width. The maximum enlargement is not allowed to exceed 400%)
Forward data transmission/reception (Document Admin)	Yes Data transmission by PC-Fax/PC-Internet Fax is allowed, too.

\*1: This function means that e-mail address setting on F code relay broadcast allowed.

## (9) Transmission Method

Mode	FAX
Transmission time	2 seconds level (super G3/JBIG), 6 seconds level (G3 ECM)
Modem speed	Automatic fall-back : 33.6kbps → 2.4kbps
Intercommunication	Super G3/G3
Communication line	General membership telephone line (PSTN), independent business line (PBX), F net. (R-key for PBX setting: Germany/France)
ECM	Yes

## (10) Record Size

Mode	FAX
Maximum record width	293mm
Record size	A3 – A5/11" x 17" – 5.5" x 8.5"

## (11) F code communication

Mode	FAX
Sub-address	Yes (20 digits)
Password	Yes (20 digits)

## (12) Registration-related settings

Mode	FAX
One-touch/group <sup>*1</sup>	1000 destinations Use of LDAP allowed Up to 500 registered addresses for each group dial. Registered name in 18 full-size character (36 half-size characters) One-touch dial receiver number registration: within 64 digits for receiver number + sub-address + passcode (including "")
Program	Registration of addresses (groups), settings (density, image quality) and special functions in one set is allowed. (48 of them)
Number of memory boxes	Registration of bulletin board/confidential/relay broadcast is allowed up to 100. Registration name: 18 characters
Number of sender registration	1 (default) with 20 characters
Number of sender selection registration	Total: 18 registrations (20 characters) (Sender selection: In addition to default, 18 registrations allowed)
Registration of polling approval number	10 numbers/20 digits
Registration of Fax system number (Sharp mode)	No
Registration of Fax polling approval ID number (Sharp mode)	No
Fax relay ID registration (Sharp mode)	No
Quick key (short cut registration) <sup>*2</sup>	Yes (001 – 1000)
Import/export of address book	Yes (By storage backup)
Black list (for France)	No

\*1: Since scan/Internet Fax/Fax uses the common address book, the number of addresses allowed for registration is the sum total of all modes.

\*2: Quick key is the function to select an address based on the registered number of each address within the book for address selection. Users should be able to select a quick key number.

### (13) Telephone functions

Mode	FAX
On-hook function	Yes
Hold	No
Setting of pause time	Yes (1 – 15 seconds)
Telephone transmission during power outage	No (External telephone transmission allowed)
Tone pulse switching	Tone, Pulse, Auto (North America/Taiwan) * For the other destinations, set with the soft switch.

### (14) Sound settings

Mode	Item	FAX
On-hook sound	Sound volume setting	1 - 9
Sound volume for calling	Sound volume setting	1 - 9, No
Line monitor sound	Sound volume setting	1 - 9, No
Reception sound	Sound volume setting	1 - 9, No
Transmission success sound	Sound volume setting	1 - 9, No
Transmission and reception error sound	Sound volume setting	1 - 9, No
Sound setting for end of original reading (image send)	Sound volume setting	Large/middle/small/no sound

### (15) Others

Mode	FAX
PC-FAX	Yes
FAST	Yes (SEC only)
Network FAST	No
Distinctive ring detection	Setting for each destination

## 7. Dimensions and weight

Outer dimension (Included operation panel)	W625 x D645 x H652 mm When the OC is installed: W625 x D645 x H686 mm When the RSPF is installed: W625 x D645 x H799 mm
Footprint	W625 x D645 mm
Dimension occupied by the machine	W902 x D645 mm (when the bypass tray is extended)
Weight Main Unit (including photoreceptor / not including consumables)	When the RSPF is installed: 51.6 kg (100V type) 52.1 kg (200V type) When the OC is installed: 46.5 kg When the RSPF/OC is not installed: 44.9 kg

## 6. Power consumption

The full configuration can be operated with the rated power source.

Maximum rated power Consumption <sup>*1</sup>	100 V	200 V
	1.44 kW	1.84 kW
Energy consumption rate	Not applicable	
TEC value (Measured result)	26cpm machine: 1.8 kWh 31cpm machine: 2.3 kWh 35cpm machine: 2.4 kWh	26cpm machine: 1.84 kWh 31cpm machine: 2.25 kWh 35cpm machine: 2.35 kWh
TEC value (Standard) Tier2	26cpm machine: 3.10 kWh (0.1 kwh x 26 + 0.5 kwh) 31cpm machine: 4.85 kWh (0.35 kWh x 31 - 6.0 kWh) 35cpm machine: 6.25 kWh (0.35 kWh x 35 - 6.0 kWh)	
Power consumption is 1W in standby for NW * Condition of Standing by Network: Connected with TCP/IP protocol only	Yes (Exclude the case of use Fax and Network at once)	–
Moving time to pre-heat mode	1 minutes (default)	
Recovery time from pre-heat mode	10 sec.	
Moving time to sleep mode	1 minutes (default) * Printer mode: 10sec. (default)	11 minutes (Europe)
Recovery time from sleep mode	20 sec.	

\*1: At power-on timing  
(with condition of dehumidify heater turned OFF)

### [3] CONSUMABLE PARTS

#### 1. Supply system table

##### A. North America, Middle America, South America

No.	Item	Content	Life	Model name	Remarks
1	Toner cartridge (black)	Toner cartridge x 1	25K	MX-312NT	Life setting by A4 (8.5" x 11") 6% document
2	Developer (black)	Developer x 1	26cpm: 75K 31/35cpm: 100K	MX-312NV	
3	Drum	Drum x 1	26cpm: 75K 31/35cpm: 100K	MX-312NR	

##### B. Brazil

No.	Item	Content	Life	Model name	Remarks
1	Toner cartridge (black)	Toner cartridge x 1	25K	MX-312BT	Life setting by A4 (8.5" x 11") 6% document
2	Developer (black)	Developer x 1	26cpm: 75K 31/35cpm: 100K	MX-312NV	
3	Drum	Drum x 1	26cpm: 75K 31/35cpm: 100K	MX-312NR	

##### C. Europe/ East Europe/ Russia / Australia/ New Zealand

No.	Item	Content	Life	Model name	Remarks
1	Toner cartridge (black)	Toner cartridge x 1	25K	MX-312GT	Life setting by A4 (8.5" x 11") 6% document
2	Developer (black)	Developer x 1	26cpm: 75K 31/35cpm: 100K	MX-312GV	
3	Drum	Drum x 1	26cpm: 75K 31/35cpm: 100K	MX-312GR	

##### D. Asia affiliates

No.	Item	Content	Life	Model name	Remarks
1	Toner cartridge (black)	Toner cartridge x 1	25K	MX-312AT	Life setting by A4 (8.5" x 11") 6% document
2	Developer (black)	Developer x 1	26cpm: 75K 31/35cpm: 100K	MX-312AV	
3	Drum	Drum x 1	26cpm: 75K 31/35cpm: 100K	MX-312AR	

##### E. Hong Kong

No.	Item	Content	Life	Model name	Remarks
1	Toner cartridge (black)	Toner cartridge x 1	25K	MX-312AT	Life setting by A4 (8.5" x 11") 6% document
2	Developer (black)	Developer x 1	26cpm: 75K 31/35cpm: 100K	MX-312AV	
3	Drum	Drum x 1	26cpm: 75K 31/35cpm: 100K	MX-312AR	

##### F. Middle East/Africa/ Israel/ Philippines/ Taiwan/ Agent

No.	Item	Content	Life	Model name	Remarks
1	Toner cartridge (black)	Toner cartridge x 1	25K	MX-312FT	Life setting by A4 (8.5" x 11") 6% document
2	Developer (black)	Developer x 1	26cpm: 75K 31/35cpm: 100K	MX-312FV	
3	Drum	Drum x 1	26cpm: 75K 31/35cpm: 100K	MX-312FR	

## 2. Maintenance parts list

### A. North America, Middle America, South America

No.	Item	Content	Life	Model name	Remarks
1	Upper heat roller kit	Upper heat roller x 1 Fuser gear x 1 Upper heat roller bearing x 2 Upper cleaning pad x 1 Fusing separation pawl (upper) x 4 Thermistor cleaning pad x 2	150K	AR-310UH	
2	Lower heat roller kit	Lower heat roller x 1 Fusing separation pawl (lower) x 4 Fuser bearing (lower) x 2	300K	MX-311LH	
3	150K maintenance kit	Drum separation pawl unit x 2 Transfer roller unit x 1 DV blade x 1 DV side sheet F x 1 DV side sheet R x 1 Toner filter unit x 1	150K	MX-311KA	
4	MC unit	MC unit x 10 26cpm: 75K (x 10) 31/35cpm: 100K (x 10)		MX-311MC	
5	Cleaner blade	Cleaner blade x 10 26cpm: 75K (x 10) 31/35cpm: 100K (x 10)		MX-311CB	
6	Drum frame unit	Drum frame unit x 1 26cpm: 225K 31/35cpm: 300K		MX-311DU	* The life of the toner reception seat attached to the drum frame is 300K, and it can be used up to 3 times. (Supplied as a drum frame unit.)
7	Transfer roller unit	Transfer roller unit x 1 150K		MX-311TX	
8	Paper feed roller kit	Paper feed roller kit x 1 100K		MX-311RT	
9	Fusing unit	Fusing unit (120V heater lamp) x 1 150K		MX-311FU	
10	Staple cartridge	Staple cartridge x 3 5000 staples x 3		MX-SCX1	

\* The other maintenance parts than the above are supplied as service parts.

### B. SEGA/ SUK/ SCA/ SCNZ/ SEA/ SEES/ SEZ/ SEIS/ SEB/ SEN/ SEF/ SMEF/ Russia/ Special country

No.	Item	Content	Life	Model name	Remarks
1	Upper heat roller kit	Upper heat roller x 1 Fuser gear x 1 Upper heat roller bearing x 2 Upper cleaning pad x 1 Fusing separation pawl (upper) x 4 Thermistor cleaning pad x 2	150K	AR-310UH	
2	Lower heat roller kit	Lower heat roller x 1 Fusing separation pawl (lower) x 4 Fuser bearing (lower) x 2	300K	MX-311LH	
3	150K PM kit	Drum separation pawl unit x 2 Transfer roller unit x 1 DV blade x 1 DV side sheet F x 1 DV side sheet R x 1 Toner filter unit x 1	150K	MX-311KA	
4	MC unit	MC unit x 10 26cpm: 75K (x 10) 31/35cpm: 100K (x 10)		MX-311MC	
5	Cleaner blade	Cleaner blade x 10 26cpm: 75K (x 10) 31/35cpm: 100K (x 10)		MX-311CB	
6	Drum frame unit	Drum frame unit x 1 26cpm: 225K 31/35cpm: 300K		MX-311DU	* The life of the toner reception seat attached to the drum frame is 300K, and it can be used up to 3 times. (Supplied as a drum frame unit.)
7	Transfer roller unit	Transfer roller unit x 1 150K		MX-311TX	
8	Staple cartridge	Staple cartridge x 3 5000 staples x 3		MX-SCX1	

\* The other maintenance parts than the above are supplied as service parts.

## C. STCL/ SRH/ SRS/ SRSSC/ SBI/ Agent

No.	Item	Content	Life	Model name	Remarks
1	Upper heat roller kit	Upper heat roller x 1 Fuser gear x 1 Upper heat roller bearing x 2 Upper cleaning pad x 1 Fusing separation pawl (upper) x 4 Thermistor cleaning pad x 2	150K	AR-310UH	
2	Lower heat roller kit	Lower heat roller x 1 Fusing separation pawl (lower) x 4 Fuser bearing (lower) x 2	300K	MX-311LH	
3	150K PM kit	Drum separation pawl unit x 2 Transfer roller unit x 1 DV blade x 1 DV side sheet F x 1 DV side sheet R x 1 Toner filter unit x 1	150K	MX-311KA	
4	MC unit	MC unit x 10	26cpm: 75K (x 10) 31/35cpm: 100K (x 10)	MX-311MC	
5	Cleaner blade	Cleaner blade x 10	26cpm: 75K (x 10) 31/35cpm: 100K (x 10)	MX-311CB	
6	Drum frame unit	Drum frame unit x 1	26cpm: 225K 31/35cpm: 300K	MX-311DU	* The life of the toner reception seat attached to the drum frame is 300K, and it can be used up to 3 times. (Supplied as a drum frame unit.)
7	Staple cartridge	Staple cartridge x 3	5000 staples x 3	MX-SCX1	

\* The other maintenance parts than the above are supplied as service parts.

### 3. Developer/Drum life end definition

- When the developer/drum counter reaches the specified level.
- When the developer/drum rpm reaches the specified level.

When either of the above reached the specified level, it is judged as life end.

In an actual case, when correction or warm-up operation is performed as well as output operation, the developer and the drum rotates.

Therefore, the developer/drum consuming level cannot be determined only by the copy/print quantity. When, therefore, the rpm reaches the specified level, it is judged as life end.

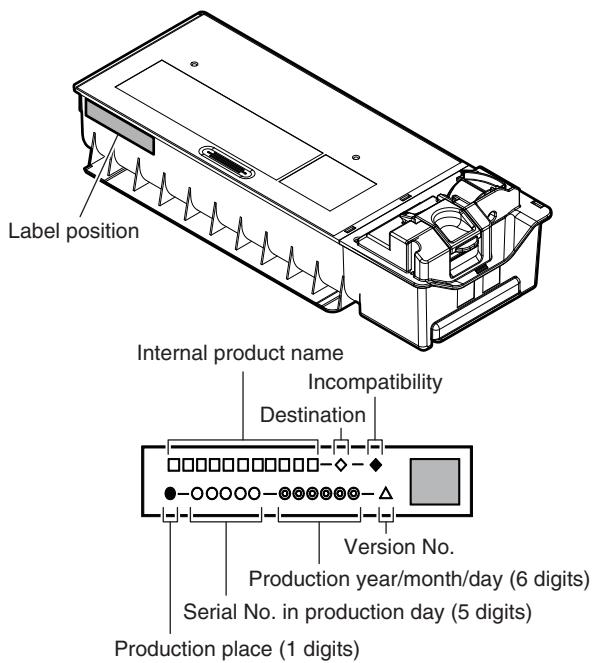
To check the drum and developer life, use SIM22-1/SIM22-13.

	Developer/drum counter		Number of rotations (Rotations)
Developer/drum	26cpm model	31/35cpm model	550K
	75K	100K	

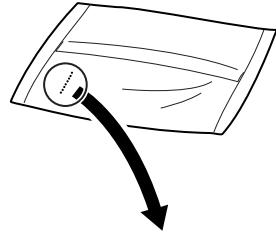
## 4. Production number identification

### <Toner cartridge>

The label on the toner cartridge shows the date of production.



### <Developer>



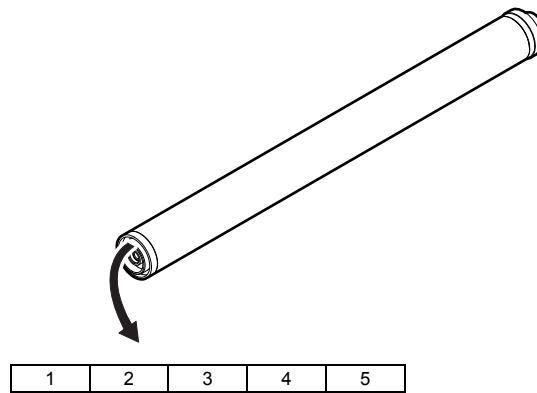
The lot number is of 8 digits. Each digit indicates the content as follows.

The number is printed on the right under side of the back surface of the developer bag.

- 1 Alphabet  
Indicates the production factory.
- 2 Number  
Indicates the production year.
- 3, 4 Number  
Indicates the production month.
- 5, 6 Number  
Indicates the production day.
- 7 Hyphen
- 8 Number  
Indicates the production lot.

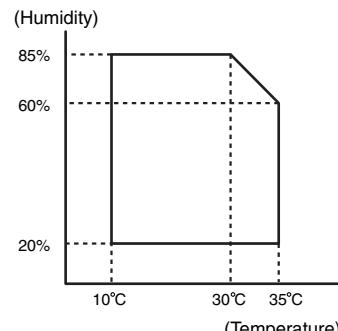
### <Drum>

The laser print indicates the model conformity code and the date (year, month, day) of production.



- 1 Alphabet  
Indicates the model conformity code. L for this model.
- 2 Number  
Indicates the end digit of the production year.
- 3 Number or X, Y, Z  
Indicates the month of packing.  
X stands for October, Y November, and Z December.
- 4, 5 Number  
Indicates the day of the month of packing.

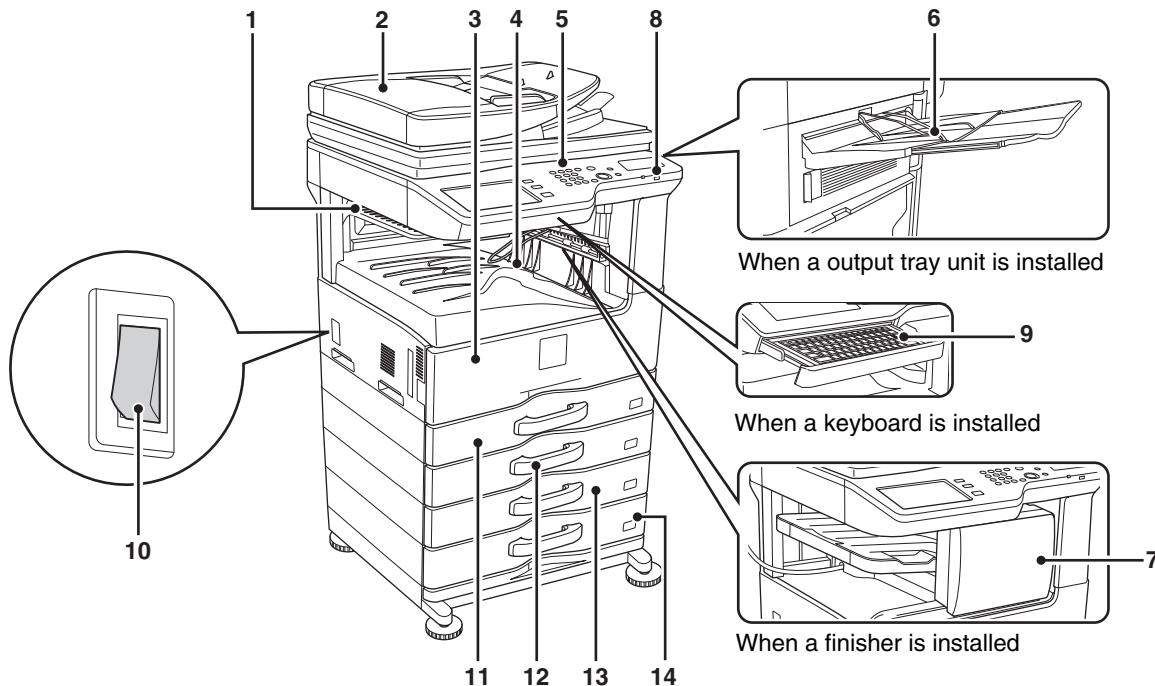
## 5. Environmental conditions



Standard environmental conditions	Temperature	20 - 25°C
	Humidity	65 ± 5%RH
Usage environmental conditions	Temperature	10 - 35°C
	Humidity	20 - 85%RH
	Atmospheric pressure	590 - 1013 hPa (height: 0 - 2000m)
Storage period	Toner/Developer: 24 months from the manufactured month (Production lot) under unsealed state Drum: 36 months from the manufactured month under unsealed state	

## [4] EXTERNAL VIEW AND INTERNAL STRUCTURE

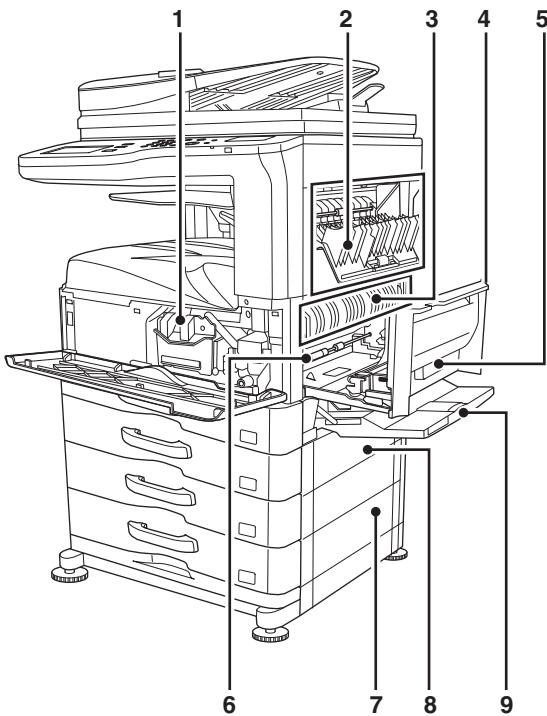
### 1. External view



No.	Name	Function/Operation
1	Job separator tray (Upper tray) (optional)	Print jobs and received faxes are delivered to this tray.
2	Automatic document feeder	This automatically feeds and scans multiple originals. Both sides of 2-sided originals can be automatically scanned.
3	Front cover	Open this cover to switch the main power switch to "On" or "Off" or to replace a toner cartridge.
4	Output tray (center tray)	Output is delivered to this tray.
5	Operation panel	This is used to select functions and enter the number of copies.
6	Exit tray unit (right tray)*1	When installed, output can be delivered to this tray.
7	Finisher*1	This can be used to staple output.
8	USB connector (A type)	Supports USB 2.0 (Hi-Speed). This is used to connect a USB device such as USB memory to the machine. For the USB cable, use a shielded cable.
9	Keyboard*1	The keyboard is integrated into the main unit. If not using the keyboard, it can be retracted into the bottom of the operation panel.
10	Main power switch	This is used to power on the machine. When using the fax or Internet fax functions, keep this switch in the "on" position.
11	Tray 1	This holds paper.
12	Tray 2	This holds paper.
13	Tray 3 (when a paper drawer is installed)*1	This holds paper.
14	Tray 4 (when a paper drawer is installed)*1	This holds paper.

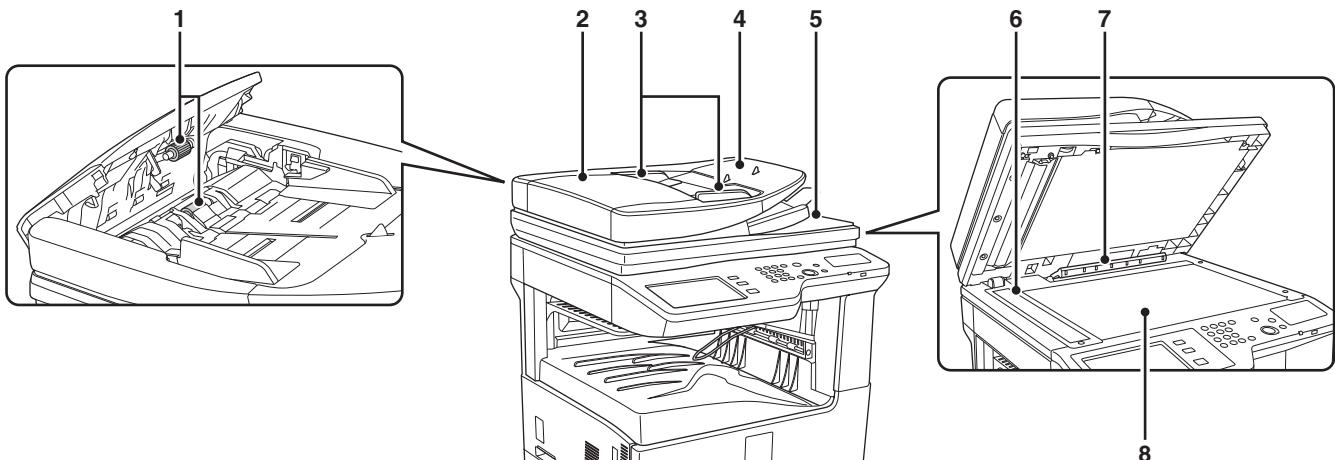
\*1: Peripheral device.

## 2. Internal structure



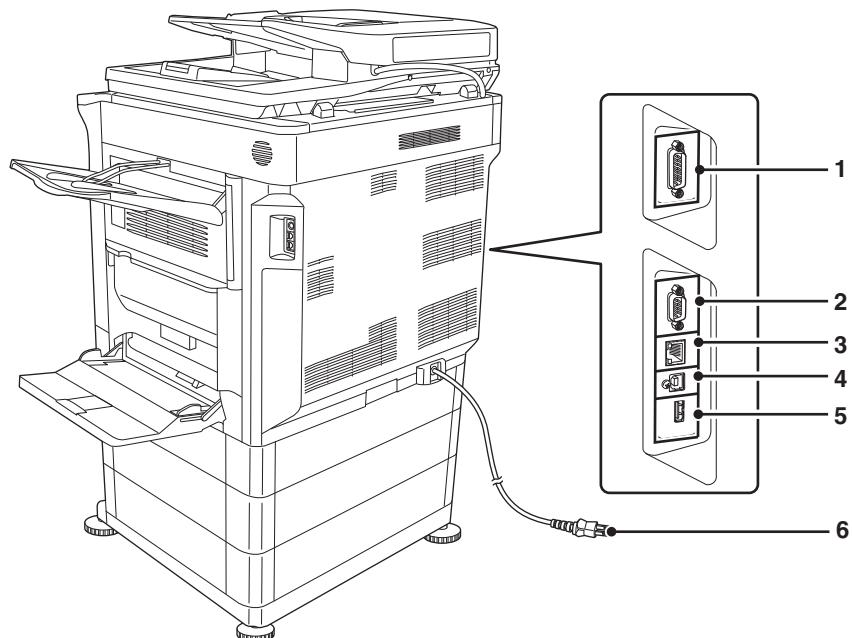
No.	Name	Function/Operation
1	Toner cartridge	This holds toner for printing. The toner cartridge must be replaced when indicated on the operation panel.
2	Upper cover of machine	Open this cover to remove jam paper when a paper jam occurs in the output of the job separator or the optional finisher.
3	Fusing unit	Heat is applied here to fuse the transferred image onto the paper.
4	Right side cover	Open this cover to remove a misfeed.
5	Right side cover release lever	To remove a paper misfeed, pull and hold this lever up to open the right side cover.
6	Photoconductive drum	This drum has a photoconductive coating on its surface. The images are formed on top of this photoconductive surface. (The photoconductive coating is green in color.)
7	Right cover of paper drawer (when a paper drawer is installed)	Open this to remove a paper misfeed in tray 3 or tray 4.
8	Paper tray right side cover	Open this to remove a paper misfeed in tray 2.
9	Bypass tray	Use this tray to feed paper manually. When loading a large sheet of paper, be sure to pull out the bypass tray extension.

### 3. Automatic document feeder and document glass

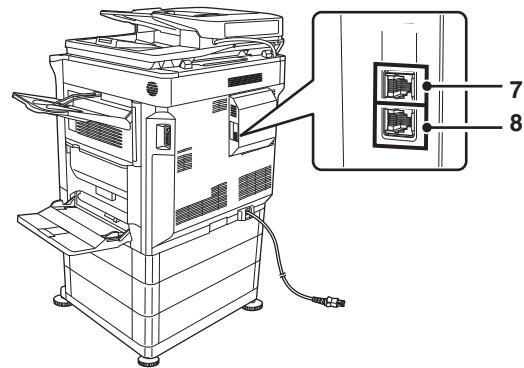


No.	Name	Function/Operation
1	Paper feed roller	This roller rotates to automatically feed the original.
2	Document feeding area cover	Open this cover to remove an original misfeed or clean the paper feed roller.
3	Original guides	These help ensure that the original is scanned correctly. Adjust the guides to the width of the original.
4	Document feeder tray	Place originals in this tray. 1-sided originals must be placed face up.
5	Original exit tray	Originals are delivered to this tray after scanning.
6	Scanning area	Originals placed in the document feeder tray are scanned here.
7	Original size detector	This detects the size of an original placed on the document glass.
8	Document glass	Use this to scan a book or other thick original that cannot be fed through the automatic document feeder.

#### 4. I/F connectors

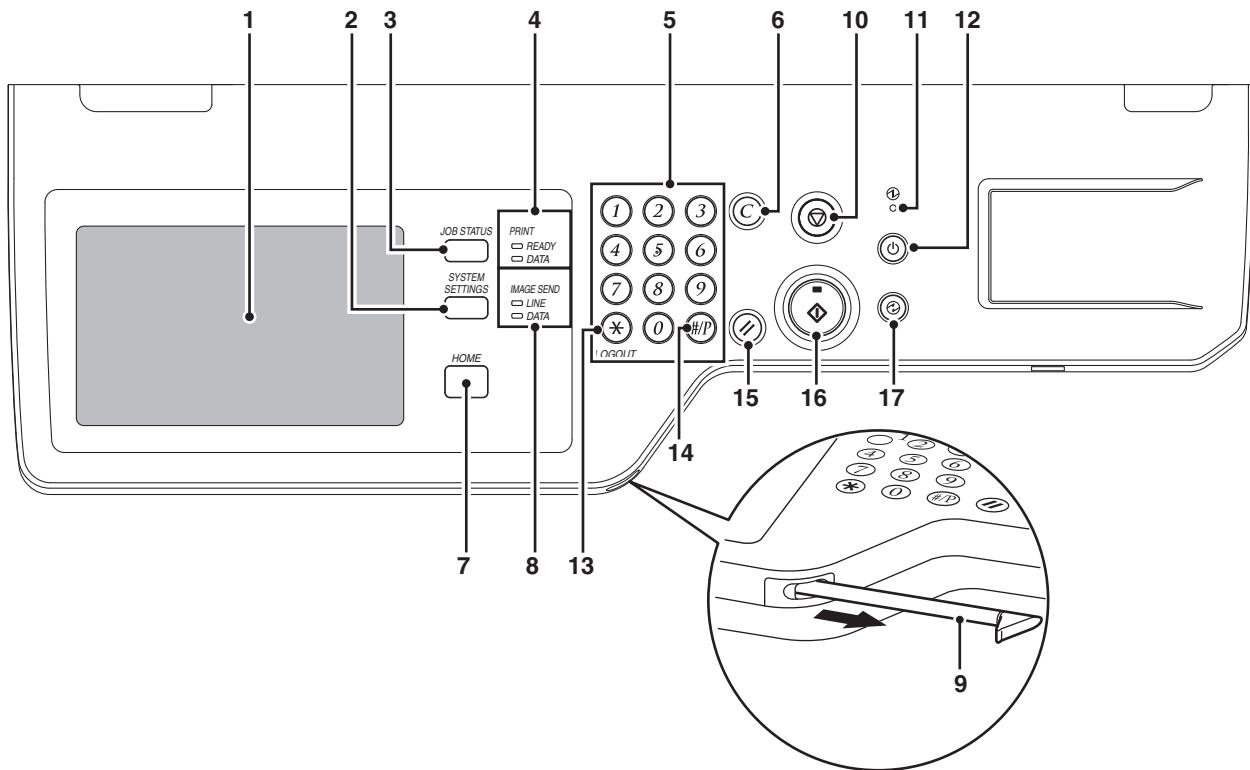


**When a fax expansion kit is installed**



No.	Name	Function/Operation
1	Connector for the finisher only	Connects the finisher.
2	Service-only connector	This connector is for use only by service technicians. Connecting a cable to this connector may cause the machine to malfunction. Important note for service technicians: The cable connected to the service connector must be less than 118" (3 m) in length.
3	LAN connector	Connect the LAN cable to this connector when the machine is used on a network. For the LAN cable, use a shielded type cable.
4	USB connector (B type)	Supports USB 2.0 (Hi-Speed). A computer can be connected to this connector to use the machine as a printer. For the USB cable, use a shielded cable.
5	USB connector (A type)	Supports USB 2.0 (Hi-Speed). This is used to connect a USB device such as USB memory to the machine.
6	Power plug	
7	Extension phone jack	When the fax function of the machine is used, an extension phone can be connected to this jack.
8	Telephone line jack	When the fax function of the machine is used, the telephone line is connected to this jack.

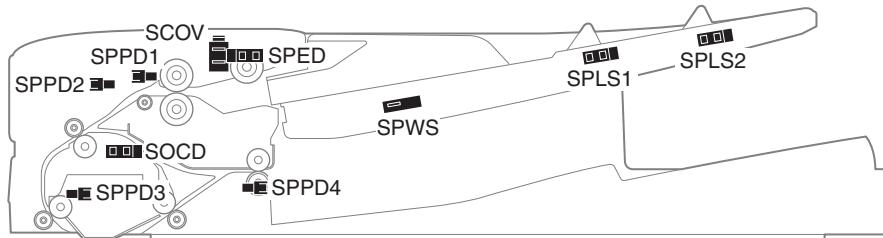
## 5. Operation panel



No.	Name	Function/Operation
1	Touch panel	Messages and keys appear in the touch panel display. Touch the displayed keys to perform a variety of operations. When a key is touched, a beep sounds and the selected item is highlighted. This provides confirmation as you perform an operation.
2	[SYSTEM SETTINGS] key	Press this key to display the system settings menu screen. The system settings are used to configure paper tray settings, store addresses for transmission operations, and adjust parameters to make the machine easier to use.
3	[JOB STATUS] key	Press this key to display the job status screen. The job status screen is used to check information on jobs and to cancel jobs. For details, see the chapters for each of the functions in this manual.
4	PRINT mode indicators	<ul style="list-style-type: none"> <li>READY indicator: Print jobs can be received when this indicator is lit.</li> <li>DATA indicator: This blinks while print data is being received and lights steadily while printing is taking place.</li> </ul>
5	Numeric keys	These are used to enter the number of copies, fax numbers, and other numerical values. These keys are also used to enter numeric value settings (except for the system settings).
6	[CLEAR] key (○)	Press this key to return the number of copies to "0".
7	[HOME] key	Touch this key to display the home screen. Frequently used settings can be registered in the home screen to enable quick and easy operation of the machine.
8	IMAGE SEND mode indicators	<ul style="list-style-type: none"> <li>LINE indicator: This lights up during transmission or reception of a fax or Internet fax. This also lights during transmission of an image in scan mode.</li> <li>DATA indicator: This blinks when a received fax or Internet fax cannot be printed because of a problem such as out of paper. This lights up when there is a transmission job that has not been sent.</li> </ul>
9	Stylus pen	This can be used to touch a key displayed on the touch panel.
10	[STOP] key (◎)	Press this key to stop a copy job or scanning of an original.
11	Main power indicator	This lights up when the machine's main power switch is in the "on" position.
12	[POWER] key (○)	Use this key to turn the machine power on and off.
13	[LOGOUT] key (*)	Press this key to log out after you have logged in and used the machine. When using the fax function, this key can also be pressed to send tone signals on a pulse dial line.
14	[#/P] key (#○)	When using the copy function, press this key to use a job program. When using the fax function, this key can be used when dialing.
15	[CLEAR ALL] key (○)	Press this key to return to the initial operation state. Use this key when you wish to cancel all settings that have been selected and start operation from the initial state.
16	[START] key	Press this key to copy or scan an original. This key is also used to send a fax in fax mode.
17	[POWER SAVE] key (○) / indicator	Use this key to put the machine into auto power shut-off mode to save energy. The [POWER SAVE] key (○) blinks when the machine is in auto power shut-off mode.

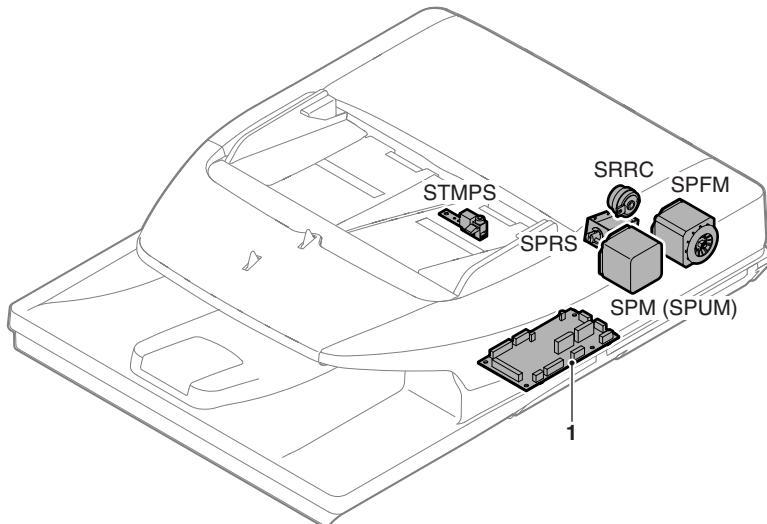
## 6. RSPF

### A. Sensors and detectors



Signal name	Name	Type	Function/Operation	Note
SCOV	RSPF cover open/close detector	Micro switch	Detects open/close of the RSPF cover.	
SOCD	RSPF open/close sensor	Transmission type	Detects open/close of the RSPF unit.	
SPED	Document sensor	Transmission type	Detects document empty in the RSPF paper feed tray.	
SPLS1	Paper size detector 1	Transmission type	Detects the document length in the RSPF paper feed tray.	
SPLS2	Paper size detector 2	Transmission type	Detects the document length in the RSPF paper feed tray.	
SPPD1	Document transport sensor 1	Transmission type	Detects paper feed and the document size in random paper feed.	
SPPD2	Document transport sensor 2	Transmission type	Detects paper pass.	
SPPD3	Document transport sensor 3	Transmission type	Detects paper pass.	
SPPD4	Document transport sensor 4	Transmission type	Detects paper exit and switchback.	
SPWS	Document size detector	Volume-type resistor	Detects the document width.	

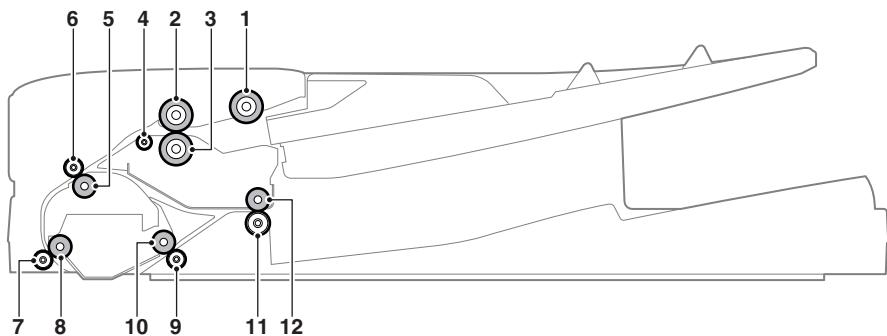
### B. Motors, clutches, solenoids and PWB



Signal name	Name	Type	Function/Operation
SPFM	RSPF transport motor	Stepping motor	Tранспортирует документ.
SPM/SPUM	RSPF paper feed motor	Stepping motor	Подаёт документ.
SPRS	Paper exit roller pressure control solenoid (RSPF)	Magnetic solenoid	Управляет включением/выключением транспортной силы ролика выхода документа. (Освобождает давление ролика при перевороте документа.)
SRRC	Registration roller clutch (RSPF)	Magnetic clutch	Управляет регистрационным роликом. (Управляет временем транспортировки документа.)
STMPS	Stamp solenoid	Magnetic solenoid	Движет фиксатор.

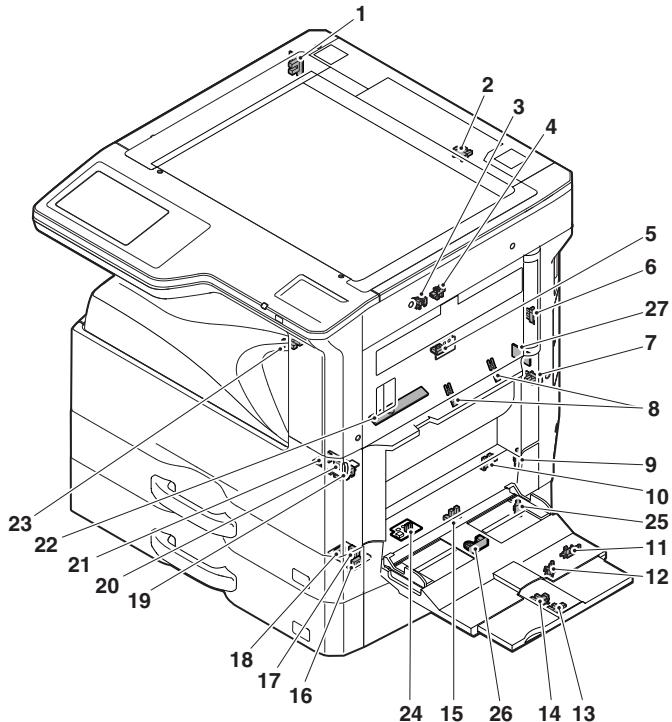
No.	Name	Function/Operation
1	RSPF driver PWB	Движет мотор, соленоид и клатч в секции RSPF.

## C. Rollers



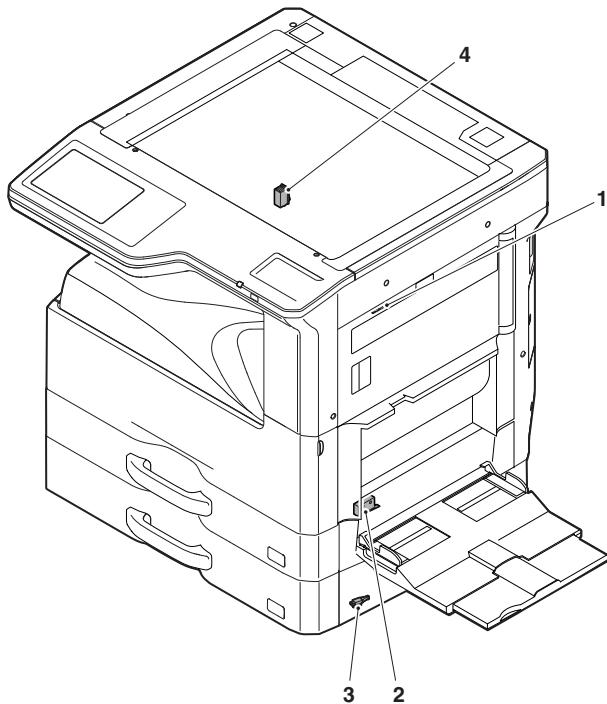
No.	Name	Function/Operation
1	Document pickup roller (RSPF)	Feeds a document to the paper feed roller.
2	Paper feed roller (RSPF)	Feeds a document to the transport section. Makes a buckle on paper between the registration roller and this roller to correct the start position of document skew and document image scan.
3	Separation roller (RSPF)	Separates a document to prevent double-feeding.
4	Transport auxiliary roller (RSPF)	Reduces friction between a document and the paper guide to transport the document smoothly to the registration roller.
5	Registration roller (Drive) (RSPF)	Transports a document to the transport roller 2. / Controls the transport timing of the document and adjusts the document scanning timing.
6	Registration roller (Idle) RSPF	Apply a pressure to a document and the registration roller to provide the transport power of the transport roller to the document.
7	Transport roller 2 (Idle) (RSPF)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
8	Transport roller 2 (Drive) (RSPF)	Transports a document transported from the registration roller to the document scanning section.
9	Transport roller 3 (Idle) (RSPF)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
10	Transport roller 3 (Drive) (RSPF)	Transports a document transported from the document scanning section to the paper exit roller.
11	Paper exit roller (Idle) (RSPF)	Apply a pressure to a document and the paper exit roller to provide the transport power of the paper exit roller to the document.
12	Paper exit roller (Drive) (RSPF)	Discharges a document. Switchbacks the document and transports it to the registration roller when scanning the back surface.

## 7. Sensor



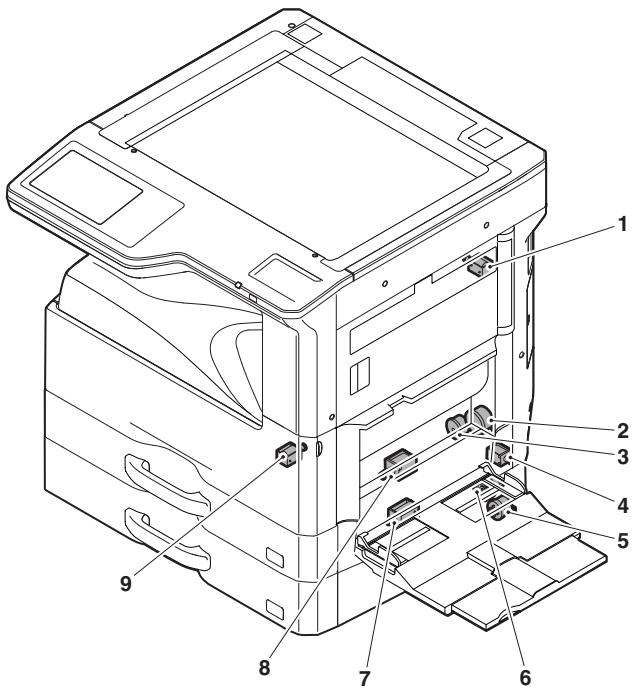
No.	Name	Code	Function and operation
21	1st tray paper empty sensor	C1PED	1st tray paper empty detection
22	Toner sensor	TCS	Toner density detection
23	Center tray paper YES/NO sensor	TFD1	Center tray paper YES/NO detection
24	Reverse pass paper detection sensor	APPD1	Reverse pass detection
25	2nd tray (paper tray) empty detection	C2SS	2nd tray (paper tray) empty detection
26	Manual feed width detection sensor	MPWD	Manual feed paper width detection
27	Temperature sensor/Humidity sensor	TH_RA/HUD_RA	Machine temperature/humidity detection

## 8. Switch

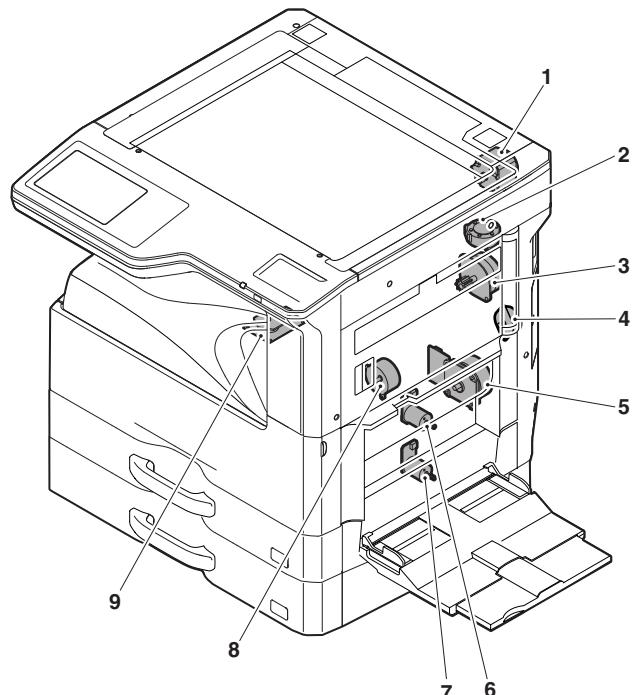


No.	Name	Code	Function and operation
1	Right cabinet door open/close detection	DSW_POC	Right cabinet door open/close detection
2	Door switch	DSW_R	Front door and side door open/close detection
3	2nd right door switch	DSW_C2	Side door open/close detection
4	Main switch	MSW	Main power switch

## 9. Solenoid/Clutch



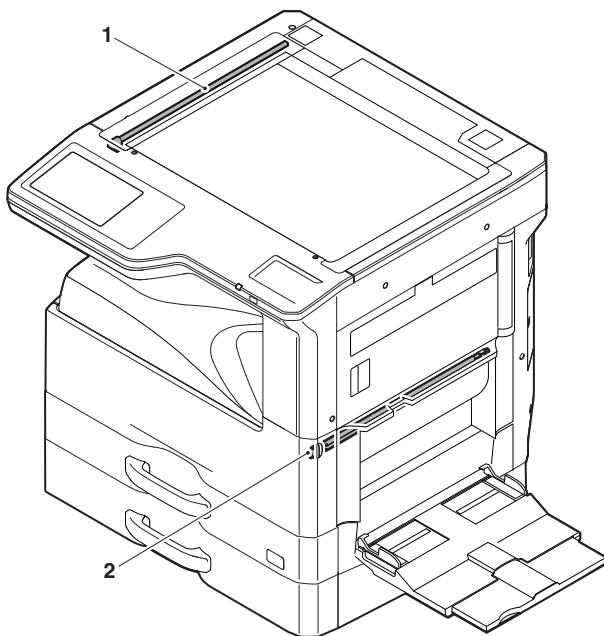
## 10. Drive motor



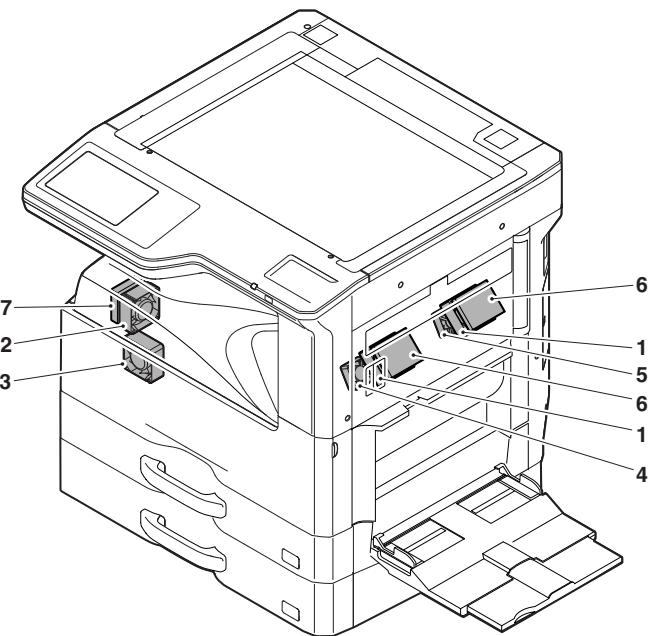
No.	Name	Code	Function and operation
1	Paper exit gate switching solenoid (Option)	POGS1	Paper exit gate switcher
2	PS clutch	RRC	Main unit paper feed
3	1st tray paper feed clutch	C1PUC	Paper feed roller drive
4	Manual paper feed solenoid	MPFS	Manual paper feed solenoid
5	Paper feed transfer clutch	PTRC2	Paper feed transfer clutch
6	2nd tray paper feed clutch	C2PUC	Drives the paper feed roller
7	2nd tray paper feed solenoid	C2PUS	Solenoid for the paper feed from the tray
8	1st tray paper feed solenoid	C1PUS	Solenoid for the paper feed from the tray
9	Separation pawl solenoid	PSPS	Separation pawl operation solenoid

No.	Name	Code	Function and operation
1	Scan motor	MIRM	Drives the scanner unit
2	Shifter motor	OSM	Shifter drive
3	Paper exit reverse motor	POM	Duplex paper switching and exit motor
4	ADU motor	ADUM	Reverse pass for paper transport
5	Main motor	MM	Main drive
6	Tray lift motor	C1LUM	Tray paper lift
7	Tray lift motor	C2LUM	Tray paper lift
8	Toner motor	TNM	Toner supply
9	Polygon motor	PM	Drives the polygon mirror

## 11. Lamp



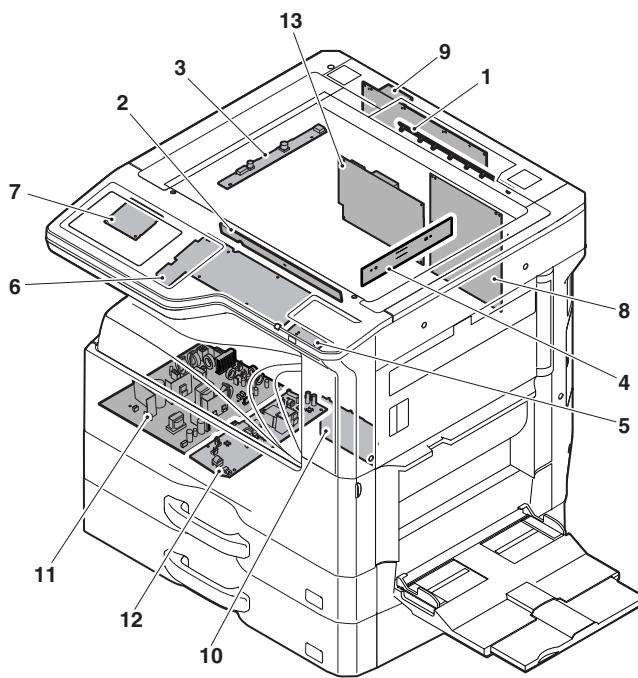
## 12. Fan/Filter



No.	Name	Function and operation
1	Copy lamp	Image exposure lamp
2	Heater lamp	Fusing heat lamp

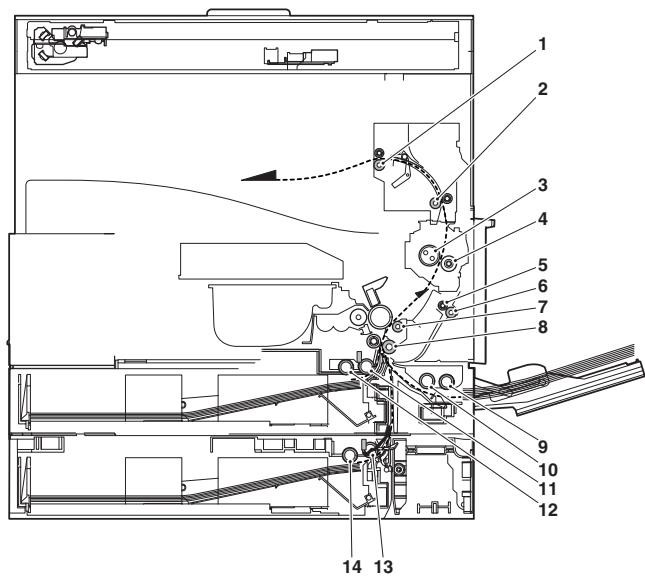
No.	Name	Code	Function and operation
1	Fusing fan	FUFM1/2	Cools the inside of the unit.
2	Power supply cooling fan 1	PSFM1	Cools the inside of the unit.
3	Power supply cooling fan 2	PSFM2	Cools the inside of the unit.
4	Paper exit fan	POFM1	Cools the inside of the unit. (31cpm/35cpm machine only)
5	Paper exit fan	POFM2	Cools the inside of the unit.
6	Ozone filter		
7	Ozone filter		

## 13. PWB



No.	Name	Function and operation
1	Document size detection PWB (Light emitting)	Drives the LED for the document size detection.
2	Document size detection PWB (Light receiving)	Outputs the document size detection signal.
3	Scanner lamp drive PWB	Drives the scanner lamp
4	CCD PWB	Scans document images and performs A/D conversion of the scanning signal.
5	USB I/F PWB	USB I/F
6	KEY PWB	Outputs the key operation signal.
7	LVDS PWB	Converts the display data signal to the LCD display signal. Controls the touch panel.
8	PCU PWB	Controls the engine section.
9	SCU PWB	Controls the scanner and the operation section.
10	Tray interface PWB	2nd tray control
11	DC power supply PWB	DC voltage control
12	High voltage PWB	High voltage control
13	MFP control PWB	Controls image data (compression, decompression, and filing), and controls the whole machine.

## 14. Roller



No.	Name	Function and operation
1	Paper exit roller	Paper exit roller
2	Transport roller	Paper transport roller
3	Upper heat roller	Fuses toner on paper. (with the Teflon roller)
4	Lower heat roller	Fuses toner on paper. (with the silicone rubber roller)
5	DUP transport follower roller	Duplex paper transport
6	DUP transport roller	Duplex paper transport
7	Transport roller	Transfer images on the drum onto paper.
8	Resist roller	Synchronize the paper lead edge with the image lead edge.
9	Manual paper feed roller	Picks up papers in manual paper feed port.
10	Manual feed transport roller	Transports paper from the manual paper feed port.
11	1st tray paper feed roller	Transports the picked up paper to RESIST section.
12	1st tray pick-up roller	Picks up paper from the tray.
13	2nd tray paper feed roller	Transports the picked up paper to RESIST section.
14	2nd tray pick-up roller	Picks up paper from the tray.

## [5] ADJUSTMENTS AND SETTINGS

### 1. General

Each adjustment item in the adjustment item list is associated with a specific Job number. Perform the adjustment procedures in the sequence of Job numbers from the smallest to the greatest.

However, there is no need to perform all the adjustment items. Perform only the necessary adjustments according to the need.

Unnecessary adjustments can be omitted. Even in this case, however, the sequence from the smallest to the greatest Job number must be observed.

If the above precaution should be neglected, the adjustment would not complete normally or trouble may occur.

### 2. Adjustment item list

Job No.	Adjustment item list				Simulation
ADJ 1	Adjust the developing unit	1A	Developing doctor gap adjustment		
		1B	MG roller main pole position adjustment		
		1C	Toner density control reference value setting		25-2
ADJ 2	Adjusting high voltage values	2A	Adjust the main charger grid voltage		8-2
		2B	Adjust the developing bias voltage		8-1
		2C	Transfer current and voltage adjustment		8-6
ADJ 3	Image lead edge position, image loss, void area, image off-center, image magnification ratio adjustment (Automatic adjustment)	3A	Print image off-center automatic adjustment (Print engine) (Each paper feed tray)		50-28
		3B	Copy mode image lead edge position, image loss, void area, image off-center, sub scanning direction image magnification ratio automatic adjustment (Scanner) (Document table mode)		50-28
		3C	Copy mode image lead edge position, image loss, void area, image off-center, sub scanning direction image magnification ratio automatic adjustment (Scanner) (RSPF mode)		50-28
ADJ 4	Scan image distortion adjustment (Document table mode)	4A	Scanner (reading) unit parallelism adjustment		
		4B	Scan image (sub scanning direction) distortion adjustment		
		4C	Scan image (main scanning direction) distortion adjustment		
ADJ 5	Scanner image skew adjustment (RSPF mode)				64-2
ADJ 6	Scan image focus adjustment				48-1
ADJ 7	Print lead edge image position adjustment (Printer mode)				50-5
ADJ 8	Image density adjustment	8A	Scanner calibration (CCD calibration)		63-3 (63-5)
		8B	Copy / Image send / FAX image quality adjustment (Individual adjustment)	8B (1)	Monochrome copy density adjustment (for each monochrome copy mode) (separately for the low-density area and the high-density area) (No need to adjust normally)
				8B (2)	Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)
				8B (3)	Document low density image density reproduction adjustment in the automatic monochrome (Copy/Scan/FAX) mode (No need to adjust normally) (Background density adjustment in the scanning section)
				8B (4)	Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally) (Effective only for the color scan function)
				8B (5)	Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)
				8B (6)	RSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)
					46-9
ADJ 9	Paper size sensor adjustment	9A	Manual paper feed tray paper size (width) sensor adjustment		40-2
		9B	RSPF paper feed tray document size (width) sensor adjustment		53-6
ADJ 10	Document size detection adjustment	10A	Document size sensor detection point adjustment		41-1
		10B	Adjust the sensitivity of the original size sensor		41-2
ADJ 11	Touch panel coordinate setting				65-1
ADJ 12	Print image position, void area, off-center adjustment (Print engine) (Manual adjustment)	12A	Print image print area adjustment (Print engine) (Manual adjustment)		50-10/50-1
		12B	Print image off-center adjustment (Print engine) (Manual adjustment)		50-10
ADJ 13	Scan image magnification ratio adjustment (Manual adjustment)	13A	Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (Document table mode)		48-1
		13B	Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (Document table mode)		48-1/48-5
		13C	Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (RSPF mode)		48-1
		13D	Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (RSPF mode)		48-1
ADJ 14	Scan image off-center adjustment (Manual adjustment)	14A	Scan image off-center adjustment (Manual adjustment) (Document table mode)		50-12
		14B	Scan image off-center adjustment (Manual adjustment) (RSPF mode)		50-12/50-6

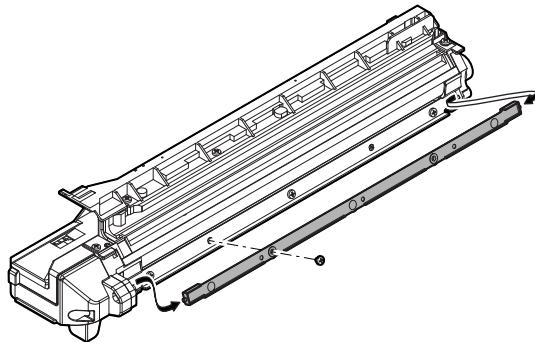
Job No.	Adjustment item list			Simulation
ADJ 15	Copy image position and image loss adjustment (Manual adjustment)	15A	Copy image position, image loss, and void area adjustment (Manual adjustment) (Document table mode)	50-1
		15B	Image scanning position adjustment (Manual adjustment) (RSPF mode)	53-8
		15C	Copy image position, image loss, void area adjustment (Manual adjustment) (RSPF mode)	50-6
ADJ 16	Finisher adjustments (alignment, staple position)			3-10

### 3. Details of adjustment

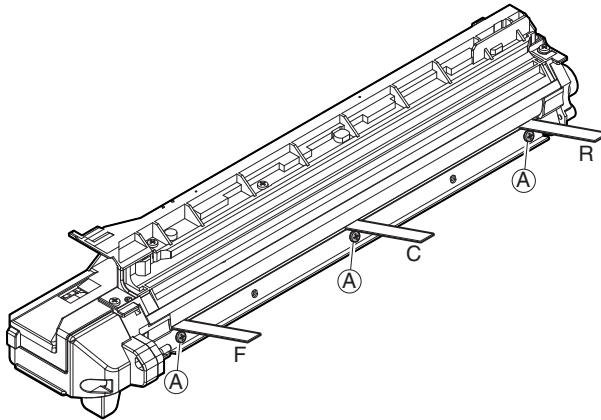
#### ADJ 1 Adjust the developing unit

##### 1-A Developing doctor gap adjustment

- 1) Remove the doctor cover.



- 2) Loosen the developing doctor fixing screw A.
- 3) Insert a thickness gauge of 1.5mm to the positions of three screws on the developing doctor as shown.



- 4) Tighten the developing doctor fixing screw.
  - 5) Check the clearance of the developing doctor. If it is within the specified range, then fix the doctor fixing screw with screw lock.
- \* When inserting a thickness gauge, be careful not to scratch the developing doctor and the MG roller.

##### <Adjustment specification>

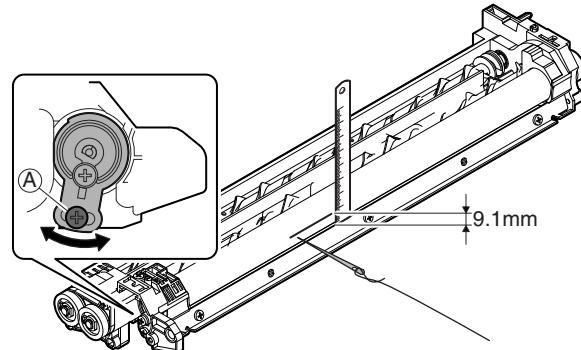
Developing doctor gap

F/C/R:  $1.5^{+0.1}_{-0.15}\text{mm}$

##### 1-B MG roller main pole position adjustment

- 1) Put the developing unit on a flat surface.
- 2) Tie a needle or pin on a string.
- 3) Hold the string and bring the needle close to the MG roller horizontally. (Do not use paper clip, which is too heavy to make a correct adjustment.) (Put the developing unit horizontally for this adjustment.)
- 4) Do not bring the needle into contact with the MG roller, but bring it to a position 2 or 3mm apart from the MG roller. Mark the point on the MG roller which is on the extension line from the needle tip.
- 5) Measure the distance from the marking position to the top of the doctor plate of the developing unit to insure that it is 9.1mm.

If the distance is not within the specified range, loosen the fixing screw A of the main pole adjustment plate, and move the adjustment plate in the arrow direction to adjust.



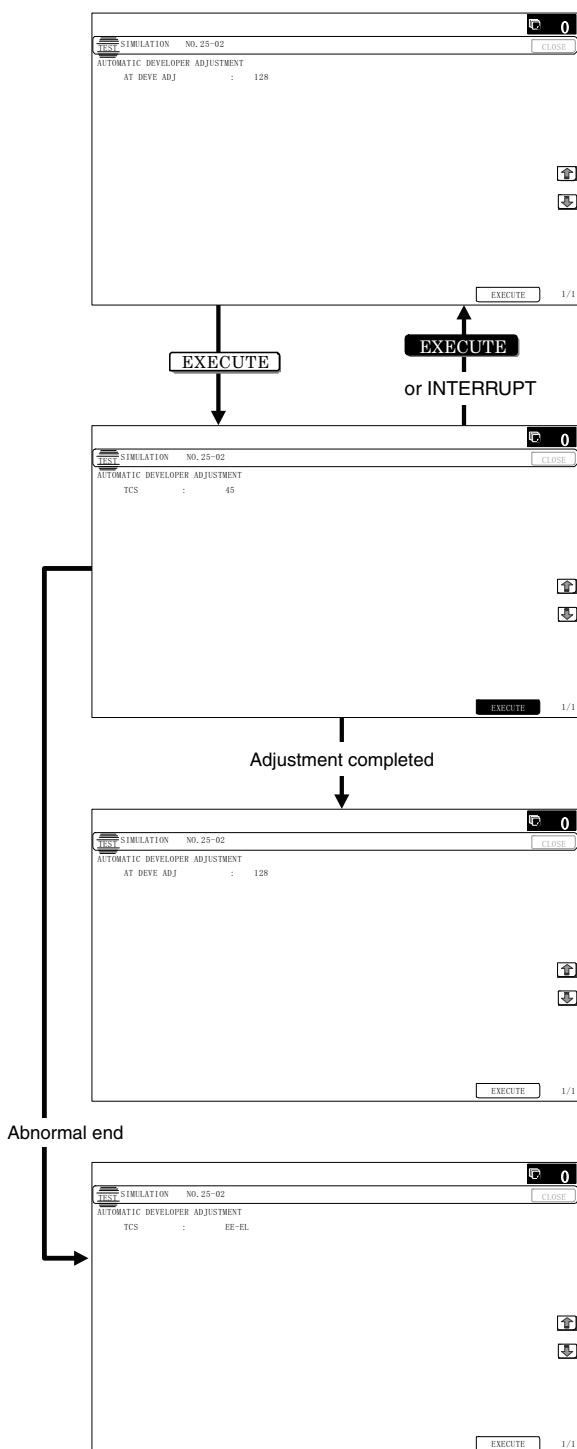
## 1-C Toner density control reference value setting

This adjustment must be performed in the following cases:

- \* When developer is replaced.

**CAUTION:** Be sure to execute this adjustment only when developer is replaced. Never execute it in the other cases.

- 1) With the front cabinet open, enter SIM25-2.



- 2) Close the front cabinet.

- 3) When [EXECUTE] key is pressed, [EXECUTE] key is highlighted (in black) and the developer adjustment is started. (The adjustment is automatically performed for 3 minutes.)
- 4) When the developer adjustment is completed, [EXECUTE] key returns to the normal state (in white), and the developer adjustment value is displayed.

**CAUTION:** If the operation is interrupted within 3 minutes, the adjustment result is not reflected.

When [EXECUTE] key is pressed during the operation, the operation is stopped and [EXECUTE] key returns to the normal display.

If [EE-EU] or [EE-EL] is displayed, setting of the reference toner density control value is not completed normally.

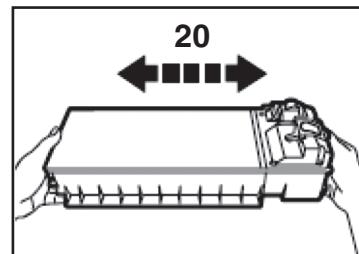
Troubleshoot the cause, remove the cause, and perform setting again.

Error display	Error name	Detail of error
EE-EL	EL abnormality	Sensor output level below 78
EE-EU	EU abnormality	Sensor output level above 178

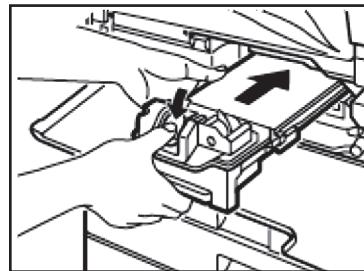
- 5) Cancel SIM25-2 with [CA] key.

- 6) Toner cartridge installation

Shake the toner cartridge 20 times horizontally.



- 7) Press the lock release lever and insert it along the guide in the machine until it locks securely.



\* Before installation, clean and remove dust and dirt from the toner cartridge.

- 8) Close the front cabinet.

- 9) Confirm that "Toner replenishment in progress" is displayed, and wait until the display disappears. (It takes 30 sec - 6 min.)

**NOTE:** This procedure is for checking the toner supply operation from the toner cartridge to the DV unit. The operation time differs depending on the toner quantity in the toner cartridge, uneven distribution of toner, and the internal state of the toner cartridge.

**CAUTION:** Do not perform operations which interrupt the above operation, such as opening the front cover, entering the SIM mode, and turning OFF/ON the power. If this precaution is ignored, Trouble codes F2-40 or F2-64 or a over-toned condition may occur.

**CAUTION:** When not replacing the developer, do not execute SIM25-2.

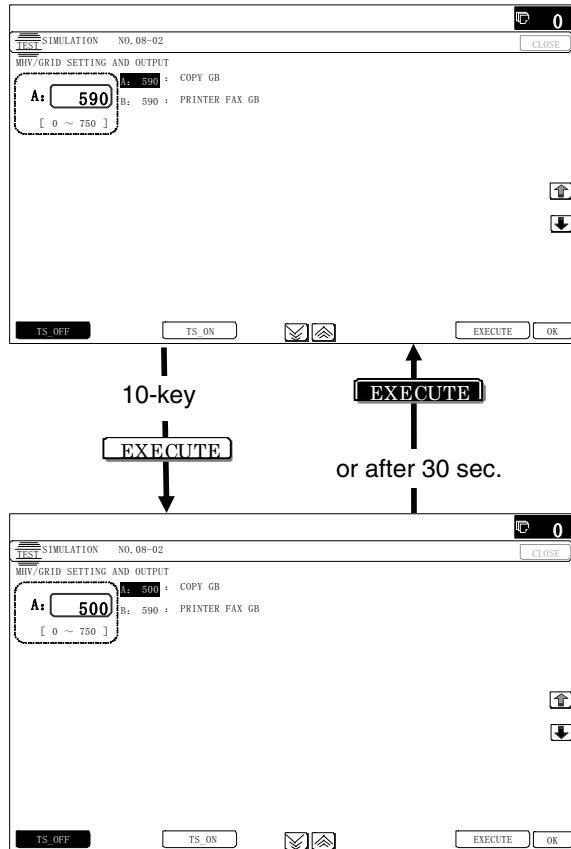
## ADJ 2 Adjusting high voltage values

### 2-A Adjust the main charger grid voltage

This adjustment must be performed in the following cases:

- \* When the MC/DV high voltage power PWB is replaced.
- \* U2 trouble has occurred.
- \* The PCU PWB has been replaced.
- \* The EEPROM of the PCU PWB has been replaced.

1) Enter the SIM 8-2 mode.



2) Select an output mode and an item to be adjusted.

Button	Item	Display	Content	Setting range	Default value
TS_OFF	A	COPY GB	Charging/grid bias set value in a copy job (Toner save mode OFF)	0 - 750	590
	B	PRINTER FAX GB	Charging/grid bias set value in a Print/FAX job (Toner save mode OFF)	0 - 750	590
TS_ON	A	COPY GB	Charging/grid bias set value in a copy job (Toner save mode ON)	0 - 750	460
	B	PRINTER GB	Charging/grid bias set value in a print job (Toner save mode ON)	0 - 750	390

3) Enter the main charger values of items A/B under TS\_OFF/ON.

When [EXECUTE] key is pressed, the voltage entered in the procedure 3) is outputted for 30sec and the set value is saved.

When [EXECUTE] key is pressed again, the output is stopped.

CAUTION: Note that the adjustment value may differ depending on the MC/DV high voltage power PWB.

Since the adjustment value label is attached on the MC/DV high voltage PWB, the PWB must be removed in order to check the adjustment value.

This is a troublesome procedure. Therefore, it is advisable to put down the adjustment value in advance.

When the adjustment value (specified value) of the middle speed mode is set, the adjustment values of the other modes are automatically set according to the middle speed mode setting in a certain relationship.

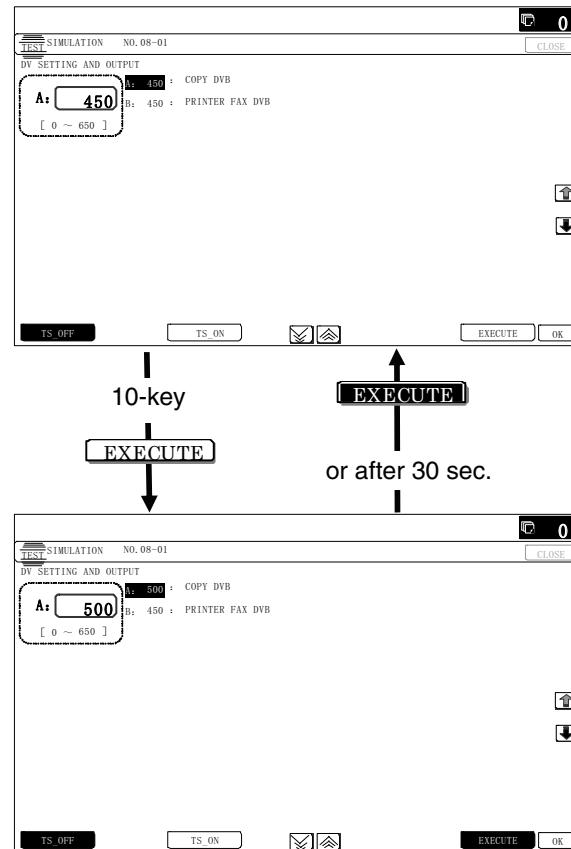
CAUTION: Since the high voltage output cannot be checked with a digital multi meter in this model, a judgment of the output must be made by checking the print image quality.

### 2-B Adjust the developing bias voltage

This adjustment must be performed in the following cases:

- \* When the MC/DV high voltage power PWB is replaced.
- \* U2 trouble has occurred.
- \* The PCU PWB has been replaced.
- \* The EEPROM of the PCU PWB has been replaced.

1) Enter the SIM 8-1 mode.



2) Select an output mode and an item to be adjusted.

Button	Item	Display	Content	Setting range	Default value
TS_OFF	A	COPY DVB	Developing bias set value in a copy job (Toner save mode OFF)	0 - 650	450
	B	PRINTER FAX DVB	Developing bias set value in a Print/FAX job (Toner save mode OFF)	0 - 650	450
TS_ON	A	COPY DVB	Developing bias set value in a copy job (Toner save mode ON)	0 - 650	320
	B	PRINTER DVB	Developing bias set value in a print job (Toner save mode ON)	0 - 650	250

3) Enter the developing bias values of items A/B under TS\_OFF/ON.

When [EXECUTE] key is pressed, the voltage entered in the procedure 3) is outputted for 30sec and the set value is saved.

When [EXECUTE] key is pressed again, the output is stopped.

**CAUTION:** Note that the adjustment value may differ depending on the MC/DV high voltage power PWB.

Since the adjustment value label is attached on the MC/DV high voltage PWB, the PWB must be removed in order to check the adjustment value.

This is a troublesome procedure. Therefore, it is advisable to put down the adjustment value in advance.

When the adjustment value (specified value) of the middle speed mode is set, the adjustment values of the other modes are automatically set according to the middle speed mode setting in a certain relationship.

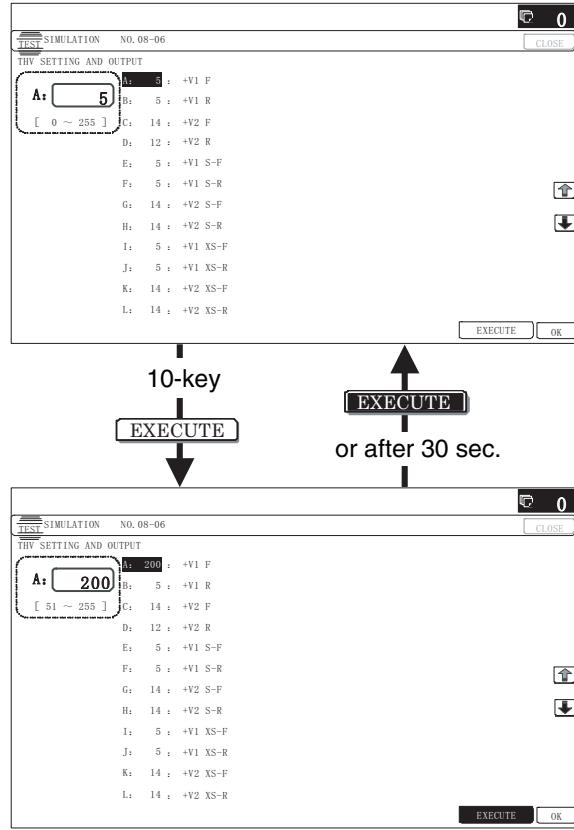
**CAUTION:** Since the high voltage output cannot be checked with a digital multi meter in this model, a judgment of the output must be made by checking the print image quality.

## 2-C Transfer current and voltage adjustment

This adjustment must be performed in the following cases:

- \* When the TC high voltage PWB is replaced.
- \* U2 trouble has occurred.
- \* The PCU PWB has been replaced.
- \* The EEPROM of the PCU PWB has been replaced.

1) Enter the SIM 8-6 mode.



2) Select an item to be adjusted.

Item/Display		Content					Setting range	Default value			
								26cpm machine	31cpm machine	35cpm machine	
A	+V1 F	Transfer bias reference value	Standard paper	W	Between papers	Single	A-1: W, +V1 F (Between papers), Standard paper front surface (Single/Duplex)	0 - 255	5	5	5
B	+V1 R				Duplex		A-2: W, +V1 R (Between papers), Standard paper back surface (Duplex)	0 - 255	5	5	5
C	+V2 F		Paper		Single	A-3: W, +V2 F, Standard paper front surface (Single/Duplex)	0 - 255	14	18	20	
D	+V2 R				Duplex	A-4: W, +V2 R, Standard paper back surface (Duplex)	0 - 255	12	16	14	

Item/Display		Content						Setting range	Default value		
									26cpm machine	31cpm machine	35cpm machine
E	+V1 S-F	Transfer bias reference value	Standard paper	N1jp	Between papers	Single	B-1: N1jp, +V1 S-F (Between papers), Standard paper front surface (Single/Duplex)	0 - 255	5	5	5
F	+V1 S-R				Duplex		B-2: N1jp, +V1 S-R (Between papers), Standard paper back surface (Duplex)	0 - 255	5	5	5
G	+V2 S-F			Paper	Single		B-3: N1jp, +V2 S-F, Standard paper front surface (Single/Duplex)	0 - 255	14	18	20
H	+V2 S-F				Duplex		B-4: N1jp, +V2 S-F, Standard paper back surface (Duplex)	0 - 255	14	18	20
I	+V1 XS-F			N2jp	Between papers	Single	C-1: N2jp, +V1 XS-F (Between papers), Standard paper front surface (Single/Duplex)	0 - 255	5	5	5
J	+V1 XS-R				Duplex		C-2: N2jp, +V1 XS-R (Between papers), Standard paper back surface (Duplex)	0 - 255	5	5	5
K	+V2 XS-F			Paper	Single		C-3: N2jp, +V2 XS-F, Standard paper front surface (Single/Duplex)	0 - 255	14	18	20
L	+V2 XS-R				Duplex		C-4: N2jp, +V2 XS-R, Standard paper back surface (Duplex)	0 - 255	14	18	20
M	+V1 THICK	Heavy paper	>LTR	Between papers			D-1: > LTR, +V1 THICK (Between papers), Heavy paper	0 - 255	5	5	5
N	+V2 THICK			Paper			D-2: > LTR, +V2 THICK, Heavy paper	0 - 255	10	14	16
O	+V1 THICK S		<=LTR	Between papers			E-1: <= LTR, +V1 THICK S (Between papers), Heavy paper	0 - 255	5	5	5
P	+V2 THICK S			Paper			E-2: <= LTR, +V2 THICK S, Heavy paper	0 - 255	12	14	16
Q	+V1 THIN		Thin paper	>LTR	Between papers		D-7: > LTR, +V1 THIN (Between papers), Thin paper	0 - 255	5	5	5
R	+V2 THIN				Paper		D-8: > LTR, +V2 THIN, Thin paper	0 - 255	12	18	20
S	+V1 THIN S			<=LTR	Between papers		E-7: <= LTR, +V1 THIN S (Between papers), Thin paper	0 - 255	5	5	5
T	+V2 THIN S				Paper		E-8: <= LTR, +V2 THIN S, Thin paper	0 - 255	12	18	20
U	+V1 LABEL	Label sheet	>LTR	Between papers			D-3: <= LTR, +V1 LABEL (Between papers), Label sheet	0 - 255	5	5	5
V	+V2 LABEL			Paper			D-4: > LTR, +V2 LABEL, Label sheet	0 - 255	12	18	20
W	+V1 LABEL S		<=LTR	Between papers			E-3: <= LTR, +V1 LABEL S (Between papers), Label sheet	0 - 255	5	5	5
X	+V2 LABEL S			Paper			E-4: <= LTR, +V2 LABEL S, Label sheet	0 - 255	12	14	16
Y	+V1 OHP		OHP	>LTR	Between papers		D-5: > LTR, +V1 OHP (Between papers), OHP	0 - 255	5	5	5
Z	+V2 OHP				Paper		D-6: > LTR, +V2 OHP, OHP	0 - 255	8	14	16
AA	+V1 OHP S			<=LTR	Between papers		E-5: <= LTR, +V1 OHP S (Between papers), OHP	0 - 255	5	5	5
AB	+V2 OHP S				Paper		E-6: <= LTR, +V2 OHP S, OHP	0 - 255	12	18	20

Item/Display		Content					Setting range	Default value			
								26cpm machine	31cpm machine	35cpm machine	
AC	+V1 POSTCARD	Transfer bias reference value	Postcard/Envelope	>100mm	Between papers	D-9: > 100mm, +V1 POSTCARD (Between papers), Postcard/Envelope	0 - 255	5	5	5	
AD	+V2 POSTCARD			<=100mm	Paper	D-10: > 100mm, +V2 POSTCARD, Postcard/Envelope	0 - 255	16	26	26	
AE	+V1 POSTCARD S		Postcard/Envelope		Between papers	E-9: <= 100mm, +V1 POSTCARD S (Between papers), Postcard/Envelope	0 - 255	5	5	5	
AF	+V2 POSTCARD S				Paper	E-10: <= 100mm, +V2 POSTCARD S, Postcard/Envelope	0 - 255	16	26	26	

3) Enter the adjustment value (specified value), and press [OK] key.

When [EXECUTE] key is pressed, the voltage entered in the procedure 3) is outputted for 30sec and the set value is saved.

When [EXECUTE] key is pressed again, the output is stopped.

By setting the default value (specified value), the specified output is provided.

### ADJ 3 Image lead edge position, image loss, void area, image off-center, image magnification ratio adjustment (Automatic adjustment)

The following adjustment items can be executed automatically with SIM50-28.

\* ADJ 12

Print image position, image magnification ratio, void area, off-center adjustment (Print engine) (Manual adjustment)

\* ADJ 13

Scan image magnification ratio adjustment (Manual adjustment)

\* ADJ 14

Scan image off-center adjustment (Manual adjustment)

\* ADJ 15

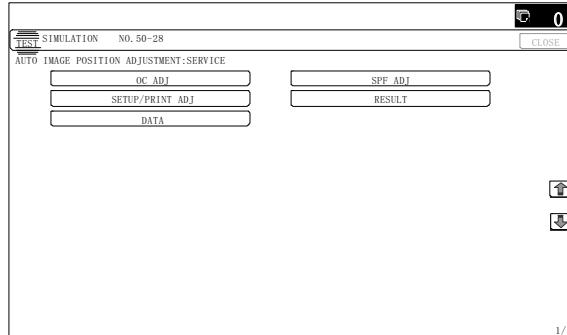
Copy image position, image loss adjustment (Manual adjustment)

#### Menu in SIM50-28 mode

Display/Item	Content
OC ADJ	Image loss off-center sub scanning direction image magnification ratio adjustment (Document table mode)
SPF ADJ	Image loss off-center sub scanning direction image magnification ratio adjustment (RSFP mode)
SETUP/PRINT ADJ	Print lead edge adjustment, image off-center (each paper feed tray, duplex mode) adjustment
RESULT	Adjustment result display
DATA	Display of data used when an adjustment is executed

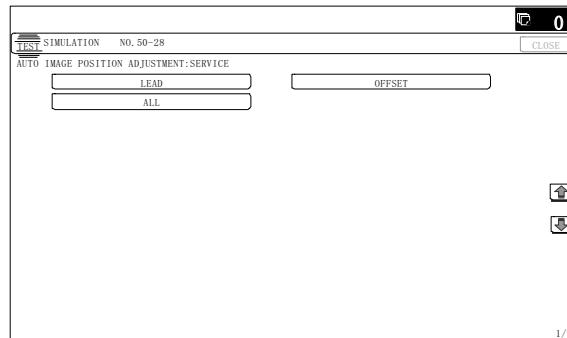
### 3-A Print image off-center automatic adjustment (Print engine) (Each paper feed tray)

1) Enter the SIM50-28 mode.



2) Select [SETUP/PRINT ADJ] with the key.

3) Select [ALL] with the key.



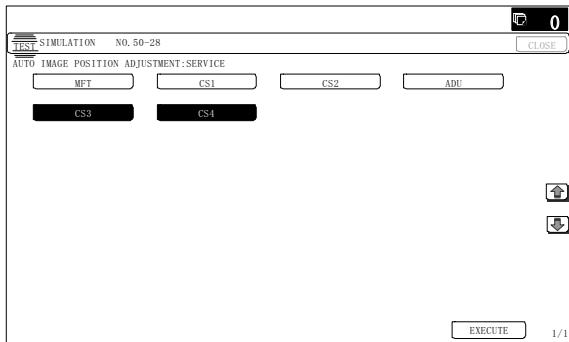
CAUTION: By pressing [LEAD] or [OFFSET] key, the following items can be executed individually.

\* [LEAD]: Print image lead edge image position adjustment

\* [OFFSET]: Print image off-center adjustment

When [ALL] is selected, both of the above two items are executed simultaneously.

- 4) Select a paper feed tray to be adjusted.



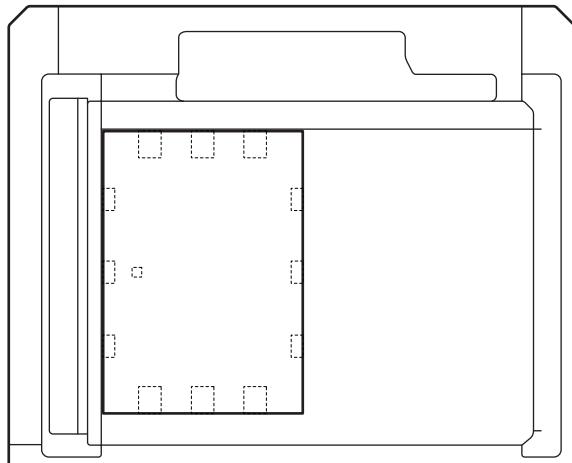
- 5) Press [EXECUTE] key.

The adjustment pattern is printed out.

- 6) Set the adjustment pattern on the document table.

**CAUTION:** Fit the adjustment pattern correctly with the document guide.

In this case, put 5 sheets of white paper on the printed adjustment pattern.



- 7) Press [EXECUTE] key.

The following item is automatically adjustment.

- \* Print image lead edge image position adjustment
- \* Print image off-center adjustment

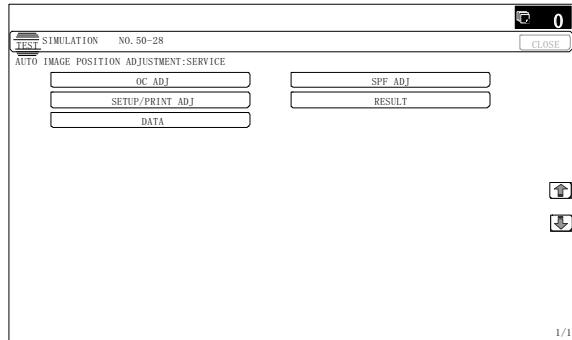
- 8) Press [OK] key.

The adjustment result becomes valid.

Perform procedures 4) to 7) for each paper feed tray.

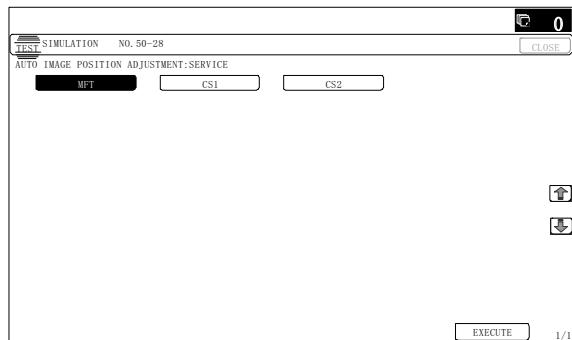
### 3-B Copy mode image lead edge position, image loss, void area, image off-center, sub scanning direction image magnification ratio automatic adjustment (Scanner) (Document table mode)

- 1) Enter the SIM50-28 mode.



- 2) Select [OC ADJ] with the key.

- 3) Select the paper feed tray with paper in it with the key.  
(Any paper size will do.)



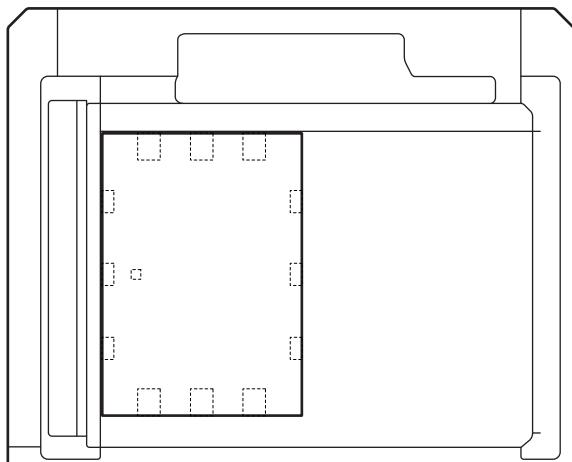
- 4) Press [EXECUTE] key.

The adjustment pattern is printed out.

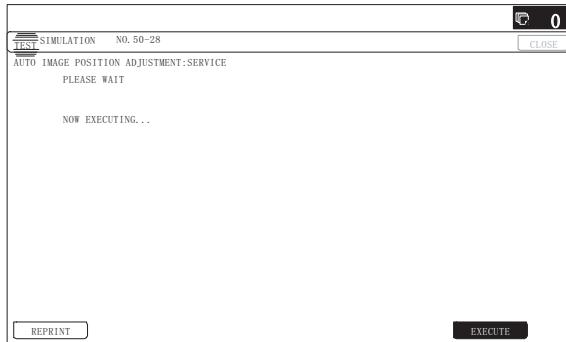
- 5) Set the adjustment pattern on the document table.

**CAUTION:** Fit the adjustment pattern correctly with the document guide.

In this case, put 5 sheets of white paper on the printed adjustment pattern.



- 6) Press [EXECUTE] key.



The following item is automatically adjustment.

\* Copy lead edge image reference position adjustment, image off-center, sub scanning direction image magnification ratio automatic adjustment

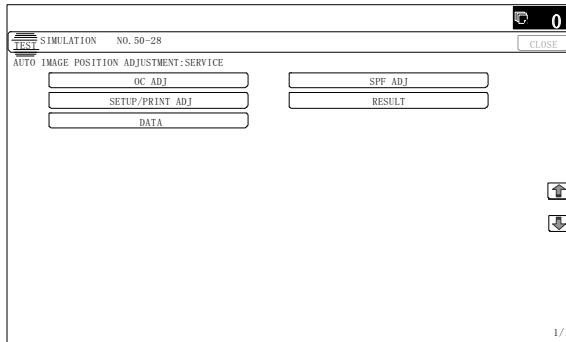
- 7) Press [OK] key.

The adjustment result becomes valid.

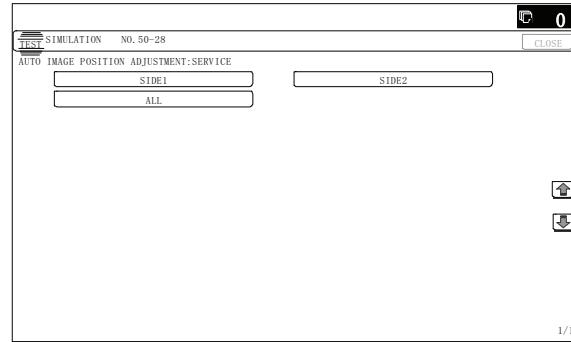


### **3-C Copy mode image lead edge position, image loss, void area, image off-center, sub scanning direction image magnification ratio automatic adjustment (Scanner) (RSPF mode)**

- 1) Enter the SIM50-28 mode.



- 2) Press the [SPF ADJ] key.



- 3) Proceed to one of the three screens for selecting the cassette used to print RSPF adjustment patterns by selecting the corresponding button:

SIDE1: RSPF adjustment for the front side

SIDE2: RSPF adjustment for the back side

ALL: RSPF adjustment for both the front and back sides

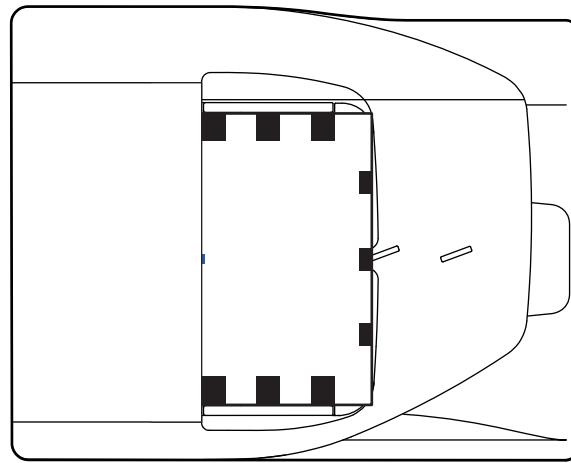
- 4) Select one of the cassettes that can be used to print RSPF adjustment patterns. (Multiple selection is not allowed.)

- 5) Press the [EXECUTE] key, and the machine starts self-print of RSPF adjustment patterns.

\* The screen shows a message indicating that the machine is self-printing RSPF adjustment patterns.

When self-print finishes, the next screen appears where you can start RSPF adjustments.

- 6) RSPF adjustment patterns are loaded into the RSPF. (Set so that the pattern surface faces up.)



\* By pressing the [REPRINT] key, you can return to the cassette selection screen and have the machine self-print RSPF adjustment patterns again.

- 7) Press the [EXECUTE] key, and the machine starts reading RSPF adjustment patterns (for the front side).

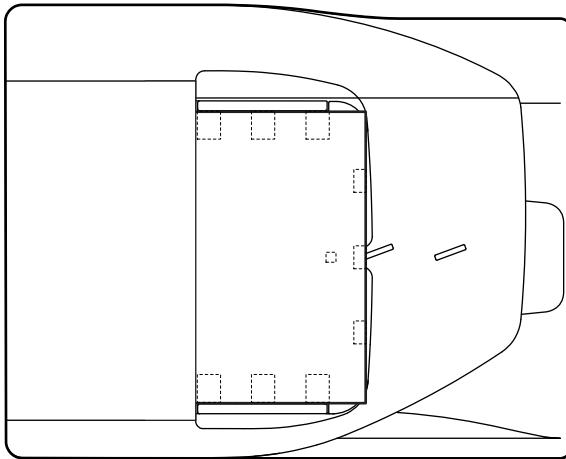
\* The screen shows a message indicating that the machine is reading and calculating RSPF adjustment patterns (for the front side).

The machine starts calculating the adjustment amount (for the front side) after it has read the patterns for the front side.

After the machine has finished calculating the adjustment amount for the front side, the next screen appears where you can have the machine start reading RSPF adjustment patterns (for the back side).

#### Adjustment Item List

- RSPF original leading edge adjustment (front side)
  - RSPF original off-center adjustment (front side)
  - RSPF original sub-scan magnification adjustment (front side)
- 8) RSPF adjustment patterns are loaded into the RSPF.  
(Set so that the pattern surface faces down.)



\* By pressing the [REPRINT] key, you can return to the cassette selection screen and have the machine self-print RSPF adjustment patterns again.

- 9) Press the [EXECUTE] key, and the machine starts loading RSPF adjustment patterns (for the back side).  
\* The screen shows a message indicating that the machine is reading RSPF adjustment patterns (for the back side).  
The machine starts calculating the adjustment amount (for the back side) after it has read the patterns for the back side.  
After the machine has finished calculating the adjustment amount for the back side, the next screen appears where you can view the results of the adjustments.

#### Adjustment Item List

- RSPF original leading edge adjustment (back side)
- RSPF original off-center adjustment (back side)
- RSPF original sub-scan magnification adjustment (back side)

- 10) The adjustment result screen appears.

This screen shows the current values along with the previous values in parentheses.

- \* By pressing the [REPRINT] key, you can return to the cassette selection screen and have the machine self-print RSPF adjustment patterns (for the front and back sides) again.
- \* To have the machine start re-reading the RSPF adjustment patterns (front and back sides), press the [RESCAN] key.
- \* To return to the top menu without saving the adjustment values into EEPROM and RAM, press the [RETRY] key.
- \* To display the data used for adjustment, press the [DATA] key.

- 11) To save the adjustment values into EEPROM and RAM and return to the top menu, press the [OK] key.  
\* To return to the result screen, press the [BACK] key.

## ADJ 4 Scan image distortion adjustment (Document table mode)

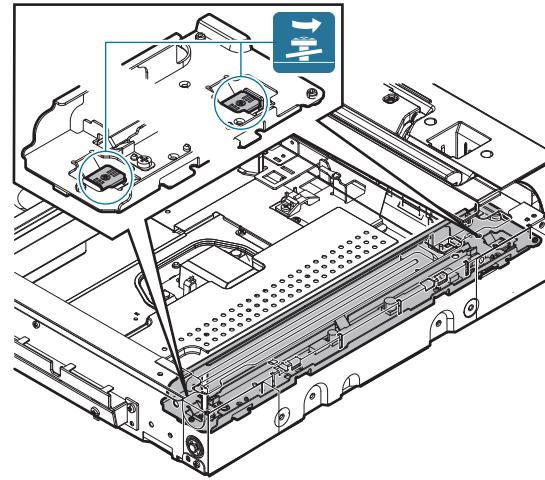
This adjustment must be performed in the following cases:

- \* When the scanner (reading) section is disassembled.
- \* When the copy image is distorted.

### 4-A Scanner (reading) unit parallelism adjustment

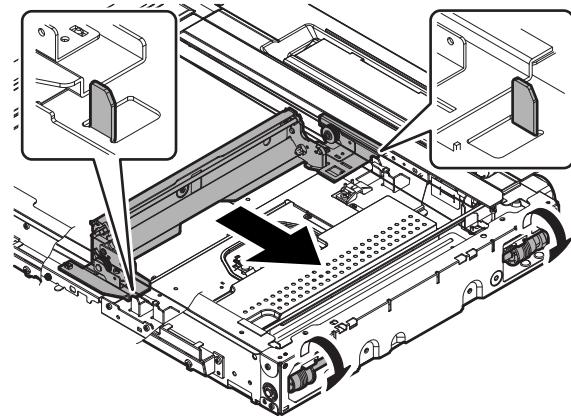
Before execution of this adjustment, remove the document table glass.

- 1) Remove the lamp unit, and then loosen the screws which are fixing the scanner unit A and the drive wire. Release the scanner unit A from the drive wire.



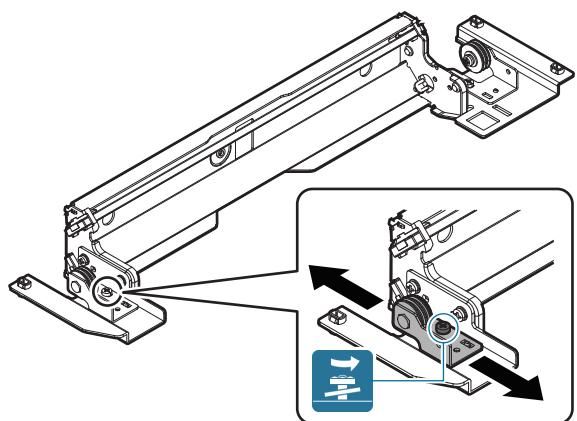
- 2) Turn the scanner drive pulley manually and shift the scanner unit B to bring it into contact with the stopper.

When the scanner unit B is in contact with the two stoppers on the front and the rear frames simultaneously, the parallelism is proper.



If this requirement is not met, do the following steps.

- 3) Loosen the fixing screw of the pulley angle on the front frame side of the scanner unit B.

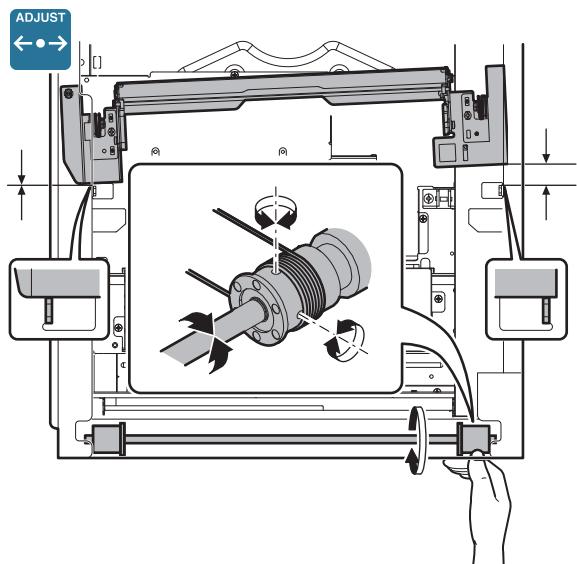


- 4) Adjust the position of the pulley angle on the front frame side of the scanner unit B so that it is in contact with two stoppers on the front and the rear frames simultaneously.  
5) Fix the pulley angle on the front frame side of the scanner unit B.

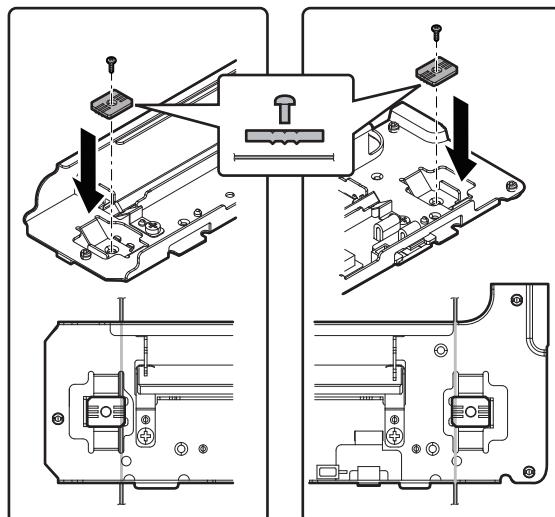
If a satisfactory result is not obtained from the above procedures, perform the following procedures.

Loosen the fixing screw of the scanner unit drive pulley which is not in contact.

Without moving the scanner unit drive shaft, turn the scanner unit drive pulley manually and adjust so that the scanner unit B is in contact with both stoppers on the front frame and the rear frame simultaneously. (Change the relative position of the scanner unit drive pulley and the drive shaft.) Fix the scanner unit drive pulley fixing screw.

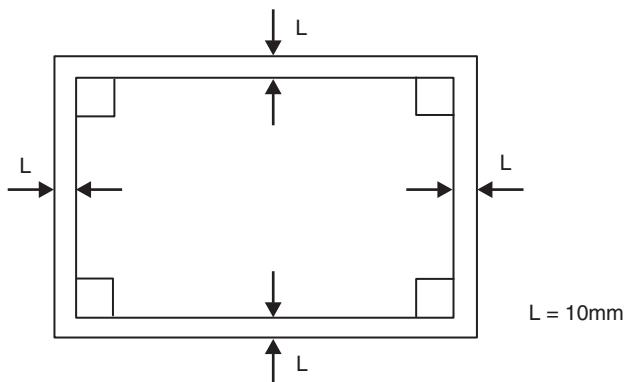


- 6) With the scanner unit B in contact with both stoppers, fit the edge of the scanner unit A with the right edge of the frame, and fix the scanner unit A with the fixing screw.

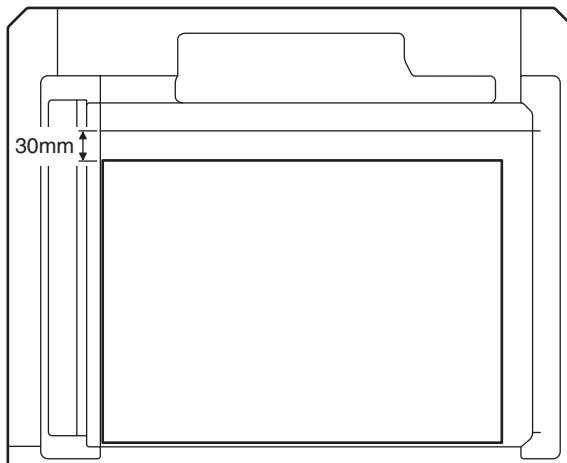


#### 4-B Scan image (sub scanning direction) distortion adjustment

- 1) Make a test chart on A3 (11" x 17") paper as shown below. (Draw a rectangular with four right angles.)

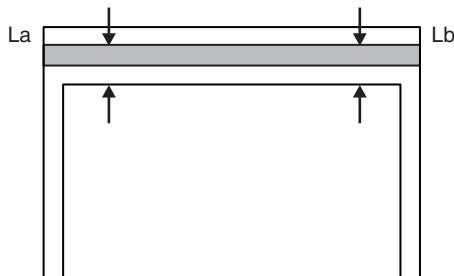


- 2) Set the test chart prepared in the procedure 1) on the document table. (Shift the test chart edge 30mm from the reference position as shown below.) With the document cover open, make a copy on A3 (11" x 17") paper.



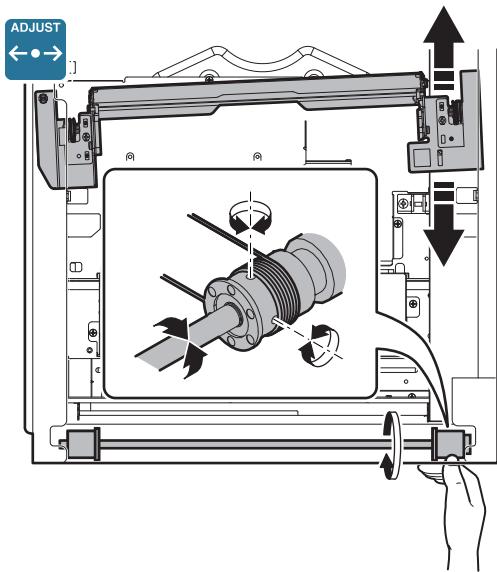
- 3) Check for distortion in the sub scanning direction.

If  $L_a = L_b$ , there is no distortion.



If there is any distortion in the sub scanning direction, perform the following procedures.

- 4) Loosen either one of the fixing screws of the scanner unit drive pulley. (Either one on the front frame or on the rear frame will do.)



- 5) Without moving the scanner unit drive shaft, manually turn the scanner unit drive pulley to change the parallelism of the scanner unit A and B. (Change the relative position of the scanner unit drive pulley and the drive shaft.)

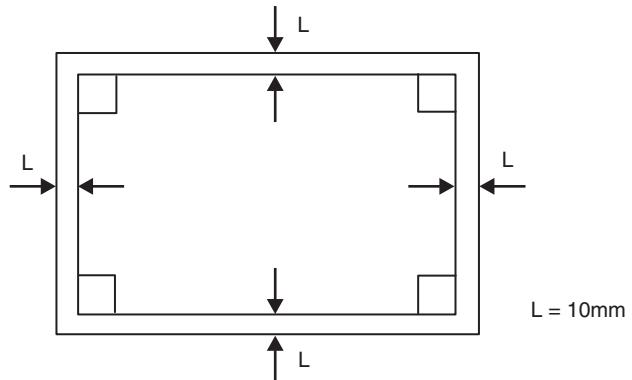
- 6) Tighten the scanner unit drive pulley fixing screw.

Repeat the procedures 2) - 6) until the condition of the procedure 3) is satisfied.

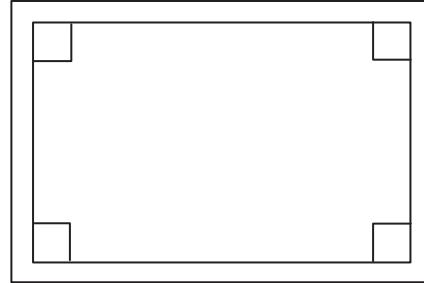
If the distortion in the sub scanning direction cannot be deleted with the above procedures, perform ADJ 4A Scanner (reading) unit parallelism adjustment.

#### 4-C Scan image (main scanning direction) distortion adjustment

- 1) Make a test chart on A3 (11" x 17") paper as shown below. (Draw a rectangular with four right angles.)

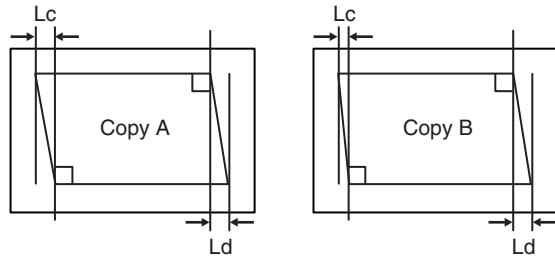


- 2) Set the test chart prepared in the procedure 1) on the document table, and make a copy on A3 (11" x 17") paper.  
3) Check for distortion in the main scanning direction.  
If the four angles of the rectangle of the copy image are right angles, it is judged that there is no distortion. (The work is completed.)



If there is any distortion in the main scanning direction, perform the following procedure.

- 4) Check the difference (distortion balance) between left-hand and right-hand side images distortions.



There is no difference between the distortion on the right and that on the left.

$$L_c = L_d$$

There is some difference between the distortion on the right and that on the left.

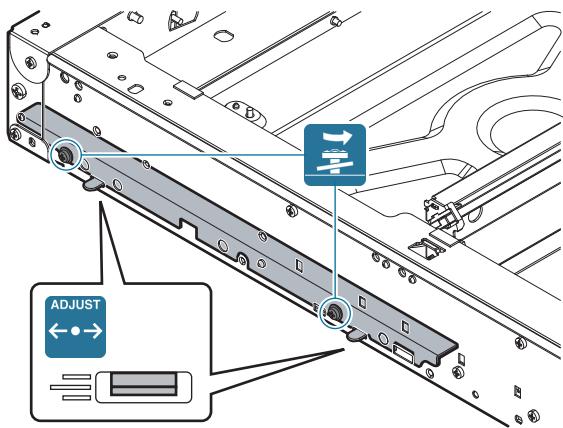
$$L_c \neq L_d$$

If  $L_c = L_d$ , the distortion on the left is equal to that on the right. (The distortions are balanced.)

If the above condition is satisfied, go to the procedure 6).

If not, perform the following procedures.

- 5) Change the height balance of the scanner rail on the front frame side.



Remove the lower cabinet of the operation panel. Loosen the scanner rail fixing screw to change the balance between the right and the left heights of the scanner rail.

Repeat the procedures 2) - 5) until the difference between the image distortions (distortion balance) is deleted.

- 6) Without changing the balance of the scanner rail on the front frame side, change the overall height.  
7) Set the test chart prepared in the procedure 1) on the document table, and make a copy on A3 (11" x 17") paper. Check that the distortion in the main scanning direction is within the specified range.  
Repeat the procedures 6) and 7) until the distortion in the main scanning direction is in the specified range.

## ADJ 5 Scanner image skew adjustment (RSPF mode)

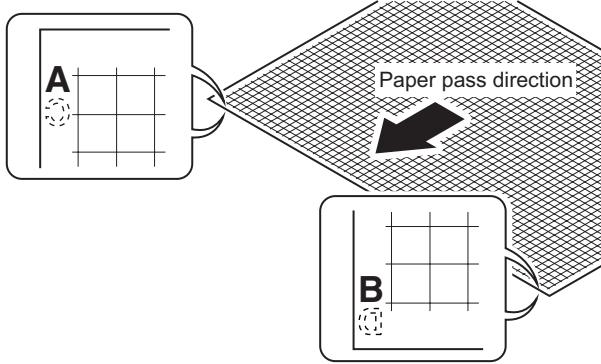
This adjustment must be performed in the following cases:

- \* The RSPF section has been disassembled.
  - \* When replacing the RSPF unit.
  - \* The RSPF unit generates skewed scanned images.
- 1) Create an adjustment chart by printing in duplex mode the self-print pattern (grid pattern) specified in Simulation 64-2.

SIM 64-2 set values

$$A = 1, \quad B = 1, \quad C = 254, \quad D = 255$$

Make sure that the print grid pattern is almost in parallel with the paper edges, and apply position marks A and B to the leading and trailing edges of the paper surface lead edge section.



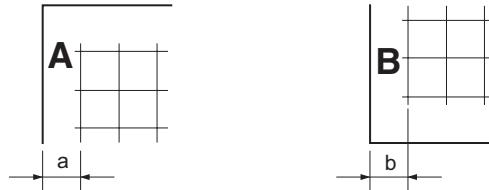
- 2) Copy the adjustment chart (created in step 1) to A3 (11" x 17") paper in RSPF duplex mode, and then check the image for skews (Set in the RSPF feed tray so that the mark on the adjustment chart is at the edge).

- Check with one of the following methods.

### Check Method 1

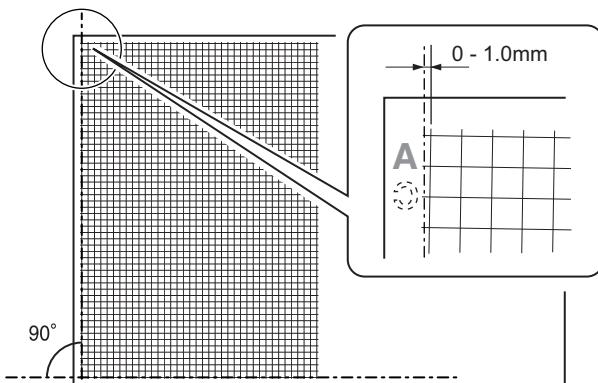
(Front side)

Make sure that the output satisfies the condition:  $|a-b| \pm 1 \text{ mm}$



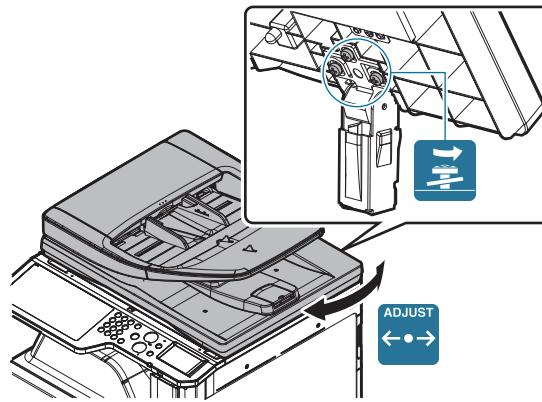
### Check Method 2

Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0mm.



If the copy image is not in the above state, perform the procedure 3).

- 3) Open the RSPF unit, and loosen the fixing screw of the hinge.



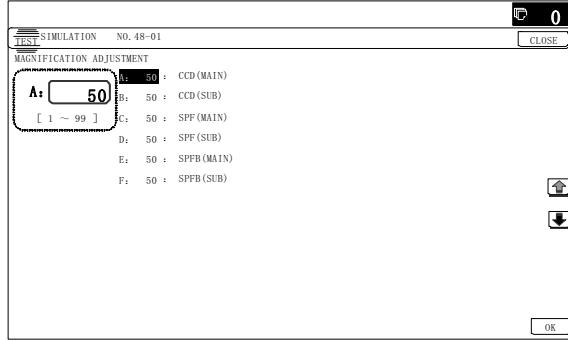
- 4) Slide the RSPF unit in the arrow direction to make the skew adjustment.  
5) Make a copy again and measure (a) and (b) on the copied test chart. Repeat procedures 2) to 5) until the condition  $((a) - (b)) = \pm 1\text{mm or less}$  is satisfied.

## ADJ 6 Scan image focus adjustment

This adjustment must be performed in the following cases:

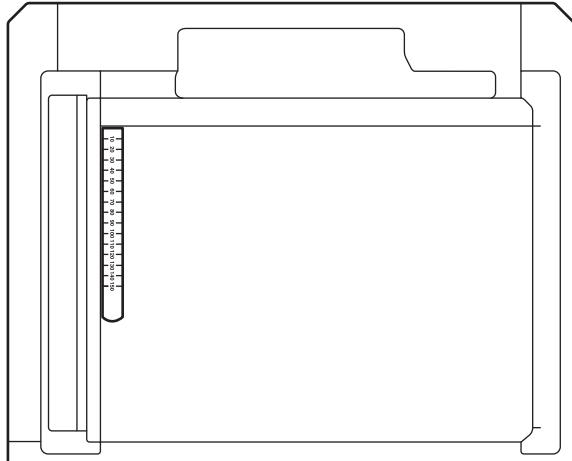
- \* The CCD unit has been removed from the machine.
- \* The CCD unit has been replaced.
- \* When the copy image focus is not properly adjusted.
- \* When the copy magnification ratio in the copy image main scanning direction is not properly adjusted.
- \* U2 trouble has occurred.

- 1) Enter the SIM 48-1 mode.

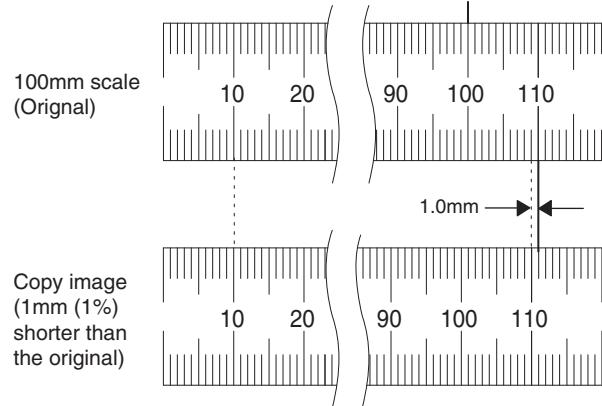


- 2) Set the adjustment item CCD (MAIN) to 50 (default value). Select the adjustment item with the scroll key, and enter the adjustment value with 10-key and press [OK] key.

- 3) Place a scale on the original table as illustrated below.

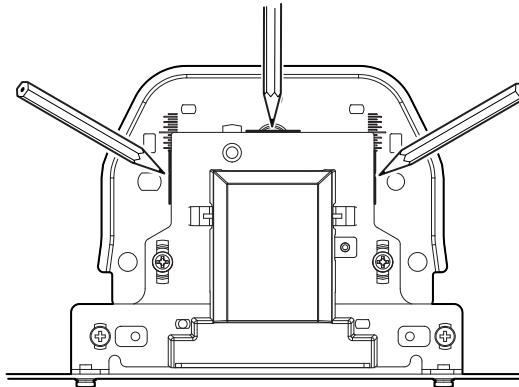


- 4) Make a normal copy on A4 paper. Go to the copy mode, and make a copy.
  - 5) Compare the copied image of the scale and the actual scale length in terms of length.
  - 6) Obtain the copy magnification ratio correction ratio in the main scanning direction from the following formula.
- Main scanning direction copy magnification ratio correction ratio = (Original size - Copy image size) / Original size x 100%
- (Example)
- Compare the scale of 10mm with the scale of 10mm on the copy image.
- Main scanning direction copy magnification ratio correction ratio =  $(100 - 99) / 100 \times 100 = 1$



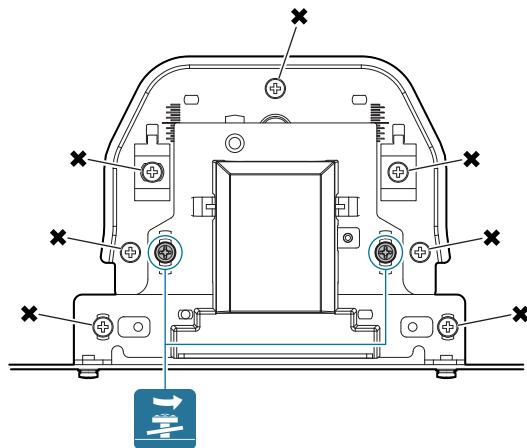
If the copy magnification ratio is not satisfactory, perform the following procedures.

- 7) Remove the document table glass.
- 8) Remove the dark box cover.
- 9) To prevent against shift of the CCD unit optical axis, mark the CCD unit base as shown below.



NOTE: MEMO: This procedure must be executed also when the CCD unit is replaced.

- 10) Loosen the CCD unit fixing screws.



CAUTION: Never loosen the screws marked with X.

If any one of these screws is loosened, the position and the angle of the CCD unit base may be changed to cause a problem, which cannot be adjusted in the market. In that case, the whole scanner unit must be replaced.

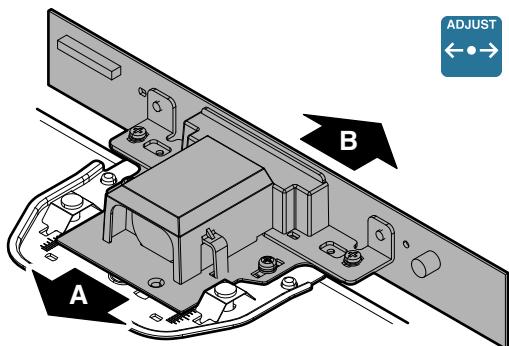
- 11) Slide the CCD unit in the arrow direction (CCD sub scanning direction) to change the installing position.

When the copy image is longer than the original scale, shift the CCD unit in the direction B. When the copy image is shorter than the original scale, shift the CCD unit in the direction A.

One scale of mark-off line corresponds to 0.2%.

At that time, fix the CCD unit so that it is in parallel with the scale on the front and the rear side of the CCD unit base.

- \* Fix the CCD unit so that it is in parallel with the line marked in procedure 9).



- 12) Make a copy and check the copy magnification ratio again.

If the copy magnification ratio is not in the range of  $100 \pm 1\%$ , repeat the procedures of 9) - 11) until the condition is satisfied.

CAUTION: By changing the CCD unit fixing position with the simulation 48-1 adjustment value at 50, the copy magnification ratio is adjusted within the specified range ( $100 \pm 1.0\%$ ) and the specified resolution is obtained based on the optical system structure.

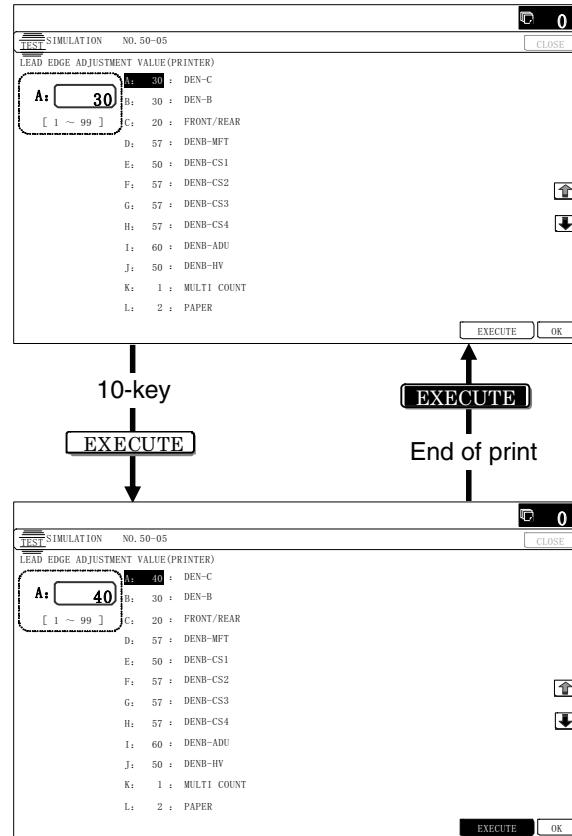
## ADJ 7 Print lead edge image position adjustment (Printer mode)

This adjustment must be performed in the following cases:

- \* When the registration roller section is disassembled.
- \* When the LSU is replaced or removed.
- \* U2 trouble has occurred.
- \* The PCU PWB has been replaced.
- \* The EEPROM of the PCU PWB has been replaced.

NOTE: This adjustment is performed by the user to increase the lead edge void area to greater than the standard value (3mm) in the printer mode.

- 1) Enter the SIM 50-5 mode.

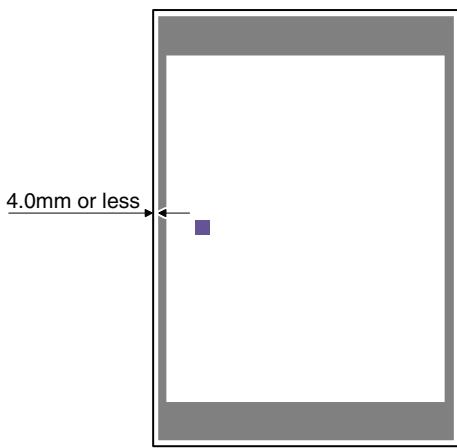


- 2) Select the set item L with the scroll key, and enter the value corresponding to the paper feed tray with A4 (11" x 8.5") paper in it.

Display/Item	Content	Setting range	Default
A DEN-C	Printer lead edge image position adjustment	1 - 99	30
B DEN-B	Rear edge void area adjustment	1 - 99	30
C FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	20
D DENB-MFT	Manual feed rear edge void area adjustment correction value	1 - 99	57
E DENB-CS1	Tray 1 rear edge void area adjustment correction value	1 - 99	50
F DENB-CS2	Tray 2 rear edge void area adjustment correction value	1 - 99	57
G DENB-CS3	Tray 3 rear edge void area adjustment correction value	1 - 99	57
H DENB-CS4	Tray 4 rear edge void area adjustment correction value	1 - 99	57
I DENB-ADU	ADU rear edge void area adjustment correction value	1 - 99	60

Display/Item		Content		Setting range	Default
J	DENB-HV	Heavy paper correction value		1 - 99	50
K	MULTI COUNT	Number of print		1 - 999	1
L	PAPER	Tray selection	Manual paper feed	1 - 5	1
			Tray 1		2 (CS1)
			Tray 2		
			Tray 3		
			Tray 4		
M	DUPLEX	YES	Duplex print selection	0 - 1	0
		NO			1 (NO)

- 3) Press [EXECUTE] key.  
The adjustment pattern is printed.
- 4) Measure the distance from the paper lead edge the adjustment pattern to the image lead edge, and check to confirm that it is in the standard adjustment value range.  
Standard adjustment value: 4.0mm or less



## ADJ 8 Image density adjustment

Make a copy of the gray test chart (UKOG-0162FCZZ) and a copy of the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11), and check that they are proper.

### Note for checking the monochrome copy mode density

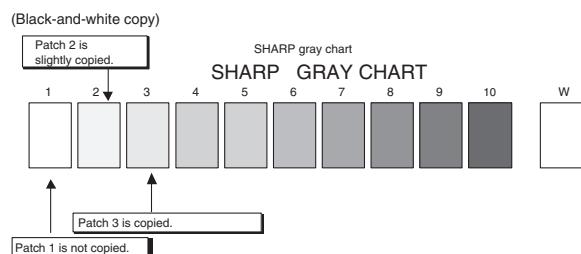
To check the density, use the gray test chart (UKOG-0162FCZZ). Set the copy density level to "Manual 3" in the Text/Printed Photo mode (Manual).

In addition, all the color balance adjustments in the user adjustment mode must be set to the default (center).

### Check with the gray test chart (UKOG-0162FCZZ)

In the copy density check with the gray test chart, check to insure the following conditions.

CAUTION: For the color (gray) balance, use the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) to check.



If the above requirement is not met, do the following steps.

- 5) Select the adjustment target of the paper feed mode adjustment item DENC with the scroll key.
- 6) Change the adjustment value.

Enter the adjustment value and press the [OK] key or the [EXECUTE] key.

When [EXECUTE] key is pressed, the adjustment pattern is printed.

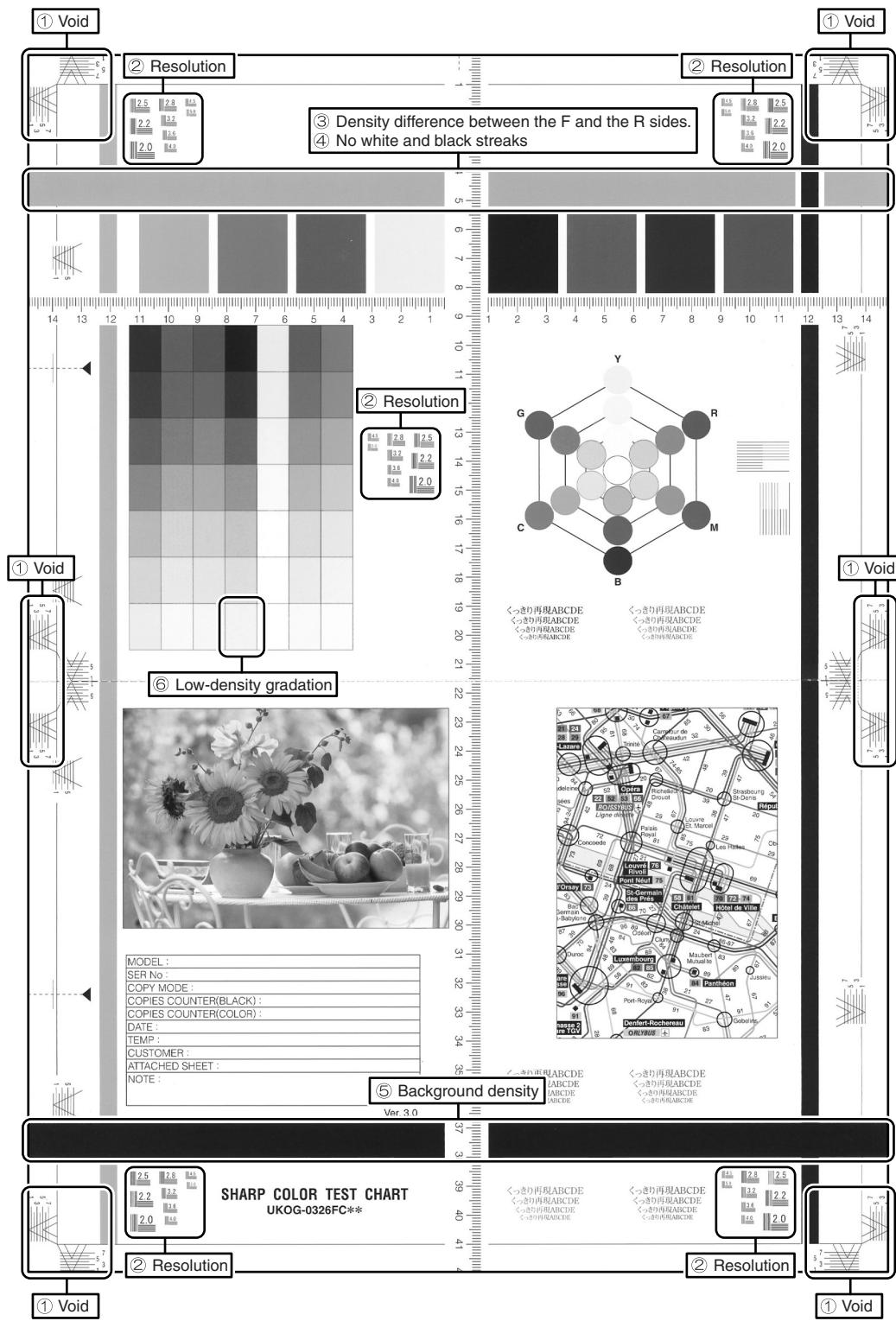
When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distance is decreased.

When the set value is changed by 1, the distance is changed by about 0.1mm.

Repeat the procedures 4) - 6) until the condition of 4) is satisfied.

**Monochrome copy check items (Check to confirm the following):**

- 1) There are 12 void areas.
- 2) The resolution of 4.0 (5 points) can be seen.
- 3) The density difference between the F and the R sides is not so great.
- 4) There are no white and black streaks.
- 5) The background density is not so light.
- 6) The black low-density gradation is copied slightly.



## 8-A Scanner calibration (CCD calibration)

This adjustment must be performed in the following cases:

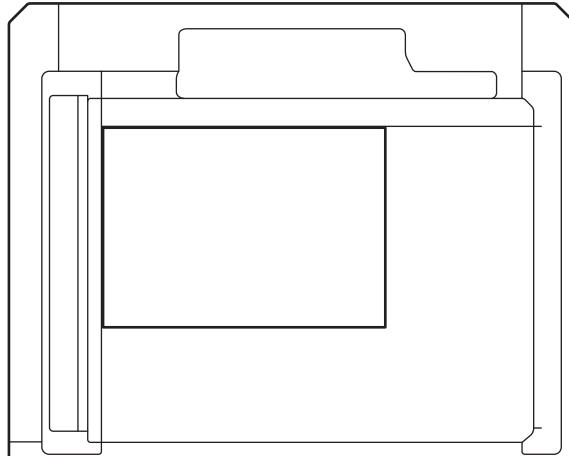
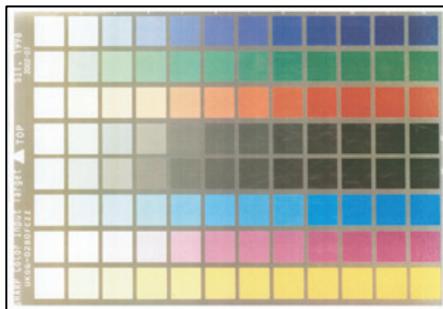
- \* When the CCD unit is replaced.
- \* When a U2 trouble is occurred.
- \* When the scanner control PWB is replaced.
- \* When the EEPROM on the scanner control PWB is replaced.

### (1) Note before adjustment

- Check that the table glass, No. 1, 2, 3 mirrors, and the lens surface are free from dirt and dust.  
(If there is some dust and dirt, wipe and clean with alcohol.)
- Check to confirm that the patches in BK1 and BK2 arrays of the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) are free from dirt and scratches.  
If they are dirty, clean them.  
If they are scratched or streaked, replace with new one.

### (2) Adjustment procedures

- 1) Set the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) to the reference position on the left rear frame side of the document table.  
Set the chart so that the lighter density side of the patch is on the left side.



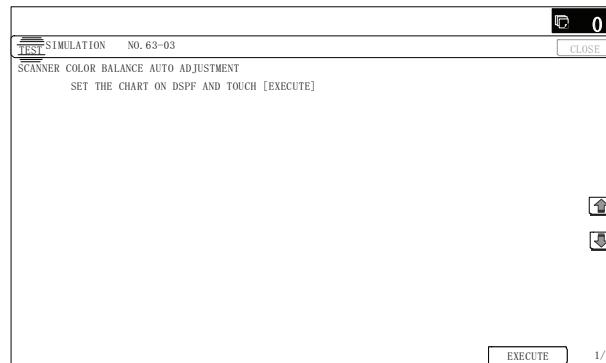
If the SIT chart is not available, execute SIM 63-5 to set the CCD gamma to the default. In this case, however, the adjustment accuracy is lower when compared with the adjustment method using the SIT chart.

**CAUTION:** Check to insure that the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) is in close contact with the document table.

**NOTE:** UKOG-0280FCZZ is equivalent to UKOG-0280FCZ1.

- 2) Enter the SIM 63-3 mode and press [EXECUTE] key.

The automatic operation is started. During the adjustment, [EXECUTE] is highlighted. After completion of the adjustment, [EXECUTE] returns to the normal display.



**NOTE:** Since the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) is easily discolored by sunlight (especially ultraviolet rays) and humidity and temperature, put it in a bag (such as a dark file) and store in a dark place of low temperature and low humidity.

## **8-B Copy / Image send / FAX image quality adjustment (Individual adjustment)**

### **a. General**

This is used to execute a fine adjustment in each mode when there is a request from the user. Normally, however, there is no need to use it. In this adjustment, the adjustment result may be applied to the image send mode and the FAX mode as well as the copy mode. This must be well understood for execution of the adjustment.

	Copy MODE		IMAGE SEND(SCAN) MODE					
	Monochrome mode		Color mode		Monochrome mode			
	Auto	Manual	Auto	Manual	Auto	Manual	FAX	Printer
46-02	Monochrome copy density adjustment (for each monochrome copy mode) (separately for the low-density area and the high-density area) (No need to adjust normally)	○	○	—	—	—	—	—
46-04	Color image send mode image density adjustment (for each mode) (No need to adjust normally)	—	—	○	○	—	—	—
46-05	Monochrome image send mode image density adjustment (for each mode) (No need to adjust normally)	—	—	—	—	○	○	—
46-08	Image send mode RGB color balance adjustment (separately for the low-density area and the high-density area) (No need to adjust normally)	—	—	○	○	—	—	—
46-09	RSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)	○	○	○	○	○	○	—
46-19	Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)	○	—	—	—	○	—	○
46-32	Document low density image density reproduction adjustment in the automatic monochrome (Copy/Scan/FAX) mode (No need to adjust normally) (Background density adjustment in the scanning section)	○	—	—	—	○	—	○
46-37	Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)	○	○	—	—	○	○	○
46-39	FAX send image sharpness adjustment	—	—	—	—	—	—	○
46-40	FAX send image density adjustment (Collective adjustment of all the modes)	—	—	—	—	—	—	○
46-41	FAX send image density adjustment (Normal text mode)	—	—	—	—	—	—	○
46-42	FAX send image density adjustment (Fine text mode)	—	—	—	—	—	—	○
46-43	FAX send image density adjustment (Super fine mode)	—	—	—	—	—	—	○
46-44	FAX send image density adjustment (Ultra fine mode)	—	—	—	—	—	—	○
46-45	FAX send image density adjustment (600dpi mode)	—	—	—	—	—	—	○
46-47	Copy image, image send image, FAX send image (JPEG) compression ratio setting (Normally unnecessary to the setting change)	○	○	○	○	○	○	—
46-60	Color (Scan) mode sharpness adjustment (No need to adjust normally)	—	—	○	—	—	—	○
46-61	Area separation recognition level adjustment (No need to adjust normally)	○	○ (*1)	○	○ (*1)	○	○ (*1)	—
46-62	ACS, area separation, background image process, automatic exposure mode operation conditions setting (Normally unnecessary to the setting change)	—	—	○	○	○	○	—
46-63	Scan low density image density adjustment (for each mode) (No need to adjust normally)	—	—	○	○	○	○	—

\*1: Text Printed Photo / Copy document, Text Printed Photo only

## 8-B (1)

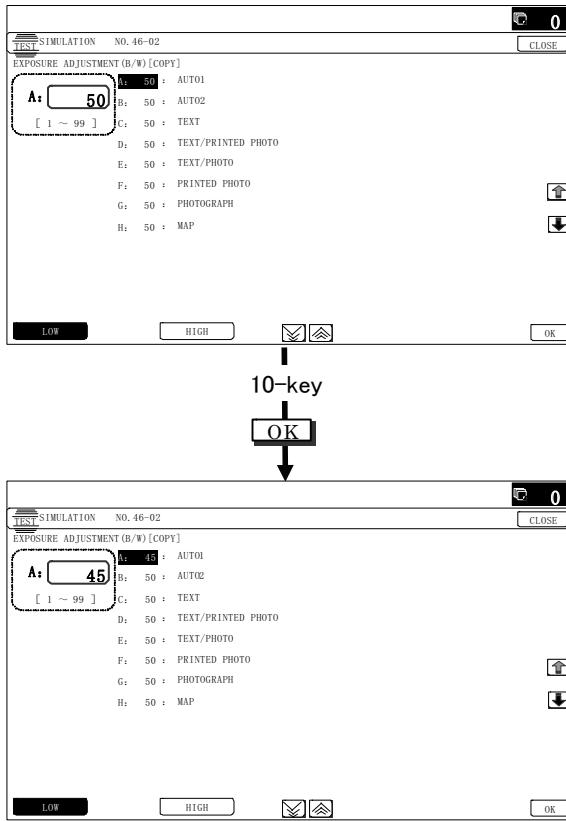
### Monochrome copy density adjustment (for each monochrome copy mode) (separately for the low-density area and the high-density area) (No need to adjust normally)

The density is adjusted in each copy mode individually.

This adjustment must be performed in the following cases:

- \* When there is necessity to change the copy density of the low density and high density part at each copy density individually.
- \* When there is necessity to change the density gradient of the copy by each the copy mode individually.
- \* When there is necessity to change all copy density by each the copy mode individually.
- \* When there is request from the user.

#### 1) Enter the SIM 46-2 mode.



#### 2) Select the copy mode to be adjusted with the scroll key.

Display/Item	Content	Setting range	Default
A	Auto 1	LOW	1 - 99
		HIGH	1 - 99
B	Auto 2	LOW	1 - 99
		HIGH	1 - 99
C	Text	LOW	1 - 99
		HIGH	1 - 99
D	Text/Printed Photo	LOW	1 - 99
		HIGH	1 - 99
E	Text/Photo	LOW	1 - 99
		HIGH	1 - 99
F	Printed Photo	LOW	1 - 99
		HIGH	1 - 99
G	Photograph	LOW	1 - 99
		HIGH	1 - 99
H	Map	LOW	1 - 99
		HIGH	1 - 99

#### 3) Enter the adjustment value with 10-key and press [OK] key.

When adjusting the copy density on the low density part, select "LOW" mode and change the adjustment value. When adjusting the copy density on the high density part, select "HIGH" mode and change the adjustment value.

When the adjustment value is increased, the copy density is increased. When the adjustment value is decreased, the copy density is decreased.

#### 4) Make a copy and check the adjustment result.

Switch the adjustment simulation mode and the test mode alternately, and adjust and check the adjustment result.

Repeat switching the adjustment simulation mode and the test mode and changing the adjustment value and checking the copy until a satisfactory result is obtained.

## 8-B (2)

### Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)

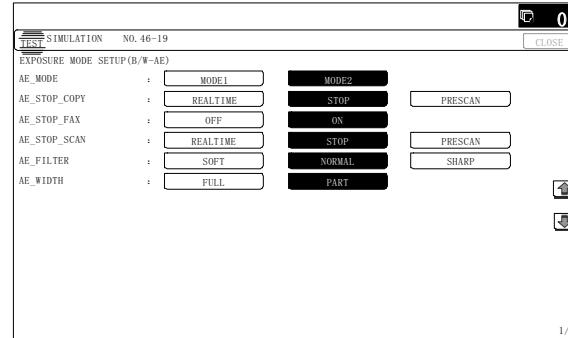
Use for setting the condition of read operation (Exposure) for document density in monochrome auto copy mode.

When a copy with correct density is not obtained by type of document, change the setting.

This setting is required in the following cases.

- \* When a proper density copy is not obtained in the monochrome automatic copy mode.
- \* When a document with images near its lead edge is copied.
- \* When a document with colored background is copied.

#### 1) Enter the SIM 46-19 mode.



#### 2) Set REALTIME, STOP or PRE-SCAN to adjustment item AE STOP COPY. For contents of each setting item, refer to below. Change the setting value of "AE WIDTH" item to "FULL" or "PART", in some cases.

Display/Item	Content	Set value	Default
AE_MODE	Auto exposure mode	MODE1, MODE2	MODE2
AE_STOP_COPY	Auto B/W exposure Stop (for copy)	REALTIME/STOP/PRESCAN	STOP
AE_STOP_FAX	Auto B/W exposure Stop (for FAX)	ON/OFF	ON
AE_STOP_SCAN	Auto B/W exposure Stop (for scanner)	REALTIME/STOP/PRESCAN	STOP
AE_FILTER	Auto exposure filter setting	SOFT NORMAL SHARP	NORMAL
AE_WIDTH	AE exposure width	FULL PART	PART

NOTE:

MODE1: High gamma (Improves the image contrast)

MODE2: Normal gamma

**STOP:**

Reads the density of 3 - 7 mm area from leading edge of document, decides the output image density according to the density of that part. (The output image density is constant at whole area.)

**REALTIME:**

Reads the density of width of the document one by one, decides the output image density according to the density of each part of the document. (The output image density may be not constant at whole area.)

**PRESCAN:**

Once the densities on the document surface are scanned, the output image density is determined according to the average of the scanned densities. (The output image density is even for all the surface.)

**AE WIDTH FULL:**

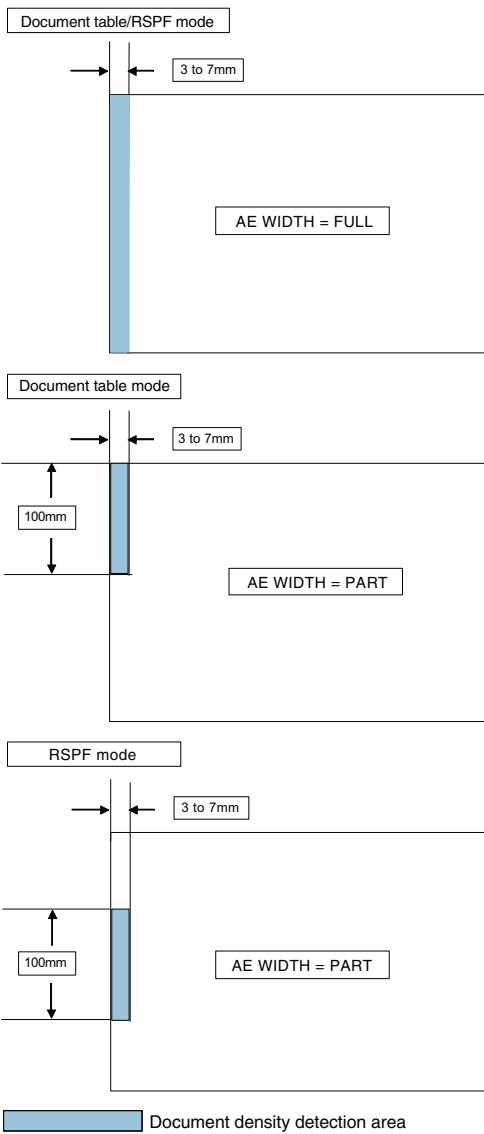
Document density reading area in monochrome auto mode is 3 - 7 mm (leading edge of document) x Document width. No relationship to PRESCAN MODE

**AE WIDTH PART:**

Document density reading area in monochrome auto mode is 3 - 7 mm (leading edge of document) x 100 mm (width). No relationship to PRESCAN MODE

**Operation in monochrome auto copy mode:**

When the density of the document of the read area is light, output image density is increased by control. When the density of the document of the read area is dark, output image density is decreased by control.

**8-B (3)**
**Document low density image density reproduction adjustment in the automatic monochrome (Copy/Scan/FAX) mode  
(No need to adjust normally) (Background density adjustment in the scanning section)**

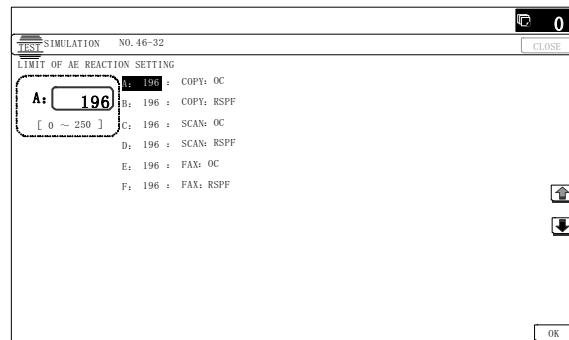
Use for the reproducibility adjustment of document background density in monochrome auto copy mode.

This adjustment is required in the following cases.

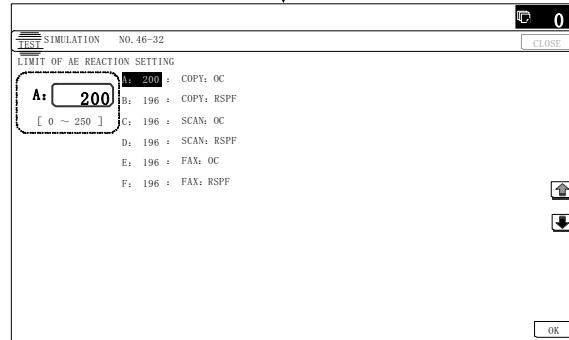
\* When there is a desire not to reproduce the background of the document. When there is a desire to reproduce the low density image of the document.

\* When there is request from the user.

- 1) Enter the SIM 46-32 mode.



10-key  
OK



- 2) Select the adjustment mode with the scroll key.

- 3) Enter the adjustment value with 10-key and press [OK] key.

When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

Display/Item	Content	Set value	Default
A COPY : OC	Copy mode (for OC)	1 - 250	196
B COPY : RSPF	Copy mode (for RSPF)	1 - 250	196
C SCAN : OC	Scanner mode (for OC)	1 - 250	196
D SCAN : RSPF	Scanner mode (for RSPF)	1 - 250	196
E FAX : OC	FAX mode (for OC)	1 - 250	196
F FAX : RSPF	FAX mode (for RSPF)	1 - 250	196

## 8-B (4)

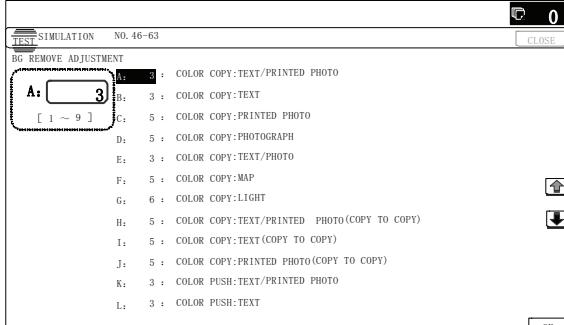
### Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally) (Effective only for the color scan function)

This adjustment is used to adjust the image density in the low density area in the scanner mode.

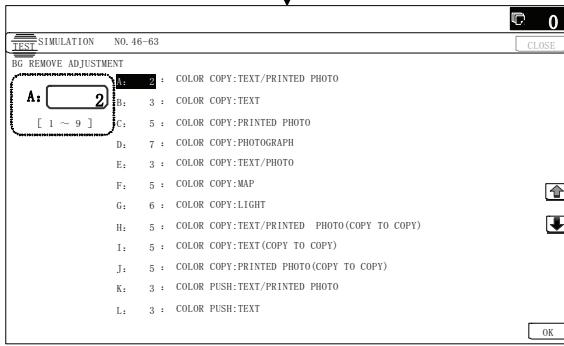
This adjustment is required in the following cases.

- \* When there is a desire not to reproduce the background of the document. When there is a desire to reproduce the low density image of the document.
- \* When there is request from the user.

#### 1) Enter the SIM 46-63 mode.



10-key  
OK



#### 2) Select the copy mode to be adjusted with the scroll key.

	Display/Item	Content	Set value	Default
A	COLOR COPY : TEXT/PRINTED PHOTO	Text print (color copy)	1 - 9	3
B	COLOR COPY : TEXT	Text (color copy)	1 - 9	3
C	COLOR COPY : PRINTED PHOTO	Printed photo (color copy)	1 - 9	5
D	COLOR COPY : PHOTOGRAPH	Photograph (color copy)	1 - 9	5
E	COLOR COPY : TEXT/PHOTO	Text/Photograph (color copy)	1 - 9	3
F	COLOR COPY : MAP	Map (color copy)	1 - 9	5
G	COLOR COPY : LIGHT	Light document (color copy)	1 - 9	6
H	COLOR COPY : TEXT/PRINTED PHOTO (COPY TO COPY)	Copy document, Text print (color copy)	1 - 9	5
I	COLOR COPY : TEXT (COPY TO COPY)	Copy document, Text (color copy)	1 - 9	5
J	COLOR COPY : PRINTED PHOTO (COPY TO COPY)	Copy document, Printed photo (color copy)	1 - 9	5
K	COLOR PUSH : TEXT/PRINTED PHOTO	Text print (color PUSH)	1 - 9	3
L	COLOR PUSH : TEXT	Text (color PUSH)	1 - 9	3
M	COLOR PUSH : PRINTED PHOTO	Printed photo (color PUSH)	1 - 9	5
N	COLOR PUSH : PHOTOGRAPH	Photograph (color PUSH)	1 - 9	5
O	COLOR PUSH : TEXT/PHOTO	Text/Photograph (color PUSH)	1 - 9	3
P	COLOR PUSH : MAP	Map (color PUSH)	1 - 9	5

\* Items A - J are not used. (Changes do not affect the picture quality.)

#### 3) Enter the adjustment value with 10-key and press [OK] key.

When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

## 8-B (5)

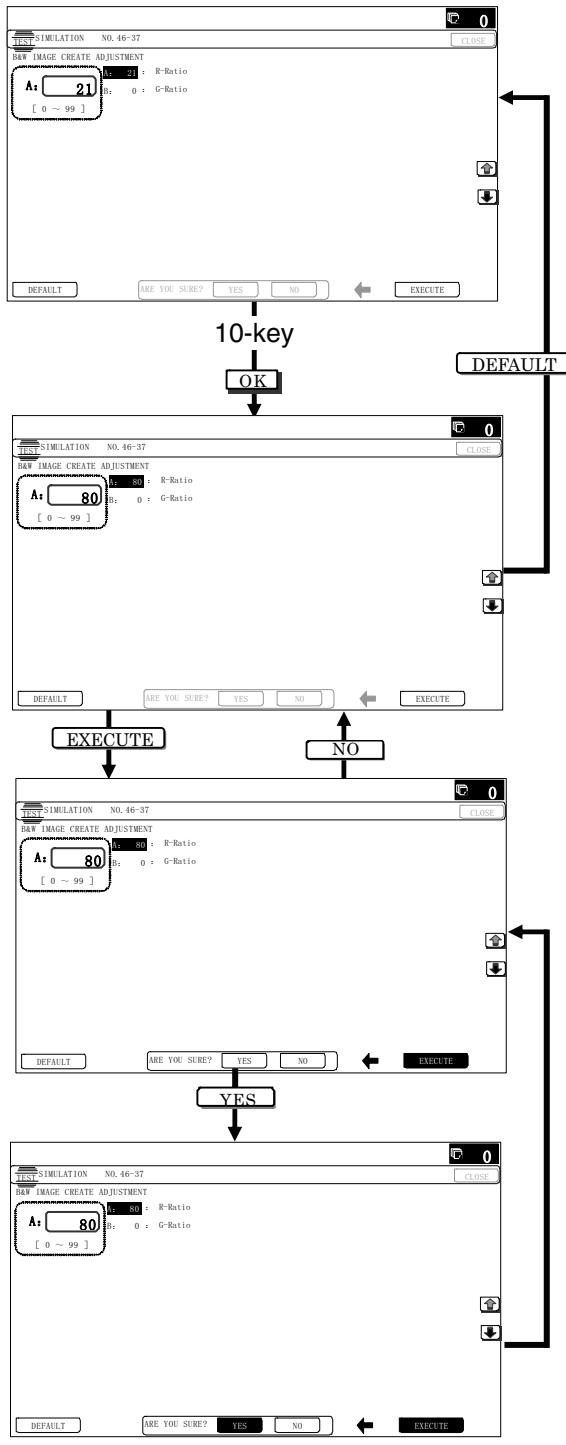
### Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)

Use to adjust the reproducibility for the red image and the yellow image when printing color document that included the red/yellow image in monochrome copy mode.

This adjustment is required in the following cases.

- \* When there is desire to change reproducibility of yellow/red image in case of making a color copy of the color document in monochrome copy mode.
- \* When there is request from the user.

1) Enter the SIM 46-37 mode.



2) Select the mode to be adjusted with the scroll key.

Display/Item (Copy mode)	Content	Adjustment range	Default
A R-Ratio	Gray making setting (R)	0 - 1000	63
B G-Ratio	Gray making setting (G)	0 - 1000	877

3) Enter the adjustment value with 10-key.

When the adjustment value of adjustment item A is increased, copy density of red image is decreased. When the adjustment value is decreased, copy density of red image is increased.

When the adjustment value of adjustment item B is increased, copy density of red image is increased. When the adjustment value is decreased, copy density of red image is decreased.

4) Press [OK] key.

5) Make a copy in monochrome text/printed photo copy mode (manual), check the copy.

If a satisfactory result is not obtained, return to the SIM 46-37 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

## 8-B (6)

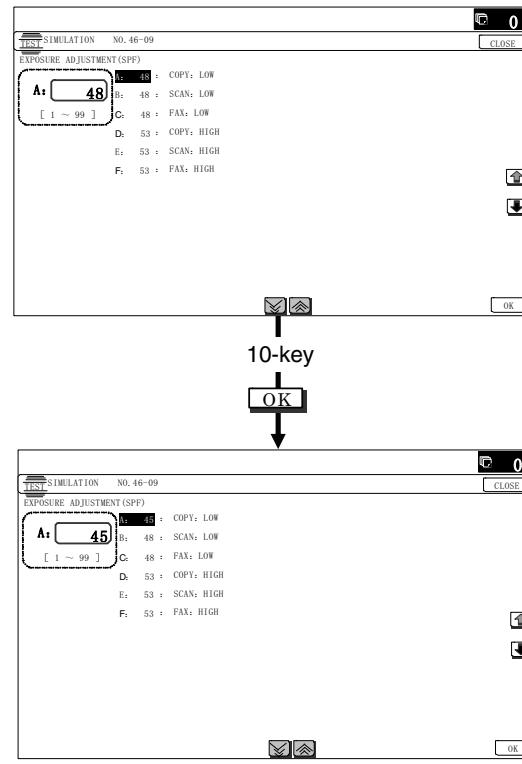
### RSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)

This setting is normally not required, however, in the following cases, make changes to the setting:

- \* When copy in RSPF mode differs from copy in document table mode.
- \* When copy density in RSPF mode is low or too high.
- \* When the RSPF unit is replaced.
- \* When the RSPF unit is disassembled.
- \* The CCD unit has been replaced.
- \* U2 trouble has occurred.
- \* When the MFP PWB is replaced.
- \* When the EEPROM on the MFP PWB is replaced.

#### a. Adjustment procedure

1) Enter the SIM 46-9 mode.



- 2) Select the mode to be adjusted with the scroll key.

When adjusting density on low density part, select "A (COPY LOW)". When adjusting density on high density part, select "D (COPY HIGH)".

Item/Display	Content	Setting range	Default
A COPY : LOW	RSPF copy mode exposure adjustment (Low density side)	1 - 99	48
B SCAN : LOW	RSPF scanner mode exposure adjustment (Low density side)	1 - 99	48
C FAX : LOW	RSPF FAX mode exposure adjustment (Low density side)	1 - 99	48
D COPY : HIGH	RSPF copy mode exposure adjustment (High density side)	1 - 99	53
E SCAN : HIGH	RSPF scanner mode exposure adjustment (Low density side)	1 - 99	53
F FAX : HIGH	RSPF FAX mode exposure adjustment (High density side)	1 - 99	53

- 3) Enter the adjustment value with 10-key.

In case of increase of image density, input large numeric value. Or in case of diluting the image density, input small numeric value.

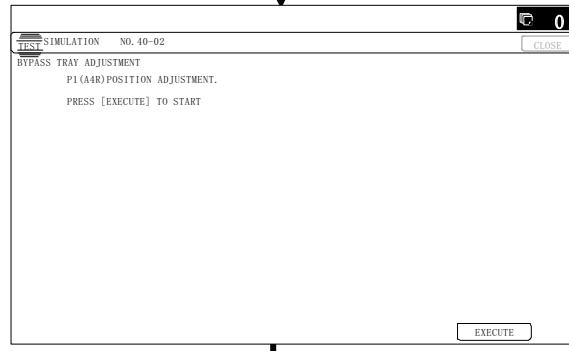
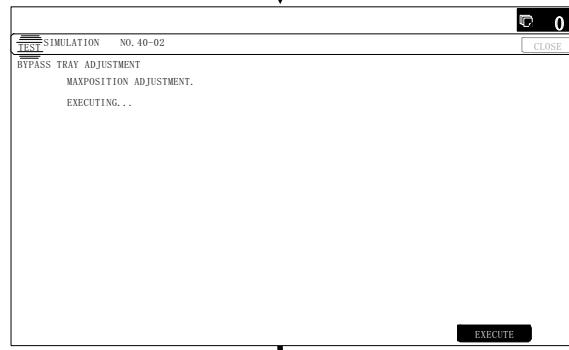
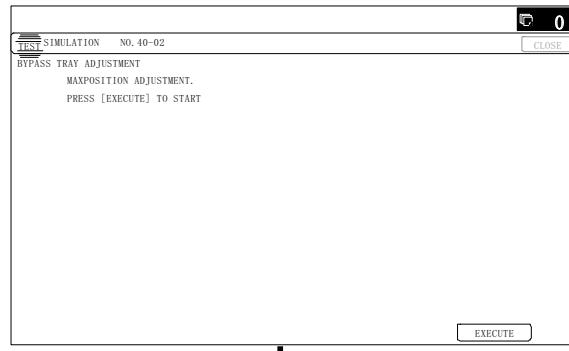
- 4) Press [OK] key.

- 5) Make a copy in the RSPF mode and check the copy.

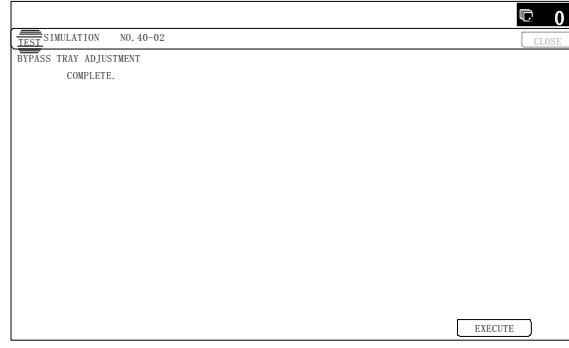
If a satisfactory result is not obtained, return to the SIM 46-9 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

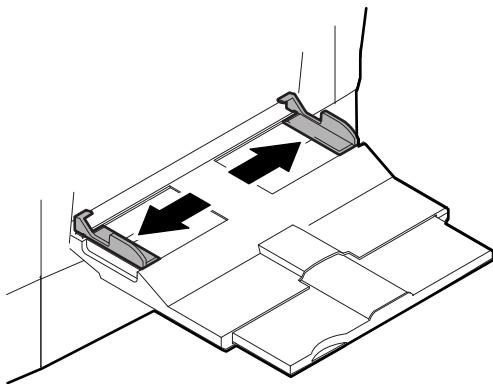
- 1) Enter the SIM 40-2 mode.



Repeat the above procedure to adjust the A5R width MIN POSITION.



- 2) Open the manual paper feed guide to the maximum width position.



- 3) Press [EXECUTE] key.

[EXECUTE] key is highlighted. Then it returns to the normal display.

The maximum width position detection level of the manual paper feed guide is recognized.

- 4) Set the manual paper feed guide to the A4R size.

- 5) Press [EXECUTE] key.

[EXECUTE] key is highlighted. Then it returns to the normal display.

The A4R size width position detection level of the manual paper feed guide is recognized.

- 6) Set the manual paper feed guide to the width for the A5R size.

- 7) Press [EXECUTE] key.

[EXECUTE] key is highlighted. Then it returns to the normal display.

Set the manual paper feed guide to the width for the A5R size.

- 8) Open the manual paper feed guide to the minimum width position.

- 9) Press [EXECUTE] key.

[EXECUTE] key is highlighted. Then it returns to the normal display.

The minimum width position detection level of the manual paper feed guide is recognized.

If the above operation is not completed normally, "ERROR" is displayed.

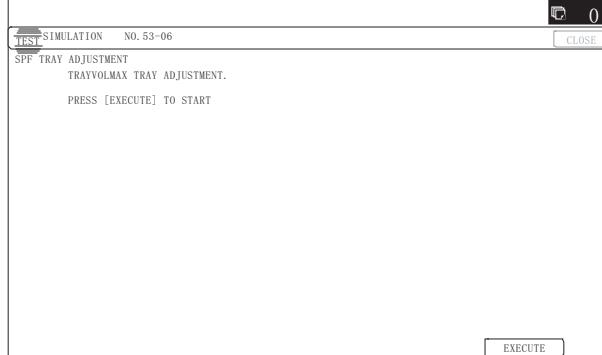
When the operation is completed normally, the above data are saved to the memory and "COMPLETE" is displayed.

## 9-B RSPF paper feed tray document size (width) sensor adjustment

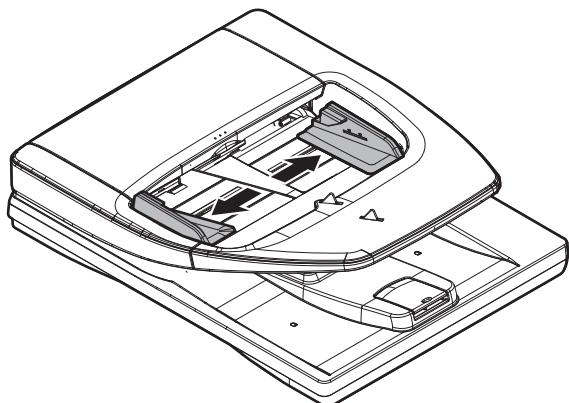
This adjustment must be performed in the following cases:

- \* The RSPF paper feed tray section has been disassembled.
- \* The RSPF paper feed tray unit has been replaced.
- \* When a U2 trouble occurs.
- \* The scanner PWB has been replaced.
- \* The EEPROM on the scanner PWB has been replaced.

- 1) Enter the SIM 53-6 mode.



- 2) Open the RSPF paper feed guide to the maximum width position.



- 3) Press [EXECUTE] key.

The maximum width detection level is recognized.

- 4) Open the RSPF paper feed guide to the width for the A4R size.

- 5) Press [EXECUTE] key.

The A4R width detection level is recognized.

- 6) Open the RSPF paper feed guide to the width for the A5R size.

- 7) Press [EXECUTE] key.

The A5R width detection level is recognized.

- 8) Open the RSPF paper feed guide to the minimum width position.

- 9) Press [EXECUTE] key.

The minimum width detection level is recognized.

When each of the above operations has been completed, the "COMPLETE" message appears; when any of the operations has failed, the "ERROR" message appears.

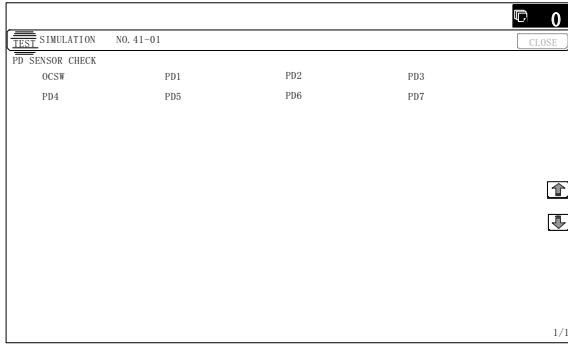
## ADJ 10 Document size detection adjustment

This adjustment must be performed in the following cases:

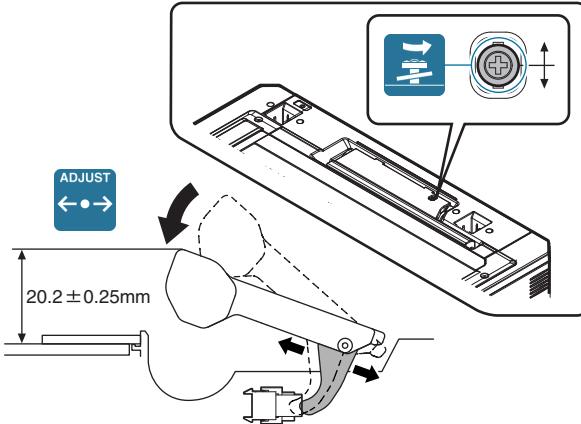
- \* When the original size sensor section has been disassembled.
- \* When the original size sensor section has been replaced.
- \* When U2 trouble has occurred.
- \* When the scanner control PWB is replaced.
- \* When the EEPROM on the scanner control PWB is replaced.

### 10-A Document size sensor detection point adjustment

- 1) Enter the SIM 41-1 mode.

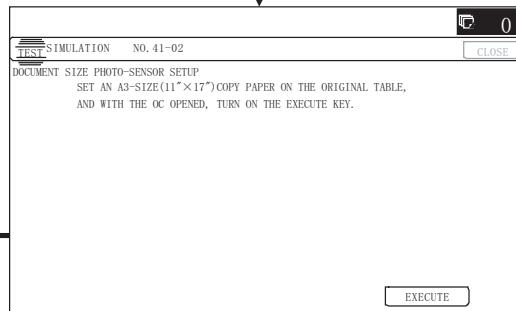
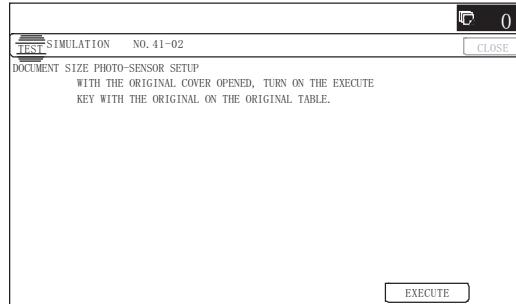


Loosen the original cover switch actuator adjustment screw and slide the actuator position so that the display OCSW is returned to the normal display when the height of the arm unit top from the table glass is  $20.2 \pm 0.25\text{mm}$  by slowly tilting the document detection arm unit in the arrow direction and adjust. (If the ON timing of the original cover switch is shifted, the document detection function may malfunction.)



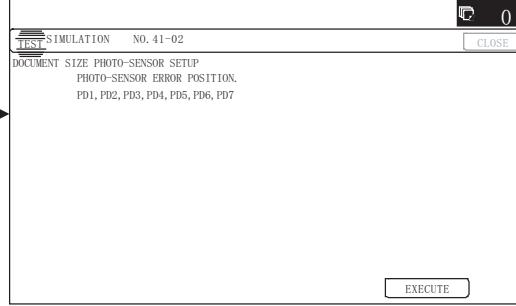
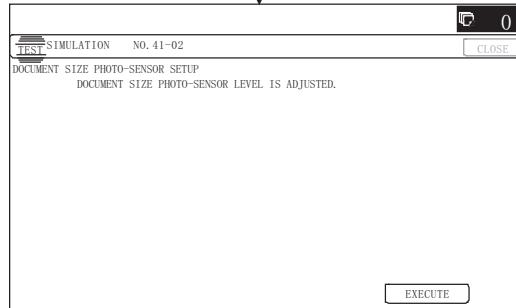
### 10-B Adjust the sensitivity of the original size sensor

- 1) Enter the SIM41-2 mode.



Adjustment failed

Adjustment completed



- 2) Execute the sensor adjustment without document.

With the document cover open, without placing a document on the table glass, press [EXECUTE] key.

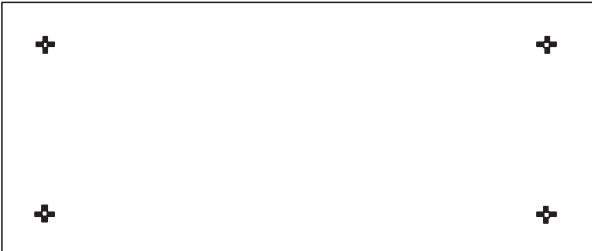
- 3) Place A3 (11" x 17") paper on the document table and press [EXECUTE] key.

If the adjustment is completed normally, "DOCUMENT SIZE PHOTO SENSOR LEVEL IS ADJUSTED" is displayed.

## ADJ 11 Touch panel coordinate setting

This adjustment must be performed in the following cases:

- \* The operation panel has been replaced.
  - \* U2 trouble has occurred.
  - \* The scanner control PWB has been replaced.
  - \* The EEPROM on the scanner control PWB has been replaced.
- 1) Enter the SIM 65-1 mode.



- 2) Precisely press the cross mark points (4 positions).

When the cross mark is pressed precisely, a buzzer sounds and the display is reversed. When all the four points are pressed and the touch panel adjustment is completed, the display returns to the simulation sub number entry screen.

In case of an error, the display returns to the entry screen again.

Check to confirm that there is no shift between the display frame and the detection position when the touch panel is pressed.

- \* When pressing the touch panel, never use a sharp tip (such as a needle or a pin).

## ADJ 12 Print image position, void area, off-center adjustment (Print engine) (Manual adjustment)

NOTE: Normally if the adjustment is executed by ADJ 3 (automatic adjustment), there is no need to execute this adjustment.

Only when the manual adjustment is required, execute this adjustment.

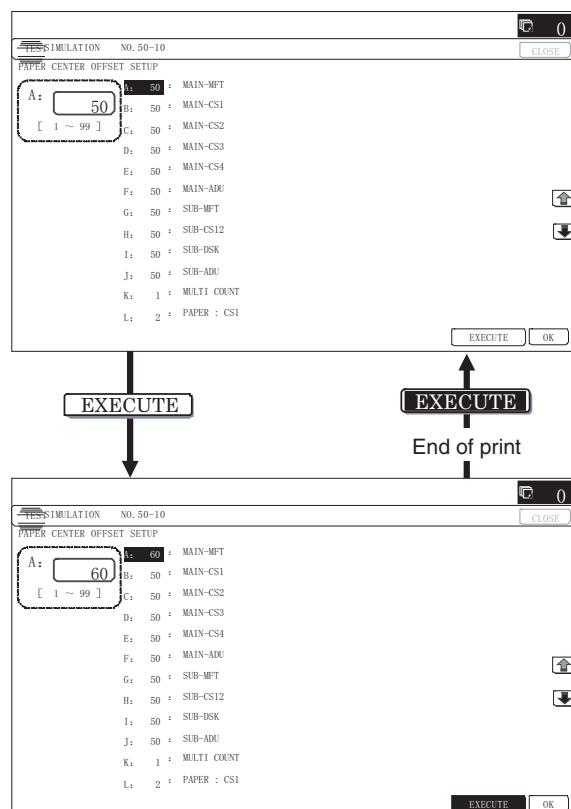
In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 3).

### 12-A Print image print area adjustment (Print engine) (Manual adjustment)

This adjustment must be performed in the following cases:

- \* When the LSU is replaced or removed.
- \* When a paper tray is replaced.
- \* When the paper tray section is disassembled.
- \* When the manual feed tray is replaced.
- \* When the manual feed tray is disassembled.
- \* When the duplex mode paper transport section is disassembled.
- \* When the registration roller section is disassembled.
- \* U2 trouble has occurred.
- \* The PCU PWB has been replaced.
- \* The EEPROM of the PCU PWB has been replaced.

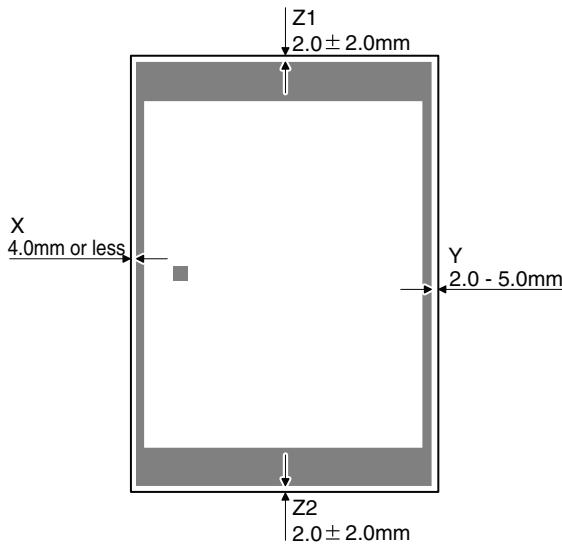
- 1) Enter the SIM 50-10 mode.



- 2) Set A4 (11 x 8.5") paper to all the paper feed trays. Select an adjustment item of the target paper feed tray among items A - J and enter the adjustment value. Then select item "L" to select the paper feed tray which is to be used for executing test printing.
- 3) Press [EXECUTE] key.  
The adjustment pattern is printed.

- 4) Check the adjustment pattern to confirm that the items below are in the range of the standard values.

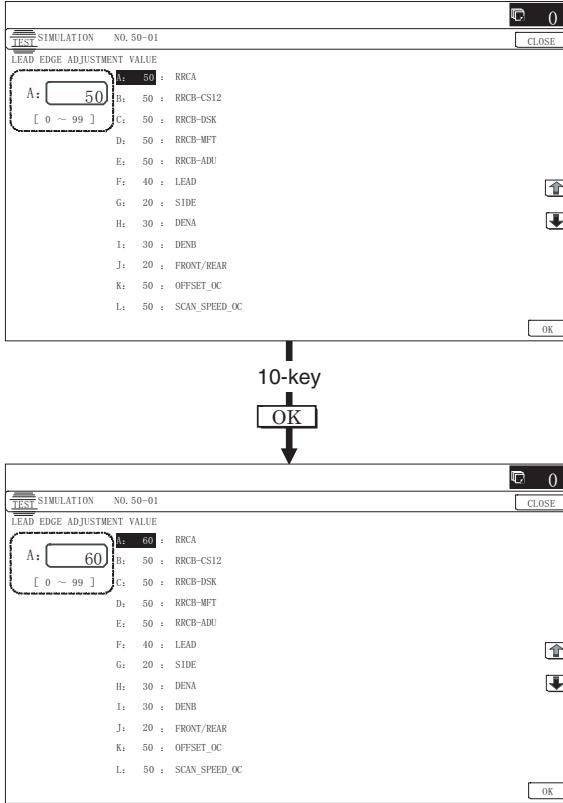
	Content	Standard adjustment value
X	Lead edge void area	4.0mm or less
Y	Rear edge void area	2.0 - 5.0mm
Z1/Z2	FRONT/REAR void area	2.0 ± 2.0mm



If the above condition is not satisfied, or if it is set to a desired condition, execute the simulation 50-1.

NOTE: Feed paper from all the paper feed trays to confirm.

- 5) Enter the SIM 50-1 mode.



- 6) Select an adjustment item (DENA, DENB, FRONT/REAR) with the scroll key, enter the adjustment value, and press [OK] key.

Item/Display		Content	Setting range	Default value
Void area adjustment	DENA	Lead edge void area adjustment	1 - 99	30
	DENB	Rear edge void area adjustment	1 - 99	30
	FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	20
Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value	1 - 99	57
	DENB-CS1	Tray 1 correction value	1 - 99	50
	DENB-CS2	Tray 2 correction value	1 - 99	57
	DENB-CS3	Tray 3 correction value	1 - 99	57
	DENB-CS4	Tray 4 correction value	1 - 99	57
	DENB-ADU	ADU correction value	1 - 99	60
	DENB-HV	Heavy paper correction value	1 - 99	50

When the adjustment value is increased, the void area is increased. When the adjustment value is decreased, the void area is decreased.

When the adjustment value is changed by 1, the void area is changed by 0.1mm.

NOTE: The adjustment value and the actual void area are related as follows:

$$\text{Adjustment value}/10 = \text{Actual void area}$$

NOTE: When the amount of the rear edge void is different between each paper feed tray, change the adjustment value of item (DENB-XXX) in SIM50-1 and adjust.

The adjustment item (DENB) have a effect on the paper of all paper feed tray.

That is, adjustment value of item (DENB-XXX) fine adjusts to adjustment item (DENB) for each paper tray.

After execution of the above, perform procedures 1) - 4) to check that the void area is within the specified range.

Though the lead edge void area adjustment value is proper, if the lead edge void area is not within the specified range, change the adjustment value of item (RRCB-XXX) in SIM 50-1.

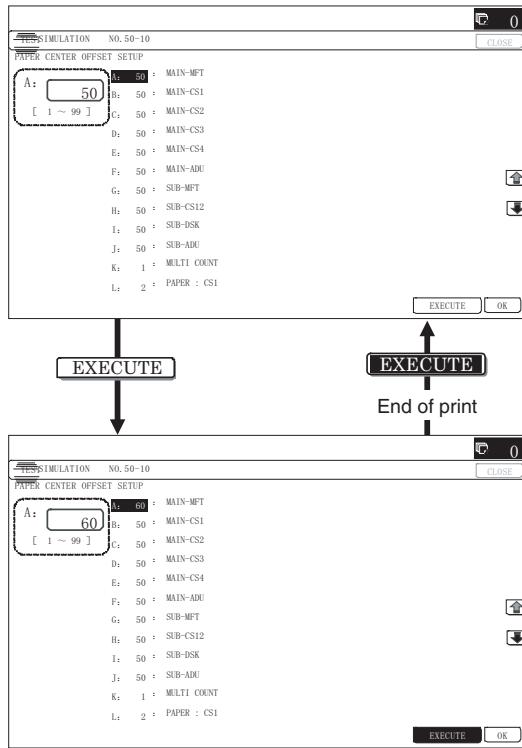
Repeat the above procedures until a satisfactory result is obtained.

## 12-B Print image off-center adjustment (Print engine) (Manual adjustment)

This adjustment must be performed in the following cases:

- \* When the LSU is replaced or removed.
- \* When a paper tray is replaced.
- \* When the paper tray section is disassembled.
- \* When the manual feed tray is replaced.
- \* When the manual feed tray is disassembled.
- \* When the duplex mode paper transport section is disassembled.
- \* When the registration roller section is disassembled.
- \* U2 trouble has occurred.
- \* The PCU PWB has been replaced.
- \* The EEPROM of the PCU PWB has been replaced.

- 1) Enter SIM 50-10 mode.

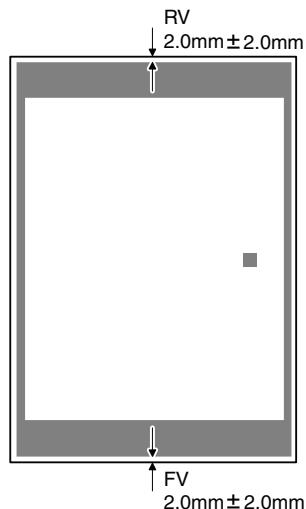


- 2) Select the target paper feed tray (MAIN-XX) with the scroll key.

Display/Item	Content	Setting range
NO	Not select	1

- 3) Set A4 (11" x 8.5") paper in the paper feed tray selected in procedure 2.  
 4) Press [EXECUTE] key.  
 The adjustment pattern is printed.  
 5) Check that the adjustment pattern image is printed in the correct position.

Measure the dimension of the void area in the front and the rear frame direction of the adjustment pattern, and check that all the following conditions are satisfied.



RV: REAR VOID AREA

FV: FRONT VOID AREA

$$RV + FV \leq 4.0\text{mm}$$

$$RV = 2.0 \pm 2.0\text{mm}$$

$$FV = 2.0 \pm 2.0\text{mm}$$

If the above requirement is not met, do the following steps.

- 6) Change the adjustment value.

Enter the adjustment value and press the [OK] key or the [EXECUTE] key.

When [EXECUTE] key is pressed, the adjustment pattern is printed.

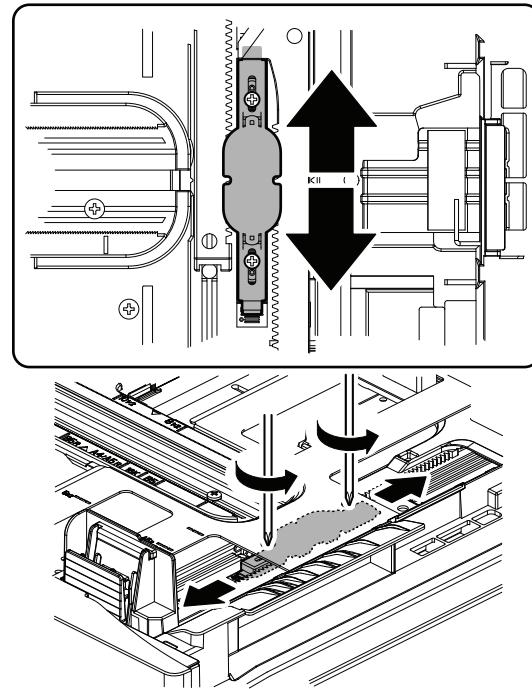
When the adjustment value is increased, the adjustment pattern is shifted to the front frame side. When it is decreased, the adjustment pattern is shifted to the rear frame side.

When the set value is changed by 1, the shift distance is changed by about 0.1mm.

Repeat procedures 3) - 6) until the conditions of procedure 5) are satisfied.

In case a satisfactory result cannot be obtained by repeating the above procedures, perform the following procedure.

- 7) Loosen the paper feed tray off-center adjustment screws (2 pcs.) at the center section of the lift plate of the paper feed tray, and change the gear unit position in the front/rear frame direction. Repeat the adjustment procedures from 4).



NOTE: Normally if the adjustment is executed by ADJ 3 (automatic adjustment), there is no need to execute this adjustment.

Only when the manual adjustment is required, execute this adjustment.

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 3).

## **ADJ 13 Scan image magnification ratio adjustment (Manual adjustment)**

**NOTE:** Normally if the adjustment is executed by ADJ 3 (automatic adjustment), there is no need to execute this adjustment.  
Only when the manual adjustment is required, execute this adjustment.

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 3).

**CAUTION:** If the default adjustment value of the scan image magnification ratio adjustment (main scanning direction) of SIM 48-1, copy image quality may be degraded. Therefore, this adjustment must be executed only when there is a special necessity.

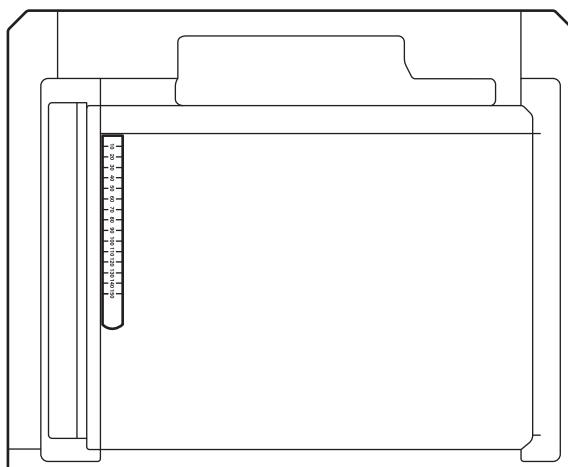
### **13-A Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (Document table mode)**

This adjustment must be performed in the following cases:

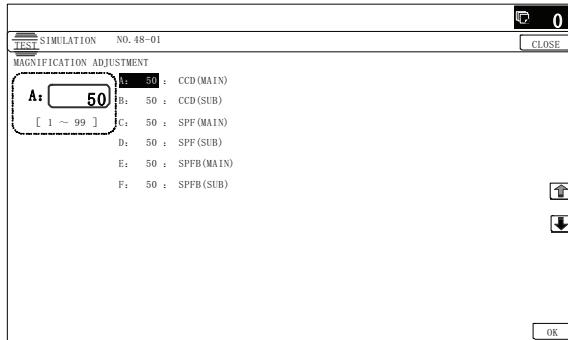
- \* When the copy magnification ratio in the copy image main scanning direction is not properly adjusted.
- \* When the scanner motor is replaced.
- \* U2 trouble has occurred.
- \* When the scanner control PWB is replaced.
- \* When the EEPROM of the scanner control PWB is replaced.

Before this adjustment, the focus adjustment (CCD unit installing position adjustment) must have been completed.

- 1) Place a scale on the document table as shown in the figure below.



- 2) Enter the SIM 48-1 mode.

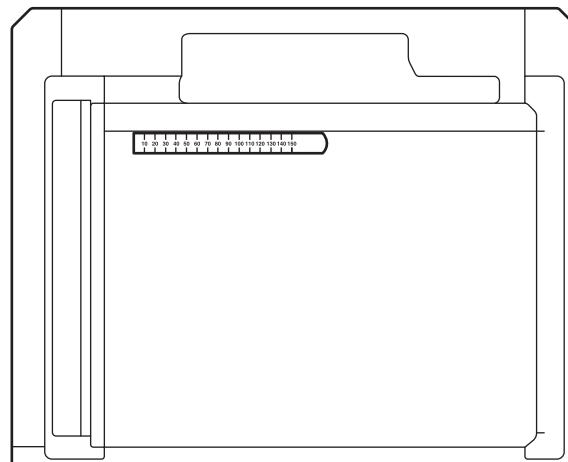


- 3) Make a normal copy and obtain the copy magnification ratio. Press [CLOSE] key to shift from the simulation mode to the copy mode, and make a copy.
- 4) Check that the copy magnification ratio is within the specified range ( $100 \pm 1.0\%$ ). If the copy magnification ratio is within the specified range ( $100 \pm 1.0\%$ ), the adjustment is completed. If the copy magnification ratio is not within the specified range, perform the following procedure.
- 5) Change the CCD (MAIN) adjustment value of Simulation 48-1. When the adjustment value is increased, the copy magnification ratio is increased. When the adjustment value is changed by 1, the copy magnification ratio is changed by about 0.02%. Repeat the procedures 3) - 5) until the copy magnification ratio is within the specified range ( $100 \pm 1.0\%$ ).

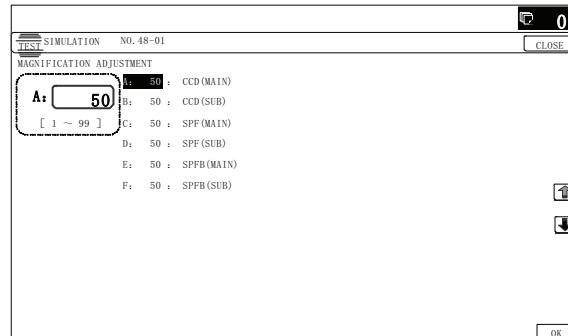
### **13-B Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (Document table mode)**

This adjustment must be performed in the following cases:

- \* When the copy magnification ratio in the copy image sub scanning direction is not properly adjusted.
  - \* When the scanner motor is replaced.
  - \* U2 trouble has occurred.
  - \* When the scanner control PWB is replaced.
  - \* When the EEPROM of the scanner control PWB is replaced.
- 1) Place a scale on the document table as shown in the figure below.

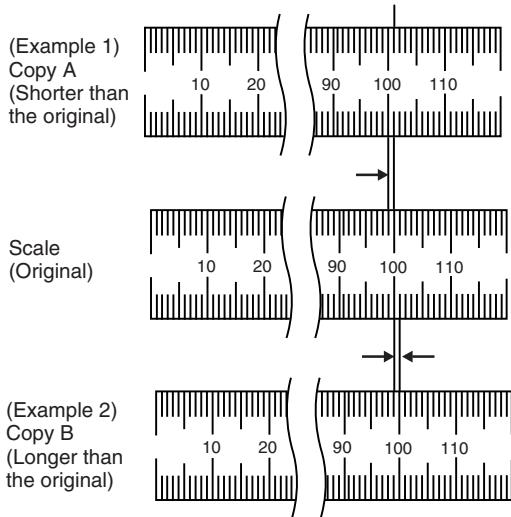


- 2) Enter the SIM 48-1 mode.



- 3) Make a normal copy and obtain the copy magnification ratio.  
Go to the copy mode, and make a copy.

$$\text{Copy magnification ratio} = \frac{(\text{Original dimension} - \text{Copy dimension})}{\text{Original dimension}} \times 100\%$$



- 4) Check that the copy magnification ratio is within the specified range ( $100 \pm 1.0\%$ ).

If the copy magnification ratio is within the specified range ( $100 \pm 1.0\%$ ), the adjustment is completed. If the copy magnification ratio is not within the specified range, perform the following procedure.

- 5) Change the CCD (SUB) adjustment value of Simulation 48-1.  
When the adjustment value is increased, the copy magnification ratio in the sub scanning direction is increased.  
When the adjustment value is changed by 1, the copy magnification ratio is changed by about 0.1%.

Repeat the procedures 3) - 5) until the copy magnification ratio is within the specified range ( $100 \pm 1.0\%$ ).

### 13-C Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (RSPF mode)

This adjustment must be performed in the following cases:

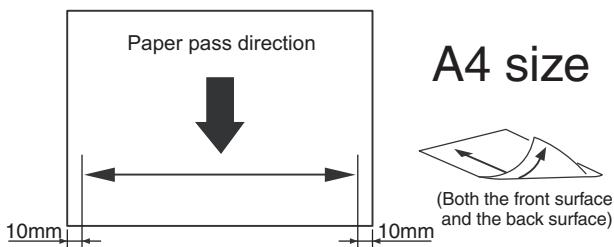
- \* When the scan control PWB is replaced.
- \* When the EEPROM on the scan control PWB is replaced.
- \* When U2 trouble occurs.
- \* When the copy magnification ratio of the RSPF mode copy image in the main scanning direction is not proper.
- \* When the RSPF is disassembled.

#### a. Adjustment procedures

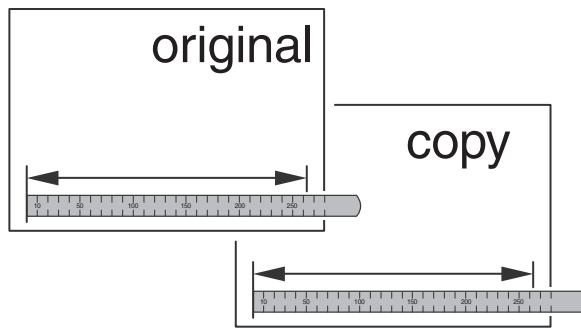
- 1) Place the duplex adjustment chart shown below on the document tray of the RSPF.

The adjustment chart is prepared by the following procedures.

Use A4 (11" x 8.5") paper, and put marks on both sides and both surfaces of the paper at 10mm from each edge.



- 2) Make a duplex copy at the normal ratio on A4 paper.  
3) Measure the images on the copy paper and the original images.



- 4) Obtain the image magnification ratio according to the following formula:

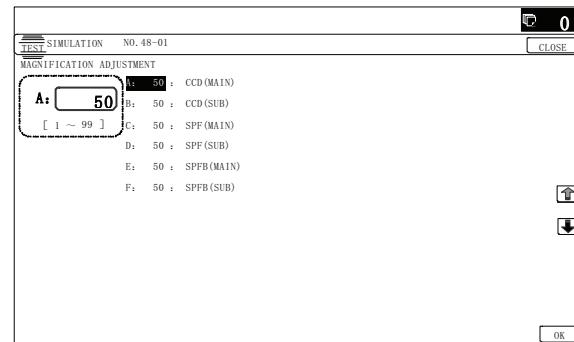
$$\text{Image magnification ratio} = \frac{\text{Original size}}{\text{Original size} \times 100\%}$$

$$\text{Image magnification ratio} = 99 / 100 \times 100\% = 99\%$$

If the image magnification ratio is within the specified range ( $100 \pm 0.8\%$ ), there is no need to perform the adjustment.

If it is not within the specified range, perform the following procedures.

- 5) Enter the SIM 48-1 mode.



#### RSPF

Item	Display	Content	Setting range	Default value
A	CCD(MAIN)	SCAN main scanning magnification ratio adjustment (CCD)	1 - 99	50
B	CCD(SUB)	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99	50
C	SPF(MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
D	SPF(SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
E	SPFB(MAIN)	RSPF document back surface magnification ratio adjustment (Main scan)	1 - 99	50
F	SPFB(SUB)	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

- 6) Select an adjustment item of SPF (MAIN)/SPFB (MAIN) with the scroll key.

SPF (MAIN) Main scanning direction image magnification ratio (Front surface)

SPFB (MAIN) Main scanning direction image magnification ratio (Back surface)

- 7) Enter an adjustment value with 10-key, and press [OK] key.  
When the adjustment value is increased, the image magnification ratio is increased. When the adjustment value is changed by 1, the image magnification ratio is changed by 0.02%.
- 8) Make a normal copy and obtain the copy magnification ratio.  
Repeat the procedures of 1) - 8) until a satisfactory result is obtained.

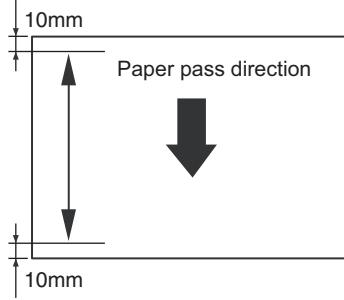
### **13-D Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (RSPF mode)**

This adjustment must be performed in the following cases:

- \* When the SCAN CONTROL PWB is replaced.
- \* When the EEPROM on the SCAN CONTROL PWB is replaced.
- \* When U2 trouble occurs.
- \* When the copy magnification ratio of the RSPF mode copy image in the sub scanning direction is not proper.
- \* When the RSPF is disassembled.

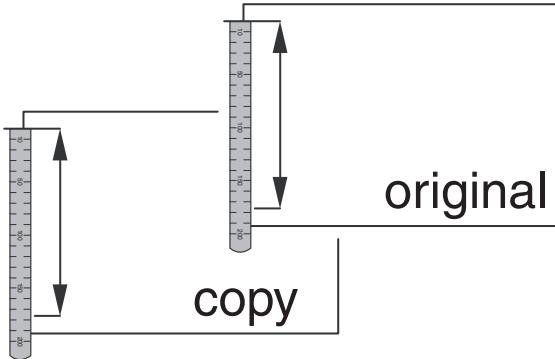
- 1) Place the duplex adjustment chart shown below on the document tray of the RSPF.

The adjustment chart is prepared by the following procedures.  
Use A4 (11" x 8.5") paper, and put marks on both sides and both surfaces of the paper at 10mm from each edge.



**A4 size**

- 2) Make a duplex copy at the normal ratio on A4 paper.
- 3) Measure the images on the copy paper and the original images.



- 4) Obtain the image magnification ratio according to the following formula:

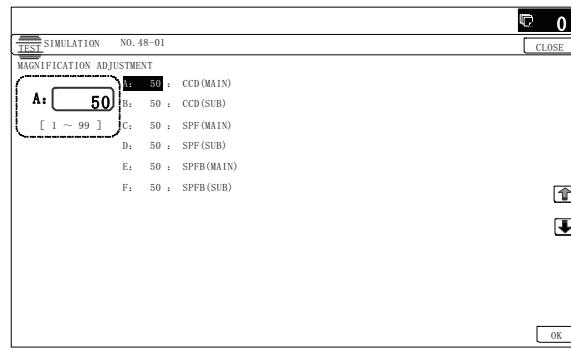
$$\text{Image magnification ratio} = \text{Original size} / \text{Original size} \times 100 (\%)$$

$$\text{Image magnification ratio} = 99 / 100 \times 100 = 99 (\%)$$

If the image magnification ratio is within the specified range ( $100 \pm 0.8\%$ ), there is no need to perform the adjustment.

If it is not within the specified range, perform the following procedures.

- 5) Enter the SIM 48-1 mode.



Item	Display	Content	Setting range	Default value
A	CCD(MAIN)	SCAN main scanning magnification ratio adjustment (CCD)	1 - 99	50
B	CCD(SUB)	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99	50
C	SPF(MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
D	SPF(SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
E	SPFB(MAIN)	RSPF document back surface magnification ratio adjustment (Main scan)	1 - 99	50
F	SPFB(SUB)	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

- 6) Select an adjustment item with the scroll key.

SPF (SUB) Sub scanning direction image magnification ratio (Front surface)  
SPFB (SUB) Sub scanning direction image magnification ratio (Back surface)

- 7) Enter an image magnification ratio adjustment value with 10-key, and press [OK] key.

When the adjustment value is increased, the image magnification ratio is increased.

When the adjustment value is changed by 1, the image magnification ratio is changed by 0.1%.

- 8) Make a normal copy and obtain the copy magnification ratio.  
Repeat the procedures of 1) - 8) until a satisfactory result is obtained.

## **ADJ 14 Scan image off-center adjustment (Manual adjustment)**

NOTE: Normally if the adjustment is executed by ADJ 3 (automatic adjustment), there is no need to execute this adjustment.

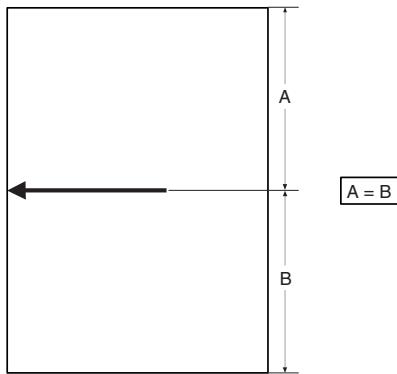
Only when the manual adjustment is required, execute this adjustment.

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 3).

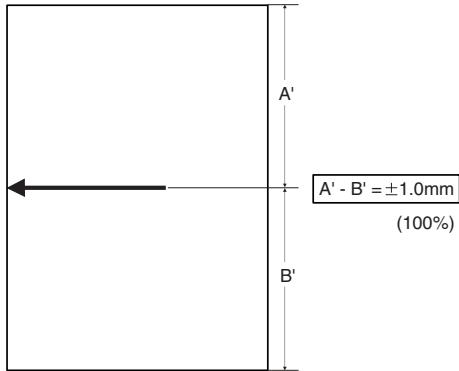
### **14-A Scan image off-center adjustment (Manual adjustment) (Document table mode)**

This adjustment must be performed in the following cases:

- \* When the scanner (reading) section is disassembled.
  - \* When the scanner (reading) unit is replaced.
  - \* When a U2 trouble occurs.
  - \* When the scanner control PWB is replaced.
  - \* When the EEPROM on the scanner control PWB is replaced.
- 1) Make a copy of the adjustment chart (made by yourself) in the adjustment mode (document table).

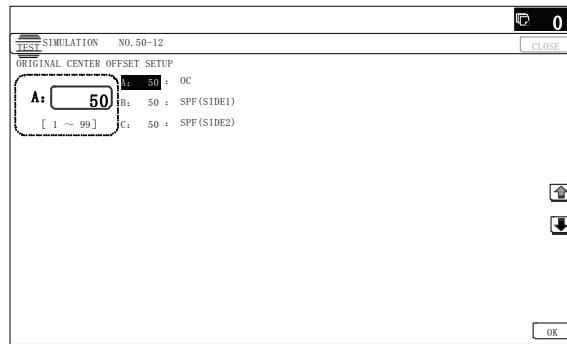


- 2) Check the copy image center position.  
If  $A - B = \pm 1.0\text{mm}$ , the adjustment is not required.



If the above condition is not satisfied, perform the following procedures.

- 3) Enter the SIM 50-12 mode.



- 4) Select the adjustment mode OC with the scroll key.  
5) Enter the adjustment value with 10-key, and press [OK] key.  
The entered value is set.  
When the set value is increased, the main scanning print position is shifted to the front side by 0.1mm.  
6) Go to the copy mode, and make a copy.  
Repeat the procedures of 1) - 6) until the above condition is satisfied.

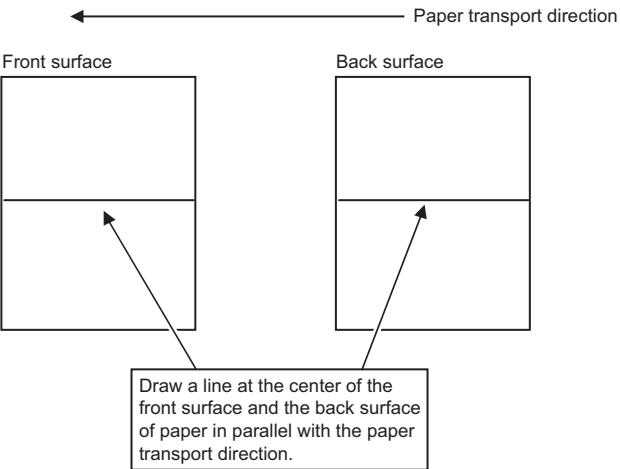
### **14-B Scan image off-center adjustment (Manual adjustment) (RSPF mode)**

This adjustment must be performed in the following cases:

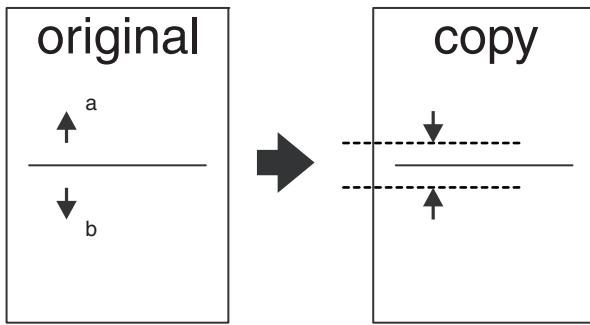
- \* When the scan control PWB is replaced.
- \* When the EEPROM on the scan control PWB is replaced.
- \* When the scanner (reading) section is disassembled.
- \* When the scanner (reading) section is replaced.
- \* When U2 trouble occurs.
- \* When the RSPF section is disassembled.
- \* When the RSPF unit is replaced.

CAUTION: To execute this adjustment, it is required that the ADJ 14A Scan image off-center adjustment (Document table mode) must have been properly adjusted.

- 1) Prepare the adjustment chart.  
Draw a line at the center of the front surface and the back surface of A4 (11" x 8.5") paper in parallel with the paper transport direction.



- 2) Set the adjustment chart to the RSPF.
- 3) Make a duplex copy in the normal magnification ratio from the manual paper feed tray, and check the image position on the front surface and the back surface of the copy paper.

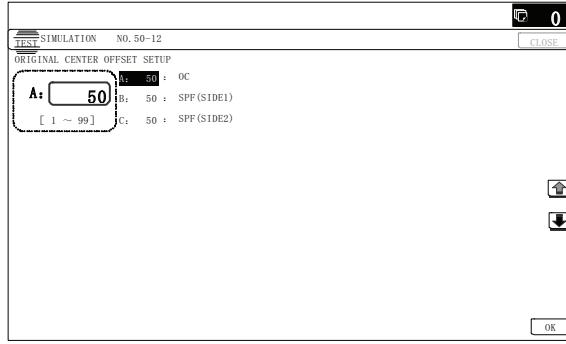


If the difference is within the range of  $0 \pm 2.7\text{mm}$  there is no need to perform the adjustment.

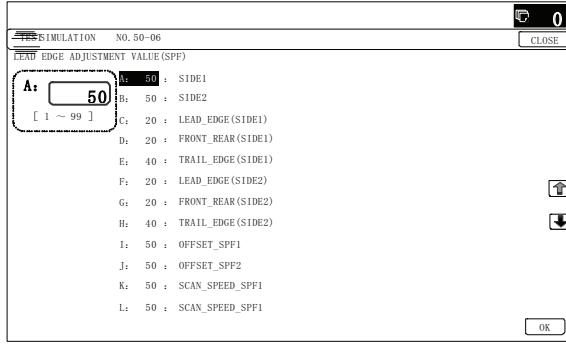
If the adjustment is required, perform the following procedures.

- 4) Enter the SIM 50-12 or 50-6 mode.

#### SIM50-12



#### SIM50-6



#### SIM50-12

Item	Display	Content	Setting range	Default value
A	OC	Document table image off-center adjustment	1 - 99	50
B	SPF(SIDE1)	SPF front surface image off-center adjustment	1 - 99	50
C	SPF(SIDE2)	SPF back surface image off-center adjustment	1 - 99	50

A - C: When the adjustment value is increased, the image position is shifted to the rear frame side.

1step = 0.1mm

#### SIM50-6

Item/Display		Content	Setting range	Default value
A	SIDE1	Front surface document scan position adjustment (CCD)	1 - 99	50
B	SIDE2	Back surface document scan position adjustment (CCD)	1 - 99	50
C	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1)	0 - 99	20
D	FRONT_REAR (SIDE1)	Front surface side image loss amount setting	0 - 99	20
E	TRAIL_EDGE (SIDE1)	Front surface rear edge image loss amount setting	0 - 99	40
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2)	0 - 99	20
G	FRONT_REAR (SIDE2)	Back surface side image loss amount setting	0 - 99	20
H	TRAIL_EDGE (SIDE2)	Back surface rear edge image loss amount setting	0 - 99	40
I	OFFSET_SPF1	RSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2	RSPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
L	SCAN_SPEED_SPF2	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

- \* Item A, B: When the adjustment value is increased, the scan timing is delayed.
- \* Item C - H: When the adjustment value is increased, the image loss is increased.
- \* Item A - H: 1 step = 0.1mm change
- \* The SPF rear edge image loss setting is provided for countermeasures against the case when shades are produced.

- 5) Select an adjustment mode with the scroll key.

#### SIM50-12

SPF(SIDE1) Front surface mode  
SPF(SIDE2) Back surface mode

#### SIM50-6

OFFSET SPF1 Front surface mode  
OFFSET SPF2 Back surface mode

- 6) Enter an adjustment value with 10-key, and press [OK] key.  
(Change for change in the adjustment value: 0.1mm/step)  
(When the adjustment value is increased, the print image is shifted to the rear.)

Repeat the procedures of 2) - 6) until a satisfactory result is obtained.

## ADJ 15 Copy image position and image loss adjustment (Manual adjustment)

**NOTE:** Normally if the adjustment is executed by ADJ 3 (automatic adjustment), there is no need to execute this adjustment.

Only when the manual adjustment is required, execute this adjustment.

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 3).

### 15-A Copy image position, image loss, and void area adjustment (Manual adjustment) (Document table mode)

This adjustment must be performed in the following cases:

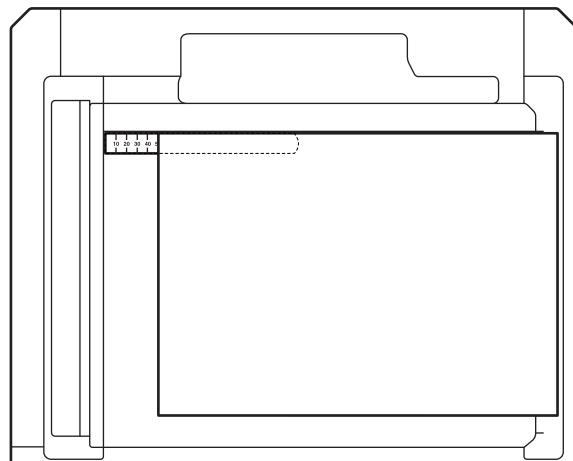
- \* When the scanner (reading) section is disassembled.
- \* When the scanner (reading) unit is replaced.
- \* When the LSU is replaced or removed.
- \* When the registration roller section is disassembled.
- \* U2 trouble has occurred.
- \* The PCU PWB has been replaced.
- \* The EEPROM of the PCU PWB has been replaced.
- \* The scanner control PWB has been replaced.
- \* The EEPROM on the scanner control PWB has been replaced.

**NOTE:** Before executing this adjustment, be sure to confirm that the ADJ 3 Print engine image skew, image position, image magnification ratio, void area adjustments have been completed normally.

- 1) Place a scale on the document table as shown in the figure below.

Place a scale so that it is in parallel with the scanning direction and that its lead edge is in contact with the document guide plate.

Place white paper on the document table so that the scale lead edge can be seen.



- 2) Enter the SIM 50-1 mode.

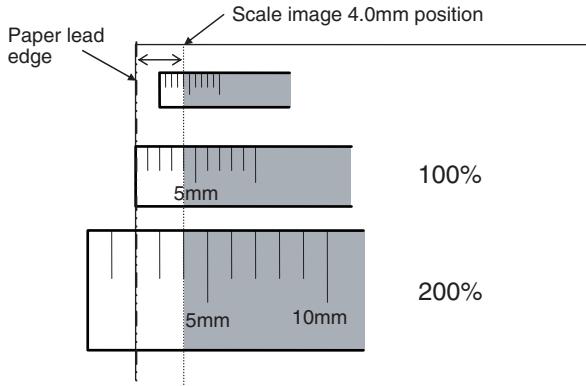
10-key  
OK

- 3) Set RRCA, LEAD, and SIDE to the default values.

	Item/Display	Content	Setting range	Default value
A	Lead edge adjustment value	RRCA	Document lead edge reference position (OC)	0 - 99
B		RRCB-CS12	Registration motor	1 - 99
C		RRCB-DSK	ON timing	1 - 99
D		RRCB-MFT	adjustment	1 - 99
E		RRCB-ADU	ADU	50
F	Image loss area setting value	LEAD	Lead edge image loss area setting	0 - 99
G		SIDE	Side image loss area adjustment	0 - 99
H	Void area adjustment	DENA	Lead edge void area adjustment	1 - 99
I		DENB	Rear edge void area adjustment	1 - 99
J		FRONT/REAR	FRONT/REAR void area adjustment	1 - 99
K	Off-center adjustment	OFFSET_OC	OC document off-center adjustment	1 - 99
L	Magnification ratio correction	SCAN_SPEED_OC	SCAN sub scanning magnification ratio adjustment (CCD)	50
M	Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value	1 - 99
N		DENB-CS1	Tray 1 correction value	1 - 99
O		DENB-CS2	Tray 2 correction value	1 - 99
P		DENB-CS3	Tray 3 correction value	57

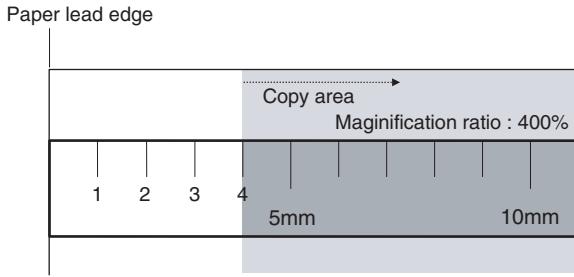
Item/Display			Content	Setting range	Default value
Q	Sub scanning direction print area correction value	DENB-CS4	Tray 4 correction value	1 - 99	57
		DENB-ADU	ADU correction value	1 - 99	60
		DENB-HV	Heavy paper correction value	1 - 99	50

- 4) Perform the image lead edge reference position adjustment.  
Shift to the copy mode, and make a copy at each of 100% and 200% in the document table mode.  
When the adjustment value of RRCA is proper, the lead edge image from 4.0mm is not copied in either of 100% and 200% copy scale.  
If not, change and adjust the RRCA value.  
(Adjust so that the lead edge image from 4.0mm is not copied in either of different copy magnification ratios.)  
Repeat the above procedures until a satisfactory result is obtained.



##### 5) Image loss adjustment

When the adjustment item of the image loss below is set to the default value, it is adjusted to the standard state. If it is not in the below standard state, or when it is set to a desired value, change these adjustment items.



Item/Display	Content		Adjustment range	De-fault value	Standard adjustment value
LEAD	Image loss adjustment	Lead edge image loss adjustment	0 - 99	40	4.0 ± 1.0mm
		Side image loss adjustment	0 - 99	20	2.0 ± 1.0mm

When the adjustment value is increased, the image loss is increased. When the adjustment value is decreased, the image loss is decreased.

When the adjustment value is changed by 1, the void area is changed by 0.1mm.

## 15-B Image scanning position adjustment (Manual adjustment) (RSPF mode)

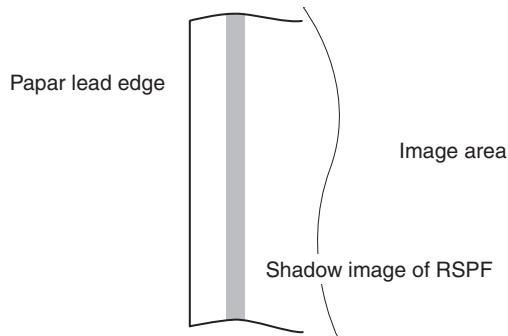
This adjustment must be performed in the following cases:

- \* When the scan control PWB is replaced.
- \* When the EEPROM on the scan control PWB is replaced.
- \* When the scanner (reading) section is disassembled.
- \* When the scanner (reading) section is replaced.
- \* When U2 trouble occurs.
- \* When the RSPF section is disassembled.
- \* When the RSPF unit is replaced.

This simulation is to adjust the scanning position when scanning in the RSPF mode.

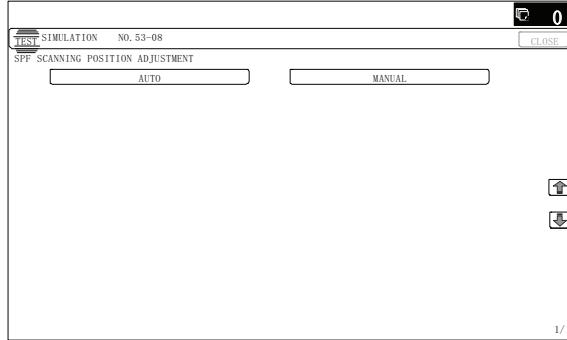
If this adjustment is made improperly, the scanner stop position is shifted from the specified position and a shade of the document table may be reflected on the lead edge section of the scan image in the RSPF mode.

- 1) Make a copy in the RSPF mode, and check for any shade on the lead edge section of the copy image.



If there is any shade of the document table on the lead edge section of the copy image, perform the following procedures.

- 2) Enter the SIM 53-8 mode, and press [MANUAL] key.



- 3) Enter an adjustment value with 10-key, and press [OK] key.

When the set value is increased, the distance from the home position to the RSPF scanning position is increased. When the set value is changed by 1, the scanning position is changed by 0.1mm.

Perform the procedures of 1) - 3) until a satisfactory result is obtained.

CAUTION: After execution of this adjustment, be sure to execute ADJ 15C Copy image position, image loss, void area adjustment (Manual adjustment) (RSPF mode).

## 15-C Copy image position, image loss, void area adjustment (Manual adjustment) (RSPF mode)

This adjustment must be performed in the following cases:

- \* When the scan control PWB is replaced.
- \* When the EEPROM on the scan control PWB is replaced.
- \* When the scanner (reading) section is disassembled.
- \* When the scanner (reading) unit is replaced.
- \* When U2 trouble occurs.
- \* When the RSPF section is disassembled.
- \* When the RSPF unit is replaced.

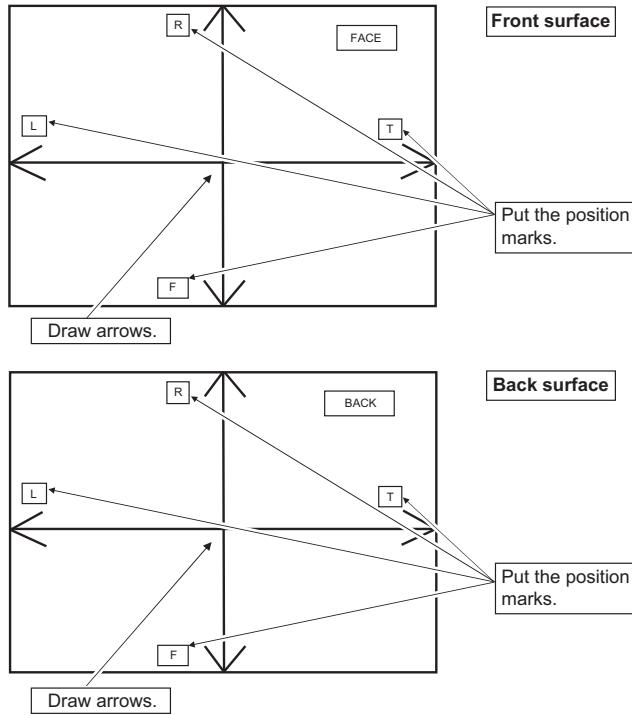
### a. Adjustment procedures

#### 1) Prepare the adjustment chart.

The adjustment chart can be made by the following procedures.

Use A4 (11" x 8.5") paper and draw arrow marks vertically and horizontally on the front and the back surfaces.

At the same time, put marks of the lead edge, the trail edge, the front end, and the rear end as well as the identification marks of the front surface and the back surface.



#### 2) Enter the SIM 50-6 mode.

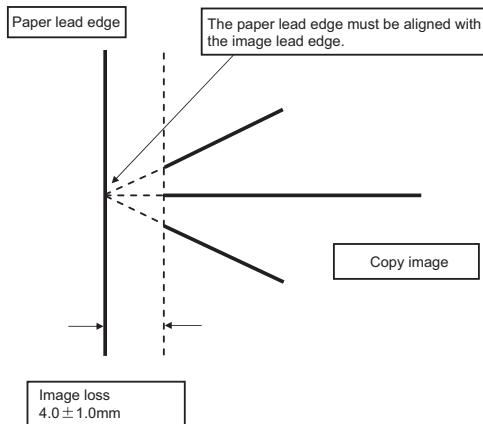
SIMULATION NO. 50-06	
LEAD EDGE ADJUSTMENT VALUE (SPF)	
A:	50
B:	50 : SIDE2
C:	20 : LEAD_EDGE(SIDE1)
D:	20 : FRONT_REAR(SIDE1)
E:	40 : TRAIL_EDGE(SIDE1)
F:	20 : LEAD_EDGE(SIDE2)
G:	20 : FRONT_REAR(SIDE2)
H:	40 : TRAIL_EDGE(SIDE2)
I:	50 : OFFSET_SPF1
J:	50 : OFFSET_SPF2
K:	50 : SCAN_SPEED_SPF1
L:	50 : SCAN_SPEED_SPF2

Item/Display		Content	Setting range	Default value
A	SIDE1	Front surface document scan position adjustment (CCD)	1 - 99	50
B	SIDE2	Back surface document scan position adjustment (CCD)	1 - 99	50
C	Image loss amount setting SIDE1	Front surface lead edge image loss amount setting	0 - 99	20
D	FRONT_REAR SIDE1	Front surface side image loss amount setting	0 - 99	20
E	TRAIL_EDGE SIDE1	Front surface rear edge image loss amount setting	0 - 99	40
F	Image loss amount setting SIDE2	Back surface lead edge image loss amount setting	0 - 99	20
G	FRONT_REAR SIDE2	Back surface side image loss amount setting	0 - 99	20
H	TRAIL_EDGE SIDE2	Back surface rear edge image loss amount setting	0 - 99	40
I	OFFSET_SPF1	RSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2	RSPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
L	SCAN_SPEED_SPF2	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

- \* Item A, B: When the adjustment value is increased, the scan timing is delayed.
- \* Item C - H: When the adjustment value is increased, the image loss is increased.
- \* Item A - H: 1 step = 0.1mm change
- \* The RSPF rear edge image loss setting is provided for countermeasures against the case when shades are produced.

### Lead edge image loss adjustment

- 1) Set the lead edge image loss adjustment values (LEAD EDGE (SIDE1/SIDE2) on the front surface and the back surface to the following values.  
(Standard set value)  
TRAIL EDGE (SIDE 1):  
40 Lead edge image loss set value (Front surface)  
TRAIL EDGE (SIDE 2):  
40 Lead edge image loss set value (Back surface)  
(When the set value is increased, the lead edge image loss is increased.)  
(Change for change in the set value: 0.1mm/step)
- 2) Make a duplex copy in 100% in the RSPF mode. Check to confirm that the lead edge image loss is within  $4.0 \pm 1.0\text{mm}$  on the front surface and the back surface. The paper lead edge must be aligned with the presumed image lead edge.



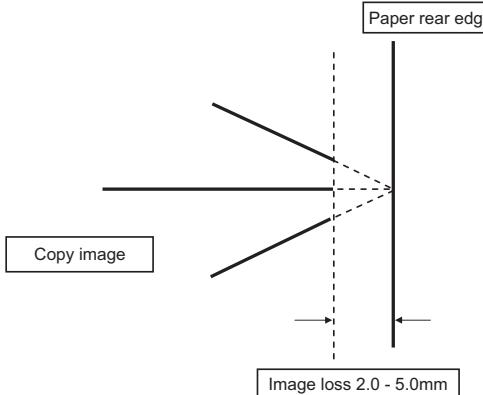
If the above condition is not satisfied, perform the following procedure.

- 3) Enter the adjustment value of SIDE1/SIDE2 with 10-key, and press [OK] key.  
Adjust so that the paper lead edge is aligned with the presumed image lead edge.  
SIDE1: Front surface lead edge scan position adjustment  
SIDE2: Back surface lead edge scan position adjustment  
(When the adjustment value is increased, the print image position is shifted to the delaying direction for the paper.)  
(Change for change in the set value: 0.1mm/step)

Perform the procedures of 2) - 3) until a satisfactory result is obtained.

### Rear edge image loss adjustment

- 1) Make a duplex copy in 100% in the RSPF mode. Check to confirm that the rear edge image loss is  $2.0 - 5.0\text{mm}$  on the front surface and the back surface.



If the above condition is not satisfied, perform the following procedure.

- 2) Enter the adjustment value of TRAIL EDGE (SIDE1/SIDE2) with 10-key, and press [OK] key.

#### TRAIL EDGE (SIDE 1):

Rear edge image loss adjustment value (Front surface)

#### TRAIL EDGE (SIDE 2):

Rear edge image loss adjustment value (Back surface)

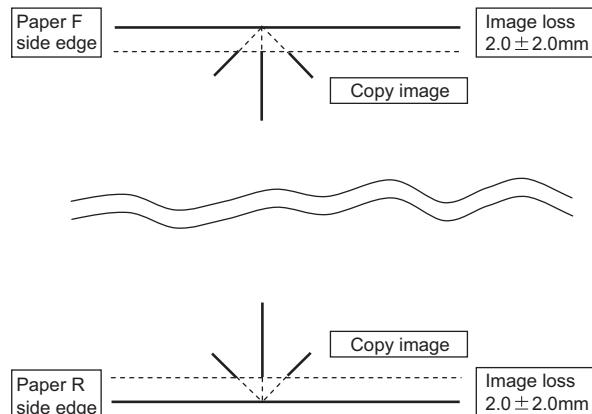
(When the adjustment value is increased, the rear edge image loss is increased.)

(Change for change in the set value: 0.1mm/step)

Perform the procedures of 1) - 2) until a satisfactory result is obtained.

### Front/rear frame direction image loss adjustment

- 1) Make a duplex copy in 100% in the RSPF mode. Check to confirm that the image losses on the front frame side and the rear frame side are  $2.0 \pm 2.0\text{mm}$  on the front surface and the back surface.



If the above condition is not satisfied, perform the following procedure.

- 2) Enter the adjustment value of FRONT/REAR (SIDE 1) / FRONT/REAR (SIDE 2), and press [OK] key.

#### FRONT/REAR (SIDE 1):

Front/Rear image loss adjustment value (Front surface)

#### FRONT/REAR (SIDE 2):

Front/Rear image loss adjustment value (Back surface)

(When the adjustment value is increased, the front/rear image loss is increased.)

(Change for change in the adjustment value: 0.1mm/step)

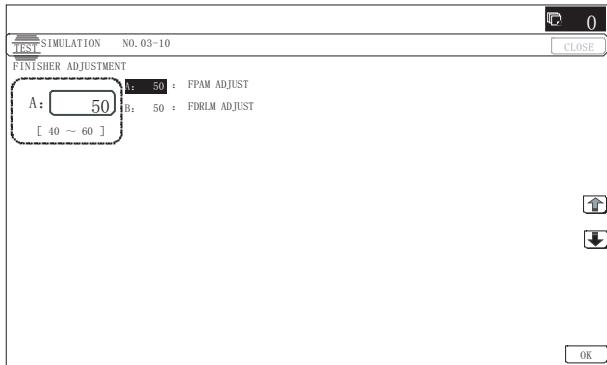
Perform the procedures of 1) - 2) until a satisfactory result is obtained.

## **ADJ 16 Finisher adjustments (alignment, staple position)**

This adjustment must be performed in the following cases:

- \* When the finisher is disassembled.
- \* When the finisher control PWB is replaced.
- \* When the alignment is improper.
- \* When the staple position is shifted.

1) Enter the SIM 3-10 mode.



2) Select an adjustment target item with the scroll key.

### **Inner finisher**

Item/Display	Content	Setting range	Default value
A FPAM ADJUST	Alignment width adjustment	40 - 60	50
B FDRLM ADJUST	Paper exit roller descending position adjustment	40 - 60	50

- 3) Enter an adjustment value and press [OK] key.
- 4) Cancel the simulation, make a copy in the mode including the adjustment target, and check the adjustment result.

## [6] SIMULATION

### 1. General and purpose

The simulation mode has the following functions, to display the machine operating status, identify the trouble position and causes in an earlier stage, and to efficiently setup and adjust the machine for improved serviceability.

- 1) Various adjustments
- 2) Setting of the specifications and functions
- 3) Canceling troubles
- 4) Operation check
- 5) Counters check, setting, clear
- 6) Machine operating conditions (operation hysteresis), data check, clear.
- 7) Various (adjustments, setting, operation, counters, etc.) data transport.

The operating procedures and displays depend on the design of the operation panel of the machine.

### 2. Starting the simulation

#### Entering the simulation mode

- 1) Machine in Copy mode: Select Program key → Asterisk (\*) key  
→ Clear key → Asterisk (\*) key → Ready for input of main code of simulation.
- 2) Entering a main code with the 10-key → START key ON.  
Or select a main code with the SIM key on the touch panel.
- 3) Entering a sub code with the 10-key → START key ON.
- 4) Select an item with the scroll key and the item key.
- 5) The machine enters the mode corresponding to the selected item. Press [START] key or [EXECUTE] key to start the simulation operation.

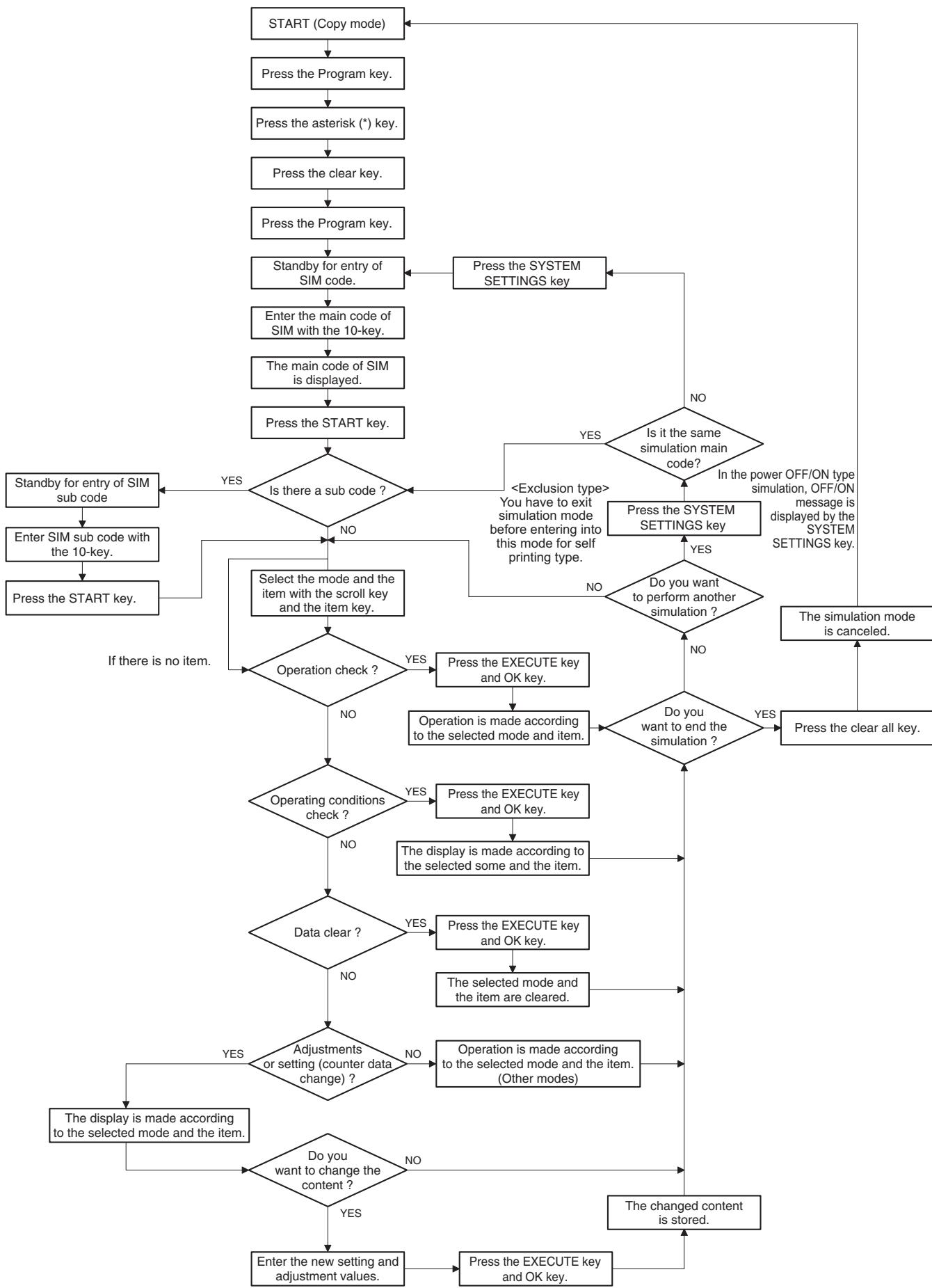
To cancel the current simulation mode and change the main code and the sub code, press [SYSTEM SETTING] key.

#### Canceling the simulation mode to return to the normal mode

- 1) Press [CA] key.

**CAUTION:** Do not turn OFF the power when the machine is in the simulation mode.

If the power switch should be turned OFF in the simulation mode, a malfunction may be result. In this case, turn OFF/ON the main power source.



### 3. List of simulation codes

Main	Sub	Functions	Section
1	1	Used to check the operation of the scanner (reading) unit and the control circuit.	Scanner (reading)
	2	Used to check the sensors in the scanner (reading) section and the related circuits.	Scanner (reading)
	5	Used to check the operation of the scanner (reading) unit and the control circuit.	Scanner (reading)
2	1	Used to check the operations of the automatic document feeder and the control circuit.	RSPF
	2	Used to check the operations of the sensors and the detectors in the automatic document feeder section and the control circuits.	RSPF
	3	Used to check the operations of the loads in the automatic document feeder and the control circuit.	RSPF
3	2	Used to check the operations of the sensors and the detectors in the finisher and the control circuit.	Finisher
	3	Used to check the operation of the load in the finisher and the control circuit.	Finisher
	10	Used to adjust the finisher.	Finisher
4	2	Used to check the operations of the sensors and detectors in the desk, and the control circuit of those.	Desk
	3	Used to check the operations of the loads in the desk, and the control circuit of those.	Desk
	5	Used to check the operations of the paper feed desk paper transport clutch (DTRC).	Desk
5	1	Used to check the operation of the display, LCD in the operation panel, and control circuit.	Operation panel
	2	Used to check the operation of the heater lamp and the control circuit.	Fusing
	3	Used to check the operation of the scanner lamp and the control circuit.	Scanner (reading)
6	1	Used to check the operations of the load in the paper transport system (clutches and solenoids) and the control circuits.	Paper transport/Paper exit section
	2	Used to check the operations of each fan motor and its control circuit.	Others
	90	Used to reset the machine to the factory setting. (The scanner is set to the lock enable position)	Scanner
7	1	Used to set the operating conditions of aging.	Others
	6	Used to set the operating intermittent aging cycle.	
	8	Used to display the warm-up time.	
	12	The document reading number of sheets setting (for aging operation)	RSPF
8	1	Used to check and adjust the operations of the developing voltage in each print mode and the control circuit.	Process (Developing)
	2	Used to check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit.	Process (Charging)
	6	Used to check the output of the transfer charger output voltage.	Process (Transport)
9	2	Used to check the operations of the sensors and detectors in the paper reverse section (duplex section) and its control circuit.	Duplex
	3	Used to check the operations of the load in the paper reverse section (duplex section) and its control circuit.	Duplex
10	1	Used to check the operations of the toner supply mechanism (toner motor) and the related circuit.	Process (Developing)
13	-	Used to cancel the self-diag "U1" trouble.	
14	-	Used to cancel the self-diag H3, H4, H5 troubles.	
16	-	Used to cancel the self-diag "U2" trouble.	MFP PWB / PCU PWB / SCU PWB
17	-	Used to cancel the self-diag "PF" trouble.	
21	1	Used to set the maintenance cycle.	
22	1	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)	
	2	Used to check the total number of misfeed and troubles. (When the number of total jam is considerably great, it is judged as necessary for repair.)	
	3	Used to check misfeed positions and the misfeed count of each position. * Presumption of the faulty point by this data is possible.	
	4	Used to check the trouble (self diag) history.	
	5	Used to check the ROM version of each unit (section).	Firmware
	6	Used to output the setting/adjustment data (simulation, FAX soft switch, counter), the firmware version, and the counter list.	
	8	Used to check the number of operations (counter value) of the finisher, the RSPF, and the scan (reading) unit.	
	9	Used to check the number of use (print quantity) of each paper feed section.	Paper feed, ADU
	10	Used to check the system configuration (option, internal hardware).	
	11	Used to check the use frequency (send/receive) of FAX. (Only when FAX is installed)	FAX
	12	Used to check the RSPF misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)	RSPF
	13	Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge) and the fusing unit	Process
	14	Used to display the use status of the toner cartridge.	Process
	18	Used to display the user data delete history.	
23	19	Used to check the values of the counters related to the scan - image send.	
	40	Used to display the error code list and the contents.	
	90	Used to output the various set data lists.	
2	2	Used to output the trouble history list of paper jam and misfeed. (If the number of troubles of misfeed is considerably great, the judgment is made that repair is required.)	
	80	Used to check the operation of paper feed and paper transport in the paper feed section and the paper transport section. Used to output the list of the operation status of the sensor and the detectors in the paper feed section and the paper transport section.	Paper feed, Paper transport

Main	Sub	Functions	Section
24	1	Used to clear the jam counter, and the trouble counter. (After completion of maintenance, clear the counters.)	
	2	Used to clear the number of use (the number of prints) of each paper feed section.	
	3	Used to clear the finisher, RSPF, and the scan (reading) unit counter.	
	4	Used to clear the maintenance counter, the printer counters of the transport unit and the fusing unit. (After completion of maintenance, clear the counters.)	
	5	Used to clear the developer counter. (After replacement of developer, clear the counter.)	
	6	Used to clear the copy counter.	
	9	Used to clear the printer mode print counter and the self print mode print counter.	
	10	Used to clear the FAX counter. (Only when FAX is installed)	
	12	Used to clear the document filing counter value.	
	15	Used to clear the counters related to the scan mode and the image send.	
	30	Used to initialize the administrator (Admin) password.	
	31	Used to initialize the service mode password.	
	35	Used to clear the toner cartridge use status data.	
25	1	Used to check the operations of the developing section.	Process (Developing section)
	2	Used to make the initial setting of toner density when replacing developer. (Automatic adjustment)	Image process (Photoconductor/ Developing)
	4	Used to display the operation data of the toner correction quantity. (Not used in the market.)	Process
26	1	Used to set Yes/No of installation of the job separator.	Paper exit
	2	Used to set the paper size of the paper feed tray. (When the paper size is changed, this simulation must be executed to change the paper size in software.)	Paper feed
	3	Used to set the specifications of the auditor. (Setting must be made according to the auditor use conditions.)	Auditor
	5	Used to set the count mode of the total counter and the maintenance counter. (A3/11x17 size)	
	6	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.	
	10	Used to set the trial mode of the network scanner.	
	18	Used to set Disable/Enable of the toner save mode operation. (For the Japan and the UK versions.)	
	30	Used to set the operation mode corresponding to the CE mark (Europe safety standards). (For slow start to drive the fusing heater lamp)	
	32	Used to set the special functions.	
	35	Used to set the display mode of SIM 22-4 trouble history when a same trouble occurred repeatedly. There are two display modes: display as one trouble and display as several series of troubles.	
	38	Used to set Continue/Stop of print when the maintenance life is reached.	
	50	Used to set functions.	
	51	Used to set the specifications of the serial port operation. (For PCI)	
	52	Used to set whether non-printed paper (insertion paper, cover paper) is counted up or not.	
	56	Used to set ON/OFF of the Life Correction.	
	65	Used to set the finisher alarm mode.	
	69	Used to set the operating conditions for toner near end.	
	73	Enlargement continuous shoot, A3 wide copy mode image loss (shade delete quantity) adjustment	
	74	Used to set the OSA trial mode.	
	78	Used to set the password of the remote operation panel.	
	79	Used to set YES/NO of the pop-up display of user data delete result.	
27	1	Used to set non-detection of communication error (U7-00) with RIC. (FSS function)	
	2	Used to set the sender's registration number and the HOST server telephone number. (FSS function)	
	4	Used to set the initial call and toner order auto send. (FSS function)	
	5	Used to set the machine tag No. (This function allows the host computer to check the machine tag No.) (FSS function)	Communication (RIC/MODEM)
	6	Used to set of the manual service call. (FSS function)	
	7	Used to set of the enable, alert callout. (FSS function)	
	9	Used to set the paper transport time recording YES/NO threshold value and shading gain adjustment retry number. (FSS function)	
	10	Used to clear the trouble prediction history information. (FSS function)	
	11	Used to check the serial communication retry number and the scanner gain adjustment retry number history. (FSS function)	
	13	Used to check the history of paper transport time between sensors. (FSS function)	
	14	Used to set the FSS function connection test mode.	
	15	Used to display the FSS connection status.	
	16	Used to set the FSS alert send.	
	17	Used to set the FSS paper order alert.	
	18	Used to clear the FSS paper feed retry counter.	
30	1	Used to check the operations of the sensors and the detectors in other than the paper feed section and the control circuits.	
	2	Used to check the operations of the sensors and the detectors in the paper feed section and the control circuits.	
40	2	Manual paper feed tray paper width sensor adjustment.	Paper feed
	7	Used to set the adjustment value of the manual paper feed tray paper width sensor.	Paper feed
41	1	Used to check the operations of the document size sensor and the control circuit.	
	2	Used to adjust the document size sensor detection level.	
	3	Used to check the operations of the document size sensor and the control circuit.	

Main	Sub	Functions	Section
43	1	Used to set the fusing temperature in each mode.	
	4	Used to set the fusing temperature 2 in each mode.	
	10	Used to set the postcard feed cycle	
	20	Used to perform the low-temperature, low-humidity (L/L) environment correction for the fusing temperature setting of each paper (SIM43-01).	
	22	Used to perform the low-temperature, low-humidity (L/L) environment correction for the fusing temperature setting of each paper (SIM43-04).	
44	1	Used to set each correction operation function in the image forming (process) section.	Image process (Photoconductor/Developing/Transfer/Cleaning)
	9	Used to display the result data of the high density process control operation.	Image process (Photoconductor/Developing/Transfer/Cleaning)
	14	Used to display the output level of the temperature and humidity sensor.	Process (OPC drum, development)/Fusing/LSU
	43	Used to display the identification information of the developing unit.	Developing system
46	2	Used to adjust the copy density in the copy mode.	
	4	Used to adjust the density in the image send mode.	
	5	Used to adjust the density in the image send mode.	
	8	Used to adjust the image send mode color balance RGB.	
	9	Used to adjust the scan image density.	
	19	Used to set the operating conditions for the density scanning (exposure) of monochrome auto copy mode documents.	
	30	Used to adjust the resolution in the sub scanning direction in the copy mode.	
	32	Used to adjust the document background density reproducibility in the monochrome auto copy mode.	
	37	Used to adjust the reproduction capability of monochrome mode color.	
	39	Used to adjust the sharpness of FAX send images.	
	40	Used to adjust the FAX send image density. (Collective adjustment of all the modes)	
	41	Used to adjust the FAX send image density. (Normal)	
	42	Used to adjust the FAX send image density. (Fine)	
	43	Used to adjust the FAX send image density. (Super Fine)	
	44	Used to adjust the FAX send image density. (Ultra fine)	
	45	Used to adjust the FAX send image density. (600dpi).	
	47	Used to set the compression rate of copy and scan images (JPEG).	
	60	Used to adjust the sharpness in the color auto copy mode.	
	61	Used to adjust the area separation recognition level.	
	62	Used to set the operating conditions of the ACS, the area separation, the background image process, and the auto exposure mode.	
	63	Used to adjust the density in the copy low density section.	
48	1	Used to adjust the scan image magnification ratio (in the main scanning direction and the sub scanning direction).	
	5	Used to correction the scan image magnification ratio (in the sub scanning direction).	Scanner section
49	1	Used to perform the firmware update.	
	3	Used to update the operation manual in the HDD.	
	5	Used to perform the watermark update.	
50	1	Copy image position, image loss adjustment	
	2	Used to adjust the copy image position and the image loss. (This simulation is a simplified version of SIM 50-1.)	
	5	Used to adjust the print lead edge image position. (PRINTER MODE)	
	6	Used to adjust the copy image position and the image loss. (RSPF mode)	RSPF
	7	Used to adjust the copy image position and the image loss (RSPF mode). (This simulation is a simplified version of SIM 50-6.)	RSPF
	10	Used to adjust the black print image magnification ratio and the off-center position. (The adjustment is made separately for each paper feed section.)	
	12	Used to perform the scan image off-center position adjustment. (The adjustment is made separately for each scan mode.)	
	27	Used to perform the image loss adjustment of scanned images in the FAX or image send mode.	
51	2	Used to adjust the contact pressure (deflection amount) on paper by the main unit and the RSPF registration roller. (This adjustment is performed when there is a considerable variation in the print image position on the paper or when paper jams frequently occur.)	
	9	Used to adjust the ON/OFF timing of the separation voltage.	
	6	Used to adjust the detection level of the RSPF document width.	
53	7	Used to adjust the RSPF document size width sensor.	
	8	Used to adjust the document lead edge reference and the RSPF mode document scan position.	
55	1	Used to set the specifications of the engine control operations. (SOFT SW)	
	2	Used to set the specifications of the scanner control operation. (SOFT SW)	
	3	Used to set the specifications of the controller operation. (SOFT SW)	
	10	Used to set the special stamp text. (Taiwan only)	

Main	Sub	Functions	Section
56	1	Used to transport data between HDD - MFP PWB SRAM/EEPROM. (Used to repair the PWB.)	
	2	Used to backup the data in the EEPROM. SD Card, and HDD (including user authentication data and address data) to the USB memory. (Corresponding to the device cloning and the storage backup.)	
	3	Used to backup the document filing data to the USB memory.	
	4	Used to backup the JOB log data to the USB memory.	
	5	Used to import the SIM22-6 data to a USB memory in the TEXT format.	
	11	Used to save the data in the SD card to the HDD temporarily.	
	12	Used to copy the SD card data saved temporarily in the HDD with SIM56-11 to the machine.	
60	1	Used to check the memory operations (read/write) of the MFP PWB.	
61	1	Used to check the LSU polygon motor rotation and laser detection.	LSU
	3	Used to set the laser power	
62	1	Used to format the hard disk. (HDD: Excluding the Operation manual and the watermark data)	
	2	Used to check read/write of the hard disk (partial).	
	3	Used to check read/write of the hard disk (all areas).	
	6	Used to perform the self diagnostics of the hard disk.	
	7	Used to print the hard disk self diagnostics error log.	
	8	Used to format the hard disk. (HDD: Excluding the Operation Manual, the watermark data, and the system area)	
	10	Used to clear the job completion list data.	
	11	Used to delete the document filing data.	
	12	Used to set Enable/Disable of auto format in a hard disk trouble.	
	13	Used to format the hard disk. (Operation Manual, watermark data only)	
	14	Used to initialize (remake) only the database file of the HDD.	HDD
63	1	Used to display the shading correction result.	Scanner
	2	Used to perform shading.	
	3	Used to perform scanner (CCD) color balance and gamma auto adjustment.	Scanner
	4	Used to display the SIT chart patch density.	
	5	Used to perform the scanner (CCD) color balance and gamma default setting.	
64	2	Test print. (Self print) (Monochrome mode)	
	4	Printer test print. (Self print)	
	5	Printer test print. (Self print) (PCL)	
	6	Printer test print. (Self print) (PS)	
65	1	Used to adjust the touch panel (LCD display section) detection coordinates.	Operation panel section
	2	Used to display the touch panel (LCD display section) detection coordinates.	
	5	Used to check the operation panel key input.	
66	1	Used to display the FAX-related soft SW (2 - 150) on the LCD to allow changing the soft SW while checking with the LCD.	FAX
	2	Used to enter a country code and set the default value for the country code.	FAX
	3	Used to check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result.	FAX
	4	Used to send the selected signals to the line and the main unit speaker. (Send level: max.)	FAX
	5	Used to send the selected signal to the line and the main unit speaker. (Send level: Soft SW setting) (For the kinds of send signals, refer to SIM66-04.)	FAX
	6	Used to print the confidential registration check table (BOX NO., BOX name, passcode). (If there is no confidential registration, no print is made.)	FAX
	7	Used to output all image data saved in the image memory. (Confidential data are also outputted.)	FAX
	8	Used to send the selected sound messages to the line and the speaker. (Send level: Max.)	FAX
	9	Used to send the selected sound message to the line and the speaker. (Send level: Soft SW setting) * For details of sound messages, refer to the sound message table of SIM66-08.	FAX
	10	Used to clear the FAX and image send image data. (The confidential data are also cleared.)	FAX
	11	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Max.)	FAX
	12	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Soft SW setting) * For the kinds of send signals at 300bps, refer to SIM66-11, 300bps send signal table.	FAX
	13	Used to register dial numbers for SIM66-14/15/16, Dial test. (Up to 20 digits can be registered.)	FAX
	14	Used to execute the dial pulse (10PPS) send test and to adjust the make time.	FAX
	15	Used to execute the dial pulse (20PPS) send test and to adjust the make time.	FAX
	16	Used to execute the DTMF signal send test and to adjust the send level.	FAX
	17	Used to send the DTMF signal to the line and the speaker. (Send level: Max.)	FAX
	18	Used to send the DTMF signal to the line and the speaker. (Send level: Soft SW setting)	FAX
	21	Used to print the selected items (system error, protocol monitor).	FAX
	22	Used to set the handset sound volume. (This simulation can be executed even though the handset setting is set to NO. When, however, the handset is not installed, the sound volume cannot be checked.) (Japan model only)	FAX
	24	Used to clear the FAST save data.	FAX
	29	Used to initialize the telephone book data (the one-touch registration table, the FTP/Desktop expansion table, the group expansion table, the program registration table, the interface memory box table, the meta data, InboundRouting, and the DocumentAdmin table).	FAX
	30	Used to display the TEL/LIU status change, The display is highlighted by status change.	FAX
	31	Used to set ON/OFF the port for output to TEL/LIU.	FAX
	32	Used to check the fixed data received from the line and to display the result.	FAX
	33	Used to execute detection of various signals with the line connected and to display the detection result. When a signal is detected, the display is highlighted.	FAX

Main	Sub	Functions	Section
66	34	Used to execute the send test and display the time required for sending image data in the test. Used to execute send test and display. (Unit: ms)	FAX
	36	Used to check send and receive data from the MODEM controller to the MFP controller or the data line or the command line individually.	FAX
	39	Used to check and change the destination setting saved in EEPROM of the FAX BOX.	FAX
	42	Used to rewrite the program to power control installed in the FAX BOX.	FAX
	43	Used to write the adjustment value into the power control installed in the FAX BOX.	FAX
	61	Used to display the FAX-related soft SW (151 - 250) on the LCD to allow changing the soft SW while checking with the LCD.	FAX
	62	Used to import the FAX receive data into a USB memory in PDF file type.	FAX
67	17	Printer reset	Printer
	45	Used to adjust the printer image filter and trapping.	Printer

## 4. Details of simulation

**1**

1-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the scanner (reading) unit and the control circuit.
Section	Scanner (reading)

### Operation/Procedure

- 1) Select the operation speed with the touch panel key.
- 2) Press [EXECUTE] key.  
Scanning is once performed at the speed corresponding to the scan resolution (operation speed).

Item/Display	Operation mode	Default value
OC SCAN	300DPI (346.0mm/s)	300DPI (346.0mm/s)
	400DPI (259.5mm/s)	400DPI (259.5mm/s)
	600DPI (173.0mm/s)	600DPI (173.0mm/s)
	1200DPI (86.5mm/s)	1200DPI (86.5mm/s)

1-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the sensors in the scanner (reading) section and the related circuits.
Section	Scanner (reading)

### Operation/Procedure

The operating status of the sensor is displayed.  
When "MHPS" is highlighted, the scanner unit is in the home position.

1-5	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the scanner (reading) unit and the control circuit.
Section	Scanner (reading)

### Operation/Procedure

- 1) Select the operation speed with the touch panel key.
- 2) Press [EXECUTE] key.  
Scanning is repeated at the speed corresponding to the scan resolution (operation speed).  
When [EXECUTE] key is pressed, the operation is terminated.

Item/Display	Operation mode	Default value
OC SCAN	300DPI (346.0mm/s)	300DPI (346.0mm/s)
	400DPI (259.5mm/s)	400DPI (259.5mm/s)
	600DPI (173.0mm/s)	600DPI (173.0mm/s)
	1200DPI (86.5mm/s)	1200DPI (86.5mm/s)

**2**

2-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the automatic document feeder and the control circuit.
Section	RSPF

### Operation/Procedure

- 1) Select the operation mode and the speed with the touch panel key.
- 2) Press [EXECUTE] key.  
The RSPF repeats paper feed, transport, and paper exit operations at the speed corresponding to the scan resolution (operation speed).  
When [EXECUTE] key is pressed, the operation is terminated.

Item/Display	Operation mode	Default value
(SINGLE)	300DPI (259.5mm/s)	300DPI (259.5mm/s)
	400DPI (259.5mm/s)	400DPI (259.5mm/s)
	600DPI (173.0 mm/s)	600DPI (173.0 mm/s)
(DOUBLE)	300DPI (259.5mm/s)	300DPI (259.5mm/s)
	400DPI (259.5mm/s)	400DPI (259.5mm/s)
	600DPI (173.0 mm/s)	600DPI (173.0 mm/s)

2-2

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the sensors and the detectors in the automatic document feeder section and the control circuits.

Section RSPF

**Operation/Procedure**

The operating conditions of the sensors and detectors are displayed.

The code names of the sensors and the detectors which are active are highlighted.

Display	Content
SPED	SPF document empty sensor
SPPD1	SPF primary paper transport sensor
SPLS1	SPF document length sensor 1
SPLS2	SPF document length sensor 2
SOCD	RSPF open/close sensor
SPPD2	SPF secondary paper transport sensor
SPPD3	SPF scan front sensor
SPPD4	SPF scan rear sensor
SCOV	RSPF cover open/close detector
SSET	SPF installation detection
STMPU	SPF stamp UN installation detection
SWD_LEN	SPF document guide plate position (Unit: 0.1mm)
SWD_AD	SPF document detection volume output AD value

CAUTION: SWD\_LEN and SWD\_AD are not ON/OFF display.

2-3

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the loads in the automatic document feeder and the control circuit.

Section RSPF

**Operation/Procedure**

- 1) Select a target item of the operation check with the touch panel key.
- 2) Press [EXECUTE] key.

The selected load performs the operation.

When [EXECUTE] key is pressed, the operation is terminated.

Display	Content
SPUM_F	RSPF paper feed motor (normal rotation)
SPUM_R	RSPF paper feed motor (reverse rotation)
SPFM_F	RSPF transport motor (normal rotation)
SPFM_R	RSPF transport motor (reverse rotation)
SPRS	Pressure release solenoid (RSPF)
SRRC	Registration roller clutch (RSPF)
STMPS	Stamp solenoid

3

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the sensors and the detectors in the finisher and the control circuit.

Section Finisher

**Operation/Procedure**

The operating conditions of the sensors and detectors are displayed.

The code names of the sensors and the detectors which are active are highlighted.

**Inner finisher (MX-FN23)**

Display	Content
FAPHPS_F	Paper alignment plate HP sensor F
FAPHPS_R	Paper alignment plate HP sensor R
FDRPS	Paper exit roller position sensor
FDTLLS	Paper exit tray lower limit sensor
FDTDPS	Delivery tray paper detector
FPHPS	Punch unit home position sensor
FPLD	Paper height detector
FPLS	Paper surface sensor auxiliary detector
FPMRS	Punch motor rotation sensor
FPPD1	Paper entry detector
FPRD	Compiler paper rear edge detector C
FSED	Staple empty detector
FSHPS	Staple HP sensor
FSLD	Staple lead edge detector
FSSW	Safety switch
FSTPD	Staple tray paper detector
FTPS	Tray position sensor

3-3

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operation of the load in the finisher and the control circuit.

Section Finisher

**Operation/Procedure**

- 1) Select the item to be operation checked with the touch panel key.
- 2) Press [EXECUTE] key.

The selected load performs the operation.

When [EXECUTE] key is pressed, the operation is terminated.

**Inner finisher (MX-FN23)**

Display	Content
FCF	Cooling fan
FDRLM	Paper exit roller lift motor
FPAM_F	Paper alignment motor F
FPAM_R	Paper alignment motor R
FPDM	Paper exit motor
FPGS	Paper gate solenoid
FPS	Paddle solenoid
FPTM	Paper transport motor
FSL	Illumination of the staple unit
FSM	Staple motor
FTLM	Tray lift motor

3-10

Purpose	Adjustment
Function (Purpose)	Used to adjust the finisher.
Section	Finisher

**Operation/Procedure**

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

**Inner finisher (MX-FN23)**

Item/Display	Content	Setting range	Default value	Change when the adjustment value is increased or decreased	Change when the adjustment value is changed by 1
A FPAM ADJUST	Paper alignment width adjustment	40 - 60	50	When the adjustment value is increased, the width of the alignment plate F/R during alignment operation is decreased. When the adjustment value is decreased, the width of the alignment plate F/R during alignment operation is increased.	0.419mm
B FDRLM ADJUST	Paper exit roller descending position adjustment	40 - 60	50	When the adjustment value is increased, the descending position of the paper exit roller is shifted to the compression side. When the adjustment value is decreased, the descending position of the paper exit roller is shifted to the decompression side.	0.13mm

**4**

4-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the desk, and the control circuit of those.
Section	Desk

**Operation/Procedure**

The operating conditions of the sensors and detectors are displayed.

The code names of the sensors and the detectors which are active are highlighted.

**Desk**

Display	Content
C3PFD	Cassette 3 paper entry sensor
C3LUD	Cassette 3 paper upper limit sensor
C3PED	Cassette 3 paper empty sensor
C3SS	Cassette 3 installation sensor
DSW_C3	Cassette 3 door open/close sensor
C4PFD	Cassette 4 paper entry sensor
C4LUD	Cassette 4 paper upper limit sensor
C4PED	Cassette 4 paper empty sensor
C4SS	Cassette 4 installation sensor
DSW_C4	Cassette 4 door open/close sensor

4-3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the desk, and the control circuit of those.
Section	Desk

**Operation/Procedure**

- 1) Select the load item that is required to operation check with the touch panel key.
- 2) Press [EXECUTE] key.  
The selected load performs the operation.  
When [EXECUTE] key is pressed, the operation is terminated.

**Desk**

Display	Content
CPFM	Desk motor
PTRC1	Desk vertical transport clutch
C3LUM	Cassette 3 lift-up motor
C3PUC	Cassette 3 paper feed clutch
C3PUS	Cassette 3 paper feed solenoid
C4LUM	Cassette 3 lift-up motor
C4PUC	Cassette 4 paper feed clutch
C4PUS	Cassette 4 paper feed solenoid

4-5

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the paper feed desk paper transport clutch (DTRC).
Section	Desk

**Operation/Procedure****Check the ON operation**

Press the button of the code name for checking the ON operation.  
Checking is started. When the operation is normal, the button on the display is highlighted. When it is abnormal, the button is not highlighted.

**Check the OFF operation**

Press the highlighted button which is ON.  
When the operation is normal, the highlighted button on the display returns to the normal display. When it is abnormal, the highlighted display is maintained.

Button	Content
DTRC	Desk transport clutch

## 5

5-1	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operation of the display, LCD in the operation panel, and control circuit.
<b>Section</b>	Operation panel

### Operation/Procedure

The LCD is changed as shown below.

The contrast changes every 2sec from the current level to MAX → MIN → the current level. During this period, each LED is lighted.

The LCD display contrast change and the LED lighting status are checked.



5-2	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operation of the heater lamp and the control circuit.
<b>Section</b>	Fusing

### Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Press [EXECUTE] key.  
The selected heater lamp operates ON/OFF.  
When [EXECUTE] key is pressed, the operation is terminated.

HL UM	Main heater lamp (F) (Paper surface heat roller)
HL US	Sub heater lamp (F) (Paper surface heat roller)

## 5-3

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operation of the scanner lamp and the control circuit.

<b>Section</b>	Scanner (reading)
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### Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Press [EXECUTE] key.  
The scanner lamp lights up for 10 sec.  
When [EXECUTE] key is pressed, the operation is terminated.

## 6

6-1	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the load in the paper transport system (clutches and solenoids) and the control circuits.

<b>Section</b>	Paper transport/Paper exit section
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### Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Press [EXECUTE] key.  
The selected load performs the operation.  
When [EXECUTE] key is pressed, the operation is terminated.

### Load operation check method

The load operation is checked by the operation sound. However, there are some loads which cannot be checked with the operation sound.

Section	Item/Display	Content
Transport/ process	MM	Main motor
	POM_F*1	Paper exit reverse motor (normal rotation)
	POM_R*1	Paper exit reverse motor (reverse rotation)
	OSM	Shifter motor
	PTRC2	Vertical transport clutch 2CS
	RRC	PS clutch
	PSPS	Process separation pawl solenoid
	POGS1	Paper exit gate solenoid
Paper feed	POGS2	Right paper exit keep solenoid
	C1LUM	Cassette 1 lift-up motor
	C1PUC	Cassette 1 paper feed clutch
	C1PUS	Cassette 1 paper feed solenoid
	C2LUM	Cassette 2 lift-up motor
	C2PUC	Cassette 2 paper feed clutch
	C2PUS	Cassette 2 paper feed solenoid
	MPFS	Manual feed take-up solenoid

\*1: If "Normal rotation" and "Reverse rotation" of a same load are displayed as different items, when the both are selected at the same time, "Normal rotation" is performed. In addition, a change in the rotating direction is accepted only when the operation is stopped.

6-2	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of each fan motor and its control circuit.
<b>Section</b>	Others

**Operation/Procedure**

- 1) Select the item to be operation checked with the touch panel key.
- 2) Press [EXECUTE] key.  
The selected load performs the operation.  
When [EXECUTE] key is pressed, the operation is terminated.

**Load operation check method**

The load operation is checked by the operation sound. However, there are some loads which cannot be checked with the operation sound.

Display	Content
POFM	Paper exit cooling fan motor (Drives POFM1 and POFM2 at the same time.)
PSFM	Power cooling fan motor
FUFM	Fusing fan motor

6-90	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to reset the machine to the factory setting. (The scanner is set to the lock enable position)
<b>Section</b>	Scanner

**Operation/Procedure**

- 1) Press [EXECUTE] key.  
The scanner is shifted to the lock enable position and stopped.

## 7

7-1	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the operating conditions of aging.
<b>Section</b>	Others

**Operation/Procedure**

- 1) Select an item to be set with the touch panel key.
- 2) Press [EXECUTE] key.  
The machine is rebooted in the aging mode.

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

AGING	Aging operation setup
INTERVAL	Intermittent operation setting
MISFEED DISABLE	JAM detection ignoring setting
FUSING DISABLE	Fusing unit ignoring setting
WARMUP DISABLE	Warming up ignoring setting
DV CHECK DISABLE	Developing unit ignoring setting
SHADING DISABLE	Shading correction operation omitting setting
CCD GAIN FREE	CCD gain adjustment omitting setting

7-6	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the operating intermittent aging cycle.

**Section**

**Operation/Procedure**

- 1) Enter the intermittent aging operation cycle (unit: sec) with 10-key.
- 2) Press [OK] key.  
The time entered in procedure 1 is set.  
\* The interval time that can be set is 1 to 900 (sec).

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

7-8	
<b>Purpose</b>	Operation display
<b>Function (Purpose)</b>	Used to display the warm-up time.
<b>Section</b>	

**Operation/Procedure**

Press [EXECUTE] key.

Counting of the warm-up time is started and the time required for warm-up is displayed

\* Interruption of counting by pressing [EXECUTE] key is inhibited.

7-12	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	The document reading number of sheets setting (for aging operation)
<b>Section</b>	RSFP

**Operation/Procedure**

- 1) Set document reading quantity with 10-key.  
(Setting range: 0 - 255)
- 2) Press [OK] key. The set value is saved.

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

8-1	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operations of the developing voltage in each print mode and the control circuit.
Section	Process (Developing)
Operation/Procedure	
1)	Select a mode with [TS_OFF] and [TS_ON] keys on the touch panel.
2)	Select a target item to be adjusted with scroll keys.
3)	Enter the setting value with 10-key. (The value specified on the label of the high voltage PWB must be entered.) * When the $\Delta$ $\nabla$ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
4)	Press [EXECUTE] key. The set value is saved and the voltage entered with step 3) is output for 30 sec. When [EXECUTE] key is pressed, the output is terminated.

Item/Display (Mode)		Content	Adjustment range	Default value
TS_OFF	A	COPY DVB	Developing bias set value in a copy job (Toner save mode OFF)	0 - 650 450
	B	PRINTER FAX DVB	Developing bias set value in a PRINT/FAX job (Toner save mode OFF)	0 - 650 450
TS_ON	A	COPY DVB	Developing bias set value in a copy job (Toner save mode ON)	0 - 650 320
	B	PRINTER DVB	Developing bias set value in a print job (Toner save mode ON)	0 - 650 250

8-2	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit.
Section	Process (Charging)
Operation/Procedure	
1)	Select a mode with [TS_OFF] and [TS_ON] keys on the touch panel.
2)	Select a target item to be adjusted with scroll keys.
3)	Enter the adjustment value with 10-key. (The value specified on the label of the high voltage PWB must be entered.) * When the $\Delta$ $\nabla$ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
4)	Press [EXECUTE] key. The set value is saved and the voltage entered with step 3) is output for 30 sec. When [EXECUTE] key is pressed, the output is terminated.

Item/Display (Mode)		Content	Adjustment range	Default value
TS_OFF	A	COPY GB	Charging/grid bias set value in a copy job (Toner save mode OFF)	0 - 750 590
	B	PRINTER FAX GB	Charging/grid bias set value in a PRINT/FAX job (Toner save mode OFF)	0 - 750 590
TS_ON	A	COPY GB	Charging/grid bias set value in a copy job (Toner save mode ON)	0 - 750 460
	B	PRINTER GB	Charging/grid bias set value in a print job (Toner save mode ON)	0 - 750 390

<b>Purpose</b>	Operation test/check/adjustment
<b>Function (Purpose)</b>	Used to check the output of the transfer charger output voltage.

<b>Section</b>	Process (Transport)
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**Operation/Procedure**

- 1) Select a target item to be adjusted with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key.

The set value is saved and the voltage corresponding to the set value is output for 30 sec.

When [EXECUTE] key is pressed, the output is terminated.

Item/Display	Content						Setting range	Default value		
								26cpm machine	31cpm machine	35cpm machine
A +V1 F	Transfer bias reference value	Standard paper	W	Between papers	Single	A-1: W, +V1 F (Between papers), Standard paper front surface (Single/Duplex)	0 - 255	5	5	5
B +V1 R				Duplex	A-2: W, +V1 R (Between papers), Standard paper back surface (Duplex)	0 - 255	5	5	5	
C +V2 F				Paper	Single	A-3: W, +V2 F, Standard paper front surface (Single/Duplex)	0 - 255	14	18	20
D +V2 R					Duplex	A-4: W, +V2 R, Standard paper back surface (Duplex)	0 - 255	12	16	14
E +V1 S-F		Standard paper	N1jp	Between papers	Single	B-1: N1jp, +V1 S-F (Between papers), Standard paper front surface (Single/Duplex)	0 - 255	5	5	5
F +V1 S-R					Duplex	B-2: N1jp, +V1 S-R (Between papers), Standard paper back surface (Duplex)	0 - 255	5	5	5
G +V2 S-F				Paper	Single	B-3: N1jp, +V2 S-F, Standard paper front surface (Single/Duplex)	0 - 255	14	18	20
H +V2 S-R					Duplex	B-4: N1jp, +V2 S-R, Standard paper back surface (Duplex)	0 - 255	14	18	20
I +V1 XS-F		Standard paper	N2jp	Between papers	Single	C-1: N2jp, +V1 XS-F (Between papers), Standard paper front surface (Single/Duplex)	0 - 255	5	5	5
J +V1 XS-R					Duplex	C-2: N2jp, +V1 XS-R (Between papers), Standard paper back surface (Duplex)	0 - 255	5	5	5
K +V2 XS-F				Paper	Single	C-3: N2jp, +V2 XS-F, Standard paper front surface (Single/Duplex)	0 - 255	14	18	20
L +V2 XS-R					Duplex	C-4: N2jp, +V2 XS-R, Standard paper back surface (Duplex)	0 - 255	14	18	20
M +V1 THICK	Heavy paper	>LTR	Between papers		D-1: > LTR, +V1 THICK (Between papers), Heavy paper	0 - 255	5	5	5	
N +V2 THICK			Paper		D-2: > LTR, +V2 THICK, Heavy paper	0 - 255	10	14	16	
O +V1 THICK S		≤LTR	Between papers		E-1: ≤ LTR, +V1 THICK S (Between papers), Heavy paper	0 - 255	5	5	5	
P +V2 THICK S			Paper		E-2: ≤ LTR, +V2 THICK S, Heavy paper	0 - 255	12	14	16	

Item/Display		Content					Setting range	Default value		
								26cpm machine	31cpm machine	35cpm machine
Q	+V1 THIN	Transfer bias reference value	Thin paper	>LTR	Between papers	D-7: > LTR, +V1 THIN (Between papers), Thin paper	0 - 255	5	5	5
R	+V2 THIN				Paper	D-8: > LTR, +V2 THIN, Thin paper	0 - 255	12	18	20
S	+V1 THIN S			≤LTR	Between papers	E-7: ≤ LTR, +V1 THIN S (Between papers), Thin paper	0 - 255	5	5	5
T	+V2 THIN S				Paper	E-8: ≤ LTR, +V2 THIN S, Thin paper	0 - 255	12	18	20
U	+V1 LABEL		Label sheet	>LTR	Between papers	D-3: ≤ LTR, +V1 LABEL (Between papers), Label sheet	0 - 255	5	5	5
V	+V2 LABEL				Paper	D-4: > LTR, +V2 LABEL, Label sheet	0 - 255	12	18	20
W	+V1 LABEL S			≤LTR	Between papers	E-3: ≤ LTR, +V1 LABEL S (Between papers), Label sheet	0 - 255	5	5	5
X	+V2 LABEL S				Paper	E-4: ≤ LTR, +V2 LABEL S, Label sheet	0 - 255	12	14	16
Y	+V1 OHP		OHP	>LTR	Between papers	D-5: > LTR, +V1 OHP (Between papers), OHP	0 - 255	5	5	5
Z	+V2 OHP				Paper	D-6: > LTR, +V2 OHP, OHP	0 - 255	8	14	16
AA	+V1 OHP S			≤LTR	Between papers	E-5: ≤ LTR, +V1 OHP S (Between papers), OHP	0 - 255	5	5	5
AB	+V2 OHP S				Paper	E-6: ≤ LTR, +V2 OHP S, OHP	0 - 255	12	18	20
AC	+V1 POSTCARD		Postcard/Envelope	>100mm	Between papers	D-9: > 100mm, +V1 POSTCARD (Between papers), Postcard/Envelope	0 - 255	5	5	5
AD	+V2 POSTCARD				Paper	D-10: > 100mm, +V2 POSTCARD, Postcard/Envelope	0 - 255	16	26	26
AE	+V1 POSTCARD S			≤100mm	Between papers	E-9: ≤ 100mm, +V1 POSTCARD S (Between papers), Postcard/Envelope	0 - 255	5	5	5
AF	+V2 POSTCARD S				Paper	E-10: ≤ 100mm, +V2 POSTCARD S, Postcard/Envelope	0 - 255	16	26	26

## 9

9-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the paper reverse section (duplex section) and its control circuit.
Section	Duplex

### Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The code names of the sensors and the detectors which are active are highlighted.

Display	Content
APPD1	ADU paper transport detector 1

9-3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the load in the paper reverse section (duplex section) and its control circuit.

Section Duplex

### Operation/Procedure

- Select the item to be operation checked with the touch panel key.
- Press [EXECUTE] key.  
The selected load performs the operation.  
When [EXECUTE] key is pressed, the operation is terminated.

Display	Content
ADUM	ADU motor

## 10

10-1	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the toner supply mechanism (toner motor) and the related circuit.
<b>Section</b>	Process (Developing)
<b>Operation/Procedure</b>	<p>1) Select a target of the operation check with the touch panel key.      2) Press [EXECUTE] key.</p> <p>The selected load operation is performed for 10 sec.      When [EXECUTE] key is pressed, the operation is terminated.</p> <p>CAUTION: This simulation must be executed without installing the toner cartridges.</p> <p>If this simulation is executed with the toner cartridges installed, toner will be forcibly supplied to the developing unit, resulting in overtoner.</p> <p>If this simulation is erroneously executed with the toner cartridges installed, overtoner state may be deleted by making a few black background copy in the copy mode.</p>
<b>Display</b>	<b>Content</b>
TNM	Toner motor

## 16

16--	
<b>Purpose</b>	Clear/Cancel (Trouble etc.)
<b>Function (Purpose)</b>	Used to cancel the self-diag "U2" trouble.
<b>Section</b>	MFP PWB / PCU PWB / SCU PWB
<b>Operation/Procedure</b>	<p>1) Press [EXECUTE] key.      2) Press [YES] key to execute cancellation of the trouble.</p>

## 17

17--	
<b>Purpose</b>	Clear/Cancel (Trouble etc.)
<b>Function (Purpose)</b>	Used to cancel the self-diag "PF" trouble.
<b>Section</b>	
<b>Operation/Procedure</b>	<p>1) Press [EXECUTE] key.      2) Press [YES] key to execute cancellation of the trouble.</p>

## 21

21-1	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the maintenance cycle.
<b>Section</b>	
<b>Operation/Procedure</b>	<p>* Do not change the default setting value of the maintenance counter on SIM21-1. The replacement timing of the fusing cleaning roller, the filter and PS paper dust removal cleaner may not clarify.</p> <p>1) Select a target item of setting with scroll key on the touch panel.      2) Enter the set value with 10-key.      3) Press [OK] key. (The set value is saved.)</p>

	Item/Display	Content	Setting range	Default value
A	MAINTENANCE COUNTER (TOTAL)	Maintenance counter (Total)	0: Default 1 – 300: 1K – 300K 999: Free	26CPM: 75K 31/35CPM: 100K

## 13

13--	
<b>Purpose</b>	Cancel (Trouble etc.)
<b>Function (Purpose)</b>	Used to cancel the self-diag "U1" trouble.
<b>Section</b>	
<b>Operation/Procedure</b>	<p>1) Press [EXECUTE] key.      2) Press [YES] key to execute cancellation of the trouble.</p>

## 14

14--	
<b>Purpose</b>	Cancel (Trouble etc.)
<b>Function (Purpose)</b>	Used to cancel the self-diag H3, H4, H5 troubles.
<b>Section</b>	
<b>Operation/Procedure</b>	<p>1) Press [EXECUTE] key.      2) Press [YES] key to execute cancellation of the trouble.</p>

22-1	<b>Purpose</b>	Adjustment/Setting/Operation data output/Check
	<b>Function (Purpose)</b>	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)

**Section**

**Operation/Procedure**

Change the display page with scroll key on the touch panel.

Item	Display	Content	
Total output quantity	TOTAL OUT	Total output quantity of black and white	All prints including jams
Total use quantity	TOTAL	Total use quantity of black and white	Effective paper (including self print, excluding jams)
Copy	COPY	Black and white copy counter	Billing target (excluding self print)
Print	PRINT	Black and white print counter	Billing target (excluding self print)
Document filing	DOC FIL	Black and white document filing print counter	Billing target (excluding self print)
Other	OTHER	Black and white other counter	Self print quantity
PCI	PCI OPE-TIME	PCI counter	PCI accumulated operation time (H)

22-2	<b>Purpose</b>	Adjustment/Setting/Operation data check
	<b>Function (Purpose)</b>	Used to check the total number of misfeed and troubles. (When the number of total jam is considerably great, it is judged as necessary for repair.)

**Section**

**Operation/Procedure**

The paper jam, trouble counter value is displayed.

MACHINE JAM	Machine JAM counter
RSPF JAM	RSPF JAM counter
TROUBLE	Trouble counter

22-3	<b>Purpose</b>	Adjustment/Setting/Operation data check
	<b>Function (Purpose)</b>	Used to check misfeed positions and the misfeed count of each position. * Presumption of the faulty point by this data is possible.

**Section**

**Operation/Procedure**

The paper jam and misfeed history is displayed from the latest one up to 50 items. (The old ones are deleted sequentially.)

22-4

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to check the trouble (self diag) history.

**Section**

**Operation/Procedure**

The trouble history is displayed from the latest one up to 30 items. (The old ones are deleted sequentially.)

22-5

<b>Purpose</b>	Others
<b>Function (Purpose)</b>	Used to check the ROM version of each unit (section).

**Section**

**Operation/Procedure**

The ROM version of the installed unit in each section is displayed. When there is any trouble in the software, use this simulation to check the ROM version, and upgrade the version if necessary.

S/N	Serial No. (The codes for November and December are "X" and "Y" respectively.)
ICU (MAIN)	ICU (Main section)
ICU (BOOT)	ICU (Boot section)
ICU (SUB)	ICU (Sub section) (ARM9)
LANGUAGE	Language support data version
GRAPHIC	Graphic data for LCD
PCL (MAIN)	PCL (Main section)
PCU	PCU
SCU	SCU
FAX1 (MAIN)	FAX 1-Line (Main section)
FINISHER	Finisher
NIC	NIC
POWER-CON	Power controller
E-MANUAL	Operation manual (HDD storage) (except 20cpm machine)
WATER MARK	Watermark (HDD storage)
ESCP	ESCP font ROM
PDL	PDL font ROM
PCI	PCI

22-6

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to output the setting/adjustment data (simulation, FAX soft switch, counter), the firmware version, and the counter list.

**Section**

**Operation/Procedure**

- \* When installing or servicing, this simulation is executed to print the adjustment data and set data for use in the next servicing. (Memory trouble, PWB replacement, etc.)

1) Select the print list mode with 10-key.

Item/Display	Print list mode	Print content
A DATA PATTERN	1	Firmware version, counter data, etc.
	2	Data related to the process control

2) Press [EXECUTE] key to start printing the list selected in step 1).

22-8	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to check the number of operations (counter value) of the finisher, the RSPF, and the scan (reading) unit.

<b>Section</b>
<b>Operation/Procedure</b>

The counter values of the finisher, the RSPF, and the scanner related counters are displayed.

SPF	Document feed quantity (The number of sheets of discharged documents)
SCAN	Number of times of scan
STAPLER	Staple counter
STAMP	Stamp counter
COVER	Document cover open/close counter
HP_ON	Number of scanner HP detection
OC LAMP TIME	Total lighting time of the scanner lamp (* hour * minutes)

22-9	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to check the number of use (print quantity) of each paper feed section.

<b>Section</b>
<b>Operation/Procedure</b>

The counter values related to paper feed are displayed.

TRAY1	Paper feed counter (Paper feed tray 1)
TRAY2	Paper feed counter (Paper feed tray 2)
TRAY3	Paper feed counter (Paper feed tray 3)
TRAY4	Paper feed counter (Paper feed tray 4)
MFT TOTAL	Manual paper feed counter (Total)
MFT HEAVY	Manual paper feed counter (Heavy paper)
MFT OHP	Manual paper feed counter (OHP)
MFT ENV	Manual paper feed counter (Envelope)
ADU	ADU paper feed counter (Paper reverse section)

22-10	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to check the system configuration (option, internal hardware).

<b>Section</b>
<b>Operation/Procedure</b>

The system configuration is displayed.

(The model names of the installed devices and options are displayed.)

MACHINE	MX-M264U	Main unit
	MX-M314U	
	MX-M354U	
	MX-M264N	
	MX-M314N	
	MX-M354N	
RSPF	MX-RP15	Reversing single pass feeder
	STANDARD	
STAMP	AR-SU1	Finish stamp
DESK	MX-DE17	First stage paper feed tray
	MX-DE18	Second stage paper feed tray
FINISHER	MX-FN23	Inner finisher
	MX-TR11/ STANDARD	Job separator
FAX1	MX-FX11	Facsimile expansion kit
PRINTER	MX-PB15	Printer expansion kit (PCL)
	STANDARD	
PS	MX-PK11	PS expansion kit

SECURITY	MX-FR37U	Data security kit (commercial version)
AIM	MX-AMX1	Application integration module
SDRAM (SYS)	*****MB	SDRAM capacity
SDRAM (ICU)	*****MB	SDRAM capacity
HDD	*****MB	Hard disk capacity
SD	*****MB	SD Card capacity
NIC	STANDARD	NIC
BARCODE	MX-PF10	Bar code font
INTERNET-FAX	MX-FWX1	Internet Fax expansion kit
ACM(*)	MX-AMX2	Application communication module
EAM(*)	MX-AMX3	External account module
PCI	NOTE	PCI generating unit
	CONNECT	
RIGHT TRAY	MX-TE10	Paper exit tray unit

(\*) Displayed only in the OSA models.

22-11	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to check the use frequency (send/receive) of FAX. (Only when FAX is installed)

<b>Section</b>
<b>Operation/Procedure</b>

The values of the FAX send counter and the FAX receive counter are displayed.

FAX OUTPUT	FAX print quantity counter (for line 1)
FAX SEND	FAX send counter
FAX RECEIVED	FAX receive counter
SEND IMAGES	FAX send quantity counter (for line 1)
SEND TIME	FAX send time
RECEIVED TIME	FAX receive time

22-12	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to check the RSPF misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)

<b>Section</b>
<b>Operation/Procedure</b>

The paper jam and misfeed history is displayed from the latest one up to 50 items. (The old ones are deleted sequentially.)

22-13

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge) and the fusing unit

<b>Section</b>	Process
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**Operation/Procedure**

The number of prints and the number of rotations in the process section are displayed.

Item/Display	Content	Counter	RPM	Number of use days	Life meter (Unit: ±1%)	Number of remaining days
MAINTENANCE ALL	Maintenance counter (Total)	Max. 8	Not displayed	0 - 999	0 - 100(%)	0 - 365
FUSING ROLLER	Fusing roller	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365
PRESSURE ROLLER	Pressure roller	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365
SEPARATE PAWL	Separation pawl	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365
CLEANING ROLLER	Cleaning roller	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365
TC ROLLER	Transfer roller	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365
OZONE FILTER	Ozone filter	Max. 8	Not displayed	0 - 999	0 - 100(%)	0 - 365
DEVE CTRG(K)	Developer cartridge K	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365
DRUM CTRG(K)	Drum cartridge K	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365
MAIN CHARGER(K)	Main charger K	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365
DRUM BLADE(K)	Drum blade K	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365
TONER CTRG(K)	Toner cartridge K	Max. 8	Max. 8	0 - 999	0 - 100(%)	Not displayed

22-14

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to display the use status of the toner cartridge.

<b>Section</b>	Process
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**Operation/Procedure**

The status of the toner cartridge is displayed.

Display item	Content	Accumulated No. of installed cartridges (Unit)	Accumulated No. of near near end (Unit)	Accumulated No. of end (Unit)	Remaining quantity (Unit: %)	
		INSTALL	NN END	END		
TONER (K)*1	Toner number counter (K)	0 - 510	0 - 510	0 - 510	0-25% 25-50% 50-75% 75-100%	
LARGE*2	Toner number counter (K LARGE)	0 - 255	0 - 255	0 - 255		
SMALL*2	Toner number counter (K SMALL)					

\*1: The sum total of LARGE/SMALL is displayed. For the remaining amount, it is common to LARGE/SMALL.

\*2: Displayed only in the domestic specifications. The remaining amount is not displayed.

22-18

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to display the user data delete history.

<b>Section</b>
----------------

**Operation/Procedure**

The date and time of the user data delete are displayed.

Item name	Date	Content
START	Year/month/day/hour/min.	Delete history (Date and time of operation start)
END	Year/month/day/hour/min.	Delete history (Date and time of operation end)

22-19

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to check the values of the counters related to the scan - image send.

#### Section

##### Operation/Procedure

Used to display the counter value related to the network scanner  
Change the display with scroll key.

<b>Item/Display</b>		<b>Content</b>
Network scanner	NET SCN ORG_B/W	Network scanner document read quantity counter (B/W scan job)
	NET SCN ORG_CL	Network scanner document read quantity counter (Color scan job)
Internet FAX	INTERNET FAX OUTPUT	Number of internet FAX output
	INTERNET FAX SEND OUTPUT	Number of internet FAX sending page
	INTERNET FAX RECEIVE	Number of internet FAX receive
	INTERNET FAX SEND	Number of internet FAX send
E-Mail	MAIL COUNTER	Number of times of E-MAIL send
FTP	FTP COUNTER	Number of FTP send
Other	SMB SEND	Number of SMB send
	USB CNT	Number of times of USB storage
	TRIAL MODE_B&C	Trial mode counter (B/W & COLOR scan job)
	SCAN TO HDD_B/W	SCAN TO HDD record quantity (B/W)
	SCAN TO HDD_CL	SCAN TO HDD record quantity (COLOR)

22-40

<b>Purpose</b>	Error contents display
<b>Function (Purpose)</b>	Used to display the error code list and the contents.

#### Section

##### Operation/Procedure

- 1) Select the main error code.

The sub error code and the contents are displayed.

22-90

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to output the various set data lists.

#### Section

##### Operation/Procedure

- 1) Change the display with scroll key.
- 2) Select the print target with the keys on the touch panel.
- 3) Press [EXECUTE] key to start self print of the list.

All setting list (*)	ALL CUSTOM SETTING LIST
Printer test page	PCL SYMBOL SET LIST
	PCL INTERNAL FONT LIST
	PCL EXTENDED FONT LIST
	PS FONT LIST
	PS KANJI FONT LIST (Japan)
	PS EXTENDED FONT LIST
	NIC PAGE
Address registration list (*)	INDIVIDUAL LIST
	GROUP LIST
	PROGRAM LIST (Output Disable)
	MEMORY BOX LIST
	ALL SENDING ADDRESS LIST
Document filing list (*)	DOCUMENT FILING FOLDER LIST
System setting list	ADMIN. SETTINGS LIST (COPY)
	ADMIN. SETTINGS LIST (PRINT)
	ADMIN. SETTINGS LIST (IMAGE SEND)
	ADMIN. SETTINGS LIST (DOC FILING)
	ADMIN. SETTINGS LIST (SECURITY)
	ADMIN. SETTINGS LIST (COMMON)
	ALL ADMINISTRATOR SETTINGS LIST
Receive rejection number table	ANTI JUNK FAX NUMBER LIST
Receive rejection/allow address domain table	ANTI JUNK MAIL/DOMAIN NAME LIST
To E-mail Transfer table list	INBOUND ROUTING LIST
To administrator Transfer list	DOCUMENT ADMIN LIST
Web setting list	WEB SETTING LIST
Meta data set list	METADATA SET LIST

\* When the data list print of system setting is inhibition in DSK model, this setting is invalid.

23-2	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to output the trouble history list of paper jam and misfeed. (If the number of troubles of misfeed is considerably great, the judgment is made that repair is required.)

**Section**

**Operation/Procedure**

Press [EXECUTE] key to execute print.

The trouble history of paper jams and misfeed is printed.

23-80	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operation of paper feed and paper transport in the paper feed section and the paper transport section. Used to output the list of the operation status of the sensor and the detectors in the paper feed section and the paper transport section.

**Section**

Paper feed, Paper transport

**Operation/Procedure**

When [EXECUTE] key is pressed, the timing list of paper feed and paper transport is outputted.

Used to print the operations timing list of the sensors and detectors in the paper feed and transport section.

The timing list of paper feed and paper transport operations of the latest job (copy or print) on the final paper is printed.

Since the paper feed and paper transport routes differ depending on the used paper feed tray and the print operation mode, the sensor and the detectors and the operation timing also differ.

SECTION	Operation content (Trigger name - Detection operation or load operation name)
STANDARD	Reference value (ms)
CURRENT (*1)	Operation timing (ms) of the latest job on the final paper
PREVIOUS (*1)	Operation timing (ms) of the second latest job on the final paper
MAXIMUM (*1)	Max. operation timing (ms) of all the jobs
MINIMUM (*1)	Min. operation timing (ms) of all the jobs

\*1: The value without unit on the left side of each item on the list has no relation to the operation timing. It is not used in the market.

24-1	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the jam counter, and the trouble counter. (After completion of maintenance, clear the counters.)

**Section**

**Operation/Procedure**

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

MACHINE	Machine JAM counter
SPF	RSPF JAM counter
TROUBLE	Trouble counter

24-2

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the number of use (the number of prints) of each paper feed section.

**Section**

**Operation/Procedure**

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

TRAY1	Tray 1 paper feed counter
TRAY2	Tray 2 paper feed counter
TRAY3	Tray 3 paper feed counter
TRAY4	Tray 4 paper feed counter
MFT TOTAL	Manual paper feed counter (Total)
MFT HEAVY	Manual paper feed counter (Heavy paper)
MFT OHP	Manual paper feed counter (OHP)
MFT ENV	Manual paper feed counter (Envelope)
ADU	ADU paper feed counter

24-3

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the finisher, RSPF, and the scan (reading) unit counter.

**Section**

**Operation/Procedure**

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

SPF	RSPF document feed counter (No. of discharged sheets)
SCAN	Scan counter
STAPLER	Staple counter
STAMP	Stamp counter
COVER	Document cover open/close counter
HP_ON	Number of scanner HP detection
OC LAMP TIME	Total lighting time of the scanner lamp

24-4

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the maintenance counter, the printer counters of the transport unit and the fusing unit. (After completion of maintenance, clear the counters.)

#### Section

##### Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

<b>Item/Display</b>		<b>Content</b>
Maintenance	MAINTENANCE ALL	Maintenance counter (Total) (Counter)
		Maintenance counter (Total) (Number of use days)
Fusing	FUSING ROLLER	Fusing roller (Counter)
		Fusing roller (Number of use days)
		Fusing roller (Accumulated number of rotations)
	PRESS ROLLER	Pressure roller (Counter)
		Pressure roller (Number of use days)
		Pressure roller (Accumulated number of rotations)
Separation	SEPARATE PAWL	Separation pawl (Counter)
		Separation pawl (Number of use days)
	CLEAN ROLLER	Separation pawl (Accumulated number of rotations)
		Cleaning roller (Counter)
		Cleaning roller (Number of use days)
		Cleaning roller (Accumulated number of rotations)
Transfer	TC ROLLER	Transfer roller (Counter)
		Transfer roller (Number of use days)
		Transfer roller (Accumulated number of rotations)
Drum	DRUM CTRG K	Drum cartridge (K) (Counter)
		Drum cartridge (K) (Number of use days)
		Drum cartridge (K) (Accumulated number of rotations)
Main charger	MAIN CHARGER K	Main charger (K) (Counter)
		Main charger (K) (Number of use days)
		Main charger (K) (Accumulated number of rotations)
Drum blade	DRUM BLADE K	Drum blade K (Counter)
		Drum blade K (Number of use days)
		Drum blade K (Accumulated number of rotations)
Other	OZONE FILTER	Ozone filter (Counter)
		Ozone filter (Number of use days)

24-5

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the developer counter. (After replacement of developer, clear the counter.)

#### Section

##### Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.  
The target counter is cleared.

NOTE: The "Developer cartridge life meter" counter displayed in SIM22-13 is not displayed in this simulation, but it is cleared in conjunction with this simulation.

K	Developer cartridge print counter (K)
	Accumulated number of rotations of the developer cartridge (K)
	Number of day that used developer (Day) K

24-6

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the copy counter.

#### Section

##### Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.  
The target counter is cleared.

COPY BW	Copy counter (B/W)
---------	--------------------

24-9

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used clear the printer mode print counter and the self print mode print counter.

#### Section

##### Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.  
The target counter is cleared.

PRINT BW	Print counter (B/W)
OTHER BW	Other counter (B/W)

24-10

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the FAX counter. (Only when FAX is installed)

#### Section

##### Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.  
The target counter is cleared.

FAX OUTPUT	FAX Print quantity counter
FAX SEND	FAX send counter
FAX RECEIVED	FAX receive counter
SEND IMAGES	FAX send quantity counter
SEND TIME	FAX send time
RECEIVED TIME	FAX receive time

24-12	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the document filing counter value.
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Select the item to be cleared with the touch panel key. 2) Press [EXECUTE] key. 3) Press [YES] key. The target counter is cleared.	
DOC FIL (BW)	Black-white document filing print counter

24-15	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the counters related to the scan mode and the image send.
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Select the item to be cleared with the touch panel key. 2) Press [EXECUTE] key. 3) Press [YES] key. The target counter is cleared.	

Division	Item/Display	Content
Network scanner	NET SCN ORG_B/W	Network scanner document read quantity counter (B/W scan job)
	NET SCN ORG_CL	Network scanner document read quantity counter (COLOR scan job)
Internet Fax	INTERNET FAX OUTPUT	Number of internet FAX output
	INTERNET FAX SEND OUTPUT	Number of internet FAX sending page
	INTERNET FAX RECEIVE	Number of internet FAX receive
	INTERNET FAX SEND	Number of internet FAX send
E-mail	MAIL COUNTER	Number of times of E-MAIL send
FTP	FTP COUNTER	Number of FTP send
Other	SMB SEND	Number of SMB send
	USB CNT	Number of times of USB storage
	TRIAL MODE_B&C	Trial mode counter (B/W & COLOR scan job)
	SCAN TO HDD_B/W	SCAN TO HDD record quantity (B/W)
	SCAN TO HDD_CL	SCAN TO HDD record quantity (COLOR)

24-30	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to initialize the administrator (Admin) password.
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Press [EXECUTE] key. 2) Press [YES] key. The administrator password is initialized.	

24-31	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to initialize the service mode password.
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Press [EXECUTE] key. 2) Press [YES] key. Used to initialize the service mode password.	

24-35	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the toner cartridge use status data.
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Press [EXECUTE] key. 2) Press [YES] key. The toner cartridge use status data (SIM22-14) are cleared.	

25	
<b>25-1</b>	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the developing section.
<b>Section</b>	
<b>Operation/Procedure</b>	

- Press [EXECUTE] key.  
The developing motor and the OPC drum motor rotate for 3 minutes and the output level of the toner density sensor is displayed.

Sensor name (Display)	Sensor name
TCS_K	Toner sensor output value (K)

25-2

Purpose	Setting
Function (Purpose)	Used to make the initial setting of toner density when replacing developer. (Automatic adjustment)
Section	Image process (Photoconductor/Developing)

**Operation/Procedure**

- 1) Press [EXECUTE] key.

The developing motor rotates and the toner density sensor makes sampling of the toner density, displaying the detected level.

After stopping the developing motor, it is set as the reference toner density control level.

**CAUTION:** When the above operation is interrupted on the way, the reference toner concentration level is not set. Also when error code of EE-EL or EE-EU is displayed, the reference toner density level is not set normally.

**CAUTION:** Do not execute this simulation except when new developer is supplied. If it is executed in other cases, under-toner or overtone may occur, causing a trouble.

Item/Display	Content	Display range	Default value
AT DEVE ADJ	Automatic development adjustment value	1 - 255	128

**Display during execution of the simulation**

Item/Display	Content
TCS	Toner sensor output value

**Error content**

Display	Error name	Error content
EE-EL	EL abnormality	The sensor output level is less than 78.
EE-EU	EU abnormality	The sensor output level exceeds 178.

25-4

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the operation data of the toner correction quantity. (Not used in the market.)
Section	Process

**Operation/Procedure**

The operation data of the toner supply quantity are displayed.

Item/Display	Content	Display range
TONER DEN_LT	Current toner density sensor output value (final value)	1 - 255
TONER DEN_ST	Current toner density reference value display (the value including all the correction values)	1 - 255
AUTO DEVE	Automatic development adjustment value	1 - 255
ALL	All correction reference value	1 - 255
LIFE	Life correction value	-128 - 127
ENV	Environment correction value	-128 - 127
DUPLEX	Duplex correction value	-128 - 127
PRINT RATE	Print ratio correction value	-128 - 127
AREA	Area correction value	-128 - 127
AUTO DEVE AREA	Area in the auto development adjustment	-128 - 127
CURRENT AREA	Current area	-128 - 127

26

Purpose	Setting
Function (Purpose)	Used to set Yes/No of installation of the Job separator.
Section	Paper exit

**Operation/Procedure**

- 1) Enter the set value with 10-key.
- 2) Press [OK] key. (The set value is saved.)

This setting is required to use the Job separator.

Item/Display		Content
A	0	YES
	1	NO

26-2

Purpose	Setting
Function (Purpose)	Used to set the paper size of the paper feed tray. (When the paper size is changed, this simulation must be executed to change the paper size in software.)
Section	Paper feed

**Operation/Procedure**

Select a paper size and a weight system to be changed.

Item	Setting value	Content
LEGAL SET	0	8.5 x 14
	1	8.5 x 13.4
	2	8.5 x 13.5
G/LBS SET	0	GRAM
	1	LBS

Destination	Setting value	
	LEGAL SET	G/LBS SET
U.S.A	8.5 x 14	LBS
CANADA	8.5 x 14	LBS
INCH	8.5 x 14	LBS
JAPAN	8.5 x 14	GRAM
AB_B	8.5 x 14	GRAM
EUROPE	8.5 x 14	GRAM
U.K.	8.5 x 14	GRAM
AUS.	8.5 x 14	GRAM
AB_A	8.5 x 14	GRAM
CHINA	8.5 x 14	GRAM

26-3																																																		
Purpose	Setting																																																	
Function (Purpose)	Used to set the specifications of the auditor. (Setting must be made according to the auditor use conditions.)																																																	
Section	Auditor																																																	
<b>Operation/Procedure</b> Select an item to be set with the touch panel.																																																		
<table border="1"> <thead> <tr> <th>Item/Display</th><th>Content</th><th>Default value</th></tr> </thead> <tbody> <tr> <td>BUILT-IN AUDITOR</td><td>P10</td><td>Built-in auditor mode (standard mode) operation.</td></tr> <tr> <td>OUTSIDE AUDITOR</td><td>NONE</td><td>No external connection vendor is used.</td></tr> <tr> <td></td><td>P VENDOR1</td><td>Coin vendor mode (Only the copy mode can be controlled.)</td></tr> <tr> <td></td><td>P VENDOR3</td><td>Vendor mode in which signals for the intercard connected to the PCU are used for communication in parallel I/F.</td></tr> <tr> <td></td><td>P OTHER</td><td>Mode for an external auditor connected to the SCU.</td></tr> <tr> <td></td><td>VENDOR-EX (*1)</td><td>Vendor I/F for EQUITRAC</td></tr> <tr> <td></td><td>VENDOR-EX (MULTI) (*1)</td><td>VENDOR-EX + Multi job cueing Enable mode</td></tr> <tr> <td></td><td>S_VENDOR</td><td>Serial vendor mode</td></tr> <tr> <td>DOC ADJ</td><td>ON</td><td>Support for the auditor in document filing print</td></tr> <tr> <td></td><td>OFF</td><td>No support for the auditor in document filing print</td></tr> <tr> <td>PF ADJ</td><td>ON</td><td>Continuous printing is performed in the duplex print mode. If the remaining money expires during continuous printing, the sheets in the machine are discharged without being printed on the back surfaces.</td></tr> <tr> <td></td><td>OFF</td><td>Continuous printing is not performed in the duplex print mode. (The remaining amount is checked for printing every surface in all the printing process.) If the remaining money expires during printing, the sheet is discharged without printing on the back surface.</td></tr> <tr> <td>VENDOR MODE (*2)</td><td>MODE1</td><td>Vendor mode 1</td></tr> <tr> <td></td><td>MODE2</td><td>Vendor mode 2</td></tr> <tr> <td></td><td>MODE3</td><td>Vendor mode 3</td></tr> </tbody> </table>			Item/Display	Content	Default value	BUILT-IN AUDITOR	P10	Built-in auditor mode (standard mode) operation.	OUTSIDE AUDITOR	NONE	No external connection vendor is used.		P VENDOR1	Coin vendor mode (Only the copy mode can be controlled.)		P VENDOR3	Vendor mode in which signals for the intercard connected to the PCU are used for communication in parallel I/F.		P OTHER	Mode for an external auditor connected to the SCU.		VENDOR-EX (*1)	Vendor I/F for EQUITRAC		VENDOR-EX (MULTI) (*1)	VENDOR-EX + Multi job cueing Enable mode		S_VENDOR	Serial vendor mode	DOC ADJ	ON	Support for the auditor in document filing print		OFF	No support for the auditor in document filing print	PF ADJ	ON	Continuous printing is performed in the duplex print mode. If the remaining money expires during continuous printing, the sheets in the machine are discharged without being printed on the back surfaces.		OFF	Continuous printing is not performed in the duplex print mode. (The remaining amount is checked for printing every surface in all the printing process.) If the remaining money expires during printing, the sheet is discharged without printing on the back surface.	VENDOR MODE (*2)	MODE1	Vendor mode 1		MODE2	Vendor mode 2		MODE3	Vendor mode 3
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Item/Display	Content	Default value
COUNTUP TIMING	FUSER_IN	Mode in which the detection timing of the paper lead edge by the sensor after the paper passes the fusing section is used as the money charging timing.  Mode in which the detection timing of the paper rear edge by the sensor after the paper passes the fusing section is used as the money charging timing.  Mode in which the detection timing of the paper rear edge by the paper exit sensor of the right paper exit tray or of the after process unit is used as the money charging timing.
	FUSER_OUT	
	EXIT_OUT	

(\*1) Displayed only when EQUITRAC.

(\*2) Details of the vendor mode

#### Details of the vendor mode

	Completion of the specified quantity. (Money remaining)	Insufficient money during copy job		Completion of the specified quantity. (No money remaining)
		BW (no money remaining)	BW (money remaining)	
Condition 1	Condition 2	Condition 3	Condition 4	
MODE1	Operation 1	Operation 2	Operation 2	Operation 1
MODE2	Operation 1	Operation 1	Operation 2	Operation 1
MODE3	Operation 1	Operation 3	Operation 2	Operation 3

#### Operation 1:

Standby during setting time of auto clear. Default is 60 seconds, which can be changed in the system setting.

#### Operation 2:

Auto clear is not made.

#### Operation 3:

The display is shifted to the initial screen.

26-5		
Purpose	Setting	
Function (Purpose)	Used to set the count mode of the total counter and the maintenance counter. (A3/11x17 size)	
Section		

#### Operation/Procedure

- Select an item to be set with scroll keys.
- Enter the setting value with 10-key  
1 = Count up by 1, 2 = Count up by 2
- Press [OK] key.

The set value in step 2) is saved.

Item/Display	Content	Default value
A	TOTAL (B/W)	Total counter (B/W) 1 (Japan) 2 (Except Japan)
B	MAINTE (B/W)	
C	DEV (B/W)	Maintenance counter (B/W) 2 Developer counter (B/W)

26-6	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.
Section	

#### Operation/Procedure

- 1) Select an item to be set with the touch panel.
- 2) Press [EXECUTE] key.  
The selected set content is saved.

U.S.A.	United States of America
CANADA	Canada
INCH	Inch series, other destinations
JAPAN	Japan
AB_B	AB series (B5 detection), other destinations
EUROPE	Europe
U.K.	United Kingdom
AUS.	Australia
AB_A	AB series (A5 detection), other destinations
CHINA	China

26-10	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the trial mode of the network scanner.
Section	

#### Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Press [OK] key.  
The set value in step 1) is saved.

TRIAL MODE (0: YES 1: NO)	0	Trial mode setting
	1	Trial mode cancel (Default)

26-18	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set Disable/Enable of the toner save mode operation. (For the Japan and the UK versions.)
Section	

#### Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.  
The set value in step 2) is saved.

Item	Display	Content		Default value
A	COPY	0	Copy toner save mode is inhibited.	0
		1	Copy toner save mode is allowed	
B	PRINTER	0	Printer toner save mode is inhibited.	0
		1	Printer toner save mode is allowed.	

26-30	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the operation mode corresponding to the CE mark (Europe safety standards). (For slow start to drive the fusing heater lamp)
Section	

#### Operation/Procedure

- 1) Enter the set value with 10-key.

0	Control allowed
1	Control inhibited
2) Press [OK] key. The set value in step 1) is saved. * Even in Enable state, the control may not be executed due to the power frequency, etc.	
U.S.A	1 (CE not supported)
CANADA	1 (CE not supported)
INCH	1 (CE not supported)
JAPAN	1 (CE not supported)
AB_B	1 (CE not supported)
EUROPE	0 (CE supported)
U.K.	0 (CE supported)
AUS.	0 (CE supported)
AB_A	0 (CE supported)
CHINA	0 (CE supported)

26-32	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the special functions.
Section	

#### Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Press [OK] key.

The set value in step 1) is saved.

Item/Display	Content	Setting range	Default value
A	CLEANING PRINT SET	The screen of the cleaning mode self print execution is displayed. (ON)	0 YES 1(NO)
		The screen of the cleaning mode self print execution is not displayed. (OFF)	1 NO

26-35	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the display mode of SIM 22-4 trouble history when a same trouble occurred repeatedly. There are two display modes: display as one trouble and display as several series of troubles.
Section	

#### Operation/Procedure

- 1) Enter the set value with 10-key.

0	Only once display.
1	Any time display.

- 2) Press [OK] key.  
The set value in step 1) is saved.

26-38

Purpose	Setting
Function (Purpose)	Used to set Continue/Stop of print when the maintenance life is reached.

Section

## Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Press [OK] key.  
The set value in step 1) is saved.

Item/Display		Content		Default value
A	MAINTENANCE LIFE OVER (0: CONTINUE 1: STOP)	0	Setting of Print Continue/ Stop when the maintenance life is over (Print Continue)	0
		1	Setting of Print Continue/ Stop when the maintenance life is over (Print Stop)	

(\*2)

	Target paper	Target paper setting	
		0	1
Inner finisher	Postcard, envelope	The operation is stopped when 10 sheets of a same kind are discharged continuously. When, however, different kinds of sheets are mixed and discharged and 10 or less sheets of a kind are continuously discharged, the operation is stopped by the paper exit tray full detection.	If it is set to "1," the operation is stopped when the paper exit tray is full or when 250 sheets (35.5mm thick) are discharged.
	Label sheet, tab sheet, OHP	The operation is stopped when 100 sheets of a same kind are discharged continuously. When, however, different kinds of sheets are mixed and discharged and 100 or less sheets of a kind are continuously discharged, the operation is stopped by the paper exit tray full detection.	

26-50

Purpose	Setting
Function (Purpose)	Used to set functions.

Section

## Operation/Procedure

- 1) Select a target item of setting with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

Item/Display		Content		Default value
A	BW REVERSE	0	BW reverse copy Disable	Refer to *1
		1	BW reverse copy Enable	
B	FINISHER FUNCTION	0	Finisher special paper The number of paper exit is limited.	0 Refer to *2
		1	Finisher special paper The number of paper exit is not limited.	
C	FEED TRAY COLOR	0	Paper feed tray color display ON during paper feed	0
		1	Paper feed tray color display OFF during paper feed	
D	LONG SIZE PRINT	0	Long size print disable	0
		1	Long size print enable	
E	WIRELESS SET	0	Wireless LAN disable	0
		1	Wireless LAN enable	

(\*1) Default values for each destination of item A

Destination	Item A
U.S.A	1
CANADA	1
INCH	1
JAPAN	1
AB_B	1
EUROPE	1
U.K	0
AUS	1
AB_A	1
CHINA	1

26-51

Purpose	Setting
Function (Purpose)	Used to set the specifications of the serial port operation. (For PCI)

Section

## Operation/Procedure

- 1) Enter the set value with 10-key.  
When the PCI is installed, setting is made to 1 or 2.
- 2) Press [OK] key.

Item/Display		Content	Setting range	Default value
A	PCI SETTING	Serial port PCI mode OFF (→For connecting the serial port vendor)	0	0 (Serial port PCI mode OFF)
		Serial port PCI mode ON (JOB status LED: MODE1)		
		Serial port PCI mode ON (JOB status LED: MODE2)		

MODE1: Red LED is light/blink/OFF, MODE2: Red LED always OFF

CAUTION: When "PCI SETTING" is changed from "0" to "1" or "2," if SIM26-03 "OUTSIDE AUDITOR" is set to "S\_VENDOR," "OUTSIDE AUDITOR" is changed to "NONE."

26-52

Purpose	Setting
Function (Purpose)	Used to set whether non-printed paper (insertion paper, cover paper) is counted up or not.

Section

## Operation/Procedure

- 1) Enter the set value with 10-key.

0	Count up
1	No count up

2) Press [OK] key.

The set value in step 1) is saved.

Destination	Default
U.S.A	0 (Counted)
CANADA	0 (Counted)
INCH	0 (Counted)
JAPAN	1 (Not counted)
AB_B	0 (Counted)
EUROPE	0 (Counted)
U.K.	0 (Counted)
AUS.	1 (Not counted)
AB_A	0 (Counted)
CHINA	0 (Counted)

26-65

Purpose	Setting
Function (Purpose)	Used to set the finisher alarm mode.
Section	
Operation/Procedure	
Item	ON
	OFF
Content	
Setting range	
Default value	ON or OFF
	ON
NOTE	

26-56

Purpose	Setting
Function (Purpose)	Used to set ON/OFF of the Life Correction.
Section	

#### Operation/Procedure

- Select an item to be set with scroll keys.
- Enter the set value with 10-key.
- Press [OK] key. (The set value is saved.)

Item/Display	Content	Setting range	Default value
A AUTO1	Life correction of Auto 1 is turned ON.	0 - 1	1 (ON) 0
	Life correction of Auto 1 is turned OFF.		
B AUTO2	Life correction of Auto 2 is turned ON.	0 - 1	1 (ON) 0
	Life correction of Auto 2 is turned OFF.		
C TEXT	Life correction of Text is turned ON.	0 - 1	0 (OFF) 1
	Life correction of Text is turned OFF.		
D TEXT/ PRINTED PHOTO	Life correction of Text/Printed Photo is turned ON.	0 - 1	0 (OFF) 1
	Life correction of Text/Printed Photo is turned OFF.		
E TEXT/ PHOTO	Life correction of Text/ Photograph is turned ON.	0 - 1	0 (OFF) 1
	Life correction of Text/ Photograph is turned OFF.		
F PRINTED PHOTO	Life correction of Printed Photo is turned ON.	0 - 1	1 (ON) 0
	Life correction of Printed Photo is turned OFF.		
G PHOTOG RAPH	Life correction of Photograph is turned ON.	0 - 1	1 (ON) 0
	Life correction of Photograph is turned OFF.		
H MAP	Life correction of Map is turned ON.	0 - 1	0 (OFF) 1
	Life correction of Map is turned OFF.		

26-69

Purpose	Setting
Function (Purpose)	Used to set the operating conditions for toner near end.
Section	

#### Operation/Procedure

- Select an item to be set with scroll keys.
- Enter the set value with 10-key.
- Press [OK] key.  
The set value in step 2 is saved.

Item/Display	Content	Setting range	Default value
A TONER PREPARATION (0:YES 1:NO)	0 The toner preparation message is displayed.	0 - 1	List of Default values and set values for each destination
	1 The toner preparation message is not displayed.		
B REMAINING TONER LEVEL	0.05 Toner preparation at remaining toner level of 5%	0 - 9	4
	0.1 Toner preparation at remaining toner level of 10%		
	0.15 Toner preparation at remaining toner level of 15%		
	0.2 Toner preparation at remaining toner level of 20%		
	0.25 Toner preparation at remaining toner level of 25%		
	0.3 Toner preparation at remaining toner level of 30%		
	0.35 Toner preparation at remaining toner level of 35%		
	0.4 Toner preparation at remaining toner level of 40%		

Item/Display		Content		Setting range	Default value	
B	REMAINING TONER LEVEL	0.45	8	Toner preparation at remaining toner level of 45%	0 - 9	4
		0.5	9	Toner preparation at remaining toner level of 50%		
C	TONER NEAR END (0: YES 1: NO)	0	The toner near end message is displayed.	0 - 1	List of Default values and set values for each destination	
		1	The toner near end message is not displayed.			
D	TONER END	1	Operation setup 1	1 - 3	-	
		2	Operation setup 2			
		3	Operation setup 3			
E	TONER END COUNT	Setting of the number of copy/print/FAX outputs Enable after TONER NEAR END.		1 - 5	4	
F	TONER E-MAIL ALERT	0	Low status send of E-mail alert (When the toner preparation message is displayed) (in near toner end)	0 - 1	1	
		1	Low status send of E-mail alert (near toner end)			

#### Item E (TONER END COUNT) setting value and printable quantity

Setting value	Printable quantity at A4/6% equivalent conversion
1	0
2	20
3	40
4	80
5	160

#### List of Default values and set values for each destination

Destination	Setting value	
	Toner preparation message	Toner near end message
U.S.A	0 (Displayed)	0 (Displayed)
CANADA	0 (Displayed)	0 (Displayed)
INCH	0 (Displayed)	0 (Displayed)
JAPAN	0 (Displayed)	1 (Not Displayed)
AB_B	0 (Displayed)	0 (Displayed)
EUROPE	0 (Displayed)	0 (Displayed)
U.K.	0 (Displayed)	0 (Displayed)
AUS.	0 (Displayed)	0 (Displayed)
AB_A	0 (Displayed)	0 (Displayed)
CHINA	0 (Displayed)	0 (Displayed)

#### Contents of set items

A: Enable/Disable setting of the toner preparation message display.

B: The toner remaining quantity at which the toner preparation message is displayed.

C: Enable/Disable setting of the toner preparation message display when the toner near end status is reached.

D: Machine operation at toner end

E: Number of allowable copy/print/FAX when the toner near end message is displayed. (Range: 0 - 160 sheets)

The number of output print allowed in item D is based on the assumption that the sheets are of A4 size with print ratio of 6%. (The number of outputs allowed differs depending on the paper size and the print ratio.)

CAUTION: When item A is set to "0" and item E is properly set, printing can be made after toner near end. However, improper phenomena such as insufficient density, thin spots, or improper color balance may result depending on the using conditions. When item E is set to "1" printing is disabled after toner near end. In this case, toner end display is made in the toner near end status, and copy/print/FAX outputs are disabled.

26-73

Purpose	Setting
Function (Purpose)	Enlargement continuous shoot, A3 wide copy mode image loss (shade delete quantity) adjustment

Section

#### Operation/Procedure

1) Select an item to be set with scroll keys.

2) Enter the set value with 10-key.

3) Press [OK] key.

When the adjustment value is increased, the image loss (shade delete quantity) is increased.

Item/Display	Content	Setting range	Default value
A	DELETING SHADOW ADJ (M)	Rear frame side image loss quantity (shade delete quantity) adjustment	0 - 50 0 (Adjustment amount: 0.1mm/step)
B	DELETING SHADOW ADJ (S)	Lead edge image loss quantity (shade delete quantity) adjustment	0 - 50 0 (Adjustment amount: 0.1mm/step)

26-74

Purpose	Setting
Function (Purpose)	Used to set the OSA trial mode.
Section	

#### Operation/Procedure

1) Enter the set value with 10-key.

2) Press [OK] key.

Item/Display	Content	Setting range	Default value
A	OSA TRIAL MODE (0: YES 1: NO)	0	Used to set the OSA trial mode.
		1	OSA trial mode is canceled.

26-78

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the password of the remote operation panel.
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Enter a password with 10-key. (5 - 8 digits) The entered password is displayed on the column of "NEW". In order to correct the entered password, press the [clear] key to delete the entered value one digit by one digit.	
2) Press [SET] key.	

26-79

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set YES/NO of the pop-up display of user data delete result.
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Enter the set value with 10-key. The value for the display operation specification after completion of user data delete is set.	
2) Press [OK] key.	

Item/Display	Content	Setting range	Default value
A DISP SET	User data delete result pop-up display ON	YES	1
	User data delete result pop-up display OFF	NO	0

27

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set non-detection of communication error (U7-00) with RIC. (FSS function)
<b>Section</b>	
<b>Operation/Procedure</b>	

- 1) Enter the set value with 10-key.

0	Not detection
1	Detection

- 2) Press [OK] key.

The set value in step 1) is saved.

27-2

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the sender's registration number and the HOST server telephone number. (FSS function)
<b>Section</b>	
<b>Operation/Procedure</b>	

- 1) Select an item to be set with touch panel.  
[USER FAX NO] [SERVA TEL NO]
- 2) Enter the set value with 10-key.
- 3) Press [SET] key.

The set value in step 2) is saved.

USER FAX_NO.	Sender registration number (Max. 16 digits)
SERVA TEL_NO.	Host server telephone number (Max. 16 digits) <ul style="list-style-type: none"> <li>If the connection process is not completed normally when registering the FSS, calling to the HOST may be continuously made every time when the power is turned ON (from OFF) or rebooted.</li> </ul> In this case, enter "*****" to inhibit calling to the HOST.

27-4

Purpose	Setting
Function (Purpose)	Used to set the initial call and toner order auto send. (FSS function)

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2) is saved.

Item/Display		Content		Setting range		Default value	Remarks		
A	FSS MODE	NEB1	Set the FSS MODE	Exclusive for send in NE-B mode	0 - 3	0			
		NEB2		Send/Receive in NE-B mode		1			
		NFB1		Exclusive for send in NE-F mode		2	For convenience stores		
		NFB2		Send/Receive in NE-F mode		3	For convenience stores		
B	RETRY_BUSY	Resend number setting when busy		0 - 15		2	0: No retry		
C	TIMER(MINUTE)_BUSY	Resend timer setting (minute) when busy		1 - 15		3			
D	RETRY_ERROR	Resend number setting when error		0 - 15		1	0: No retry		
E	TIMER(MINUTE)_ERROR	Resend timer setting (minute) when error		1 - 15		1			
F	FAX RETRY	Resend number setting when FAX initial connection		0 - 15		2	Unit: Number of times		
G	TONER ORDER TIMING(K)	EMPTY	Toner order auto send timing setting (K)	Empty	0 - 11	0	6		
		NEAR_END		Near end					
		0.05		0.05					
		0.1		0.1					
		0.15		0.15					
		0.2		0.2					
		0.25		0.25					
		0.3		0.3					
		0.35		0.35					
		0.4		0.4					
		0.45		0.45					
		0.5		0.5					
H	TEMP HISTORY CYCLE	Frequency of acquiring the temperature and humidity history		1 - 1440		60	Unit: min.		
I	LOG OUTPUT CAPACITY(PCU)	Log output capacity		0 - 50		30	Unit: [KB]		

27-5

Purpose	Setting
Function (Purpose)	Used to set the machine tag No. (This function allows the host computer to check the machine tag No.) (FSS function)

Section

Operation/Procedure

- 1) Enter the password (max. 8 digits) with 10-key.  
The entered password is displayed on the column of "NEW".  
In order to correct the entered password, press the [clear] key to delete the entered value one digit by one digit.
- 2) Press [SET] key.

27-6

Purpose	Setting
Function (Purpose)	Used to set of the manual service call. (FSS function)

Section

Operation/Procedure

- 1) Enter the set value with 10-key.

0	Allow (Default)
1	Inhibit

- 2) Press [OK] key.

The set value in step 1) is saved.

27-7

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set of the enable, alert callout. (FSS function)

**Section****Operation/Procedure**

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2) is saved.

Item/Display	Content	Setting range	Default value
A	FSS function enable	0	1 (NO)
	FSS function disable	1	
B	Alert call enable (*1)	0	0 (YES)
	Alert call disable	1	
C	FAX connection enable	0	0 (FAX)
	Not used.	1	
	HTTP connection enable	2	

\*1 Alert send timing

No alert cause	Initial state / Trouble / Continuous JAM alert
Maintenance	When the maintenance timing is reached.
Service call	When pressing Service call.
Toner send request	When the toner order automatic send setting is reached.
Toner collection request	Revision of the toner installation date (only for a new product)
Alert resend	

27-9

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the paper transport time recording YES/NO threshold value and shading gain adjustment retry number. (FSS function)

**Section****Operation/Procedure**

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2) is saved.

Item/Display	Content	Setting range	Default value
A FEED TIME1	Threshold value of paper transport time between sensors (Machine)	0 - 100	50(%)
B FEED TIME2	Threshold value of paper transport time between sensors (SPF)	0 - 100	50(%)
C GAIN ADJUSTMENT RETRY	Threshold value of the gain adjustment retry number	0 - 20	11 (TIMES)
D JAM ALERT	Continuous JAM alert judgment threshold value (Alert judgment threshold value for continuous JAM's) (Setting of the number of JAM's continuously made at which it is judged as an alert.)	1 - 100	10 (TIMES)

- \* Items A, B: 0%, standard passing time between sheets of paper; 100%, time for judgment as a jam between sheets of paper.
- \* Item C: Because of a trouble in shading operation, the number of retry is actually not registered.

27-10

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the trouble prediction history information. (FSS function)

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The history information of trouble prediction is cleared.

Target history	Serial communication retry history
	Scanner gain adjustment retry history
	Paper transport time between sensors

27-11

<b>Purpose</b>	Others
<b>Function (Purpose)</b>	Used to check the serial communication retry number and the scanner gain adjustment retry number history. (FSS function)

**Section****Operation/Procedure**

The serial communication retry number history and the scanner gain adjustment retry number history are displayed.

Display Item			Content
Item name	Occurrence date (Display)	Retry number	
LSU1	Year/month/day hour: min.: sec.	8 digits	Serial communication retry number history display
LSU2	Year/month/day hour: min.: sec.	8 digits	
DESK1	Year/month/day hour: min.: sec.	8 digits	
DESK2	Year/month/day hour: min.: sec.	8 digits	
FINISHER1	Year/month/day hour: min.: sec.	8 digits	
FINISHER2	Year/month/day hour: min.: sec.	8 digits	Scanner gain adjustment retry history
SCAN GAIN ADJ1	Year/month/day hour: min.: sec.	8 digits	
SCAN GAIN ADJ2	Year/month/day hour: min.: sec.	8 digits	
SCAN GAIN ADJ3	Year/month/day hour: min.: sec.	8 digits	
SCAN GAIN ADJ4	Year/month/day hour: min.: sec.	8 digits	
SCAN GAIN ADJ5	Year/month/day hour: min.: sec.	8 digits	Scanner gain adjustment retry history

27-13

Purpose	Others
Function (Purpose)	Used to check the history of paper transport time between sensors. (FSS function)

Section

Operation/Procedure

Change the display with scroll key.

	Item/Display	Content	Occurrence date	Code between sensors	Passing time	Reference passing time
Main unit	FEED TIME1	History of paper transport time between sensors 1	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME2	History of paper transport time between sensors 2	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME3	History of paper transport time between sensors 3	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME4	History of paper transport time between sensors 4	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME5	History of paper transport time between sensors 5	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME6	History of paper transport time between sensors 6	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME7	History of paper transport time between sensors 7	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME8	History of paper transport time between sensors 8	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME9	History of paper transport time between sensors 9	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME10	History of paper transport time between sensors 10	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
RSPF	FEED TIME1 (SPF)	History of paper transport time between SPF sensors 1	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME2 (SPF)	History of paper transport time between SPF sensors 2	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME3 (SPF)	History of paper transport time between SPF sensors 3	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME4 (SPF)	History of paper transport time between SPF sensors 4	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME5 (SPF)	History of paper transport time between SPF sensors 5	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME6 (SPF)	History of paper transport time between SPF sensors 6	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME7 (SPF)	History of paper transport time between SPF sensors 7	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME8 (SPF)	History of paper transport time between SPF sensors 8	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME9 (SPF)	History of paper transport time between SPF sensors 9	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME10 (SPF)	History of paper transport time between SPF sensors 10	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)

27-14

Purpose	Setting
Function (Purpose)	Used to set the FSS function connection test mode.

Section

Operation/Procedure

- Enter the set value with 10-key.

0	Disable (Default)
1	Enable

- Press [OK] key.

The set value in step 1) is saved.

27-15

Purpose	Operation test/check
Function (Purpose)	Used to display the FSS connection status.

Section

Operation/Procedure

The FSS operating status is displayed.

Item/Display	Content	Setting range	Default value
FSS CONNECTION	Used to display the FSS connection status.	0 Not operated 1 Operated	0

27-16			
Purpose	Setting		
Function (Purpose)	Used to set the FSS alert send.		
Section			

#### Operation/Procedure

- 1) Enter the set value with 10-key.  
The value for the FSS alert operation specification is set.
- 2) Press [OK] key.

Item/Display		Content		Setting range	Default value
A	MAINTENANCE ALERT (0:YES 1:NO)	Maintenance alert send Enable setting	Alert send Enable	0	0
			Alert send Disable	1	
B	TONER ORDER ALERT (0:YES 1:NO)	Toner order alert send Enable setting	Alert send Enable	0	0
			Alert send Disable	1	
C	TONER CTRG ALERT (0:YES 1:NO)	Toner cartridge replacement alert send Enable setting	Alert send Enable	0	0
			Alert send Disable	1	
D	JAM ALERT (0:YES 1:NO)	Continuous JAM alert send Enable setting	Alert send Enable	0	0
			Alert send Disable	1	
E	TROUBLE ALERT (0:YES 1:NO)	Trouble alert send Enable setting	Alert send Enable	0	0
			Alert send Disable	1	
F	PAPER ORDER ALERT (0:YES 1:NO)	Paper order alert send Enable setting	Alert send Enable	0	0
			Alert send Disable	1	

27-17			
Purpose	Setting		
Function (Purpose)	Used to set the FSS paper order alert.		
Section			

#### Operation/Procedure

- 1) Select an item to be set.
- 2) Enter the set value with 10-key.  
The value for the FSS paper order alert operation specification is set.
- 3) Press [SET] key.

Item/Display	Content	Setting range	Default value	NOTE
PAPER TYPE SET	Setting of paper kind for paper order alert	0 - 2	0	0: Standard paper and recycled paper
				1: Standard paper only
				2: Recycled paper only
A3	Paper order number setting [Number of sheets] (A3)	500 - 5000	1250	Unit: No. of sheets for a box
A4	Paper order number setting [Number of sheets] (A4)	500 - 5000	2500	Unit: No. of sheets for a box
B4	Paper order number setting [Number of sheets] (B4)	500 - 5000	2500	Unit: No. of sheets for a box
B5	Paper order number setting [Number of sheets] (B5)	500 - 5000	2500	Unit: No. of sheets for a box

Item/Display	Content	Setting range	Default value	NOTE
A3: FIRST	Paper order alert number setting (A3) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time
A4: FIRST	Paper order alert number setting (A4) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time
B4: FIRST	Paper order alert number setting (B4) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time
B5: FIRST	Paper order alert number setting (B5) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time

27-18			
Purpose	Data clear		
Function (Purpose)	Used to clear the FSS paper feed retry counter.		
Section			

#### Operation/Procedure

- 1) Select an item to be cleared.
  - 2) Press [EXECUTE] key.
  - 3) Press [YES] key.
- The target counter is cleared.

Item/Display	Content
TRAY1	Tray 1 paper feed retry counter
TRAY2	Tray 2 paper feed retry counter
TRAY3	Tray 3 paper feed retry counter
TRAY4	Tray 4 paper feed retry counter
MFT	Manual paper feed retry counter

## 30

30-1			
Purpose	Operation test/check		
Function (Purpose)	Used to check the operations of the sensors and the detectors in other than the paper feed section and the control circuits.		
Section			

#### Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The sensors and the detectors which are turned ON are highlighted.

PPD1	Registration front detector
POSD	Paper exit branch detector
POD1	Paper exit detector 1
POD2	Paper exit detector 2
POD3	Paper exit detector 3
TFD1	Paper exit tray full detector 1
TFD2	Paper exit tray full detector 2
TFD3	Paper exit tray full detector 3
SHPOS	Shifter home positions sensor
DSW_R	Front/side cover open/close detector
DSW_POC	Paper exit cover open/close detector

30-2

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the sensors and the detectors in the paper feed section and the control circuits.

**Section**
**Operation/Procedure**

The operating conditions of the sensors and detectors are displayed.

The sensors and the detectors which are turned ON are highlighted.

C1PFD	Cassette 1 paper entry detector
C1LUD	Cassette 1 paper upper limit detector
C1PED	Cassette 1 paper empty detector
C1SS	Cassette 1 detector
C2PFD	Cassette 2 paper entry detector
C2LUD	Cassette 2 paper upper limit detector
C2PED	Cassette 2 paper empty detector
C2SS	Cassette 2 installation detector
DSW_C2	Cassette 2 door open/close detector
MPED	Manual feed paper empty detector
MPLD1	Manual feed paper length detector 1
MPLD2	Manual feed paper length detector 2
MTOP1	Manual feed tray detector 1
MTOP2	Manual feed tray detector 2

40

40-2

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Manual paper feed tray paper width sensor adjustment.

**Section**
**Operation/Procedure**

- 1) Open the manual paper feed guide to the max. width (MAX).
- 2) Press [EXECUTE] key.  
The max. width (MAX) detection level is recognized.
- 3) Open the manual paper feed guide to P1 width (A4R).
- 4) Press [EXECUTE] key.  
The P1 width (A4R) detection level is recognized.
- 5) Open the manual paper feed guide to P2 width (A5R).
- 6) Press [EXECUTE] key.  
The P2 width (A5R) detection level is recognized.
- 7) Open the manual paper feed guide to the min. width (MIN).
- 8) Press [EXECUTE] key.  
The min. width (MIN) detection level is recognized.

When the above operation is not performed normally, "ERROR" is displayed. When completed normally, "COMPLETE" is displayed.

MAX POSITION	Manual feed max. width
P1(A4R)POSITION	Manual feed P1 position width (A4R)
P2(A5R)POSITION	Manual feed P2 position width (A5R)
MIN POSITION	Manual feed min. width

40-7

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the adjustment value of the manual paper feed tray paper width sensor.

**Section**
**Operation/Procedure**

- 1) Select a target item to be adjusted with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.  
The set value in step 2) is saved.

	Item/Display	Content	Default value
A	MAX POSITION	Manual feed max. width	235
B	P1 (A4R) POSITION	Manual feed P1 position width (A4R)	143
C	P2 (A5R) POSITION	Manual feed P2 position width (A5R)	78
D	MIN POSITION	Manual feed min. width	27

41

41-1

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the document size sensor and the control circuit.

**Section**
**Operation/Procedure**

The operating conditions of the sensors and detectors are displayed.

The sensors and the detectors which are turned ON are highlighted.

OCSW	Document cover status	Open: Normal display Close: Highlighted
PD1 - 7	Document detection sensor status	No document: Normal display Document present: Highlighted

41-2

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the document size sensor detection level.

**Section**
**Operation/Procedure**

- 1) Open the document cover, and press [EXECUTE] key without place a document on the document table.  
The sensor level without document is recognized.
- 2) Set A3 (11" x 17") paper on the document table, and press [EXECUTE] key.  
The sensor level when detecting the document is displayed.

When the above operation is normally completed, it is displayed.

Sensor name	Content	Setting range	Default value
PD1 - 7	Document detection sensor 1 - 7	0 - 255	128

41-3

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the document size sensor and the control circuit.

**Section****Operation/Procedure**

The detection output level (A/D value) of OCSW and the document sensor (PD1 - PD7) is displayed in real time.

The light receiving range of PD1 - PD7 is 1 - 255. (Default: 128)

Item/Display	Content	Detection level range
OCSW	Original cover SW	0-1 ("1" to Close)
PD1	Document detection 1	0 - 255
PD2	Document detection 2	0 - 255
PD3	Document detection 3	0 - 255
PD4	Document detection 4	0 - 255
PD5	Document detection 5	0 - 255
PD6	Document detection 6	0 - 255
PD7	Document detection 7	0 - 255

43

43-1

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the fusing temperature in each mode.

**Section****Operation/Procedure**

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2) is saved.

**26cpm machine**

Item/Display	Content	Setting range	Default value								
			Group A		Group B		Group C		Group D		
			SW-A	SW-B	SW-A	SW-B	SW-A	SW-B	SW-A	SW-B	
A	HL_UM READY	Ready standby TH_UM set value	70 - 220	175	175	175	175	180	180	180	180
B	HL_US READY	Ready standby TH_US set value	70 - 220	170	170	170	170	175	175	175	175
C	HL_UM PLAIN PAPER BW	Black-White plain paper TH_UM set value	70 - 220	175	180	175	180	185	190	185	190
D	HL_US PLAIN PAPER BW	Black-White plain paper TH_US set value	70 - 220	175	180	175	180	185	190	185	190
E	WARMUP FUMON HL_UM T	Fusing motor pre-rotation start TH_US set value	0 - 200	0	0	0	0	0	0	0	0
F	WARMUP FUMOFF HL_UM T	Fusing motor previous rotation complete time	0 - 60	0	0	0	0	0	0	0	0
G	WARMUP END TIME	Warm-up complete time	0 - 20	18	18	18	18	18	18	18	18
H	HL_UM HEAVY PAPER	Heavy paper TH_UM set value	70 - 220	190		190		190		190	
I	HL_US HEAVY PAPER	Heavy paper TH_US set value	70 - 220	190		190		190		190	
J	HL_UM OHP PAPER	OHP-TH_UM set value	70 - 220	175		175		185		185	
K	HL_US OHP PAPER	OHP-TH_US set value	70 - 220	175		175		185		185	
L	HL_UM E-STAR	Preheating TH_UM set value	70 - 220	95	95	95	95	95	95	95	95
M	HL_US E-STAR	Preheating TH_US set value	70 - 220	95	95	95	95	95	95	95	95
N	HL_UM PRE-JOB	TH_UM set value when recovery from Warm-Up	70 - 220	130	175	175	175	175	175	175	175
O	HL_UM WARMUP_120L	TH_UM set value when Warm-Up at 120°C or below	70 - 220	130	175	175	175	175	175	175	175
P	HL_US WARMUP_120L	TH_US set value when Warm-Up at 120°C or below	70 - 220	130	170	170	170	170	170	170	170
Q	LO_WARMUP_TIME	O, P applying time (Timer from completion of Ready)	0 - 255	0	0	0	0	0	0	0	0
R	HL_UM WARMUP_120H	TH_LM set value when Warm-Up at 120°C or above	70 - 220	130	175	175	175	175	175	175	175
S	HL_US WARMUP_120H	TH_US set value when Warm-Up at 120°C or above	70 - 220	130	170	170	170	170	170	170	170

Item/Display		Content	Setting range	Default value							
				Group A		Group B		Group C		Group D	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
T	HL_WARMUP_TIME	R, S applying time (Timer from completion of Ready)	0 - 255	0	0	0	0	0	0	0	0
U	HL_WU_FM_ON_TMP	FM prior rotation start TH_US when Warm-Up at alpha °C or above	0 - 220	0	0	0	0	0	0	0	0
V	HL_WU_END_TIME	Warm-Up completion time when Warm-Up at alpha °C or above	0 - 60	18	18	18	18	18	18	18	18
W	HL_WU_JOB_SET_TMP 1	Job enable TH_UM temperature 1 when Warm-Up at alpha °C or above	30 - 220	130	175	175	175	175	175	175	175
X	HL_WARMUP_BORDER	Threshold value alpha to which U - W is applied	1 - 119	60	60	60	60	60	60	60	60
Y	LO_WU_JOB_SET_TMP 1	Job enable TH_UM temperature 1 when Warm-Up at alpha °C or below	70 - 220	130	175	175	175	175	175	175	175
Z	JOBEND_FUMON_TIME	After rotating time when a job is completed	0 - 60	0	0	0	0	0	0	0	0
AA	HL_WU_JOB_SET_TMP 2	Job enable TH_UM temperature 2 when Warm-Up at alpha °C or above	70 - 220	130	175	175	175	175	175	175	175
AB	LO_WU_JOB_SET_TMP 2	Job enable TH_UM temperature 2 when Warm-Up at alpha °C or below	70 - 220	130	175	175	175	175	175	175	175

#### Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)	HL_US	Heater lamp sub (Heat roller for front surface of paper)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

#### List of destination groups

Group	Destination				
	Group A	Group B	Group C	Group D	Group E
Group A	JAPAN	—	—	—	—
Group B	U. S. A	CANADA	INCH	—	—
Group C	AB_B	EUROPE	U. K	AUS.	AB_A
Group D	CHINA	—	—	—	—

#### 31cpm machine

Item/Display		Content	Setting range	Default value							
				Group A		Group B		Group C		Group D	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
A	HL_UM READY	Ready standby TH_UM set value	70 - 220	185	185	185	185	190	190	190	190
B	HL_US READY	Ready standby TH_US set value	70 - 220	180	180	180	180	185	185	185	185
C	HL_UM PLAIN PAPER BW	Black-White plain paper TH_UM set value	70 - 220	185	195	190	195	195	200	195	200
D	HL_US PLAIN PAPER BW	Black-White plain paper TH_US set value	70 - 220	185	195	190	195	195	200	195	200
E	WARMUP FUMON HL_UM T	Fusing motor pre-rotation start TH_US set value	0 - 200	0	0	0	0	0	0	0	0
F	WARMUP FUMOFF HL_UM T	Fusing motor previous rotation complete time	0 - 60	0	0	0	0	0	0	0	0
G	WARMUP END TIME	Warm-up complete time	0 - 20	18	18	18	18	18	18	18	18
H	HL_UM HEAVY PAPER	Heavy paper TH_UM set value	70 - 220	200	200	200	200	200	200	200	200
I	HL_US HEAVY PAPER	Heavy paper TH_US set value	70 - 220	200	200	200	200	200	200	200	200
J	HL_UM OHP PAPER	OHP-TH_UM set value	70 - 220	190	190	190	190	195	195	195	195
K	HL_US OHP PAPER	OHP-TH_US set value	70 - 220	190	190	190	190	195	195	195	195
L	HL_UM E-STAR	Preheating TH_UM set value	70 - 220	95	95	95	95	95	95	95	95
M	HL_US E-STAR	Preheating TH_US set value	70 - 220	95	95	95	95	95	95	95	95
N	HL_UM PRE-JOB	TH_UM set value when recovery from Warm-Up	70 - 220	130	180	180	180	190	190	190	190
O	HL_UM WARMUP_120L	TH_UM set value when Warm-Up at 120°C or below	70 - 220	130	180	180	180	190	190	190	190
P	HL_US WARMUP_120L	TH_US set value when Warm-Up at 120°C or below	70 - 220	130	180	180	180	190	190	190	190
Q	LO_WARMUP_TIME	O, P applying time (Timer from completion of Ready)	0 - 255	0	0	0	0	0	0	0	0

Item/Display		Content	Setting range	Default value							
				Group A		Group B		Group C		Group D	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
R	HL_UM WARMUP_120H	TH_LM set value when Warm-Up at 120°C or above	70 - 220	130	180	180	180	190	190	190	190
S	HL_US WARMUP_120H	TH_US set value when Warm-Up at 120°C or above	70 - 220	130	180	180	180	190	190	190	190
T	HI_WARMUP_TIME	R, S applying time (Timer from completion of Ready)	0 - 255	0	0	0	0	0	0	0	0
U	HI_WU_FM_ON_TMP	FM prior rotation start TH_US when Warm-Up at alpha °C or above	0 - 220	0	0	0	0	0	0	0	0
V	HI_WU_END_TIME	Warm-Up completion time when Warm-Up at alpha °C or above	0 - 60	18	18	18	18	18	18	18	18
W	HI_WU_JOB_SET_TMP 1	Job enable TH_UM temperature 1 when Warm-Up at alpha °C or above	30 - 220	130	180	180	180	190	190	190	190
X	HI_WARMUP_BORDER	Threshold value alpha to which U - W is applied	1 - 119	60	60	60	60	60	60	60	60
Y	LO_WU_JOB_SET_TMP 1	Job enable TH_UM temperature 1 when Warm-Up at alpha °C or below	70 - 220	130	180	180	180	190	190	190	190
Z	JOBEND_FUMON_TIME	After rotating time when a job is completed	0 - 60	0	0	0	0	0	0	0	0
AA	HI_WU_JOB_SET_TMP 2	Job enable TH_UM temperature 2 when Warm-Up at alpha °C or above	70 - 220	130	180	180	180	190	190	190	190
AB	LO_WU_JOB_SET_TMP 2	Job enable TH_UM temperature 2 when Warm-Up at alpha °C or below	70 - 220	130	180	180	180	190	190	190	190

#### Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)	HL_US	Heater lamp sub (Heat roller for front surface of paper)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

#### List of destination groups

Group	Destination				
	Group A	U. S. A	CANADA	INCH	Group C
Group B	AB_B	EUROPE	U. K	AUS.	AB_A
Group D	CHINA	-	-	-	-

#### 35cpm machine

Item/Display		Content	Setting range	Default value							
				Group A		Group B		Group C		Group D	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
A	HL_UM READY	Ready standby TH_UM set value	70 - 220	185	185	185	185	190	190	190	190
B	HL_US READY	Ready standby TH_US set value	70 - 220	180	180	180	180	185	185	185	185
C	HL_UM PLAIN PAPER BW	Black-White plain paper TH_UM set value	70 - 220	195	200	195	200	195	200	195	200
D	HL_US PLAIN PAPER BW	Black-White plain paper TH_US set value	70 - 220	195	200	195	200	195	200	195	200
E	WARMUP FUMON HL_UM T	Fusing motor pre-rotation start TH_US set value	0 - 200	0	0	0	0	0	0	0	0
F	WARMUP FUMOFF HL_UM T	Fusing motor previous rotation complete time	0 - 60	0	0	0	0	0	0	0	0
G	WARMUP END TIME	Warm-up complete time	0 - 20	18	18	18	18	18	18	18	18
H	HL_UM HEAVY PAPER	Heavy paper TH_UM set value	70 - 220	200	200	200	200	200	200	200	200
I	HL_US HEAVY PAPER	Heavy paper TH_US set value	70 - 220	200	200	200	200	200	200	200	200
J	HL_UM OHP PAPER	OHP-TH_UM set value	70 - 220	195	195	195	195	195	195	195	195
K	HL_US OHP PAPER	OHP-TH_US set value	70 - 220	195	195	195	195	195	195	195	195
L	HL_UM E-STAR	Preheating TH_UM set value	70 - 220	95	95	95	95	95	95	95	95
M	HL_US E-STAR	Preheating TH_US set value	70 - 220	95	95	95	95	95	95	95	95
N	HL_UM PRE-JOB	TH_UM set value when recovery from Warm-Up	70 - 220	130	180	180	180	190	190	190	190
O	HL_UM WARMUP_120L	TH_UM set value when Warm-Up at 120°C or below	70 - 220	130	180	180	180	190	190	190	190

Item/Display		Content	Setting range	Default value							
				Group A		Group B		Group C		Group D	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
P	HL_US WARMUP_120L	TH_US set value when Warm-Up at 120°C or below	70 - 220	130	180	180	180	190	190	190	190
Q	LO_WARMUP_TIME	O, P applying time (Timer from completion of Ready)	0 - 255	0	0	0	0	0	0	0	0
R	HL_UM WARMUP_120H	TH_LM set value when Warm-Up at 120°C or above	70 - 220	130	180	180	180	190	190	190	190
S	HL_US WARMUP_120H	TH_US set value when Warm-Up at 120°C or above	70 - 220	130	180	180	180	190	190	190	190
T	HI_WARMUP_TIME	R, S applying time (Timer from completion of Ready)	0 - 255	0	0	0	0	0	0	0	0
U	HI_WU_FM_ON_TMP	FM prior rotation start TH_US when Warm-Up at alpha °C or above	0 - 220	0	0	0	0	0	0	0	0
V	HI_WU_END_TIME	Warm-Up completion time when Warm-Up at alpha °C or above	0 - 60	18	18	18	18	18	18	18	18
W	HI_WU_JOB_SET_TMP 1	Job enable TH_UM temperature 1 when Warm-Up at alpha °C or above	30 - 220	130	180	180	180	190	190	190	190
X	HI_WARMUP_BORDER	Threshold value alpha to which U - W is applied	1 - 119	60	60	60	60	60	60	60	60
Y	LO_WU_JOB_SET_TMP 1	Job enable TH_UM temperature 1 when Warm-Up at alpha °C or below	70 - 220	130	180	180	180	190	190	190	190
Z	JOBEND_FUMON_TIME	After rotating time when a job is completed	0 - 60	0	0	0	0	0	0	0	0
AA	HI_WU_JOB_SET_TMP 2	Job enable TH_UM temperature 2 when Warm-Up at alpha °C or above	70 - 220	130	180	180	180	190	190	190	190
AB	LO_WU_JOB_SET_TMP 2	Job enable TH_UM temperature 2 when Warm-Up at alpha °C or below	70 - 220	130	180	180	180	190	190	190	190

#### Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)	HL_US	Heater lamp sub (Heat roller for front surface of paper)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

#### List of destination groups

Group	Destination				
Group A	JAPAN	-	-	-	-
Group B	U. S. A	CANADA	INCH	-	-
Group C	AB_B	EUROPE	U. K	AUS.	AB_A
Group D	CHINA	-	-	-	-

Purpose	Setting
Function (Purpose)	Used to set the fusing temperature 2 in each mode.

**Section****Operation/Procedure**

- 1) Select an item to be set with the scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2) is saved.

**26cpm machine**

Item	Display	Content	Setting range	Default value (SW-A)				Default value (SW-B)			
				Group A	Group B	Group C	Group D	Group A	Group B	Group C	Group D
A	HL_UM PLAIN PAPER BW DUP	Black and white plain paper duplex TH_UM set value	70 - 220	175	175	185	185	175	175	185	185
B	HL_US PLAIN PAPER BW DUP	Black and white plain paper duplex TH_US set value	70 - 220	175	175	185	185	175	175	185	185
C	PLAIN PAPER BW DUP APP CNT	Black and white plain paper duplex applying number of sheets	0 - 255	0	0	0	0	0	0	0	0
D	HL_UM HEAVY PAPER BW DUP	Black and white heavy paper duplex TH_UM set value	70 - 220	175	175	185	185	175	175	185	185
E	HL_US HEAVY PAPER BW DUP	Black and white heavy paper duplex TH_US set value	70 - 220	175	175	185	185	175	175	185	185
F	HEAVY PAPER BW DUP APP CNT	Black and white heavy paper duplex applying number of sheets	0 - 255	0	0	0	0	0	0	0	0

**Code descriptions**

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)	HL_US	Heater lamp sub (Heat roller for front surface of paper)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

**List of destination groups**

Group	Destination				
	Group A	Group B	Group C	Group D	Group E
Group A	JAPAN	-	-	-	-
Group B	U. S. A	CANADA	INCH	-	-
Group C	AB_B	EUROPE	U. K	AUS.	AB_A
Group D	CHINA	-	-	-	-

**31cpm machine**

Item	Display	Content	Setting range	Default value (SW-A)				Default value (SW-B)			
				Group A	Group B	Group C	Group D	Group A	Group B	Group C	Group D
A	HL_UM PLAIN PAPER BW DUP	Black and white plain paper duplex TH_UM set value	70 - 220	185	190	195	195	185	190	195	195
B	HL_US PLAIN PAPER BW DUP	Black and white plain paper duplex TH_US set value	70 - 220	185	190	195	195	185	190	195	195
C	PLAIN PAPER BW DUP APP CNT	Black and white plain paper duplex applying number of sheets	0 - 255	0	0	0	0	0	0	0	0
D	HL_UM HEAVY PAPER BW DUP	Black and white heavy paper duplex TH_UM set value	70 - 220	185	190	195	195	185	190	195	195
E	HL_US HEAVY PAPER BW DUP	Black and white heavy paper duplex TH_US set value	70 - 220	185	190	195	195	185	190	195	195
F	HEAVY PAPER BW DUP APP CNT	Black and white heavy paper duplex applying number of sheets	0 - 255	0	0	0	0	0	0	0	0

## Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)	HL_US	Heater lamp sub (Heat roller for front surface of paper)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

## List of destination groups

Group	Destination				
	Group A	JAPAN	—	—	—
Group B	U. S. A	CANADA	INCH	—	—
Group C	AB_B	EUROPE	U. K	AUS.	AB_A
Group D	CHINA	—	—	—	—

## 35cpm machine

Item	Display	Content	Setting range	Default value (SW-A)				Default value (SW-B)			
				Group A	Group B	Group C	Group D	Group A	Group B	Group C	Group D
A	HL_UM PLAIN PAPER BW DUP	Black and white plain paper duplex TH_UM set value	70 - 220	195	195	195	195	195	195	195	195
B	HL_US PLAIN PAPER BW DUP	Black and white plain paper duplex TH_US set value	70 - 220	195	195	195	195	195	195	195	195
C	PLAIN PAPER BW DUP APP CNT	Black and white plain paper duplex applying number of sheets	0 - 255	0	0	0	0	0	0	0	0
D	HL_UM HEAVY PAPER BW DUP	Black and white heavy paper duplex TH_UM set value	70 - 220	195	195	195	195	195	195	195	195
E	HL_US HEAVY PAPER BW DUP	Black and white heavy paper duplex TH_US set value	70 - 220	195	195	195	195	195	195	195	195
F	HEAVY PAPER BW DUP APP CNT	Black and white heavy paper duplex applying number of sheets	0 - 255	0	0	0	0	0	0	0	0

## Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)	HL_US	Heater lamp sub (Heat roller for front surface of paper)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

## List of destination groups

Group	Destination				
	Group A	JAPAN	—	—	—
Group B	U. S. A	CANADA	INCH	—	—
Group C	AB_B	EUROPE	U. K	AUS.	AB_A
Group D	CHINA	—	—	—	—

43-10

Purpose	Setting
Function (Purpose)	Used to set the postcard feed cycle

## Section

## Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Press [OK] key. (The set value is saved.)

Item	Display	Content	Setting range	Default value
A	POSTCARD CYCLE	Postcard feed cycle	1 - 99	50

43-20

Purpose	
Function (Purpose)	Used to perform the low-temperature, low-humidity (L/L) environment correction for the fusing temperature setting of each paper (SIM43-01).

## Section

## Operation/Procedure

- 1) Select an item to be set with the scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

Item	Display	Content	Setting range	Default value
A	HL_UM READY LL	Correction value for TH_UM set value in ready standby under LL environment	1 - 99	55
B	HL_US READY LL	Correction value for TH_US set value in ready standby under LL environment	1 - 99	55
C	HL_UM PLAIN BW LL	Correction value for black and white plain paper TH_UM set value under LL environment	1 - 99	55
D	HL_US PLAIN BW LL	Correction value for black and white plain paper TH_US set value under LL environment	1 - 99	55
E	WARMUP FUMON HL_US T LL	Correction value for fusing motor previous rotation start TH_UM set value under LL environment	1 - 99	50
F	WARMUP FUMOFF LL	Fusing motor prior rotation completion time under LL environment	1 - 99	50
G	WARMUP END TIME LL	Correction value for warm-up complete time under LL environment	1 - 99	50
H	HL_UM HEAVY LL	Correction value for heavy paper TH_UM set value under LL environment	1 - 99	55
I	HL_US HEAVY LL	Correction value for heavy paper TH_US set value under LL environment	1 - 99	55
J	HL_UM OHP LL	Correction value for OHP-TH_UM set value under LL environment	1 - 99	55
K	HL_US OHP LL	Correction value for OHP-TH_US set value under LL environment	1 - 99	55
L	HL_UM E-STAR LL	Correction value for preheating TH_UM set value under LL environment	1 - 99	55
M	HL_US E-STAR LL	Correction value for preheating TH_US set value under LL environment	1 - 99	55
N	HL_UM PRE-JOB LL	Correction value for the set value of TH_UM when restoring from preheating under LL environment	1 - 99	50
O	HL_UM WARMUP_120L LL	Correction value for TH_UM set value in Warm-Up at 120°C or below under LL environment	1 - 99	55
P	HL_US WARMUP_120L LL	Correction value for TH_US set value in Warm-Up at 120°C or below under LL environment	1 - 99	55
Q	LO_WARMUP_TIME_LL	Correction value for O, P applying time (timer from Ready complete) under LL environment	1 - 99	50
R	HL_UM WARMUP_120H LL	Correction value for TH_UM set value in Warm-Up at 120°C or above under LL environment	1 - 99	55
S	HL_US WARMUP_120H LL	Correction value for TH_US set value in Warm-Up at 120°C or above under LL environment	1 - 99	55
T	HI_WU_TIME_LL	Correction value for R, S applying time (timer from Ready complete) under LL environment	1 - 99	50
U	HI_WU_FM_ON_TMP_LL	Correction value for FM prior rotation start TH_UM in Warm-Up at alpha °C or above under LL environment	1 - 99	50
V	HI_WU_END_TIME_LL	Correction value for Warm-Up completion time in Warm-Up at alpha °C or above under LL environment	1 - 99	50
W	HI_WU_JOB_SET_TMP_LL	Correction value for Job enable TH_UM temperature (1) when Warm-Up at alpha °C or above under LL environment	1 - 99	50
X	HI_WARMUP_BORDER_LL	Correction value for the threshold value alpha applying SIM43-1-U - W under LL environment	1 - 99	50
Y	LO_WU_JOB_SET_TMP_LL	Correction value for Job enable TH_UM temperature (1) when Warm-Up at alpha °C or below under LL environment	1 - 99	50
Z	JOBEND_FUMON_TIME_LL	Correction value for the after rotation time when completing a job under LL environment	1 - 99	50
AA	HI_WU_JOB_SET_TMP_2_LL	Correction value for Job enable TH_UM temperature (2) when Warm-Up at alpha °C or above under LL environment	1 - 99	50
AB	LO_WU_JOB_SET_TMP_2_LL	Correction value for Job enable TH_UM temperature (2) when Warm-Up at alpha °C or below under LL environment	1 - 99	50

\* WARMUP END TIME LL: 1 count = 1s change

Other correction values: 1 count = 1°C change

\* Items C/D: Correction of "-5" is made for item C and Item D in the case of B5 size

## Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)						HL_UM	Heater lamp main (Heat roller for front surface of paper)		
TH_US	Fusing thermistor sub (Front surface of paper)						HL_US	Heater lamp sub (Heat roller for front surface of paper)		

- Correction value: (-49 - +49), Input value: Actual input value (1 - 99)

Correction value	-49	-25	-5	0	+5	+25	+49
Input value	1	25	45	50	55	75	99

43-22 |

### Purpose

**Function (Purpose)** Used to perform the low-temperature, low-humidity (L/L) environment correction for the fusing temperature setting of each paper (SIM43-04).

### Section

#### Operation/Procedure

- 1) Select an item to be set with the scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

Item	Display	Content	Setting range	Default value
A	HL_UM PLAIN BW DUP LL	Correction value for the upper TH_UM black and white plain paper duplex under the LL environment	1 - 99	55
B	HL_US PLAIN BW DUP LL	Correction value for the upper TH_US black and white plain paper duplex under the LL environment	1 - 99	55
C	PLAIN BW DUP APP CNT LL	Correction value for applying number of sheets in black and white plain paper duplex under LL environment	1 - 99	50
D	HL_UM HEAVY BW DUP LL	Correction value for the upper TH_UM set value of black and white heavy paper duplex under the LL environment	1 - 99	55
E	HL_US HEAVY BW DUP LL	Correction value for the upper TH_US set value of black and white heavy paper duplex under the LL environment	1 - 99	55
F	HEAVY BW DUP APP CNT LL	Correction value for applying number of sheets in black and white heavy paper duplex under LL environment	1 - 99	50

\* PLAIN BW DUP APP CNT LL: 1 count = 1s change

Other correction values: 1 count = 1°C change

## Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)						HL_UM	Heater lamp main (Heat roller for front surface of paper)		
TH_US	Fusing thermistor sub (Front surface of paper)						HL_US	Heater lamp sub (Heat roller for front surface of paper)		

- Setting value: Target value (-49 - +49), Input value: (Actual input value) 1 - 99

Setting value	-49	-25	-5	0	+5	+25	+49
Input value	1	25	45	50	55	75	99

44-1	
Purpose	Setting
Function (Purpose)	Used to set each correction operation function in the image forming (process) section.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)

**Operation/Procedure**

- 1) Select an item to be set with the touch panel.  
(The selected item is highlighted.)
- 2) Press [EXECUTE] key. (The set value is saved.)

CAUTION: Set the items to the default values unless a change is specially required.

Item/Display	Content	Setting range	Default value	NOTE
MD_VG	Membrane decrease (GB) Enable/Disable setting	Black text on white background (Inhibit: 0=NO) White text on black background (Allow: 1=YES)	Enable	
MD_DV_LIFE	DV life correction (GB, DVD) Enable/Disable setting		Enable	
MD_ENV	Environment correction (GB, DVD) Enable/Disable setting		Enable	
MD_DUPLEX	Duplex print correction (GB, DVD) Enable/Disable setting		Enable	
MD_LD	Membrane decrease life correction (laser power) Enable/Disable setting		Enable	
MD_LD_ENV	Environment correction (laser power) Enable/Disable setting		Enable	
TN_LIFE	Enable/Disable setting of the toner density life correction		Enable	
TN_ENV	Enable/Disable setting of the toner density environment correction		Enable	
TN_DUPLEX	Toner density duplex print correction Enable/Disable setting		Enable	
TN_COV	Enable/Disable setting of the toner density print ratio correction		Enable	
TN_AREA	Enable/Disable setting of the toner density area correction		Enable	
TN_DRIP	Enable/Disable setting of the toner density correction unconditional supply		Enable	
TC	Enable/Disable setting of the transfer output correction		Enable	

44-9	
Purpose	Operation data display
Function (Purpose)	Used to display the result data of the high density process control operation.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)

**Operation/Procedure**

Select a target display mode with [CPY/PRN], [OTHER] keys.

Mode	Page number	Item/Display (*: Correction value)	Content	Display range	Default value	
CPY/ PRN*1	1/2 (PROCESS)	REF (TS_OFF) Left	GB ***	GB/DVB default value when TS is OFF	0 - 750	590
		Right	DVB ***		0 - 650	450
		ALL (TS_OFF) Left	GB ***	GB/DVB value after addition or subtraction of the correction amount when TS is OFF	0 - 750	590
		Right	DVB ***		0 - 650	450
		REF (TS_ON_C) Left	GB ***	Copy GB/DVB default value when TS is ON	0 - 750	460
		Right	DVB ***		0 - 650	320
		ALL(TS_ON_C) Left	GB ***	GB/DVB value after addition or subtraction of the correction amount when Copy TS is ON.	0 - 750	460
		Right	DVB ***		0 - 650	320
		REF (TS_ON_P) Left	GB ***	Printer GB/DVB default value when TS is ON	0 - 750	390
		Right	DVB ***		0 - 650	250
		ALL (TS_ON_P) Left	GB ***	GB/DVB value after addition or subtraction of the correction amount when Printer TS is ON	0 - 750	390
		Right	DVB ***		0 - 650	250
		MD_VG Left	GB ***	Drum membrane decrease correction amount GB value	0 - 255	0
		MD_DV_LIFE Left	GB ***	Process developer life correction amount GB/DVB value	-127 - +127	0
		Right	DVB ***		-127 - +127	0
		MD_ENV Left	GB ***	Environment correction amount GB/DVB value	-127 - +127	0
		Right	DVB ***		-127 - +127	0
		MD_DUPLEX Left	GB ***	Duplex print correction amount GB/DVB value	0 - 255	0
		Right	DVB ***		0 - 255	0

Mode		Page number		Item/Display (*: Correction value)	Content	Display range	Default value
CPY/ PRN*1	2/2 (LD)	REF (TS_OFF)		Left LD (CP)	Laser power default value when TS is OFF (CP/PRT)	0 - 255	For default values refer to "Default values for each item".
		REF (TS_OFF)		Right LD (PRT)		0 - 255	
		ALL (TS_OFF)		Left LD (CP)	Laser power value after addition or subtraction of the correction amount when TS is OFF (CP/PRT)	0 - 255	
		ALL (TS_OFF)		Right LD (PRT)		0 - 255	
		REF (TS_ON_C)		Left LD (CP)	Laser power default value when TS is ON (CP/PRT)	0 - 255	
		REF (TS_ON_C)		Right LD (PRT)		0 - 255	
		ALL (TS_ON_C)		Left LD (CP)	Laser power value after addition or subtraction of the correction amount when Copy TS is ON (CP/PRT)	0 - 255	
		ALL (TS_ON_C)		Right LD (PRT)		0 - 255	
		MD_LD		Left LD (CP)	Drum membrane decrease laser power correction amount (CP/PRT)	-127 - +127	0
		MD_LD		Right LD (PRT)		-127 - +127	0
OTHER	1/2 (TN/TC/MD)	TN_TMP_AREA		***	Toner control display temperature/humidity area	1 - 8	4
		TN_TMP_DATA		***	Toner control display temperature AD value	0 - 1023	0
		TN_HUD_DATA		***	Toner control display humidity AD value	0 - 1023	0
		TC_TMP_AREA		***	Transfer display temperature/humidity area	1 - 8	4
		TC_TMP_DATA		***	Transfer display temperature AD value	0 - 1023	0
		TC_HUD_DATA		***	Transfer display humidity AD value	0 - 1023	0
		MD_VG_AREA		***	Membrane decrease drum traveling distance area	1 - 15	1
		MD_DV_LIFE_AREA		***	Developer life area for process	0 - 15	1
		MD_ENV_AREA		***	Environment correction area	1 - 8	1
		MD_DUPLEX_COUNTER		***	Duplex counter	0 - 300	0
		MD_LD_AREA		***	Laser power area	0 - 15	1
		MD_LD_ENV_AREA		***	Laser power environment area	0 - 8	4
		2/2 (CRUM/CNT)		DESTINATION Left	xx	Machine side management CRUM destination	-
		MODEL TYPE		xx	Model type of the machine	0 - 1	0
		CRUM DEST_K	Right	xx	Crum destination	-	-

\*1: The left of the correction amount indicates the execution result, and the right indicates the reference value.

#### Default values for each item

Mode	Item/Display	Default value		
		35cpm machine	31cpm machine	26cpm machine
CPY/ PRN	REF (TS_OFF)	LD (CP)	181	163
		LD (PRT)	181	145
ALL (TS_OFF)	LD (CP)	181	163	145
		LD (PRT)	181	145
REF (TS_ON_C)	LD (CP)	181	163	145
		LD (PRT)	181	145
ALL (TS_ON_C)	LD (CP)	181	163	145
		LD (PRT)	181	145

44-14

<b>Purpose</b>	Operation data display
<b>Function (Purpose)</b>	Used to display the output level of the temperature and humidity sensor.
<b>Section</b>	Process (OPC drum, development)/Fusing/LSU

**Operation/Procedure**

The output levels of the fusing temperature sensor, the machine temperature sensor, and the humidity sensor are displayed.

Item/ Display	Content	Display range
TH_UM	Fusing upper thermistor main detection temperature Fusing upper thermistor main detection temperature A/D value	Temperature: 0 - 255°C ( $\pm 1^\circ\text{C}$ ) AD value: 0-1023
TH_US	Fusing upper thermistor sub detection temperature Fusing upper thermistor sub detection temperature A/D value	Temperature: 0 - 255°C ( $\pm 1^\circ\text{C}$ ) AD value: 0-1023
TH_RA	Temperature thermistor Temperature thermistor A/D value	Temperature: -40.0-60.0°C ( $\pm 0.1^\circ\text{C}$ ) AD value: 0-123
HUD_RA	Humidity sensor Humidity sensor A/D value	Humidity: 5.0-90.0% ( $\pm 0.1\%$ ) AD value: 0-1023

3) Press [OK] key. (The set value is saved.)

To adjust the copy density in the low density area, select the "LOW" mode and change the adjustment value. To adjust the copy density in the high density area, select the "HIGH" mode and change the adjustment value.

When the adjustment value is increased, the copy density is increased. When the adjustment value is decreased, the copy density is decreased.

Item/Display		Content		Setting range	Default value
A	AUTO1	Auto 1	LOW	1 - 99	50
			HIGH	1 - 99	50
B	AUTO2	Auto 2	LOW	1 - 99	50
			HIGH	1 - 99	50
C	TEXT	Text	LOW	1 - 99	50
			HIGH	1 - 99	50
D	TEXT/PRINTED PHOTO	Text/Printed Photo	LOW	1 - 99	50
			HIGH	1 - 99	50
E	TEXT/PHOTO	Text/Photograph	LOW	1 - 99	50
			HIGH	1 - 99	50
F	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
			HIGH	1 - 99	50
G	PHOTOGRAPH	Photograph	LOW	1 - 99	50
			HIGH	1 - 99	50
H	MAP	Map	LOW	1 - 99	50
			HIGH	1 - 99	50

44-43

<b>Purpose</b>	Data display
<b>Function (Purpose)</b>	Used to display the identification information of the developing unit.
<b>Section</b>	Developing system

**Operation/Procedure**

The identification number and the identification signal level of the developing unit are displayed.

Item/Display	Content	Display range	NOTE
A DVCH_KIND_K	K developing unit identification number	1 - 9	The model identification number of the developing unit which is backed up in the EEPROM of the machine.
B DV_TYP_SEL_K	K developing unit identification detection	0 - 1	0 = High (Open) 1 = Low (GND)
C DVCH_AD_K	K developing unit identification AD value	0 - 255	AD value of the developing unit identification voltage

46-4

<b>Purpose</b>	Adjustment (Color scanner mode)
<b>Function (Purpose)</b>	Used to adjust the density in the image send mode.

**Section****Operation/Procedure**

- Select an adjustment target item with scroll key on the touch panel.
- Enter the set value with 10-key.
  - \* When the  $\triangle \nabla$  key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

Mode	Item/Display		Content	Setting range	Default value
LOW	A	AUTO	Auto	1 - 99	50
	B	TEXT	Text	1 - 99	50
	C	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	E	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Map	1 - 99	50
HIGH	A	AUTO	Auto	1 - 99	50
	B	TEXT	Text	1 - 99	50
	C	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	E	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Map	1 - 99	50

46

<b>Purpose</b>	Adjustment (Monochrome copy mode)
<b>Function (Purpose)</b>	Used to adjust the copy density in the copy mode.
<b>Section</b>	

**Operation/Procedure**

- Select an adjustment target item with scroll key on the touch panel.
- Enter the set value with 10-key.
  - \* When the  $\triangle \nabla$  key is pressed, the setting value of each item can be changed with 1up (1down) collectively.

46-5

<b>Purpose</b>	Adjustment (Monochrome scanner mode)
<b>Function (Purpose)</b>	Used to adjust the density in the image send mode.

#### Section

##### Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.  
\* When the  $\Delta$   $\nabla$  key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

Mode	Item/Display	Content	Setting range	Default value
LOW	A AUTO TEXT	Auto/Text	1 - 99	50
	B TEXT	Text	1 - 99	50
	C TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D TEXT/PHOTO	Text/Photograph	1 - 99	50
	E PRINTED PHOTO	Printed Photo	1 - 99	50
	F PHOTOGRAPH	Photograph	1 - 99	50
	G MAP	Map	1 - 99	50
HIGH	A AUTO TEXT	Auto/Text	1 - 99	50
	B TEXT	Text	1 - 99	50
	C TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D TEXT/PHOTO	Text/Photograph	1 - 99	50
	E PRINTED PHOTO	Printed Photo	1 - 99	50
	F PHOTOGRAPH	Photograph	1 - 99	50
	G MAP	Map	1 - 99	50

46-8

<b>Purpose</b>	Adjustment (Color scanner mode)
<b>Function (Purpose)</b>	Used to adjust the image send mode color balance RGB.

#### Section

##### Operation/Procedure

- 1) Select an adjustment target with [R] [G] [B] keys on the touch panel.
- 2) Select an adjustment target item with scroll key on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key. (The set value is saved.)

The color balance can be adjusted separately for the low density area and the high density area.

When the adjustment value is increased, the image density of the target color is increased, and vice versa.

Item/Display	Content	Default value
A LOW DENSITY POINT	Low density correction amount	50
B HIGH DENSITY POINT	High density correction amount	50

46-9

<b>Purpose</b>	Adjustment (RSPF mode)
<b>Function (Purpose)</b>	Used to adjust the scan image density.

#### Section

##### Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.  
\* When the  $\Delta$   $\nabla$  key is pressed, the setting value of each item can be changed with 1up (1down) collectively.

3) Press [OK] key. (The set value is saved.)

This adjustment result affects the image send mode, the copy mode, and the fax mode.

When the adjustment value is increased, the image density is increased, and vice versa.

Item/Display	Content	Setting range	Default value
A COPY : LOW	RSPF copy mode exposure adjustment (Low density side)	1 - 99	48
B SCAN : LOW	RSPF scanner mode exposure adjustment (Low density side)	1 - 99	48
C FAX : LOW	RSPF FAX mode exposure adjustment (Low density side)	1 - 99	48
D COPY : HIGH	RSPF copy mode exposure adjustment (High density side)	1 - 99	53
E SCAN : HIGH	RSPF scanner mode exposure adjustment (Low density side)	1 - 99	53
F FAX : HIGH	RSPF FAX mode exposure adjustment (high density)	1 - 99	53

46-19

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the operating conditions for the density scanning (exposure) of monochrome auto copy mode documents.

#### Section

##### Operation/Procedure

Select an item to be set with touch panel.

When an item is selected, it is highlighted and the setting change is saved.

Item/Display	Content	Set value	Default value
AE_MODE	Auto exposure mode	MODE1, MODE2	MODE2
AE_STOP_COPY	Auto B/W exposure Stop (for copy)	REALTIME/STOP/PRESCAN	STOP
AE_STOP_FAX	Auto B/W exposure Stop (for FAX)	ON/OFF	ON
AE_STOP_SCAN	Auto B/W exposure Stop (for scanner)	REALTIME/STOP/PRESCAN	STOP
AE_FILTER	Auto exposure filter setting	SOFT NORMAL SHARP	NORMAL
AE_WIDTH	AE exposure width	FULL/PART	PART

NOTE:

MODE 1	High gamma (high contrast images)
MODE 2	Normal gamma
STOP	The image density in 3 - 7mm area at the lead edge is scanned, and the output image density is determined according to the scanned density. (The output image density is even for all the surface.)
REALTIME	The densities of the document width are scanned sequentially, and the output image density is determined according to the density in each area of document. (The output image density may not be even for all the surface.)
PRESCAN	The densities of the all surface of document are scanned sequentially, and the output image density is determined according to the average of the scanned densities. (The output image density is even for all the surface.)
AE WIDTH FULL	The document density scan area in the monochrome auto mode is 3 - 7mm at the document lead edge x the document width. This is not related to the PRESCAN mode.
AE WIDTH PART	The document density scan area in the monochrome auto mode is 3 - 7mm at the document lead edge x 100mm width. This is not related to the PRESCAN mode.

46-30

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the resolution in the sub scanning direction in the copy mode.

**Section****Operation/Procedure**

- 1) Refer to the following table, and enter the set value corresponding to the resolution mode with 10-key.
- 2) Press [OK] key. (The set value is saved.)

Item/Display		Content		Setting range	Default value
A	SCAN RESOLUTION SW	Scan resolution selection (COPY: COLOR)	Mode1 Mode2	0 - 1 0 1	0

Mode	Scan mode	Resolution in the sub scanning direction (DPI)		
		25-99% [Magnification ratio]	100-200% [Magnification ratio]	201-400% [Magnification ratio]
Mode1	OC	600	600	1200
	RSPF	600	600	—
Mode2	OC	300	600	1200
	RSPF	400	600	—

46-32

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the document background density reproducibility in the monochrome auto copy mode.

**Section****Operation/Procedure**

- 1) Select a target item of setting with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

Item/Display	Content	Setting range	Default value
A COPY : OC	Copy mode (for OC)	1 - 250	196
B COPY : RSPF	Copy mode (for RSPF)	1 - 250	196
C SCAN : OC	Scanner mode (for OC)	1 - 250	196
D SCAN : RSPF	Scanner mode (for RSPF)	1 - 250	196
E FAX : OC	FAX mode (for OC)	1 - 250	196
F FAX : RSPF	FAX mode (for RSPF)	1 - 250	196

46-37

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the reproduction capability of monochrome mode color.

**Section****Operation/Procedure**

- 1) Select a target item with scroll keys on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key.
- 4) Press [YES] key.

This is to adjust the reproduction capability of red and yellow images when copying color documents with red and yellow images in the monochrome mode.

Applied to the copy mode only.

Item/Display	Content	Setting range	Default value
A R-Ratio	Gray making setting (R)	0 - 1000	63
B G-Ratio	Gray making setting (G)	0 - 1000	877

B-Ratio	Gray making setting (B) (1000-R-Ratio - G-Ratio)
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\* B-Ratio: The value of gray making setting (B) is obtained from the formula below.

$$1000 \cdot R \text{-Ratio} - G \text{-Ratio}$$

When [DEFAULT] key is pressed, the values are set to the initial values (Default).

When the adjustment value of the adjustment item A is increased, the copy density of red images is decreased. When the adjustment value is decreased, the density is increased.

When the adjustment value of the adjustment item B is increased, the copy density of yellow images is increased. When the adjustment value is decreased, the density is also decreased.

46-39

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sharpness of FAX send images.

**Section****Operation/Procedure**

- 1) Select a target item with scroll keys on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

Input small numeric value to obtain crispy image. Input large numeric value to decrease moire.

Item/Display	Content	Setting range	Default value
A 200 x 100 [DPI] OFF	200 x 100 [DPI] halftone OFF	0 - 2	1
B 200 x 200 [DPI] OFF	200 x 200 [DPI] halftone OFF	0 - 2	1
C 200 x 200 [DPI] ON	200 x 200 [DPI] halftone ON	0 - 2	1
D 200 x 400 [DPI] OFF	200 x 400 [DPI] halftone OFF	0 - 2	1
E 200 x 400 [DPI] ON	200 x 400 [DPI] halftone ON	0 - 2	1
F 400 x 400 [DPI] OFF	400 x 400 [DPI] halftone OFF	0 - 2	1
G 400 x 400 [DPI] ON	400 x 400 [DPI] halftone ON	0 - 2	1
H 600 x 600 [DPI] OFF	600 x 600 [DPI] halftone OFF	0 - 2	1
I 600 x 600 [DPI] ON	600 x 600 [DPI] halftone ON	0 - 2	1

46-40

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Collective adjustment of all the modes)

**Section****Operation/Procedure**

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key  
When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
A	EXPOSURE LEVEL(ALL)	Used to adjust the FAX send image density. (Collective adjustment of all the modes)	1 - 99	50

46-41

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Normal)

**Section****Operation/Procedure**

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key  
When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
A	AUTO	Auto	1 - 99	50
B	EXPOSURE1	Exposure 1	1 - 99	50
C	EXPOSURE2	Exposure 2	1 - 99	50
D	EXPOSURE3	Exposure 3	1 - 99	50
E	EXPOSURE4	Exposure 4	1 - 99	50
F	EXPOSURE5	Exposure 5	1 - 99	50
G	EXECUTE MODE	AUTO EXP1 EXP2 EXP3 EXP4 EXP5	Print mode 1 - 6 1 2 3 4 5 6	1 (AUTO) Exposure 1 Exposure 2 Exposure 3 Exposure 4 Exposure 5 Auto Exposure 1 Exposure 2 Exposure 3 Exposure 4 Exposure 5

To check the adjustment density level of items A - F, set the document and set the setting value of item G according to items A - F, and press [EXECUTE] key.

46-42

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Fine)

**Section****Operation/Procedure**

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key  
When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
A	AUTO	Fine/Automatic	1 - 99	50
B	EXPOSURE1	Fine/Exposure 1	1 - 99	50
C	EXPOSURE2	Fine/Exposure 2	1 - 99	50
D	EXPOSURE3	Fine/Exposure 3	1 - 99	50
E	EXPOSURE4	Fine/Exposure 4	1 - 99	50
F	EXPOSURE5	Fine/Exposure 5	1 - 99	50
G	AUTO H_TONE	Fine/Automatic/ Halftone	1 - 99	50
H	EXPOSURE1 H_TONE	Fine/Exposure 1/ Halftone	1 - 99	50
I	EXPOSURE2 H_TONE	Fine/Exposure 2/ Halftone	1 - 99	50
J	EXPOSURE3 H_TONE	Fine/Exposure 3/ Halftone	1 - 99	50
K	EXPOSURE4 H_TONE	Fine/Exposure 4/ Halftone	1 - 99	50
L	EXPOSURE5 H_TONE	Fine/Exposure 5/ Halftone	1 - 99	50
M	EXECUTE MODE	AUTO EXP1 EXP2 EXP3 EXP4 EXP5	Print mode 1 - 12 1 2 3 4 5 6 7 8 9 10 11 12	1 (AUTO) Fine/Auto Fine/ Exposure 1 Fine/ Exposure 2 Fine/ Exposure 3 Fine/ Exposure 4 Fine/ Exposure 5 Fine/ Automatic/ halftone Fine/ Exposure 1/ Halftone Fine/ Exposure 2/ Halftone Fine/ Exposure 3/ Halftone Fine/ Exposure 4/ Halftone Fine/ Exposure 5/ Halftone

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

46-43

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Super Fine)

Section

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key  
When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
A	AUTO	Super Fine/Auto	1 - 99	50
B	EXPOSURE1	Super Fine/ Exposure 1	1 - 99	50
C	EXPOSURE2	Super Fine/ Exposure 2	1 - 99	50
D	EXPOSURE3	Super Fine/ Exposure 3	1 - 99	50
E	EXPOSURE4	Super Fine/ Exposure 4	1 - 99	50
F	EXPOSURE5	Super Fine/ Exposure 5	1 - 99	50
G	AUTO H_TONE	Super Fine/ Auto/Halftone	1 - 99	50
H	EXPOSURE1 H_TONE	Super Fine/ Exposure 1/Halftone	1 - 99	50
I	EXPOSURE2 H_TONE	Super Fine/ Exposure 2/Halftone	1 - 99	50
J	EXPOSURE3 H_TONE	Super Fine/ Exposure 3/Halftone	1 - 99	50
K	EXPOSURE4 H_TONE	Super Fine/ Exposure 4/Halftone	1 - 99	50
L	EXPOSURE5 H_TONE	Super Fine/ Exposure 5/Halftone	1 - 99	50
M	EXECUTE MODE	AUTO  EXP1  EXP2  EXP3  EXP4  EXP5  AUTO H_TONE  EXP1 H_TONE  EXP2 H_TONE  EXP3 H_TONE  EXP4 H_TONE  EXP5 H_TONE	Print mode  1 - 12  1  2  3  4  5  6  7  8  9  10  11  12	1 (AUTO)

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

46-44

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Ultra fine)

Section

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key  
When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
A	AUTO	Ultra Fine/Auto	1 - 99	50
B	EXPOSURE1	Ultra Fine/Exposure 1	1 - 99	50
C	EXPOSURE2	Ultra Fine/Exposure 2	1 - 99	50
D	EXPOSURE3	Ultra Fine/Exposure 3	1 - 99	50
E	EXPOSURE4	Ultra Fine/Exposure 4	1 - 99	50
F	EXPOSURE5	Ultra Fine/Exposure 5	1 - 99	50
G	AUTO H_TONE	Ultra Fine/Auto/ Halftone	1 - 99	50
H	EXPOSURE1 H_TONE	Ultra Fine/ Exposure 1/Halftone	1 - 99	50
I	EXPOSURE2 H_TONE	Ultra Fine/ Exposure 2/Halftone	1 - 99	50
J	EXPOSURE3 H_TONE	Ultra Fine/ Exposure 3/Halftone	1 - 99	50
K	EXPOSURE4 H_TONE	Ultra Fine/ Exposure 4/Halftone	1 - 99	50
L	EXPOSURE5 H_TONE	Ultra Fine/ Exposure 5/Halftone	1 - 99	50
M	EXECUTE MODE	AUTO  EXP1  EXP2  EXP3  EXP4  EXP5  AUTO H_TONE  EXP1 H_TONE  EXP2 H_TONE  EXP3 H_TONE  EXP4 H_TONE  EXP5 H_TONE	Print mode  1 - 12  1  2  3  4  5  6  7  8  9  10  11  12	1 (AUTO)

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

46-45

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (600dpi).

#### Section

##### Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key  
When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
A	AUTO	600dpi/Auto 1	1 - 99	50
B	EXPOSURE1	600dpi/Exposure 1	1 - 99	50
C	EXPOSURE2	600dpi/Exposure 2	1 - 99	50
D	EXPOSURE3	600dpi/Exposure 3	1 - 99	50
E	EXPOSURE4	600dpi/Exposure 4	1 - 99	50
F	EXPOSURE5	600dpi/Exposure 5	1 - 99	50
G	AUTO H_TONE	600dpi/Auto/Halftone 1	1 - 99	50
H	EXPOSURE1 H_TONE	600dpi/Exposure 1/Halftone	1 - 99	50
I	EXPOSURE2 H_TONE	600dpi/Exposure 2/Halftone	1 - 99	50
J	EXPOSURE3 H_TONE	600dpi/Exposure 3/Halftone	1 - 99	50
K	EXPOSURE4 H_TONE	600dpi/Exposure 4/Halftone	1 - 99	50
L	EXPOSURE5 H_TONE	600dpi/Exposure 5/Halftone	1 - 99	50
M	EXECUTE MODE	Print mode	600dpi/Auto 600dpi/Exposure 1 600dpi/Exposure 2 600dpi/Exposure 3 600dpi/Exposure 4 600dpi/Exposure 5 600dpi/Auto/Halftone 600dpi/Exposure 1/Halftone 600dpi/Exposure 2/Halftone 600dpi/Exposure 3/Halftone 600dpi/Exposure 4/Halftone 600dpi/Exposure 5/Halftone	1 - 12 1 2 3 4 5 6 7 8 9 10 11 12
				1 (AUTO)

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

46-47

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the compression rate of copy and scan images (JPEG).

#### Section

##### Operation/Procedure

- 1) Select a target item with scroll keys on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.  
The set value is saved.

Operation mode	Item/Display			Content	Setting range	Default value
FILLING (COLOR) (COLOR mode)*1	A	FILLING (C)	LOW	Low compression (Color)	0	0 (LOW)
				MIDDLE	1	
				HIGH	2	
FILLING (GRAY) (Mono-chrome halftone mode)*1	B	FILLING (G)	LOW	Low compression (Gray)	0	0 (LOW)
				MIDDLE	1	
				HIGH	2	
PUSH SCAN (COLOR) (Scanner (Color mode))	C	SCAN (C) *1	MIDDLE 1	Medium compression mode 1 Low compression	0	1 (MIDDLE 2)
				MIDDLE 2	1	
				MIDDLE 3	2	
PUSH SCAN (GRAY) (Scanner (Mono-chrome halftone mode))	D	SCAN (G) *2	MIDDLE 1	Medium compression mode 1 Low compression	0	1 (MIDDLE 2)
				MIDDLE 2	1	
				MIDDLE 3	2	

\*1: Disable without HDD.

\*2: Setting of compression rate for images when the image compression rate is set to "Medium" in the user mode.

NOTE: When the compression rate is increased, the HDD capacity in the document filing mode is decreased. On the other hand, however, the image quality of some documents may be remarkably reduced.

46-60

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sharpness in the color auto copy mode.

**Section****Operation/Procedure**

- 1) Select a target item with scroll keys on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value is saved.

Item/Display			Content		Setting range	Default value
A	SCREEN FILTER LEVEL	H	Sharpness (filter) adjustment of dot pattern image in auto copy mode	Strong emphasis	1	3 (Auto)
		L		Soft emphasis	2	
		AUTO		Auto	3	
B	CPY PUSH AUTO FILTER LEVEL	SOFT	Sharpness (filter) adjustment for the automatic push scan mode (Text, Printed Photo / Printed Photo images)	SOFT	1	2 (CENTER)
		CENTER		CENTER	2	
		HIGH		HIGH	3	
C	B/W COPY	OFF	Soft filter applying setting in monochrome copy mode	OFF	0	1 (ON)
		ON		ON	1	
D	COLOR PUSH : RGB	OFF	Soft filter applying setting to image in push scan color mode	OFF	0	1 (ON)
		ON		ON	1	
E	B/W PUSH	OFF	Soft filter applying setting to image in push scan monochrome mode	OFF	0	1 (ON)
		ON		ON	1	
F	B/W PRINT	OFF	Setting of ON/OFF of soft filter application to monochrome print images	OFF	0	0 (OFF)
		ON		ON	1	

46-61

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the area separation recognition level.

**Section****Operation/Procedure**

- 1) Select an adjustment mode.
- 2) Select a target adjustment item with scroll key on the touch panel.
- 3) Enter the adjustment value using the 10-key.
- 4) Press [OK] key.

The set value is saved.

**CAUTION:** This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default value, image quality trouble may occur for some documents.

Item/Display		Content	
COLOR	AUTO	[Color/Gray] Auto	
	TPP	[Color/Gray] Manual (Text print)	
MONO	AUTO	[Monochrome] Auto	
	TPP	[Monochrome] Manual (Text print)	

	Item/Display	Content	Setting range	Default value
A	SEGMENT: SWITCH [TXT ON SCR]	Detection ON/OFF: Text on dot	0 - 1	0
B	SEGMENT: SWITCH [LINE SCR]	Detection ON/OFF: line screen	0 - 1	0
C	SEGMENT: SWITCH [SMALL SCR]	Detection ON/OFF: Dot in a small area	0 - 1	0
D	SEGMENT: SWITCH [HIGH LPI]	Detection ON/OFF: High line number judgment select	0 - 1	0
E	SEGMENT: SWITCH [TXT ON SCR IMAGE SEND]	Detection ON/OFF: Text on image send dots	0 - 1	0
F	SEGMENT: ADJUST [BK TXT 1]	Detection level adjustment: Black text 1	1 - 99	50
G	SEGMENT: ADJUST [CL TXT 1]	Detection level adjustment: Color text 1	1 - 99	50
H	SEGMENT: ADJUST [BK TXT 2, CL TXT 2]	Detection level adjustment: Black text 2, Color text 2	1 - 49	25
I	SEGMENT: ADJUST [TXT ON SCR 1]	Detection level adjustment: Text 1 on dots	1 - 99	50
J	SEGMENT: ADJUST [TXT ON SCR 2]	Detection level adjustment: Text 2 on dots	1 - 99	50
K	SEGMENT: ADJUST [TXT ON SCR AREA]	Detection level adjustment: Detection area of text on dots	1 - 15	8
L	SEGMENT: ADJUST [HIGH LPI]	Detection level adjustment: High line number judgment	1 - 49	25
M	SEGMENT: ADJUST [BK]	Detection level adjustment: No chrome judgment	1 - 99	50
N	SEGMENT: ADJUST [CL]	Detection level adjustment: Chrome judgment	1 - 99	50
O	SEGMENT: ADJUST [TXT ON BG]	Detection level adjustment: Text on background	1 - 99	50
P	SEGMENT: ADJUST [SCR 1 HIGH]	Detection level adjustment: High density dots	1 - 49	25

Item/Display		Content	Setting range	Default value
Q	SEGMENT: ADJUST [SCR 1 MIDDLE]	Detection level adjustment: Medium density dots	1 - 49	25
R	SEGMENT: ADJUST [SCR 1 LOW]	Detection level adjustment: Low density dots	1 - 49	25
S	SEGMENT: ADJUST [SCR 2]	Detection level adjustment: Dot 2	1 - 15	8
T	SEGMENT: ADJUST [SCR 3]	Detection level adjustment: Dot 3	1 - 15	8
U	SEGMENT: ADJUST [LINE HALFTONE]	Detection level adjustment: line screen	1 - 49	25

46-62

**Purpose** Adjustment/Setup**Function (Purpose)** Used to set the operating conditions of the ACS, the area separation, the background image process, and the auto exposure mode.**Section****Operation/Procedure**

- 1) Select a target adjustment item with scroll key on the touch panel.
- 2) Enter the adjustment value using the 10-key.
- 3) Press [OK] key.

The set value is saved.

**CAUTION:** This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default value, image quality trouble may occur for some documents.

Item/Display		Content	Setting range	Default value
A	SW_ACN	ACS judgment reference area select	0 - 1	1
B	TEXT_IMAGE	Text/Image judgment priority level adjustment	0 - 6	3
C	TEXT_BLANK	Text/Blank judgment priority level adjustment	0 - 6	4
D	HT_LV	Dot area judgment threshold value adjustment	0 - 6	1
E	AE_AREA_LV	Color AE judgment target area adjustment	0 - 6	3
F	AE_LV_CC	AE background detection division result adjustment: For color copy	0 - 8	4
G	AE_LV_MC	AE background detection division result adjustment: For monochrome copy	0 - 8	4
H	AE_LV_CS	AE background detection division result adjustment: For color scan	0 - 8	4
I	AE_LV_MS	AE background detection division result adjustment: For monochrome scan	0 - 8	4
J	AE_JUDGE_LV_L_U	Color AE background density threshold value adjustment (lower limit)	0 - 4	0
K	AE_JUDGE_LV_L_O	Color AE background density threshold value adjustment (upper limit)	0 - 10	0

Item/Display		Content	Setting range	Default value
L	AE_JUDGE_LV_C		Color AE background detection level adjustment (chroma)	
M	AE_ONOFF_CC	ON	AE mode ON/ OFF switch: For color copy	0 - 1
		OFF		0 1
N	AE_ONOFF_MC	ON	AE mode ON/ OFF switch: For mono-chrome copy	0 - 1
		OFF		0 1
O	AE_ONOFF_CS	ON	AE mode ON/ OFF switch : For color scan	0 - 1
		OFF		0 1
P	AE_ONOFF_MS	ON	AE mode ON/ OFF switch : For mono-chrome copy	0 - 1
		OFF		0 1
Q	BLANK_JUDGE_LV_L	Blank judgment level adjustment (value)		0 - 10
R	BLANK_JUDGE_LV_C	Blank judgment level adjustment (chroma)		0 - 10
S	MODE0_UNDER	Mode 0 developing paper mode select		0 - 6
T	MODE1_UNDER	Mode 1 developing paper mode select		0 - 6
U	MODE5_UNDER	Mode 5 developing paper mode select		0 - 6
V	MODE6_UNDER	Mode 6 developing paper mode select		0 - 6

46-63

**Purpose** Adjustment/Setup**Function (Purpose)** Used to adjust the density in the copy low density section.**Section****Operation/Procedure**

- 1) Select a target adjustment item with scroll key on the touch panel.
- 2) Enter the adjustment value using the 10-key.
- 3) Press [OK] key.

The set value is saved.

When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

Item/Display		Content	Setting range	Default value
A	COLOR COPY : TEXT/PRINTED PHOTO	Text print (color copy)	1 - 9	3
B	COLOR COPY : TEXT	Text (color copy)	1 - 9	3
C	COLOR COPY : PRINTED PHOTO	Printed photo (color copy)	1 - 9	5
D	COLOR COPY : PHOTOGRAPH	Photograph (color copy)	1 - 9	5
E	COLOR COPY : TEXT/PHOTO	Text/Photograph (color copy)	1 - 9	3
F	COLOR COPY : MAP	Map (color copy)	1 - 9	5
G	COLOR COPY : LIGHT	Light document (color density)	1 - 9	6
H	COLOR COPY : TEXT/PRINTED PHOTO (COPY TO COPY)	Copy document, Character print (color copy)	1 - 9	5
I	COLOR COPY : TEXT (COPY TO COPY)	Copy document, Character (color copy)	1 - 9	5
J	COLOR COPY : PRINTED PHOTO (COPY TO COPY)	Copy document, Printed photo (color copy)	1 - 9	5

Item/Display		Content	Setting range	Default value
K	COLOR PUSH : TEXT/PRINTED PHOTO	Text print (color PUSH)	1 - 9	3
L	COLOR PUSH : TEXT	Text (color PUSH)	1 - 9	3
M	COLOR PUSH : PRINTED PHOTO	Printed photo (color PUSH)	1 - 9	5
N	COLOR PUSH : PHOTOGRAPH	Photograph (color PUSH)	1 - 9	5
O	COLOR PUSH : TEXT/PHOTO	Text/Photograph (color PUSH)	1 - 9	3
P	COLOR PUSH : MAP	Map (color PUSH)	1 - 9	5

## 48

### 48-1

Purpose	Adjustment
Function (Purpose)	Used to adjust the scan image magnification ratio (in the main scanning direction and the sub scanning direction).
Section	
Operation/Procedure	
1)	Select a target adjustment item with scroll key on the touch panel.
2)	Enter the set value with 10-key.
3)	Press [OK] key. The set value is saved.

When the adjustment value is increased, the image magnification ratio is increased.

A change of "1" in the adjustment value of item A, C, or E corresponds to a change of about 0.02% in the copy magnification ratio.

A change of "1" in the adjustment value of item B, D, or F corresponds to a change of about 0.1% in the copy magnification ratio.

Item/Display		Content	Setting range	Default value
A	CCD (MAIN)	SCAN main scanning magnification ratio adjustment (CCD)	1 - 99	50
B	CCD (SUB)	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99	50
C	SPF (MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
D	SPF (SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
E	SPFB (MAIN)	RSPF document back surface magnification ratio adjustment (Main scan)	1 - 99	50
F	SPFB (SUB)	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

### 48-5

Purpose	Adjustment
Function (Purpose)	Used to correction the scan image magnification ratio (in the sub scanning direction).

#### Section

#### Operation/Procedure

- 1) Select a target adjustment item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value is saved.

When the image magnification ratio in the sub scanning direction is adjusted with SIM48-1, and a different magnification ratio is specified, and the image magnification ratio is not satisfactory, perform this adjustment.

When there is an error in the image magnification ratio in reduction, change the adjustment value in the high speed mode. When there is an error in the image magnification ratio in enlargement, change the adjustment value in the low speed mode.

Item/Display	Content	Setting range	Default value
A	MR (HI)	Scanner motor (High speed)	1 - 99
B	MR(MID)	Scanner motor (Reference speed)	1 - 99
C	MR(LO)	Scanner motor (Low speed)	1 - 99
D	SPF(HI)	Document feed (SPF) motor (High speed)	1 - 99
E	SPF(MID)	Document feed (SPF) motor (Reference speed)	1 - 99

## 49

### 49-1

Purpose	
Function (Purpose)	Used to perform the firmware update.
Section	

#### Operation/Procedure

- 1) Save the firmware to the USB memory.
- 2) Insert the USB memory into the main unit. (Use USB I/F of the operation panel section.)
- 3) Select a target firmware file for update with the touch panel.
- 4) Select a target firmware.  
Press [ALL] key to select all the Firmware collectively.
- 5) Press [EXECUTE] key.
- 6) Press [YES] key.

The selected firmware is updated.

When the operation is normally completed, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

Item/Display	Content	Error display in case of abnormality
ICU (MAIN)	ICU Main section	ICUM
ICU (BOOTM)	ICU Boot section main	ICUBM
ICU (BOOTCN)	ICU Boot section CN	ICUCN
ICU (SUB)	ICU Sub section (ARM9)	ICUS
LANGUAGE	Language support data program	LANG
GRAPHIC	Graphic data for L-LCD	GRAPH
SLIST	SLIST data for L-LCD	SLIST
PCU (BOOT)	PCU Boot section	PCUB
PCU (MAIN)	PCU Main section	PCUM
FIN (BOOT)	Inner finisher boot section	FINB
FIN (MAIN)	Inner finisher main section	FINM

Item/Display	Content	Error display in case of abnormality
SCU (BOOT)	SCU Boot section	SCUB
SCU (MAIN)	SCU Main section	SCUM
FAX (BOOT)	FAX1 Boot section	FAXB
FAX (MAIN)	FAX1 Main section	FAXM
ANIMATION	Animation data	ANIME
WEB HELP	WEB help	WEBHP

49-3	
Purpose	
Function (Purpose)	Used to update the operation manual in the HDD.

Section	
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#### Operation/Procedure

- 1) Insert the USB memory into the main unit.
  - \* When the USB is not inserted, "INSERT A STORANGE E-MANUAL STORED ON" is displayed. When [OK] key is pressed, the display is shifted to the folder select menu 1.
- 2) Press the folder button of the operation manual data. (The display is shifted to the operation manual update menu.)  
The current version and the update version are displayed.
- 3) Press [EXECUTE] key.  
[EXECUTE] key is highlighted, and [YES] [NO] keys becomes active from gray out.
- 4) When [YES] key is pressed, the selected operation manual is updated.  
When update is completed normally, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

49-5	
Purpose	
Function (Purpose)	Used to perform the watermark update.

Section	
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#### Operation/Procedure

- 1) Insert the USB memory into the main unit.
- 2) Select the button of the folder to perform the watermark update.
- 3) The current version and the update version are displayed.
- 4) Press [EXECUTE] key.
- 5) Press [YES] key.  
The selected watermark is updated.

50-1	
Purpose	Adjustment
Function (Purpose)	Copy image position, image loss adjustment

Section	
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#### Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.  
Set the items other than RRCA, LEAD, and SIDE to the default.  
RRCA: Image lead edge reference position adjustment  
LEAD: Lead edge image loss adjustment  
SIDE: Side image loss adjustment

3) Press [OK] key. (The set value is saved.)

Item/Display		Content	Setting range	Default value
A	Lead edge adjustment value	RRCA	Document lead edge reference position (OC)	0 - 99
B		RRCB-CS12	Registration motor	1 - 99
C		RRCB-DSK	ON	50
D		RRCB-MFT	timing adjustment	1 - 99
E		RRCB-ADU	ADU	50
F		LEAD	Lead edge image loss area setting	0 - 99
G		SIDE	Side image loss area adjustment	0 - 99
H		DENA	Lead edge void area adjustment	1 - 99
I		DENB	Rear edge void area adjustment	1 - 99
J		FRONT/REAR	FRONT/REAR void area adjustment	1 - 99
K	Off-center adjustment	OFFSET_OC	OC document off-center adjustment	1 - 99
L	Magnification ratio correction	SCAN_SPEED_OC	SCAN sub scanning magnification ratio adjustment (CCD)	50
M	Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value	1 - 99
N		DENB-CS1	Tray 1 correction value	1 - 99
O		DENB-CS2	Tray 2 correction value	1 - 99
P		DENB-CS3	Tray 3 correction value	1 - 99
Q		DENB-CS4	Tray 4 correction value	1 - 99
R		DENB-ADU	ADU correction value	60
S		DENB-HV	Heavy paper correction value	1 - 99

A. (RRC-A) Timing from starting document scanning to specifying the image lead edge reference is adjusted. (01.mm/step)

\* When the value is decreased, the timing is advanced. When the value is increased, the timing is delayed.

B - E. (RRC-B) The timing to turning ON the registration roller after receiving the registration signal is adjusted. (0.1mm/step)

\* When the value is decreased, the timing is delayed. When the value is increased, the timing is advanced.

F. (LEAD) The lead edge image loss amount is adjusted. (0.1mm/step)

\* When the value is increased, the image loss is increased.

G. (SIDE) The side image loss amount is adjusted.

\* When the value is increased, the image loss is increased. (0.1mm/step)

H. (DEN-A) The paper lead edge void amount is adjusted. (0.1mm/step)

\* When the value is increased, the void is increased.

I. (DEN-B) The paper rear edge void amount is adjusted. (0.1mm/step)

\* When the value is increased, the void is increased.

J. (FRONT/REAR) The void amount on the right and left edges of paper is adjusted. (0.1mm/step)

50-2			
Purpose	Adjustment		
Function (Purpose)	Used to adjust the copy image position and the image loss. (This simulation is a simplified version of SIM 50-1.)		

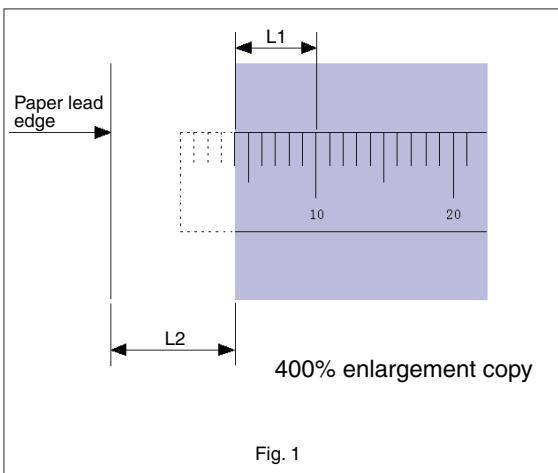
#### Section

##### Operation/Procedure

- Set item A (L1) and item B (L2) to 0.
- Place a rule on the left edge of the document table, and make a copy at a magnification ratio of 400%.
- Measure the length of L1 and L2 on the copied image in the unit of 0.1mm (referring to the figure below). Enter the adjustment values of L1 x 10 and L2 x 10. Be sure to enter the both adjustment values of L1 and L2.

L1: Distance from the lead edge of the copied image to 10mm scale.

L2: Distance from the paper lead edge to the copy image lead edge.



- Press [EXECUTE] key. (The set value is saved.)
- Make a copy at the magnification ratio of 100%, and adjust the rear edge void.

Item/Display		Description	Setting range	Default value
E	Void area adjustment	DENA	Lead edge void area adjustment (When the adjustment value is increased, the void is increased.)	1 - 99
F	DENB	Rear edge void area adjustment (When the adjustment value is increased, the void is increased.)	1 - 99	30
G	FRONT/REAR	FRONT/REAR void amount adjustment (When the adjustment value is increased, the void is increased.)	1 - 99	20

Same as the adjusted items of SIM50-01 except for A and B.

The values adjusted with A and B are reflected to the document lead edge reference position (RRC-A) of SIM50-01 and all the paper lead edge positions (RRCB-\*\*).

All adjustment items: 1 step = 0.1mm change

Item/Display		Description	Setting range	Default value
A	Actual measurement value	L1	Distance from the image lead edge to the scale of 10mm. (Platen 400%, 0.1mm increment)	0 - 999
		L2	Distance from the paper lead edge to the image lead edge (0.1mm increment)	0 - 999
C	Image loss area setting value	LEAD	Lead edge image loss amount setting (When the adjustment value is increased, the image loss is increased.)	0 - 99
		SIDE	Side edge image loss amount setting (When the adjustment value is increased, the image loss is increased.)	0 - 99
D				40
				20

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the print lead edge image position. (PRINTER MODE)

**Section****Operation/Procedure**

- 1) Select a target adjustment item (DEN-C) with scroll key on the touch panel.
- 2) Enter the adjustment value using the 10-key.
- 3) Press [EXECUTE] key.  
The set value is saved, and the adjustment check pattern is printed.
- 4) Measure the distance from the paper lead edge the adjustment pattern to the image lead edge, and check to confirm that it is in the standard adjustment value range.  
Standard reference value: 4.0mm or less

When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distance is decreased.

When the set value is changed by 1, the distance is changed by about 0.1mm.

Item/Display		Content	Setting range	Default value	NOTE
A	DEN-C	Used to adjust the print lead edge image position. (PRINTER MODE)	1 - 99	30	Adjustment value too align the print lead edge for the printer. When the adjustment value of this item is decreased by 1, the printer print start position in the paper transport direction is shifted to the lead edge by 0.1mm.
B	DEN-B	Rear edge void area adjustment	1 - 99	30	Void amount generated at the paper rear edge. When the adjustment value of item B (DEN-B) is decreased by 1, the print area adjustment value in the sub scanning direction for the paper transport direction is decreased by 0.1mm.
C	FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	20	Adjustment of the void amount generated on the left and right edges of paper. When the adjustment value is increased, the void amount is increased.
D	DENB-MFT	Manual feed rear edge void area adjustment correction value	1 - 99	57	
E	DENB-CS1	Tray 1 rear edge void area adjustment correction value	1 - 99	50	
F	DENB-CS2	Tray 2 rear edge void area adjustment correction value	1 - 99	57	
G	DENB-CS3	Tray 3 rear edge void area adjustment correction value	1 - 99	57	
H	DENB-CS4	Tray 4 rear edge void area adjustment correction value	1 - 99	57	
I	DENB-ADU	ADU rear edge void area adjustment correction value	1 - 99	60	
J	DENB-HV	Heavy paper correction value	1 - 99	50	
K	MULTI COUNT	Number of print	1 - 999	1	
L	PAPER	Tray selection	1 - 5	1 2 3 4 5	2 (CS1)
	MFT	Manual paper feed			
	CS1	Tray 1			
	CS2	Tray 2			
	CS3	Tray 3			
	CS4	Tray 4			
M	DUPLEX	Duplex print selection	0 - 1	0 1	1 (NO)
	YES	Yes			
	NO	No			

When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distance from the paper lead edge to the image lead edge is decreased.

When the set value is changed by 1, the distance is changed by about 0.1mm.

50-6

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy image position and the image loss. (RSPF mode)
Section	RSPF

**Operation/Procedure**

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

Item/Display		Content	Setting range	Default value	
A	SIDE1	Front surface document scan position adjustment (CCD)	1 - 99	50	
B	SIDE2	Back surface document scan position adjustment (CCD)	1 - 99	50	
C	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1)	Front surface lead edge image loss amount setting	0 - 99	20
D	Image loss amount setting SIDE1	FRONT_REAR (SIDE1)	Front surface side image loss amount setting	0 - 99	20
E	Image loss amount setting SIDE1	TRAIL_EDGE (SIDE1)	Front surface rear edge image loss amount setting	0 - 99	40
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2)	Back surface lead edge image loss amount setting	0 - 99	20
G	Image loss amount setting SIDE2	FRONT_REAR (SIDE2)	Back surface side image loss amount setting	0 - 99	20
H	Image loss amount setting SIDE2	TRAIL_EDGE (SIDE2)	Back surface rear edge image loss amount setting	0 - 99	40
I	OFFSET_SPF1	SPF front surface document off-center adjustment	1 - 99	50	
J	OFFSET_SPF2	SPF back surface document off-center adjustment	1 - 99	50	
K	SCAN_SPEED_SPF1	RSPF document front surface magnification ratio (Sub scan)	1 - 99	50	
L	SCAN_SPEED_SPF2	RSPF document back surface magnification ratio (Sub scan)	1 - 99	50	

Item A, B: When the adjustment value is increased, the scan timing is delayed.

Item C - H: When the adjustment value is increased, the image loss is increased.

Item E - H: When a shadow image appears on the rear edge, increase the adjustment value to delete the shadow.

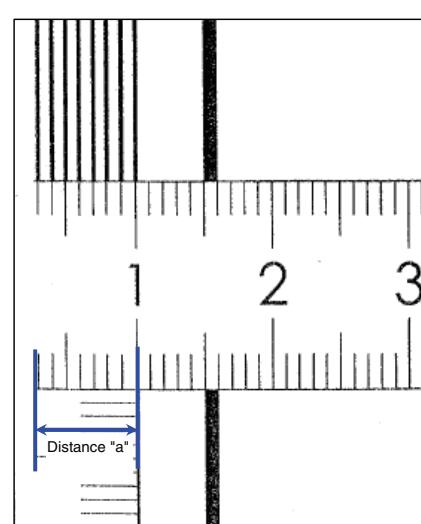
Item A - H: 1 step = 0.1mm change

50-7

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy image position and the image loss (RSPF mode). (This simulation is a simplified version of SIM 50-6.)
Section	RSPF

**Operation/Procedure**

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Set item A (L4) and item B (L5) to 0.
- 3) Set the magnification ratio to 200%, and make a copy in the RSPF duplex mode.
- 4) Measure the size of the printed image. Enter the actual measurement value of distance a (RSPF) to L4 and L5 in the unit of 0.1mm.  
(Adjustment value "1" for 0.1mm)  
L4: Distance a (RSPF front surface: 200%) (unit: 0.1mm)  
L5: Distance a (RSPF back surface: 200%) (unit: 0.1mm)



- 5) Press [EXECUTE] key. (The set value is saved.)

Item/Display		Content	Setting range	Default value
A	L4	Distance (SPF 200%, 0.1mm unit) from the front surface image lead edge to the scale of 10mm.	0 - 999	-
B	L5	Distance (SPF 200%, 0.1mm unit) from the back surface image lead edge to the scale of 10mm.	0 - 999	-
C	LEAD_EDGE (SIDE1)	Front surface lead edge image loss amount setting	0 - 99	20
D	FRONT_REAR (SIDE1)	Front surface side image loss amount setting	0 - 99	20
E	TRAIL_EDGE (SIDE1)	Front surface rear edge image loss amount setting	0 - 99	40
F	LEAD_EDGE (SIDE2)	Back surface lead edge image loss amount setting	0 - 99	20
G	FRONT_REAR (SIDE2)	Back surface side image loss amount setting	0 - 99	20
H	TRAIL_EDGE (SIDE2)	Back surface rear edge image loss amount setting	0 - 99	40

Item C - H: When the adjustment value is increased, the image loss is increased.

Item A - H: 1 step = 0.1mm change

Items C - H are linked with items C - H of SIM50-06.

50-10

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the black print image magnification ratio and the off-center position. (The adjustment is made separately for each paper feed section.)

**Section****Operation/Procedure**

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key. (The set value is saved.)

Item/Display		Content	Setting range	Default value	NOTE	
A	MAIN-MFT	Print off center adjustment value (Manual paper feed)	1 - 99	50	Adjustment Item List	
B	MAIN-CS1	Print off center adjustment value (Tray 1)	1 - 99	50		
C	MAIN-CS2	Print off center adjustment value (Tray 2)	1 - 99	50		
D	MAIN-CS3	Print off center adjustment value (Tray 3)	1 - 99	50		
E	MAIN-CS4	Print off center adjustment value (Tray 4)	1 - 99	50		
F	MAIN-ADU	Print off center adjustment value (Duplex)  CAUTION: If the adjustment items A - F are not properly adjusted, this adjustment cannot be executed properly.	1 - 99	50		
G	SUB-MFT	Registration motor ON timing adjustment	Manual paper feed	1 - 99		
H	SUB-CS12		Standard cassette	1 - 99		
I	SUB-DSK		DESK	1 - 99		
J	SUB-ADU		ADU	1 - 99		
K	MULTI COUNT	Number of print	1 - 999	1	Adjustment pattern print conditions setting	
L	PAPER	Tray selection	Manual paper feed	1 - 5		
			Tray 1			
			Tray 2			
			Tray 3			
			Tray 4			
M	DUPLEX	Duplex print selection	Yes	0 - 1	2 (CS1)	
			No			
				0	1 (NO)	
				1		

Item A - F: When the adjustment value is increased, it is shifted to the front frame side. When the adjustment value is decreased, it is shifted to the rear frame side. 1 step = 0.1mm change

50-12

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to perform the scan image off-center position adjustment. (The adjustment is made separately for each scan mode.)

**Section****Operation/Procedure**

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image position is shifted to the rear frame side. When the adjustment value is decreased, it is shifted to the front frame side.

1step = 0.1mm

Item/Display		Content	Setting range	Default value
A	OC	Document table image off-center adjustment	1 - 99	50
B	SPF (SIDE1)	SPF front surface image off-center adjustment	1 - 99	50
C	SPF (SIDE2)	SPF back surface image off-center adjustment	1 - 99	50

50-27

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to perform the image loss adjustment of scanned images in the FAX or image send mode.

**Section****Operation/Procedure**

- 1) Select a target adjustment mode with [FAX] or [SCANNER] key.
- 2) Select an adjustment target item with scroll key on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key. (The set value is saved.)

Item/Display			Content	Setting range	Default value
FAX send	A	Image loss amount setting	LEAD_EDGE (OC)	OC lead edge image loss amount setting	0 - 100 30 (3mm)
	B	OC	FRONT_REAR (OC)	OC side image loss amount setting	0 - 100 20 (2mm)
	C		TRAIL_EDGE (OC)	OC rear edge image loss amount setting	0 - 100 20 (2mm)
	D	Image loss amount setting	LEAD_EDGE (SPF_SIDE1)	Front surface lead edge image loss amount setting	0 - 100 20 (2mm)
	E	SPF SIDE1	FRONT_REAR (SPF_SIDE1)	Front surface side image loss amount setting	0 - 100 20 (2mm)
	F		TRAIL_EDGE (SPF_SIDE1)	Front surface rear edge image loss amount setting	0 - 100 30 (3mm)
	G	Image loss amount setting	LEAD_EDGE (SPF_SIDE2)	Back surface lead edge image loss amount setting	0 - 100 20 (2mm)
	H	SPF SIDE2	FRONT_REAR (SPF_SIDE2)	Back surface side image loss amount setting	0 - 100 20 (2mm)
	I		TRAIL_EDGE (SPF_SIDE2)	Back surface rear edge image loss amount setting	0 - 100 30 (3mm)
When image send mode (Except for FAX and copy)	A	Image loss amount setting	LEAD_EDGE (OC)	OC lead edge image loss amount setting	0 - 100 0 (0mm)
	B	OC	FRONT_REAR(OC)	OC side image loss amount setting	0 - 100 0 (0mm)
	C		TRAIL_EDGE(OC)	OC rear edge image loss amount setting	0 - 100 0 (0mm)
	D	Image loss amount setting	LEAD_EDGE (SPF_SIDE1)	Front surface lead edge image loss amount setting	0 - 100 0 (0mm)
	E	SPF SIDE1	FRONT_REAR (SPF_SIDE1)	Front surface side image loss amount setting	0 - 100 0 (0mm)
	F		TRAIL_EDGE(SPF_SIDE1)	Front surface rear edge image loss amount setting	0 - 100 0 (0mm)
	G	Image loss amount setting	LEAD_EDGE (SPF_SIDE2)	Back surface lead edge image loss amount setting	0 - 100 0 (0mm)
	H	SPF SIDE2	FRONT_REAR (SPF_SIDE2)	Back surface side image loss amount setting	0 - 100 0 (0mm)
	I		TRAIL_EDGE(SPF_SIDE2)	Back surface rear edge image loss amount setting	0 - 100 0 (0mm)

A-I: When the adjustment value is increased, the image loss is increased.

1step = 0.1mm

50-28

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to automatically adjust the image loss, void area, image off-center, and image magnification ratio.

**Section****Operation/Procedure**

The following adjustment items can be executed automatically with SIM50-28.

- \* ADJ 12 Print image position, image magnification ratio, void area, off-center adjustments (Manual adjustments)
  - \* ADJ 13 Scan image magnification ratio adjustment (Manual adjustment)
  - \* ADJ 14 Scan image off-center adjustment (Manual adjustment)
  - \* ADJ 15 Used to adjust the copy image position and the image loss (Manual adjustments)
- 1) Select an adjustment item with the menu button.
  - 2) Press [EXECUTE] key, and the adjustment pattern is printed.
  - 3) Set the adjustment pattern on the document table.
  - 4) Press [EXECUTE] key, and the adjustment pattern is scanned.
  - 5) Press [OK] key.

Item/Display		Content		Section
OC ADJ	MFT	Document lead edge	Image loss off-center sub scanning direction image magnification ratio adjustment (Document table mode)	Scanner
	CS1	Document off-center	Sub scanning magnification ratio adjustment (RSPF mode)	
	CS2	Sub scanning magnification ratio		

Item/Display		Content		Section
SPF ADJ (RSPF)	ALL	SIDE1 (Front surface)	MFT	Scanner
	SIDE2 (Back surface)	CS1	Document off-center Sub scanning magnification ratio Document lead edge Document off-center Sub scanning magnification ratio	
		CS2		

Item/Display				Content	Section			
SETUP/ PRINT ADJ	ALL	LEAD	MFT	Print off center	Print lead edge adjustment, image off-center (each paper feed tray, duplex mode) adjustment	Engine		
			CS1					
		OFFSET	CS2	Print lead edge				
			ADU					
			CS3					
			CS4					

RESULT	Adjustment result display
DATA	Adjustment operation data display

## 51

51-2	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the contact pressure (deflection amount) on paper by the main unit and the RSPF registration roller. (This adjustment is performed when there is a considerable variation in the print image position on the paper or when paper jams frequently occur.)

### Section

#### Operation/Procedure

- 1) (When RSPF model)
  - Select a target adjustment mode with [SIDE1] or [SIDE2] or [ENGINE] keys.
- 2) Select a target item to be adjusted with scroll keys.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key. (The set value is saved.)

Mode	Display/Item		Content	Setting range	Default value
SIDE1	A	NORMAL_PLAIN_HIGH	RSPF front surface document deflection amount adjustment value (Normal/Plain paper/HIGH)	-	1 - 99 50
	B	NORMAL_PLAIN_LOW	RSPF front surface document deflection amount adjustment value (Normal/Plain paper/LOW)	-	1 - 99 50
	C	NORMAL_THIN_HIGH	RSPF front surface document deflection amount adjustment value (Normal/Thin paper/HIGH)	-	1 - 99 50
	D	NORMAL_THIN_LOW	RSPF front surface document deflection amount adjustment value (Normal/Thin paper/LOW)	-	1 - 99 50
	E	RANDOM_PLAIN_HIGH	RSPF front surface document deflection amount adjustment value (Random/Plain paper/HIGH)	-	1 - 99 50
	F	RANDOM_PLAIN_LOW	RSPF front surface document deflection amount adjustment value (Random/Plain paper/LOW)	-	1 - 99 50
	G	RANDOM_THIN_HIGH	RSPF front surface document deflection amount adjustment value (Random/Thin paper/HIGH)	-	1 - 99 50
	H	RANDOM_THIN_LOW	RSPF front surface document deflection amount adjustment value (Random/Thin paper/LOW)	-	1 - 99 50
SIDE2	A	NORMAL_PLAIN_HIGH_1	RSPF back surface document deflection amount adjustment value 1 (Normal/Plain paper/HIGH)	-	1 - 99 50
	B	NORMAL_PLAIN_LOW_1	RSPF back surface document deflection amount adjustment value 1 (Normal/Plain paper/LOW)	-	1 - 99 50
ENGINE	A	TRAY1(S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99 25
	B	TRAY1(L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99 25
	C	TRAY2(S)	Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99 50
	D	TRAY2(L)	Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99 50
	E	MANUAL PLAIN PAPER (S)	Manual feed tray/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99 40

Mode	Display/Item	Content	Setting range	Default value
ENGINE	F MANUAL PLAIN PAPER (L)	Manual feed tray/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99 40
	G MANUAL HEAVY PAPER (S)	Manual feed tray/deflection adjustment value (Heavy paper/Small size)	LT size (216mm) or less	1 - 99 70
	H MANUAL HEAVY PAPER (L)	Manual feed tray/deflection adjustment value (Heavy paper/Large size)	LT size (216mm) or above	1 - 99 70
	I MANUAL OHP	Manual feed tray/deflection adjustment value (OHP)	-	1 - 99 30
	J MANUAL ENV	Manual feed tray/deflection adjustment value (Envelope)	-	1 - 99 40
	K ADU PLAIN PAPER (S)	ADU/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99 50
	L ADU PLAIN PAPER (L)	ADU/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99 50
	M DESK (S)	DESK/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99 20
	N DESK (L)	DESK/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99 25

#### Note on "Large size" and "Small size"

Small size: The paper length in the transport direction is shorter than the LT size (216mm).

Large size: The paper length in the transport direction is longer than the LT size (216mm).

#### Adjustment value

When the adjustment value is increased, the warp amount is increased. When the adjustment value is decreased, the warp amount is decreased.

(When the adjustment value is changed by 1, the stop timing is changed by 0.1mm.)

51-9	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the ON/OFF timing of the separation voltage.
Section	

#### Operation/Procedure

- Select an adjustment target item with scroll key.
- Enter the set value with 10-key.
- Press [OK] key. (The set value is saved.)

Item	Display	Content	Setting range	Default value
A	SHV ON	Separation voltage ON/OFF timing adjustment *1	25 - 90	50
B	SHV OFF	Separation voltage OFF timing adjustment *2	50 - 90	75

\*1: Transfer V2ON reference

(Synchronized with the adjustment value of 50)

\*2: Transfer V2OFF reference

(Synchronized with the adjustment value of 50)

- Press [EXECUTE] key.

The A5R width detection level is recognized.

- Open the RSPF paper feed guide to the minimum width.

- Press [EXECUTE] key.

The minimum width detection level is recognized.

When the above operation is not performed normally, "ERROR" is displayed and. When the above operation is completed normally, "COMPLETE" is displayed.

1	TRAYVOLMAX	Tray size volume maximum value
2	TRAYVOLA4R	Tray volume A4R size adjustment value
3	TRAYVOLA5R	Tray volume A5R size adjustment value
4	TRAYVOLMIN	Tray size volume minimum value

53-7	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the RSPF document size width sensor.
Section	

#### Operation/Procedure

- Select an adjustment target item with scroll key on the touch panel.
- Enter the set value with 10-key.
- Press [OK] key. (The set value is saved.)

Item/Display		Setting range	Default value
A	AD_MAX	Max. width position	0 - 1023 84
B	AD_P1	A4R width position	0 - 1023 509
C	AD_P2	A5R width position	0 - 1023 808
D	AD_MIN	Min. width position	0 - 1023 961

## 53

53-6	
Purpose	Adjustment
Function (Purpose)	Used to adjust the detection level of the RSPF document width.
Section	

#### Operation/Procedure

- Open the RSPF paper feed guide to the maximum width.
- Press [EXECUTE] key.  
The maximum width detection level is recognized.
- Open the RSPF paper feed guide to the A4R width.
- Press [EXECUTE] key.  
The A4R width detection level is recognized.
- Open the RSPF paper feed guide to the A5R width.

53-8

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the document lead edge reference and the RSPF mode document scan position.

**Section****Operation/Procedure**

Select an adjustment item with [AUTO] [MANUAL] key.

**AUTO: Document lead edge reference (RRCA) adjustment (Auto adjustment)**

- 1) Set a sheet of black paper of A4 or 11"x 8.5" on the document table.
- 2) Press [EXECUTE] key. (The adjustment is performed and the adjustment value is saved.)

Item/Display	Content	Setting range	Default value
MEASUREMENT DISTANCE	Document lead edge measurement distance	0-255 (0.1mm unit)	-
RRCA	Document lead edge reference position	0 - 99	50

**MANUAL: RSPF mode document scan position adjustment**

- 1) Enter the set value with 10-key.
- 2) Press [OK] key. (The set value is saved.)

Item/Display	Content	Setting range	Default value
A ADJUST VALUE	RSPF mode document scan position adjustment (Scanner stop position adjustment)	1 - 99	5

- When the adjustment value is increased, the scanner stop position in the RSPF mode is shifted to the right.
- When the adjustment value is changed by 1, the position is shifted by 0.1mm.

**55**

55-1

<b>Purpose</b>	(Do not use this function unless specially required.)
<b>Function (Purpose)</b>	Used to set the specifications of the engine control operations. (SOFT SW)

**Section****Operation/Procedure**

55-2

<b>Purpose</b>	(Do not use this function unless specially required.)
<b>Function (Purpose)</b>	Used to set the specifications of the scanner control operation. (SOFT SW)

**Section****Operation/Procedure**

55-3

<b>Purpose</b>	(Do not use this function unless specially required.)
<b>Function (Purpose)</b>	Used to set the specifications of the controller operation. (SOFT SW)

**Section****Operation/Procedure**

55-10

<b>Purpose</b>	Adjustment/Setting
<b>Function (Purpose)</b>	Used to set the special stamp text. (Taiwan only)

**Section****Operation/Procedure**

- 1) Select an item to be set (digit, color, type) with the scroll key.
- 2) Enter the value corresponding to the setting item with 10-key.
- 3) Press [OK] key. (The set value is saved.)

Item/Display		Content		Setting range	Default value
A	1ST DIGIT	First digit (left edge)		1 - 90	1
B	2ND DIGIT	Second digit			
C	3RD DIGIT	Third digit		32 [blank: 20H]	
D	4TH DIGIT	Fourth digit		65 - 90 [Alphabet: 41H("A") - 5AH("Z")]	
E	5TH DIGIT	Fifth digit		48 - 57 [Numeral: 30H("0") - 39H("9")]	
F	6TH DIGIT	Sixth digit (right edge)			
G	COLOR	K C M Y R G B	Color specification input		0
H	TYPE	PATTERN 1 PATTERN 2 PATTERN 3	Print com- posing method	Edging type OR process type No-delete- composition type	1

**Input value**

Print	H	I	J	K	L	M	N
Input value	32	65	66	67	69	70	71

Print	H	I	J	K	L	M	N
Input value	72	73	74	75	76	77	78

Print	O	P	Q	R	T	U	V
Input value	79	80	81	82	84	85	86

Print	W	X	Y	Z	0	1	2
Input value	87	88	89	90	48	49	50

Print	3	5	6	7	8	9
Input value	51	53	54	55	56	57

56-1	
<b>Purpose</b>	Backup
<b>Function (Purpose)</b>	Used to transport data between HDD - MFP PWB SRAM/EEPROM. (Used to repair the PWB.)
<b>Section</b>	
<b>Operation/Procedure</b>	<p>1) Select a target content of data transfer.</p> <p>2) Press [EXECUTE] key and press [YES] key.</p> <p>Data transfer of the item selected in procedure 1) is executed.</p> <p>When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.</p>
EEPROM → HDD	Transfer from EEPROM to HDD
HDD → EEPROM	Transfer from HDD to EEPROM

56-2	
<b>Purpose</b>	Data backup
<b>Function (Purpose)</b>	Used to backup the data in the EEPROM, SD Card, and HDD (including user authentication data and address data) to the USB memory. (Corresponding to the device cloning and the storage backup.)
<b>Section</b>	

- Operation/Procedure**
- 1) Insert the USB memory into the main unit.
  - 2) Select a target transfer item with the touch panel.
 

<IMPORT>  
From USB MEMORY DEVICE To EEPROM, SD Card HDD  
<EXPORT>  
From EEPROM, SD Card, HDD To USB MEMORY
  - 3) Press [EXECUTE] key, and press [YES] key.
- Data transfer selected in the procedure 2) is performed
- When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

#### Machine with the DSK installed

- 1) Insert the USB memory into the main unit.
  - 2) Select a target transfer item with the touch panel.
    - IMPORT  
From USB MEMORY DEVICE to EEPROM, SD Card HDD
    - EXPORT  
From EEPROM, SD Card, HDD to USB MEMORY DEVICE
  - 3) Enter the password with 10-key.
  - 4) Press [SET] key.
  - 5) Press [EXECUTE] key, and press [YES] key.
- Data transfer selected in the procedure 2) is performed.
- When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

#### Data list outside the backup targets

EEPROM/SD Card

PWB Type	Content	NOTE
Controller	Machine serial No.	
	Product key information	
	Various counter	Copy counter/FAX send counter etc.
	Trouble history	
PCU	Machine serial No.	
	Various counter	Maintenance counter
	Machine adjustment execute history	
	Trouble history	
SCU	Various counter	Maintenance counter
	Trouble history	

HDD

Classification	Content	NOTE
Japanese FEP	User dictionary	
Job end list	Job end list display data (The image send series include the preserved job list.)	
Log	Job log	Read from WEB is enable.
New N/A	<ul style="list-style-type: none"> <li>• Print history information</li> <li>• JAM history information</li> <li>• Trouble history information</li> <li>• Same position continuous jam count value</li> <li>• Charging information</li> <li>• Life information</li> </ul>	
Operation manual	E-manual	

56-3

<b>Purpose</b>	Data backup
<b>Function (Purpose)</b>	Used to backup the document filing data to the USB memory.

#### Section

#### Operation/Procedure

- 1) Insert the USB memory into the main unit.
  - 2) Select a target transfer item with the touch panel.
 

<IMPORT>  
From USB MEMORY DEVICE to EEPROM, SD Card, HDD  
<EXPORT>  
From EEPROM, SD Card, HDD to USB MEMORY DEVICE
  - 3) Press [EXECUTE] key, and press [YES] key.
- Data transfer selected in the procedure 2) is performed.
- When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-4

<b>Purpose</b>	Data backup
<b>Function (Purpose)</b>	Used to backup the JOB log data to the USB memory.

#### Section

#### Operation/Procedure

- 1) Insert the USB memory into the main unit.
  - 2) Press [JOB LOG EXPORT] key.
  - 3) Press [EXECUTE] key, and press [YES] key.
- Data transfer selected in the procedure 2) is performed.
- When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-5

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to import the SIM22-6 data to a USB memory in the TEXT format.

**Section****Operation/Procedure**

- 1) Insert the USB memory into the main unit.
- 2) Select a kind of data to be imported.
- 3) Press [EXECUTE] key, and press [YES] key.  
Procedure 2) The selected data are imported.  
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-11

<b>Purpose</b>	Data copy
<b>Function (Purpose)</b>	Used to save the data in the SD card to the HDD temporarily.

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key, and press [YES] key.  
The data are saved temporarily to the HDD.  
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

Error display	Content
COMPLETE	Normal completion
WARNING	HDD unmounting
ERROR (HDD ACCESS ERROR)	HDD access disable
ERROR (LOW LEVEL BLOCK WRITE ERROR)	Low level block IO error: write
ERROR (LOW LEVEL BLOCK READ ERROR)	Low level block IO error: read
ERROR (NO DATA ADJUSTMENT)	Inconsistent data
TROUBLE (U2-42)	U2-42 occurrence

56-12

<b>Purpose</b>	Data copy
<b>Function (Purpose)</b>	Used to copy the SD card data saved temporarily in the HDD with SIM56-11 to the machine.

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key, and press [YES] key.  
The set values are copied from the HDD to the SD card.  
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

Error display	Content
COMPLETE	Normal completion
WARNING	SD/HDD unmounting
NO DATA	No data
ERROR (EXPORT DATA ILLEGAL)	Export data illegal
ERROR (LOW LEVEL BLOCK READ ERROR)	Low level block IO error: read
ERROR (NO DATA ADJUSTMENT)	Inconsistent data (Error at the verify check)
ERROR (SD ACCESS ERROR)	SD access error (File IO error)

60

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the memory operations (read/write) of the MFP PWB.

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.  
Start the test.

Result display	Description
OK	Success
NG	Fail
NONE	Not installed (Including DIMM trouble)
INVALID	Execution disable

SLOT	Description
ICU SLOT-1	ICU standard memory
ICU SLOT-2	ICU expansion memory
PCL SLOT-1	Printer standard memory
PCL SLOT-2	Printer expansion memory
ACRE SLOT	Enhanced compression kit memory

61

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the LSU polygon motor rotation and laser detection.

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.  
When the operation is completed normally, [OK] is displayed.  
In case of an abnormal end, [NG] is displayed.

Display	Content
LSU TESTRESULT NG: PG	Polygon mirror rotation abnormality
LSU TESTRESULT NG: K	Laser abnormality (K)

61-3

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the laser power

**Section****Operation/Procedure**

- 1) Select a target mode for adjustment with [COPY], [PR600/FAX], [PR1200] on the touch panel.
- 2) Select an adjustment target item with scroll key on the touch panel.
- 3) Enter the adjustment value using the 10-key.
- 4) Press [OK] key. (The set value is saved.)

When the laser power and the DUTY adjustment value are increased, the print density is increased and the line width of line images are increased.

Mode	Item/Display	Content	Setting range	Default value			Destination linkage
				26cpm machine	31cpm machine	35cpm machine	
COPY	A LASER POWER (BW)	Laser power setting/BW	0 - 255	145	163	181	X
	B LASER POWER TS (BW)	Laser power setting toner save/BW	0 - 255	145	163	181	X
PR600/FAX	A LASER POWER (BW)	Laser power setting/BW	0 - 255	145	163	181	X
	B LASER POWER TS (BW)	Laser power setting toner save/BW	0 - 255	145	163	181	X
PR1200	A LASER POWER (BW)	Laser power setting/BW	0 - 255	145	163	181	X
	B LASER POWER TS (BW)	Laser power setting toner save/BW	0 - 255	145	163	181	X

62

62-1

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to format the hard disk. (HDD: Excluding the Operation manual and the watermark data)

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

Used to execute the HDD format.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-2

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check read/write of the hard disk (partial).

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

62-3

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check read/write of the hard disk (all areas).

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

Read/write operations are performed.

62-6

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to perform the self diagnostics of the hard disk.

**Section****Operation/Procedure**

- 1) Select the self diag area.
- 2) Press [EXECUTE] key.

The self diag operation is performed.

NOTE: E7-03 error occurs. If there may be a trouble in the HDD, use this simulation to check the HDD.

SHORT S.T	Partial area diag
EXTENDED S.T	All area diag

When the operation is completed, [EXECUTE] key returns to the normal display.

Normal completion → "OK (RESULT:0)" is displayed.

Abnormal end → "NG (RESULT: Other than 0)" is displayed.

\* If the simulation cannot be executed or terminated abnormally for some reason, "ERROR" is displayed on the corresponding section.

62-7

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to print the hard disk self diagnostics error log.

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.

ERROR LOG SECTOR of the SMART function is executed, and the result is printed.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-8

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to format the hard disk. (HDD: Excluding the Operation Manual, the watermark data, and the system area)

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

Used to execute the hard disk format.

When the operation is completed, [EXECUTE] key returns to the normal display.

\* When the HDD formatting (except for the system area) is not completed normally, "HDD FORMAT (EXCEPT SYSTEM AREA) NG" is displayed.

62-10

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the job completion list data.

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

Used to delete the job log data.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-11

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to delete the document filing data.

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

Used to delete the document filing data.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-12

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set Enable/Disable of auto format in a hard disk trouble.

**Section****Operation/Procedure**

- 1) Enter the set value with 10-key.
- 2) Press [OK] key.

The set value is saved.

When it is set to Enable, if a read error of HDD occurs in the system data storage area (FAX/device cloning data, etc.), only the system data storage area is cleared.

A	0	Enable
	1	Disable (Default)

62-13

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to format the hard disk. (Operation Manual, watermark data only)

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The operation manual data are deleted.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-14

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to initialize (remake) only the database file of the HDD.

**Section****Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The database file is initialized

When the operation is completed, [EXECUTE] key returns to the normal display.

63

63-1

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to display the shading correction result.

**Section****Operation/Procedure**

- 1) Select a target color to display with [R] [G] [B] on the touch panel.

Item/Display	Content	NOTE
GAIN ODD	Gain adjustment value (odd number)	
GAIN EVEN	Gain adjustment value (Even number)	
OFFSET ODD	Offset value (odd number)	
OFFSET EVEN	Offset value (even number)	
SMP AVE ODD	Reference plate sampling average value (ODD)	
SMP AVE EVEN	Reference plate sampling average value (EVEN)	
TARGET VALUE	Target value	
BLACK LEVEL	Black output level	

Item/ Display	Content	NOTE	
ERROR CODE	Error code (0, 1-14) (for debug)	0	No error
		1	Loop number over
		2	The target value is under the specified value.
		3	The gain set value is negative.
		4	END is not asserted. (Gain adjustment)
		5	(reserve)
		6	Underflow
		7	Black shading error
		8	Other error
		9	END is not asserted. (White shading)
		10	END is not asserted. (Black shading)
		11	END is not asserted. (Light quantity correction)
		12	END is not asserted. (Scan)
		13	Register check error. (When booting/ Before gain)
		14	Register check error. (Before light quantity correction)
RSPF WHITE LEVEL 1ST	First scan RSPF white reference level		
RSPF WHITE LEVEL 2ND	Second scan RSPF white reference level		

63-2	
Purpose	Adjustment
Function (Purpose)	Used to perform shading.
Section	

#### Operation/Procedure

- 1) (When RSPF model)

Press [EXECUTE] key.

Used to perform shading.

When the operation is completed, [EXECUTE] key returns to the normal display.

63-3	
Purpose	Adjustment
Function (Purpose)	Used to perform scanner (CCD) color balance and gamma auto adjustment.
Section	Scanner

#### Operation/Procedure

- 1) Place the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) on the reference position of the left rear frame side of the document table.
- 2) Select a target color of data display with [R] [G] [B] keys, and press [OC] key.
- 3) Press [EXECUTE] key.  
The scanner (CCD) color balance automatic adjustment is performed.

When the operation is completed, data are displayed on the initial screen.

63-4	
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Purpose	Adjustment/Setting/Operation data check
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Function (Purpose)	Used to display the SIT chart patch density.
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Section
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#### Operation/Procedure

- Set the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) to the reference position on the left rear frame side of the document table.
- Select a target color of data display with [R] [G] [B] keys, and press [OC] key.
- Select a data display mode.

GAMMA THROUGH	SIT chart scan data
COPY GAMMA	Copy mode gamma process data of the SIT chart scan data
SCANNER GAMMA	Image send mode gamma process data of the SIT chart scan data
SIT CHECK	SIT chart scan data/Check result

- Press [EXECUTE] key.

The patch of the SIT chart is scanned.

When the operation is completed, data are displayed on the initial screen.

63-5	
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Purpose	Adjustment/Setup
---------	------------------

Function (Purpose)	Used to perform the scanner (CCD) color balance and gamma default setting.
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Section
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#### Operation/Procedure

- Press [SIDE A(OC)] key.
- Press [EXECUTE] key, and press [YES] key
- The scanner (CCD) color balance and gamma are set to the default.

64-2	
Purpose	Operation test/check
Function (Purpose)	Test print. (Self print) (Monochrome mode)
Section	

**Operation/Procedure**

- 1) Set the print conditions.  
Select an item to be print condition with scroll keys.  
Change the set values with 10-key.
- 2) Press [EXECUTE] key.  
The test print (self print) is performed.

Item/Display		Content	Setting range	Default value
A	PRINT PATTERN (1, 2, 17 - 19)	Print pattern specification (* For details, refer to the description below.)	1 - 58 (Printable only 1, 2, 17 - 19)	1
B	DOT1 (DOT1>=2 IF A: 2)	Setting of print dot number (M parameter) (Self print pattern: m by n)	1-255 (Pattern 2, 11: 2-255 except above: 1-255)	1
C	DOT2 (DOT1>=2 IF A:2)	Setting of blank dot number (N parameter) (Self print pattern: m by n)	0-255 (Pattern2, 11: 2-255 except above: 0-255)	254
D	DENSITY (DOT1>=2 IF A:2)		Used to specify the print gradation.	1-255
E	MULTI COUNT		Number of print	1 - 999
F	EXPOSURE (2 - 8 IF A: 17 - 19)	Exposure mode specification	1-8 (Pattern 17-19: 2-8 except above: 1-8)	1 2 3 4 5 6 7 8
G	PAPER	Tray selection	Manual paper feed Tray 1 Tray 2 Tray 3 Tray 4	1 - 5 1 2 3 4 5
H	DUPLEX	Duplex print selection	Yes No	0 - 1 0 1
I	PAPER TYPE	Paper type	Standard paper Heavy paper OHP Envelope	1 - 6 1 2 3 4

**Print pattern of Item A**

Pattern No.	Content	Pattern generating section	NOTE
1	Grid pattern	LSU-ASIC	<ul style="list-style-type: none"> <li>Print is started at 4mm from the paper lead edge.</li> <li>Writing regardless of void. The first one is fixed to LD1.</li> </ul>
2	Dot print		—
17	All background (halftone)	Halftone (IMG-ASIC rear process)	—
18	256 gradations pattern (Other dither)		<ul style="list-style-type: none"> <li>16 gradations are printed in the main scan direction, and the following 16 gradations are printed in the next line. (16 x 16 patch print)</li> <li>Printing is started at 5mm from the paper lead edge.</li> <li>Printing is made from 255 gradation, and 0 - 254 gradations are printed.</li> </ul>
19	256 gradations pattern (For text dither)		—

64-4

Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print)

**Section****Operation/Procedure**

- 1) Set the print conditions.  
Select an item to be print condition with scroll keys.  
Change the set values with 10-key.
- 2) Press [EXECUTE] key.
- 3) The test print (self print) is performed.

Item/Display		Content		Setting range	Default value
A	PRINT PATTERN	Specification of the print pattern (* For details, refer to the description below.)		1 - 3	3
B	DENSITY	Used to specify the print gradation.		1 - 255	128
C	MULTI COUNT	Number of print		1 - 999	1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1
		CS1		Tray 1	2
		CS2		Tray 2	3
		CS3		Tray 3	4
		CS4		Tray 4	5
E	PAPER TYPE	PLAIN	Paper type	Standard paper	0
		HEAVY		Heavy paper	1

**Print pattern of Item A**

Pattern No.	Content
1	256 gradations pattern (B/W)
2	Halftone pattern (B/W)
3	Background dot print

64-5

Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PCL)

**Section****Operation/Procedure**

- 1) Set the print conditions.  
Select an item to be print condition with scroll keys.  
Change the set values with 10-key.
- 2) Press [EXECUTE] key.  
The test print (self print) is performed.

Item/Display		Content		Setting range	Default value
A	PRINT PATTERN	Print pattern specification		1 - 2	2
B	MULTI COUNT	Number of print		1 - 999	1
C	PAPER	MFT	Paper feed tray selection	Manual paper feed	1
		CS1		Tray 1	2
		CS2		Tray 2	3
		CS3		Tray 3	4
		CS4		Tray 4	5
D	PAPER TYPE	PLAIN	Paper type	Standard paper	0
		HEAVY		Heavy paper	1
E	TONER SAVE MODE	OFF	Monochrome toner save	not set.	0
		ON		set.	1

**Print pattern of Item A**

Pattern No.	Content
1	B/W
2	Service chart (B/W)

64-6

Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PS)
Section	

**Operation/Procedure**

- 1) Set the print conditions.  
Select an item to be print condition with scroll keys.  
Change the set values with 10-key.
- 2) Press [EXECUTE] key.  
The test print (self print) is performed.

Item/Display		Content		Setting range	Default value
A	PRINT PATTERN	Print pattern specification		1	1
B	MULTI COUNT	Number of print		1 - 999	1
C	PAPER	Paper feed tray selection	Manual paper feed	1	2 (CS1)
			Tray 1	2	
			Tray 2	3	
			Tray 3	4	
			Tray 4	5	
D	PAPER TYPE	Paper type	Standard paper	0	0 (PLAIN)
			Heavy paper	1	
E	TONER SAVE MODE	Monochrome toner save	not set.	0	0 (OFF)
			set.	1	

**Print pattern of Item A**

Pattern No.	Content
1	B/W

65

65-1

Purpose	Adjustment
Function (Purpose)	Used to adjust the touch panel (LCD display section) detection coordinates.
Section	Operation panel section

**Operation/Procedure**

Touch the center of the cross mark at the four corners of the screen.

When the adjustment is completed normally, the screen shifts to the simulation sub number entry menu.

In case of an error, the screen returns to the adjustment menu.



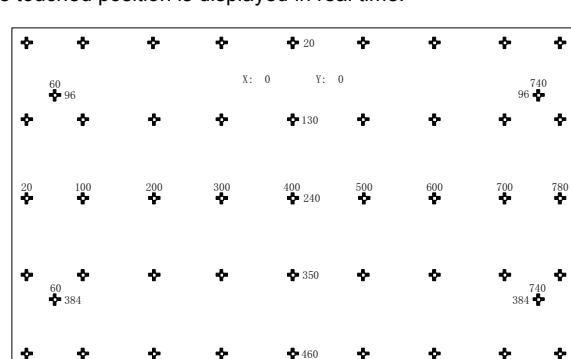
65-2

Purpose	Operation check/test
Function (Purpose)	Used to display the touch panel (LCD display section) detection coordinates.
Section	

**Operation/Procedure**

Touch the touch panel.

The coordinates X (horizontal direction) and Y (vertical direction) of the touched position is displayed in real time.



65-5

<b>Purpose</b>	Operation check/test
<b>Function (Purpose)</b>	Used to check the operation panel key input.

**Section****Operation/Procedure**

Press the keys sequentially according to the guidance displayed on the screen.

If the key entry is effective, the guidance for pressing the next key is displayed. When all the key entries are completed, "COMPLETE" is displayed.

&lt;Check target key&gt;

JOB STATUS
SYSTEM SETTINGS
HOME
1
2
3
4
5
6
7
8
9
AUDIT CLEAR
0
PROGRAM
CLEAR
STOP
CLEAR ALL/RESET
START (MONO)

66-2

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to enter a country code and set the default value for the country code.

**Section****Operation/Procedure**

- When the machine enters Simulation 66-02, the following screen is displayed.

- \* When [DEST CODE] button is pressed, the display is shifted to the country code list screen.

- \* The currently set country code is displayed in the column of "PRESENT:".

- Enter the country code (8 digits) with 10-key([0]/[1]). The entered country code is displayed in the column of "NEW:" and [SET] key becomes active.

- \* When [C] key is pressed, the column of "NEW:" is cleared.

- When [SET] button is pressed after entering the country code, [EXECUTE] button becomes active. The country code is displayed in the column of "PRESENT:", and the column of "NEW:" is cleared.

- When [EXECUTE] button is pressed, it is highlighted and [YES] and [NO] buttons become active. The country name is displayed on the tile line.

- When [YES] button is pressed, it is highlighted and the soft SW corresponding to the country code is initialized.

- After completion of initialization of the soft SW, [EXECUTE], [YES], and [NO] buttons become inactive.

**Operation/Procedure (Shifting to the country page)**

- \* When [DEST CODE] button is pressed on the initial screen, the display is shifted to the country code list screen.

Use scroll keys to select the country select page.

**Country code list**

JAPAN	00000000
U.S.A.	10110101
AUSTRALIA	00001001
U.K.	10110100
FRANCE	00111101
GERMANY	00000100
SWEDEN	10100101
NEWZEALAND	01111110
CHINA	00100110
SINGAPORE	10011100
TW	11111110
MIDDLEANDNEAREAST	11111101
SLOVAKIA	11111100
OTHER3	11111011
FINLAND	00111100
NORWAY	10000010
DENMARK	00110001
NETHERLANDS	01111011
ITALY	01011001
SWITZERLAND	10100110
AUSTRIA	00001010
INDONESIA	01010100
THAILAND	10101001
MALAYSIA	01101100
INDIA	01010011
PHILIPPINES	10001001
HONGKONG	01010000
RUSSIA	10111000
SOUTHAFRICA	10011111
SPAIN	10100000
PORTUGUESE	10001011
LUXEMBURG	01101001
BELGIUM	00001111
CZECH	00101110
HUNGARY	01010001

**66**

66-1

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to display the FAX-related soft SW (2 - 150) on the LCD to allow changing the soft SW while checking with the LCD.

**Section****Operation/Procedure**

- Enter the [SW NO] with 10-key.
  - \* When [C] key is pressed, the entered value of [SW NO] is cleared.
- Press [DATA] button.
 

The soft SW data entered in procedure 1) is displayed.

  - \* When [SW NO] button is pressed, the display returns to the initial screen.
- Enter the number corresponding to the bit to be changed with 10-key.
  - \* [1] → [0]
  - [0] → [1]
- When [EXECUTE] button is pressed, it is highlighted and the setting is saved.

After saving the setting, [EXECUTE] button returns to the normal display.

GREECE	01000110
POLAND	10001010
BRAZIL	00010110

66-3

<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result.

<b>Section</b>	FAX
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**Operation/Procedure**

- 1) When the machine enters Simulation 66-03, the following screen is displayed.  
\* Select the page of memory check item with the scroll key.
- 2) When the memory check item button is selected, the display is shifted to the memory check screen.
- 3) When [EXECUTE] button is pressed, it is highlighted and the memory check of the selected item is started.
- 4) After completion of memory check, [EXECUTE] button returns to the normal display and the result of memory check is displayed.

**Memory check status**

NO CHECK	No check	
CHECKING	During checking	
OK	Check complete OK	
NG A##	Check complete NG	Error occurring address or data line is displayed for each item.

**Check item**

Check memory item		Remark
1	All Memory Device Check (once)	All the items are checked once.
2	MODEM EEPROM <1> (once)	Check only once in LINE1
3	MODEM EEPROM <1> (repeat)	Repeat check in LINE1
4	MODEM SDRAM <1> (once)	Check only once in LINE1
5	MODEM SDRAM <1> (repeat)	Repeat check in LINE1

The number in &lt; &gt; indicates the line.

66-4

<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the selected signals to the line and the main unit speaker. (Send level: max.)

<b>Section</b>	FAX
----------------	-----

**Operation/Procedure**

- 1) When the machine enters Simulation 66-04, the screen on the right is displayed. (Default, left upper selected.)  
\* Use scroll keys to switch the send mode select page.
- 2) When a button of a signal to be sent is selected, it is highlighted and the previously set button is shifted to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and signals are sent.
- 4) To end signal send:  
When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

**Signal send table**

NOSIGNAL	33.6 V34	31.2 V34	28.8 V34
26.4 V34	24.0 V34	21.6 V34	19.2 V34
16.8 V34	14.4 V34	12.0 V34	9.6 V34
7.2 V34	4.8 V34	2.4 V34	14.4 V33
12.0 V33	14.4 V17	12.0 V17	9.6 V17
7.2 V17	9.6 V29	7.2 V29	4.8 V27t
2.4 V27t	0.3 FLG	CED 2100	CNG 1100
0.3 V21	ANSam	RINGER	No RBT

DP MAKE	DP BRK	NO MSG
---------	--------	--------

66-5

<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the selected signal to the line and the main unit speaker. (Send level: Soft SW setting) (For the kinds of send signals, refer to SIM66-04.)

<b>Section</b>	FAX
----------------	-----

**Operation/Procedure**

- 1) When the machine enters Simulation 66-05, the following screen is displayed.  
\* Use scroll keys to switch the send mode select page.
- 2) When a button of a signal to be sent is selected, it is highlighted and the previously set button is shifted to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and signals are sent.
- 4) To end signal send:  
\* When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

66-6

<b>Purpose</b>	Data output/Check
<b>Function (Purpose)</b>	Used to print the confidential registration check table (BOX NO., BOX name, pass-code. (If there is no confidential registration, no print is made.)

<b>Section</b>	FAX
----------------	-----

**Operation/Procedure**

- 1) When [EXECUTE] button is pressed, it is highlighted and the confidential checkable is printed.  
\* If there is no confidential registration, no print is made even though [EXECUTE] key is pressed.
- 2) After completion of printing, [EXECUTE] button returns to the normal display.

66-7

<b>Purpose</b>	Data output/Check
<b>Function (Purpose)</b>	Used to output all image data saved in the image memory. (Confidential data are also outputted.)

<b>Section</b>	FAX
----------------	-----

**Operation/Procedure**

- 1) When [EXECUTE] button is pressed, it is highlighted and all image data saved in the image memory are outputted.
- 2) After completion of printing, [EXECUTE] button returns to the normal display.

<b>66-8</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the selected sound messages to the line and the speaker. (Send level: Max.)
<b>Section</b>	FAX

**Operation/Procedure**

- 1) When the machine enters Simulation 66-08, the following screen is displayed.
- 2) When the sound message button to be sent is selected, it is highlighted and the previously set button returns to the normal display.

**<Sound message table>**

NONE (Mute)	PAUSE (Pause melody)	MESSAGE1 (Message 1)	MESSAGE2 (Message 2)
MESSAGE3 (Message 3)	MESSAGE4 (Message 4)	MESSAGE5 (Massage 5)	MESSAGE6 (Message 6)
ALARM (Alarm)	RINGER (Ringing sound (Speaker))	EXT.TEL.RING ER (External telephone call)	

<b>66-9</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the selected sound message to the line and the speaker. (Send level: Soft SW setting) * For details of sound messages, refer to the sound message table of SIM66-08.

**Section**

FAX

**Operation/Procedure**

- 1) When the machine enters Simulation 66-09, the following screen is displayed.
- 2) When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and a sound message is sent.
- 4) To end signal send:  
When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

<b>66-10</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the FAX and image send image data. (The confidential data are also cleared.)

**Section**

FAX

**Operation/Procedure**

- 1) Press [EXECUTE] button.
- 2) Press [YES] button.
- 3) After completion of clearing, press [CA] key to reboot the machine.

<b>66-11</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Max.)

**Section**

FAX

**Operation/Procedure**

- 1) When the machine enters Simulation 66-11, the following screen is displayed.
- 2) When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and a sound message is sent.
- 4) To end signal send:  
When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

**300bps send signal table**

NO SIGNAL	11111	11110	00000
010101	00001		

<b>66-12</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Soft SW setting) * For the kinds of send signals at 300bps, refer to SIM66-11, 300bps send signal table.

**Section**

FAX

**Operation/Procedure**

- 1) When the machine enters Simulation 66-12, the following screen is displayed.
- 2) When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and a sound message is sent.
- 4) To end signal send:  
When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

<b>66-13</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to register dial numbers for SIM66-14/15/16, Dial test. (Up to 20 digits can be registered.)

**Section**

FAX

**Operation/Procedure**

- 1) When the machine enters Simulation 66-13, the following screen is displayed.  
\* The number saved in the memory is displayed in the column of [PRESENT:]. (If there is no data, [-----] is displayed.)
- 2) Enter a number with 10-key.  
The entered number is displayed in the column of [NEW:].  
After entering 20 digits, 10-key is disabled (no response). Only [C] key is enabled. (10-key [0] to [9], [\*], [#], [C] key (back by one digit))
- 3) When [SET] key is pressed after completion of entry, the entered number is displayed (registered) in the column of [PRESENT:]. The column of [NEW:] becomes blank.

<b>66-14</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to execute the dial pulse (10PPS) send test and to adjust the make time.
<b>Section</b>	FAX

**Operation/Procedure**

- 1) When the machine enters Simulation 66-14, the following screen is displayed.
- 2) When [EXECUTE] button is pressed, it is highlighted and the dial pulse is sent from the line in the set make time.
- 3) To end the dial test, press [EXECUTE] button again. The button returns to the normal display and the test is terminated.

<b>66-15</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to execute the dial pulse (20PPS) send test and to adjust the make time.
<b>Section</b>	FAX

**Operation/Procedure**

- 1) When the machine enters Simulation 66-15, the following screen is displayed.
- 2) When [EXECUTE] button is pressed, it is highlighted and the dial pulse is sent from the line in the set make time.
  - \* The dial pulse in this example is up to 20 digits registered with SIM66-13.
- 3) To end the dial test, press [EXECUTE] button again. The button returns to the normal display and the test is terminated.

<b>66-16</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to execute the DTMF signal send test and to adjust the send level.
<b>Section</b>	FAX

**Operation/Procedure**

- 1) When the machine enters Simulation 66-16, the following screen is displayed.
- 2) When [EXECUTE] button is pressed, it is highlighted and the dial pulse signal is sent from the line by the setting of high/low group of the signal send level.
- 3) To terminate the dial test, press [EXECUTE] button. The button returns to the normal display and the test is terminated.

<b>66-17</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the DTMF signal to the line and the speaker. (Send level: Max.)
<b>Section</b>	FAX

**Operation/Procedure**

- 1) When the machine enters Simulation 66-17, the following screen is displayed.
- 2) When a button of a send signal is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and signals are sent.
- 4) To stop signal sending:  
When [EXECUTE] button is pressed, it returns to the normal display and signal sending is interrupted.

<b>66-18</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the DTMF signal to the line and the speaker. (Send level: Soft SW setting)

<b>Section</b>	FAX
----------------	-----

**Operation/Procedure**

- 1) When the machine enters Simulation 66-18, the following screen is displayed.
- 2) When a button of a send signal is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and signals are sent.
- 4) To stop signal sending:  
When [EXECUTE] button is pressed, it returns to the normal display and signal sending is interrupted.

<b>66-21</b>	
<b>Purpose</b>	Check
<b>Function (Purpose)</b>	Used to print the selected items (system error, protocol monitor).
<b>Section</b>	FAX

**Operation/Procedure**

- 1) When an item button to be printed is selected, it is highlighted and the previously set button returns to the normal display.
- 2) Press [EXECUTE] button.  
[EXECUTE] button is highlighted and printing is started.
- 3) After completion of printing, [EXECUTE] button returns to the normal display.

**FAX information print content table**

PROTOCOL LINE 1	SYSTEM ERROR LINE 1
-----------------	---------------------

<b>66-22</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the handset sound volume. (This simulation can be executed even though the handset setting is set to NO. When, however, the handset is not installed, the sound volume cannot be checked.) (Japan model only)

<b>Section</b>	FAX
----------------	-----

**Operation/Procedure**

- 1) When the machine enters the simulation, the number of the set sound volume is displayed. (In this example, MIDDLE is set as the default sound volume.)
- 2) Use 10-key to set the handset sound volume. (0: MIN 1:MIDDLE 2:MAX)
- 3) Press [EXECUTE] button to deliver the selected on-hold tone.
  - \* If, however, the handset is not installed, the sound volume cannot be checked. Execution is possible.
- 4) When [EXECUTE] button is pressed, it is highlighted and delivery of the on-hold tone is stopped.

66-24	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the FAST save data.
<b>Section</b>	FAX

**Operation/Procedure**

- 1) Press [EXECUTE] button.
- 2) Press [YES] button.  
The FAST save data are cleared.
- 3) After completion of memory clear, [EXECUTE] button returns to the normal display and [YES] and [NO] buttons gray out.

66-29	
<b>Purpose</b>	Clear
<b>Function (Purpose)</b>	Used to initialize the telephone book data (the one-touch registration table, the FTP/Desktop expansion table, the group expansion table, the program registration table, the interface memory box table, the meta data, InboundRouting, and the DocumentAdmin table).

<b>Section</b>	FAX
<b>Operation/Procedure</b>	
1) Press [EXECUTE] button.	
2) Press [YES] button. The telephone book data area cleared.	
3) After completion of memory clear, [EXECUTE] button returns to the normal display and [YES] and [NO] buttons gray out.	

66-30	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to display the TEL/LIU status change, The display is highlighted by status change.

<b>Section</b>	FAX
<b>Operation/Procedure</b>	
1) When the machine enters Simulation 66-30, the following screen is displayed.	
2) HS1, HS2, RHS, and EXHS are highlighted when the signal is detected, and displayed normally when the signal is not detected.	
<b>TEL/LIU status change item description</b>	

HS1	Polarity inversion signal
HS2	Polarity inversion signal
RHS	Handset hook SW
EXHS	External telephone hook SW

66-31	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set ON/OFF the port for output to TEL/LIU.

<b>Section</b>	FAX
<b>Operation/Procedure</b>	
1) When the machine enters Simulation 66-31, the following screen is displayed.	
2) Change the port setting. When a port is set to ON, the port display is highlighted.	
3) When [EXECUTE] button is pressed, the changed setting is reflected to the port which outputs to TEL/LIU.	
4) To terminate the process, press [EXECUTE] button again. [EXECUTE] button returns to the normal display.	

**Port which outputs to TEL/LIU**

CION	MR	EC	S.
------	----	----	----

66-32	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to check the fixed data received from the line and to display the result.

<b>Section</b>	FAX
<b>Operation/Procedure</b>	

- 1) Press [EXECUTE] button to check the fixed data received from the line. At that time, [EXECUTE] button is highlighted.
  - \* Fixed data check procedure
    - The data received from the line is checked of the following fixed data status for minutes, then if they are in accord with "OK" is displayed on LCD, if not "NG" is displayed.
    - The judgment is made in 2 minutes.
- 2) After completion of check, [EXECUTE] button returns to the normal display. The result is displayed as "OK" or "NG."

66-33	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to execute detection of various signals with the line connected and to display the detection result. When a signal is detected, the display is highlighted.

<b>Section</b>	FAX
<b>Operation/Procedure</b>	
1) When the machine enters Simulation 66-33, the following screen is displayed.	
2) The signal to be checked can be selected from the two options: "FNET" and "BT/CNG/CED/DTMF."	
3) When a signal is detected, "FNET" and "BUSY TONE CNG CED DTMF" are highlighted. When a signal is not detected, they are normally displayed.	

**Signal used for signal detection check**

(When "FNET" is selected)

FNET

(When "BT/CNG/CED/DTMF" is selected)

BUSY TONE	CNG	CED	DTMF
-----------	-----	-----	------

66-34	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to execute the send test and display the time required for sending image data in the test. Used to execute send test and display. (Unit: ms)

<b>Section</b>	FAX
<b>Operation/Procedure</b>	
1) FAX send is performed.	
2) Enter the SIM 66-34 mode. The send time in procedure 1) is displayed.	

66-36	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to check send and receive data from the MODEM controller to the MFP controller or the data line or the command line individually.
<b>Section</b>	FAX

- Operation/Procedure**
- 1) When the machine enters Simulation 66-36, the following screen is displayed.
  - 2) Operation check  
Select an item to be checked on the screen.

#### MFP controller I/F check item table

MFP ← MDMC (DATA once) Data line Once	MFP → MDMC (DATA once) Data line Once
MFP ← MDMC (DATA repeat) Data line Repeat	MFP → MDMC (DATA repeat) Data line Repeat
MFP ← MDMC (CMD once) Command line Once	MFP → MDMC (CMD once) Command line Once
MFP ← MDMC (CMD repeat) Command line Repeat	MFP → MDMC (CMD repeat) Command line Repeat

66-39	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to check and change the destination setting saved in EEPROM of the FAX BOX.

- Section**
- Operation/Procedure**
- 1) When the machine enters the simulation, the currently set destination button is highlighted. (In the default state, JAPAN is set as the destination.)
  - 2) Select a destination button to set the destination. (In this example, USA/CANADA is selected.) The selected button is highlighted and the previously selected button returns to the normal display.  
\* When the destination button is changed, the new destination setting is saved to EEPROM of the FAX BOX.

#### Destination setting table

JAPAN	U.S.A/CANADA	EUROPE	AUSTRALIA
CHINA	ASIA&OTHERS		

66-42	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to rewrite the program to power control installed in the FAX BOX.

- Section**
- Operation/Procedure**
- 1) Press [EXECUTE] button. [EXECUTE] button is highlighted and YES] and [NO] buttons become active.
  - 2) Press [YES] button.  
The power control program is rewritten.
  - 3) When rewriting of the power control program is normally completed, "OK" is displayed and [EXECUTE] button returns to the normal display, and [YES] and [NO] buttons gray out.

66-43	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to write the adjustment value into the power control installed in the FAX BOX.

- Section**
- Operation/Procedure**
- 1) When the machine enters Simulation 66-43, the following screen is displayed.  
\* Use scroll keys to select the select item of the power control adjustment value.
  - 2) When [EXECUTE] key is pressed, it is highlighted and writing to the power control is executed. When writing is normally completed, "OK" is displayed. When it is failed, "NG" is displayed.
  - 3) After completion of writing, [EXECUTE] key returns to the normal display.

#### Set range and default value of each set value

Item	Set range	Default value
A CI_LEVEL_JUDGE	2 to 15	6
B CI_CYCLE_MIN	1 to 254	10
C CI_CYCLE_MAX	2 to 255	142
D CI_COUNT	2 to 15	3
E RES_3.3V_LEVEL_JUDGE	2 to 15	15
F EXHS_LEVEL_JUDGE	2 to 225	240
G RHS_LEVEL_JUDGE	2 to 15	2
H SON_TIMEOUT	1 to 127	20

66-61	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to display the FAX-related soft SW (151 - 250) on the LCD to allow changing the soft SW while checking with the LCD.

- Section**
- Operation/Procedure**
- 1) Enter the [SW NO] with 10-key.
  - 2) Press [DATA] button.  
The soft SW data entered in procedure 1 is displayed.
  - 3) Enter the number corresponding to the bit to be changed with 10-key.  
\* [1] → [0]  
[0] → [1]
  - 4) When [EXECUTE] button is pressed, it is highlighted and the setting is saved.

66-62	
<b>Purpose</b>	Backup
<b>Function (Purpose)</b>	Used to import the FAX receive data into a USB memory in PDF file type.

- Section**
- Operation/Procedure**
- 1) Insert the USB memory into the main unit.
  - 2) Select data to be imported.
  - 3) Press [EXECUTE] key.  
Execute import of data selected in procedure 2).  
When the operation is completed normally, [COMPLETE] is displayed. In case of an abnormal end, [ERROR] is displayed.

Error display	Content
ERROR: NO USB MEMORY DEVICE	No USB memory installed
ERROR: NO IMAGE DATA	No image data
ERROR	Other errors

67-17	
Purpose	Reset
Function (Purpose)	Printer reset
Section	Printer

**Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.  
The set data related to the printer are initialized. (Including the NIC setting.)

When the operation is completed, [EXECUTE] key returns to the normal display.

67-45	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the printer image filter and trapping.
Section	Printer

**Operation/Procedure**

- 1) Enter the adjustment value using the 10-key.
- 2) Press [OK] key. (The set value is saved.)

	Item/Display	Content	Setting range	Default value	NOTE
A	SHARPNESS: B/W PRINT	Monochrome print	0 - 4	2	The greater the set value is, the stronger the filer enhancement is. The smaller the set value is, the stronger the filter smoothness is. (0: Soft High, 1: Soft Low, 2: Center, 3: Sharp Low, 4: Sharp High)

## [7] TROUBLESHOOTING

### 1. Error code and troubleshooting

#### A. General

When a trouble occurs in the machine or when the life of a consumable part is nearly expired or when the life is expired, the machine detects and displays it on the display section. This allows the user and the serviceman to take the suitable action. In case of a trouble, this feature notifies the occurrence of a trouble and stops the machine to minimize the damage.

#### B. Function and purpose

- 1) Securing safety. (The machine is stopped on detection of a trouble.)
- 2) The damage to the machine is minimized. (The machine is stopped on detection of a trouble.)
- 3) By displaying the trouble content, the trouble position can be quickly identified. (This allows to perform an accurate repair, improving the repair efficiency.)
- 4) Preliminary warning of running out of consumable parts allows to arrange for new parts in advance of running out. (This avoids stopping of the machine due to running out of the a consumable part.)

#### C. Self diag message kinds

The self diag messages are classified as shown in the table below.

Class 1	User	Warning of troubles which can be recovered by the user. (Paper jam, consumable part life expiration, etc.)
	Service	Warning of troubles which can be recovered only by a serviceman. (Motor trouble, maintenance, etc.)
	Others	-
Class 2	Warning	Warning to the user, not a machine trouble (Preliminary warning of life expiration of a consumable part, etc.)
	Trouble	Warning of a machine trouble. The machine is stopped.
	Others	-

#### D. Self diag operation

The machine always monitors its own state.

When the machine recognizes a trouble, it stops the operation and displays the trouble message.

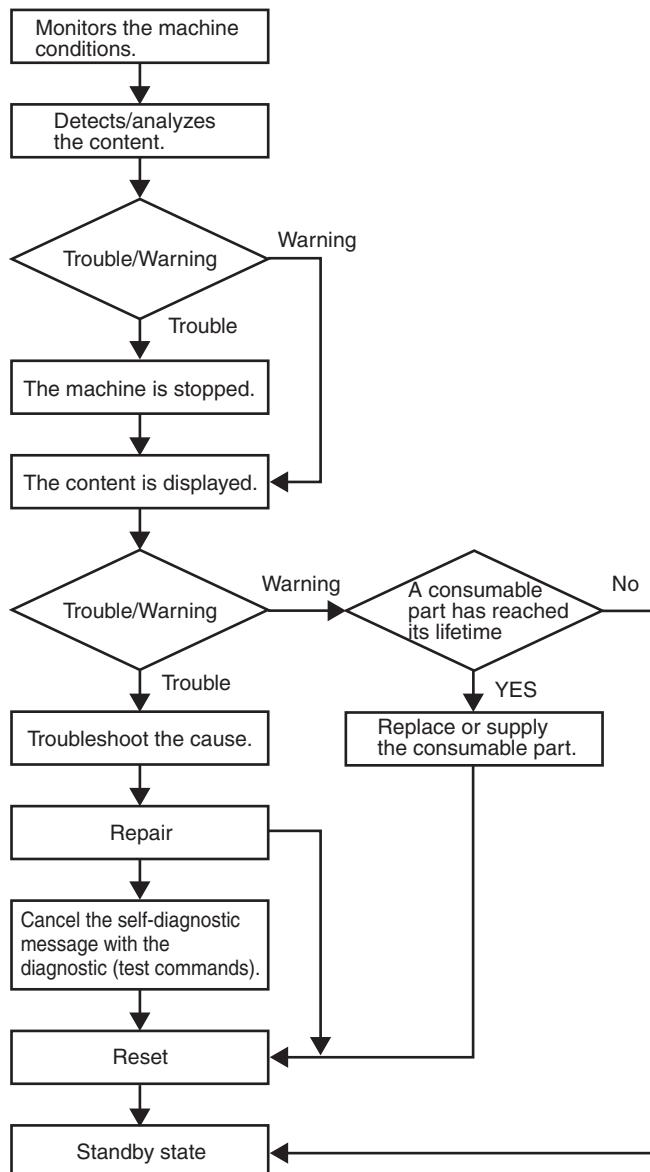
A warning message is displayed when a consumable part life is nearly expired or is expired.

When a warning message is displayed, the machine may be or may not be stopped.

The trouble messages and the warning messages are displayed by the LCD and lamp.

Some trouble messages are automatically cleared when the trouble is repaired. Some other troubles must be cleared by a simulation.

Some warning messages of consumable parts are automatically cleared when the trouble is repaired. Some other warning messages must be cleared by a simulation.



## E. Breakdown sequence

### (1) Error code and operable mode

Trouble content		Judg- ment block	Trouble code (26cpm/ 31cpm/ 35cpm) machine)	Operable mode								
				Copy scan (including interrup- tion)	Scan (Push)	Scan (Pull)	Scan- To HDD	Print	List print	FAX Send	FAX print	FAST Notifi- cation to host
FAX board trouble	• FAX board breakdown	MFP	F6 (00, 01, 04, 21, 30, 97, 98)	○	○	○	○	○	○	—	—	—
HDD trouble	• SD card breakdown	E7 (07)	×	×	×	×	×	×	×	×	×	
	• HDD breakdown	E7 (03)	×	×	×	×	×	×	×	×	×	
	• HDD-ASIC breakdown	E7 (04)	×	×	×	×	×	×	×	×	×	
	• SCU communication error	A0 (02) E7 (80)	×	×	×	×	○	○	×	○	○	
Engine communication trouble	• PCU communication error	MFP	A0 (01) E7 (90)	×	×	×	×	×	×	×	×	○
Option communication trouble	• ACU communication error	MFP	A0 (04)	×	×	×	×	×	×	×	×	○
Backup battery voltage fall trouble	• Backup battery voltage fall	MFP	U1 (01)	×	×	×	×	×	×	×	×	○
Operation disable trouble 1	• Controller fan motor trouble	MFP	L4 (30)	×	×	×	×	×	×	×	×	×
Operation disable trouble 2	• External serial I/F communication error (RIC)	MFP	U7 (50, 51)	×	×	×	×	×	×	×	×	○
	• Memory error (included not installed the expansion RAM)	MFP	U2 (00, 05, 10, 11, 24, 40, 41, 42)	×	×	×	×	×	×	×	×	△15
	• Connection trouble (Model data discrepancy) (MFPC detection)	MFP	A0 (10, 11, 15, 20) E7 (60, 61, 65)	×	×	×	×	×	×	×	×	×
	• Serial number data error	MFP	U2 (30)	×	×	×	×	×	×	×	×	×
	• HDD registration data check sum error	MFP	U2 (50)	×	×	×	×	×	×	×	×	○
	• Memory check error when booting	MFP	E7 (96)	×	×	×	×	×	×	×	×	○
Operation disable trouble 3	• Image memory trouble, decode error	MFP	E7 (01, 49, 91, 92, 93, 94)	×	×	×	×	×	×	×	×	○
	• Personal counter connection trouble	MFP	PC (00)	×	×	×	×	×	×	×	×	○
Power controller trouble	• Power controller error	MFP	L8 (20)	×	×	×	×	×	×	×	×	○
Special function trouble	• Watermark data error	MFP	U2 (60) P1 (00, 01, 02)	○	○	○	○	○	○	○	○	○
Laser trouble	• LSU breakdown	PCU	E7 (20, 21, 28) L6 (10)	×	×	×	×	×	×	×	×	○
Engine trouble 1	• Connection trouble (Model data discrepancy) (PCU detection)	PCU	A0 (21) E7 (50, 55) F1 (50, 95)	×	×	×	×	×	×	×	×	×

Trouble content		Judg- ment block	Trouble code (26cpm/ 31cpm/ 35cpm) machine)	Operable mode								
				Copy scan (including interrup- tion)	Scan (Push)	Scan (Pull)	Scan- To HDD	Print	List print	FAX Send	FAX print	FAST Notifi- cation to host
Engine trouble 2	• PCU troubles (motor, fusing, etc.)	PCU	F2 (40, 64, 70, 74) H2 (00, 01) H3 (00, 01) H4 (00, 01) H5 (01) L4 (01, 11, 31, 32, 35, 43, 44, 56) L8 (01, 02) U2 (90, 91)	×	×	×	×	×	×	*	×	○
Paper feed tray 1 trouble	• Paper feed tray 1 breakdown		F3 (12)	△3	○	○	○	△3	△3 *10	○	△3	○
Paper feed tray 2 trouble	• Paper feed tray 2 breakdown		F3 (22)	△3	○	○	○	△3	△3 *10	○	△3	○
Paper feed tray 3 trouble	• Paper feed tray 3 breakdown		F3 (32, 42)	△3	○	○	○	△3	△3 *10	○	△3	○
Staple trouble	• Staple breakdown		F1 (10)	△4	△4	△4	△4	△4	△4 *10	△4	△4	○
Finisher trouble	• After-process breakdown		F1 (00, 03, 15, 19, 20, 37)	△4	△4	△4	△4	△4	△4 *10	△4	△4	○
Other troubles	• Other troubles		EE (EL, EU)	○	○	○	○	○	○	○	○	○
Process control trouble	• Process control breakdown (PCU detection)		F2 (39, 58)	○ *11	○	○	○	○	○	○	○	○
Operation disable trouble	• Connection trouble (Model data discrepancy) (SCU detection)	SCU	A0 (22)	×	×	×	×	×	×	×	×	×
SCU CPT ASIC trouble	• SCU CPT ASIC error		UC (02)	△9	△9	△9	△9	○	○	△9	○	○
SCU ASIC trouble (SCU detection)	• SCU ASIC error (SCU detection)		UC (20)	×	×	×	×	○	○	×	○	○
Scanner trouble 1	• SCU EEPROM error		U2 (80, 81)	×	×	×	×	○	○	×	○	○
Scanner trouble 2	• Scanner section breakdown (mirror motor, lens, copy lamp)		L1 (00) L3 (00)	×	×	×	×	○	○	×	○	○
CCD trouble	• CCD breakdown (shading, etc.)		E7 (10, 11, 14)	×	×	×	×	○	○	×	○	○

○: Operation enabled    ×: Operation disabled

△1: The operation is enabled in a line other than the trouble line.

△3: When detected during other than a job, the operation is enabled with a tray other than the trouble tray.

△4: When detected during other than a job, the operation is enabled in a section other than the trouble paper exit section. \* However, it is valid only when the escape tray setting has been made.

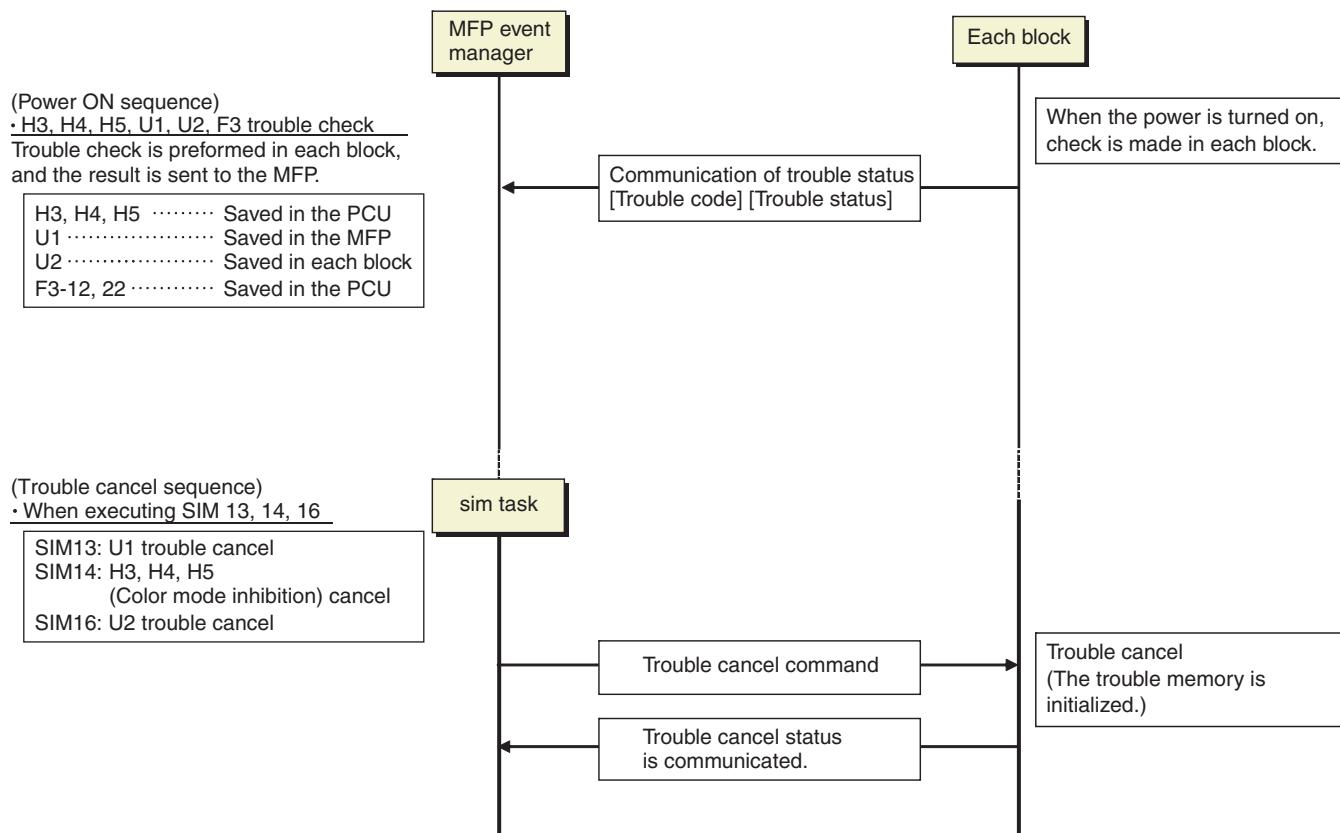
△9: When detected during other than a job, the operation is enabled in the black and white mode.

\*10: Since communication is enabled, reception can be transferred.

\*11: The trouble display is "Display to a 2-line message." (Example: Ready to copy. F2 trouble)

△15: FAST notification function (When in U2-22, trouble notification cannot be made. If there is no abnormality in the FAX software or the FAST data in U2-23, trouble notification can be made.)

## (2) Trouble detection sequence and trouble cancel sequence when turning on the power



The process has priority when the power is turned ON with the MFP.

When booting, two or more troubles in the list below may be detected. In this case, the trouble code of higher priority is displayed.

Process sequence	Error code		Content
First (Low priority)	U2	60	Watermark check error
		50	HDD user authentication data check sum error (SD card when no HDD is installed)
		30	MFPC PWB and PCU PWB manufacturing No. data inconsistency
		24	MFPC PWB SRAM memory user authentication counter check sum error
		10	MFPC PWB SRAM user authentication index check sum error
	A0	15	Incompatible DSK BOOT and program firmware
		20	Conflict firmware and EEPROM data version (MFP)
	↓ Last (High priority)	U2	11 MFPC PWB EEPROM counter check sum error
		00	MFP EEPROM read/write error
		E7	MFPC PWB DIMM memory check error
		U1	Battery trouble
		E7	MFP connection trouble
	A0	04	Scanner expansion PWB (ACU) (ACRE) ROM error

## F. Error code list

Trouble code	Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code						
A0	01	PCU PWB ROM error	MFP			○	
	02	SCU PWB ROM error	MFP			○	
	04	Scanner expansion PWB (ACU) (ACRE) ROM error	MFP			○	
	10	Color profile error	MFP			○	
	11	Firmware version inconsistency (MFP - PCU)	MFP			○	
	15	Incompatible DSK BOOT and program firmware	MFP			○	
	20	Conflict firmware and EEPROM data version (MFP)	MFP			○	
	21	Conflict firmware and EEPROM data version (PCU)	PCU			○	
	22	Conflict firmware and EEPROM data version (SCU)	SCU			○	
E7	01	MFP image data error	MFP			○	
	03	HDD trouble	MFP			○	
	04	HDD-ASIC error	MFP			○	
	07	SD card error	MFP			○	
	10	Shading error (Black correction)	SCU			○	
	11	Shading error (White correction)	SCU			○	
	14	CCD-ASIC error	SCU			○	
	20	LSU laser detection error	PCU			○	
	21	LSU LD deterioration trouble	PCU			○	
	28	LSU control Asic connection error	PCU			○	
	49	Water Mark data error	MFP			○	
	50	PCU connection trouble	PCU			○	
	55	PCU PWB information sum error	PCU			○	
	60	MFP connection trouble	MFP			○	
	61	MFP connection trouble (PCU)	MFP			○	
	65	MFP EEPROM check sum error	MFP			○	
	80	MFP - SCU PWB communication error	MFP			○	
	90	MFP - PCU PWB communication error	MFP			○	
	91	FAX reception image data error	MFP			○	
	92	Copy image data error	MFP			○	
	93	Copy, image send, FAX, filing, print image data process error	MFP			○	
	94	Image file data process error (when importing file data)	MFP			○	
	96	MFPC PWB DIMM memory check error	MFP			○	
EE	EL	Auto developer adjustment trouble (Over-toner abnormality)	PCU			○	
	EU	Auto developer adjustment trouble (Under-toner abnormality)	PCU			○	
F1	00	Finisher - PCU PWB communication error	PCU		○		
	03	Finisher paper exit roller lifting operation trouble	PCU		○		
	10	Staple operation trouble	PCU		○		
	15	Finisher paper exit tray lift operation trouble	PCU		○		
	19	Finisher alignment operation trouble F	PCU		○		
	20	Finisher alignment operation trouble R	PCU		○		
	29	Finisher cooling fan motor abnormality	MFP		○		
	37	Finisher data backup RAM error	PCU		○		
	50	Main unit - Finisher combination error	PCU		○		
	95	Paper exit option configuration error	PCU		○		
F2	39	Process thermistor trouble	PCU			○	
	40	Toner density sensor trouble	PCU			○	
	58	Temperature/humidity sensor trouble (HUD_M/TH_M)	PCU			○	
	64	Toner supply operation trouble	PCU			○	
	70	Improper toner cartridge detection	PCU			○	
	74	Toner cartridge CRUM error	PCU			○	
F3	12	Paper feed tray 1 lift operation trouble	PCU	○			
	22	Paper feed tray 2 lift operation trouble	PCU	○			
	32	Paper feed tray 3 lift operation trouble					
	42	Paper feed tray 4 lift operation trouble					
F6	00	MFPC PWB - FAX communication trouble	MFP			○	
	01	FAX control PWB EEPROM read/write error	FAX			○	
	04	FAX MODEM operation trouble	FAX			○	
	21	Improper combination of TEL/LIU PWB and FAX soft switch	MFP			○	
	30	FAX 1-chip microprocessor access error (FAX detection)	MFP			○	
	97	Incompatibility between FAX control PWB and the main machine	MFP			○	
	98	Incompatibility between the FAX control PWB destination and the main machine destination	MFP			○	
H2	00	Thermistor open trouble (TH_UM)	PCU	○			
	01	Thermistor open trouble (TH_US)	PCU	○			
H3	00	Fusing section high temperature trouble (TH_UM)	PCU	○			
	01	Fusing section high temperature trouble (TH_US)	PCU	○			

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
H4	00	Fusing section low temperature trouble (TH_UM)	PCU	○				
	01	Fusing section low temperature trouble (TH_US)	PCU	○				
H5	01	5-time continuous jams of POD1, POD2, or PPD2	PCU	○				
L1	00	Scanner feed trouble	SCU	○				
L3	00	Scanner return trouble	SCU	○				
L4	01	Main motor lock trouble	PCU		○			
	11	Shift motor trouble	PCU		○			
	30	MFP fan motor trouble	MFP		○			
	31	Paper exit cooling fan trouble	PCU		○			
	32	Power source cooling fan trouble	PCU		○			
	35	Fusing cooling fan trouble	PCU		○			
	43	Paper exit cooling fan 2 trouble	PCU		○			
	44	Power cooling fan 2 trouble	PCU		○			
	56	Fusing cooling fan 2 trouble	PCU		○			
L6	10	Polygon motor trouble	PCU		○			
L8	01	Full wave signal detection error	PCU		○			
	02	Full wave signal width abnormality	PCU		○			
	20	Power controller communication trouble	MFP		○			
P1	00	PCI communication error	MFP	○				
	01	PCI fan error	MFP	○				
	02	Plasma generating device error	MFP	○				
PC	-	Personal counter not detected	MFP	○				
U1	01	Battery trouble	MFP		○			
U2	00	MFP EEPROM read/write error	MFP		○			
	05	SD/MFPC PWB SRAM contents inconsistency	MFP		○			
	10	MFPC PWB SRAM user authentication index check sum error	MFP		○			
	11	MFPC PWB EEPROM counter check sum error	MFP		○			
	24	MFPC PWB SRAM memory user authentication counter check sum error	MFP		○			
	30	MFPC PWB and PCU PWB manufacturing No. data inconsistency	MFP		○			
	40	SD card system storage data area error	MFP		○			
	41	HDD system storage data area error	MFP		○			
	42	Machine adjustment data (system storage data area) error	MFP		○			
	50	HDD user authentication data check sum error (SD card when no HDD is installed)	MFP		○			
	60	Watermark check error	MFP		○			
	80	SCU PWB EEPROM read/write error	SCU		○			
	81	SCU PWB EEPROM check sum error	SCU		○			
	90	PCU PWB EEPROM read/write error	PCU		○			
	91	PCU PWB EEPROM check sum error	PCU		○			
U7	50	MFPC PWB - Vendor machine communication error	MFP		○			
	51	Vendor machine error	MFP		○			
UC	02	CPT - ASIC error	SCU		○			
	20	DOCC ASIC error	SCU		○			

## G. Details of error codes and countermeasures

### A0-01 PCU PWB ROM error

Trouble content	
Detail	MFP
Cause	The firmware version-up is not completed properly by interruption of the power during the version-up operation, etc. PCU PWB trouble.
Check & Remedy	Use SIM49-1 to perform the firmware version-up procedure again. Replace the PCU PWB.

### A0-02 SCU PWB ROM error

Trouble content	
Detail	MFP
Cause	The firmware version-up is not completed properly by interruption of the power during the version-up operation, etc. SCU PWB trouble.
Check & Remedy	Use SIM49-1 to perform the firmware version-up procedure again. Replace the SCU PWB.

### A0-04 Scanner expansion PWB (ACU) (ACRE) ROM error

Trouble content	
Detail	MFP
Cause	Scanner expansion PWB (ACU) (ACRE) ROM data error. An error occurs during firmware upgrading for some reasons.
Check & Remedy	Perform firmware upgrading again.

### A0-10 Color profile error

Trouble content	Color profile error
Detail	MFP
Cause	The content of the color profile is abnormal. Combination error between the MFPC PWB firmware and the color profile
Check & Remedy	Upgrade the firmware collectively. Replace the MFPC PWB.

### A0-11 Firmware version inconsistency (MFP - PCU)

Trouble content	
Detail	MFP
Cause	Firmware combination error between the MFP and the PCU.
Check & Remedy	Install the firmware in the all-firmware version-up mode.

### A0-15 Incompatible DSK BOOT and program firmware

Trouble content	
Detail	MFP
Cause	Installation of the normal firmware was performed with a security kit enable.
Check & Remedy	Stop installation of the normal firmware.

### A0-20 Conflict firmware and EEPROM data version (MFP)

Trouble content	
Detail	MFP
Cause	Inconsistency between the MFP firmware version and the EEPROM data version.
Check & Remedy	Check the combination of the firmware.

### A0-21 Conflict firmware and EEPROM data version (PCU)

Trouble content	
Detail	PCU
Cause	Inconsistency between the PCU firmware version and the EEPROM data version.
Check & Remedy	Check the combination of the firmware.

### A0-22 Conflict firmware and EEPROM data version (SCU)

Trouble content	
Detail	SCU
Cause	Inconsistency between the SCU firmware version and the EEPROM data version.
Check & Remedy	Check the combination of the firmware.

### E7-01 MFP image data error

Trouble content	
Detail	MFP
Cause	Image data transfer error in the MFPC PWB. MFPC PWB trouble.
Check & Remedy	Check connection of the connector and the harness of the MFPC PWB. Check or replace the MFPC PWB.

### E7-03 HDD trouble

Trouble content	
Detail	MFP
Cause	Connector, harness connection trouble in the MFPC PWB and HDD. HDD (error file management area) data abnormality (FAT breakage). MFPC PWB trouble.
Check & Remedy	Check connection of the connector and the harness of the MFPC PWB and HDD. Use SIM62-2, 3 to check read/write operations of the HDD. Replace the HDD. Check or replace the MFPC PWB.

### E7-04 HDD-ASIC error

Trouble content	
Detail	MFP
Cause	HDD-ASIC trouble. (MFPC PWB trouble.) An error occurs in the HDD-ASIC self test when booting.
Check & Remedy	Check or replace the MFPC PWB.

## E7-07 SD card error

Trouble content	
Detail	MFP
Cause	SD card trouble or contact error MFPC PWB trouble.
Check & Remedy	Replace the SD card. Check the SD card socket. Replace the MFPC PWB.

## E7-10 Shading error (Black correction)

Trouble content	
Detail	SCU
Cause	Abnormality in the CCD black scan level when the scanner lamp is turned OFF. Improper installation of the harness to the CCD unit. CCD unit abnormality. SCU PWB abnormality.
Check & Remedy	Check connection of the harness to the CCD unit. Check the CCD unit. Check the SCU PWB.

## E7-11 Shading error (White correction)

Trouble content	
Detail	SCU
Cause	Abnormality in the CCD white reference plate scan level when the scanner lamp is turned ON. Improper installation of the harness to the CCD unit. Dirt on the mirror, lens, and the reference white plate. Scanner lamp lighting trouble. Scanner lamp drive PWB trouble CCD unit abnormality. SCU PWB abnormality.
Check & Remedy	Check connection of the harness to the CCD unit. Check connection of the harness to the scanner lamp unit. Check or replace the scanner lamp. Check or replace the scanner lamp drive PWB. Clean or replace the mirror, the lens, and the reference white board. Check or replace the CCD unit. Check or replace the SCU PWB.

## E7-14 CCD-ASIC error

Trouble content	
Detail	SCU
Cause	SCU PWB trouble.
Check & Remedy	Check the SCU PWB. Replace the SCU PWB.

## E7-20 LSU laser detection error

Trouble content	
Detail	PCU
Cause	Laser optical axis misalignment Reduced laser power, lighting error, laser diode trouble. LSU harness, connector trouble LSU trouble
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check or replace the LSU control PWB. Check connection of the LSU harness. Replace the LSU.

## E7-21 LSU LD deterioration trouble

Trouble content	Laser trouble
Detail	PCU
Cause	Laser deterioration, power reduction Disconnection or improper connection of harness and connector between LD PWB and MFPC PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check connection of the harness of each PWB inside the LSU. Replace the MFPC PWB. Replace the LSU.

## E7-28 LSU control Asic connection error

Trouble content	Access error between the CPU in the PCU PWB and the LSU control ASIC.
Detail	PCU
Cause	Improper connection of the communication connector between the PCU PWB and the MFPC PWB (interface PWB). Harness trouble between the PCU PWB and the MFPC PWB (interface PWB) PCU PWB or MFPC PWB (interface PWB) trouble.
Check & Remedy	Check connection of the connector and the harness between the PCU PWB and the MFPC PWB (interface PWB). Replace the MFPC PWB. Replace the PCU PWB.

## E7-49 Water Mark data error

Trouble content	
Detail	MFP
Cause	Watermark data trouble. HDD trouble. * When the watermark data is not installed, U2-60 error occurs in booting.
Check & Remedy	Use SIM62-02/SIM62-03 to check HDD read/write. If the result is NG, a remedy corresponding to E7-03 is required. Use SIM49-05 to update the watermark data. (Reinstallation)

## E7-50 PCU connection trouble

Trouble content	Unknown PWB identification information is detected in the PCU PWB.
Detail	PCU
Cause	A PWB/firmware which does not comply with the machine specifications is connected.
Check & Remedy	Check the kind and the version of the firmware. LSU connection trouble. PCU PWB trouble. LSU trouble.

## E7-55 PCU PWB information sum error

Trouble content	PCU EEPROM PWB information sum error
Detail	PCU
Cause	PCU EEPROM sum check error. PCU EEPROM trouble. PCU EEPROM contact trouble.
Check & Remedy	Replace the PCU PWB. Replace the PCU EEPROM.

## E7-60 MFP connection trouble

Trouble content	Unknown PWB identification information is detected in the MFPC PWB.
Detail	MFP
Cause	A PWB/firmware which does not comply with the machine specifications is connected.
Check & Remedy	Check the kind and the version of the firmware. MFPC PWB trouble.

## E7-61 MFP connection trouble (PCU)

Trouble content	MFP connection trouble Compatibility trouble between MFP - PCU
Detail	MFP
Cause	Combination error between the MFPC PWB and the PCU.
Check & Remedy	Check the MFPC PWB. Check the combination between the MFPC PWB and the PCU.

## E7-65 MFP EEPROM check sum error

Trouble content	EEPROM PWB information check sum error
Detail	MFP
Cause	EEPROM device trouble. EEPROM device contact trouble. Device access error due to noises.
Check & Remedy	Replace the MFPC PWB.

## E7-80 MFP - SCU PWB communication error

Trouble content	
Detail	MFP
Cause	SCU PWB - MFPC PWB connection trouble. SCU PWB trouble. MFPC PWB trouble.
Check & Remedy	Check connection of the SCU PWB and the MFPC PWB. Check the ground. Replace the SCU PWB. Replace the MFPC PWB.

## E7-90 MFP - PCU PWB communication error

Trouble content	
Detail	MFP
Cause	PCU PWB - MFPC PWB connection trouble. PCU PWB trouble. MFPC PWB trouble.
Check & Remedy	Check connection of the PCU PWB and the MFPC PWB. Check the ground. Replace the PCU PWB. Replace the MFPC PWB.

## E7-91 FAX reception image data error

Trouble content	An error of FAX reception image data process occurs.
Detail	MFP
Cause	Image data process abnormality HDD trouble SD card trouble or contact error Image compression data corruption MFPC PWB trouble DIMM memory trouble or contact error FAX control PWB trouble
Check & Remedy	Use SIM60-01 to check the read/write operations of the memory. Replace the HDD. Replace or check installation of the SD card. Replace the MFPC PWB. Replace or check installation of the DIMM memory. Replace the FAX control PWB.

## E7-92 Copy image data error

Trouble content	An error of copy image data process occurs. (In Non ERDH)
Detail	MFP
Cause	Image data process abnormality HDD trouble Image compression data corruption MFPC PWB trouble DIMM memory trouble or contact error
Check & Remedy	Use SIM60-01 to check the read/write operations of the memory. Replace the HDD. Replace the MFPC PWB. Replace or check installation of the DIMM memory.

## E7-93 Copy, image send, FAX, filing, print image data process error

Trouble content	An image data process error occurs in the following operation mode: <ul style="list-style-type: none"><li>• Copy (in ERDH)</li><li>• Copy composing system function (Water mark)</li><li>• When in image send</li><li>• When filing documents</li><li>• When displaying the preview</li><li>• When printing with the GDI/PCL printer</li><li>• Copy composing system function (Water mark)</li><li>• When printing FAX send result table</li></ul>
Detail	MFP
Cause	Image data process abnormality HDD trouble Image compression data corruption MFPC PWB trouble DIMM memory trouble or contact error
Check & Remedy	Use SIM60-01 to check the read/write operations of the memory. Replace the HDD. Replace the MFPC PWB. Replace or check installation of the DIMM memory.

## E7-94 Image file data process error (when importing file data)

Trouble content	File image process error (backup restore error) when importing filing data
Detail	MFP
Cause	Image data process abnormality HDD trouble Image compression data corruption MFPC PWB trouble DIMM memory trouble or contact error
Check & Remedy	Use SIM60-01 to check the read/write operations of the memory. Replace the HDD. Replace the MFPC PWB. Replace or check installation of the DIMM memory.

## E7-96 MFPC PWB DIMM memory check error

Trouble content	MFPC PWB DIMM memory access trouble
Detail	MFP
Cause	Memory data corruption occurs MFPC PWB trouble DIMM memory trouble or contact error
Check & Remedy	Use SIM60-01 to check the read/write operations of the memory. Replace the MFPC PWB. DIMM memory socket check Replace the DIMM memory.

## EE-EL Auto developer adjustment trouble (Over-toner abnormality)

Trouble content	An abnormality occurred in execution of automatic developer adjustment.
Detail	PCU
Cause	Toner density sensor trouble, charging voltage/developing voltage error, toner concentration trouble, developing unit trouble, PCU PWB trouble.
Check & Remedy	Use SIM25-2 to perform the auto developer adjustment.

## EE-EU Auto developer adjustment trouble (Under-toner abnormality)

Trouble content	An abnormality occurred in execution of automatic developer adjustment.
Detail	PCU
Cause	Toner density sensor trouble, charging voltage/developing voltage error, toner concentration trouble, developing unit trouble, PCU PWB trouble.
Check & Remedy	Use SIM25-2 to perform the auto developer adjustment.

## F1-00 Finisher - PCU PWB communication error

Trouble content	
Detail	PCU
Cause	Connection trouble of the connector and the harness between the finisher and the PCU PWB. Finisher control PWB trouble. PCU PWB trouble.
Check & Remedy	Check the connector and the harness between the finisher and the PCU PWB. Replace the finisher control PWB. Replace the PCU PWB.

## F1-03 Finisher paper exit roller lifting operation trouble

Trouble content	
Detail	PCU
Cause	Finisher paper exit roller lift motor trouble Harness and connector connection trouble Home position sensor trouble Finisher control PWB trouble
Check & Remedy	Use SIM3-3 to check the operation of the paper exit roller lift motor. Use SIM3-2 to check the operation of the home position sensor. Replace the paper exit roller lift motor. Check connection of the connector and the harness. Replace the home position sensor. Replace the finisher control PWB.

## F1-10 Staple operation trouble

Trouble content	
Detail	PCU
Cause	Staple motor trouble. Finisher control PWB trouble. Home position sensor trouble.
Check & Remedy	Use SIM3-3 to check the operation of the staple motor. Use SIM3-2 to check the operation of the home position sensor. Replace the staple motor. Check connection of the connector and the harness. Replace the home position sensor. Replace the finisher control PWB.

## F1-15 Finisher paper exit tray lift operation trouble

Trouble content	Lift motor trouble.
Detail	PCU
Cause	Paper exit tray lift motor trouble. Finisher control PWB trouble. Home position sensor trouble.
Check & Remedy	Use SIM3-3 to check the operation of the paper exit tray lift motor. Use SIM3-2 to check the operation of the home position sensor. Replace the finisher control PWB. Replace the paper exit tray lift motor. Replace the home position sensor.

## F1-19 Finisher alignment operation trouble F

Trouble content	
Detail	PCU
Cause	Finisher paper alignment motor lock. Motor speed abnormality. Over-current to the motor. Finisher control PWB trouble. Home position sensor trouble.
Check & Remedy	Use SIM3-3 to check the operation of the paper alignment motor F. Use SIM3-2 to check the operation of the home position sensor. Replace the finisher control PWB. Replace the paper alignment motor F. Replace the home position sensor.

## F1-20 Finisher alignment operation trouble R

Trouble content	
Detail	PCU
Cause	Finisher paper alignment motor lock. Motor speed abnormality. Over-current to the motor. Finisher control PWB trouble. Home position sensor trouble.
Check & Remedy	Use SIM3-3 to check the operation of the paper alignment motor R. Use SIM3-2 to check the operation of the home position sensor. Replace the finisher control PWB. Replace the paper alignment motor R. Replace the home position sensor.

## F1-29 Finisher cooling fan motor abnormality

Trouble content	Finisher cooling fan motor abnormality
Detail	MFP
Cause	Motor lock Motor harness short/open. Finisher control PWB trouble. Harness/connector connection trouble.
Check & Remedy	Use SIM3-3 to check the operation of the finisher cooling fan (FCF). Check connection from the finisher control PWB to the motor. Replace the finisher control PWB. Replace the fan motor.

## F1-37 Finisher data backup RAM error

Trouble content	
Detail	PCU
Cause	Finisher control PWB trouble. Malfunction due to noises
Check & Remedy	Replace the finisher control PWB. Readjust the finisher. (Use SIM3-10, Finisher control PWB DIP SW adjustment.)

## F1-50 Main unit - Finisher combination error

Trouble content	
Detail	PCU
Cause	The finisher which is not supported by the main unit model is installed. Finisher control PWB trouble.
Check & Remedy	Install a proper finisher. Replace the finisher control PWB.

## F1-95 Paper exit option configuration error

Trouble content	
Detail	PCU
Cause	The paper exit option configuration is improper.
Check & Remedy	Install a proper option.

## F2-39 Process thermistor trouble

Trouble content	
Detail	PCU
Cause	Process thermistor trouble. Process thermistor harness connection trouble. PCU PWB trouble.
Check & Remedy	Replace the process thermistor. Check connection of the process thermistor harness and the connector. Replace the PCU PWB.

## F2-40 Toner density sensor trouble

Trouble content	
Detail	PCU
Cause	Toner density sensor output abnormality. Sensor connector and harness connection trouble. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Check connection of the sensor connector and the harness. Replace the developing unit. Replace the PCU PWB.

## F2-58 Temperature/humidity sensor trouble (HUD\_M/TH\_M)

Trouble content	
Detail	PCU
Cause	Temperature/humidity sensor trouble. Process humidity sensor harness and connector connection trouble PCU PWB trouble.
Check & Remedy	Replace the temperature/humidity sensor. Check connection of the temperature/humidity sensor harness and the connector. Replace the PCU PWB.

## F2-64 Toner supply operation trouble

Trouble content	
Detail	PCU
Cause	Toner motor trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble. Toner transport pipe section trouble
Check & Remedy	Replace the toner motor. Replace the toner density sensor. Connector and harness check. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit. Check the toner transport pipe section.

## F2-70 Improper toner cartridge detection

Trouble content	
Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB.

**F2-74 Toner cartridge CRUM error**

Trouble content	
Detail	PCU
Cause	Toner cartridge (CRUM) trouble. PCU PWB trouble. Connector and harness trouble between PCU PWB and toner cartridge
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB. Check the connector and the harness between the PCU PWB and the toner cartridge.

**F3-12 Paper feed tray 1 lift operation trouble**

Trouble content	C1LUD is not turned ON within the specified time.
Detail	PCU
Cause	C1LUD is not turned ON within the specified time. C1LUD sensor trouble. Paper feed tray 1 lift unit trouble. PCU PWB trouble. Sensor harness and connector connection trouble
Check & Remedy	Check connection of the harness and the connector of C1LUD. Replace the lift-up unit. Replace the PCU PWB.

**F3-22 Paper feed tray 2 lift operation trouble**

Trouble content	C2LUD does not turn ON within the specified time.
Detail	PCU
Cause	C2LUD does not turn ON within the specified time. C2LUD sensor trouble. Paper feed tray 2 lift unit trouble. PCU PWB trouble. Sensor harness and connector connection trouble
Check & Remedy	Check the harness and the connector of C2LUD. Replace the lift-up unit. Replace the PCU PWB.

**F3-32 Paper feed tray 3 lift operation trouble**

Trouble content	C3LUD does not turn ON within the specified time.
Detail	PCU
Cause	C3LUD does not turn ON within the specified time. C3LUD sensor trouble. Paper feed tray 3 lift unit trouble. PCU PWB trouble. Sensor harness and connector connection trouble
Check & Remedy	Check the harness and the connector of C3LUD. Replace the lift-up unit. Replace the PCU PWB.

**F3-42 Paper feed tray 4 lift operation trouble**

Trouble content	C4LUD does not turn ON within the specified time.
Detail	PCU
Cause	C4LUD does not turn ON within the specified time. C4LUD sensor trouble. Paper feed tray 4 lift unit trouble. PCU PWB trouble. Sensor harness and connector connection trouble
Check & Remedy	Check the harness and the connector of C4LUD. Replace the lift-up unit. Replace the PCU PWB.

**F6-00 MFPC PWB - FAX communication trouble**

Trouble content	MFP - FAX communication establishment error / Framing / Parity / Protocol error	
Section	MFP	
Case 1	Cause	FAX control PWB trouble.
	Check and Remedy	Replace the FAX control PWB.
Case 2	Cause	FAX control PWB - MFPC PWB connector and harness trouble
	Check and Remedy	Check the connector and the harness between the FAX control PWB and the MFPC PWB.
Case 3	Cause	FAX control PWB - Mother board connector and harness trouble
	Check and Remedy	Check the connector and the harness between the FAX control PWB and the mother board.
Case 4	Cause	FAX control PWB ROM trouble / ROM pin breakage
	Check and Remedy	Check the ROM of the FAX control PWB.

**F6-01 FAX control PWB EEPROM read/write error**

Trouble content	FAX control PWB EEPROM access error (Read and write)	
Section	FAX	
Case 1	Cause	FAX control PWB EEPROM trouble
	Check and Remedy	Check that no trouble occurs after replacement of EEPROM. Execute the memory check of SIM66-3 to insure that EEPROM can be accessed.
Case 2	Cause	FAX control PWB EEPROM access circuit trouble
	Check and Remedy	Replace the FAX control PWB.

**F6-04 FAX MODEM operation trouble**

Trouble content	FAX control PWB MODEM chip operation trouble	
Section	FAX	
Case 1	Cause	FAX MODEM chip operation trouble.
	Check and remedy	Replace the FAX control PWB.
Case 2	Cause	The FAX MODEM chip cannot be accessed.
	Check and Remedy	Replace the FAX control PWB.

**F6-21 Improper combination of TEL/LIU PWB and FAX soft switch**

Trouble content	Incompatibility between the TEL/LIU PWB and the FAX control PWB information (soft switch)	
Section	MFP	
Case 1	Cause	The destination of the TEL/LIU PWB installed is improper.
	Check and Remedy	Check the destination of the TEL/LIU PWB.
Case 2	Cause	TEL/LIU PWB trouble.
	Check and Remedy	Replace the TEL/LIU PWB.

## F6-30 FAX 1-chip microprocessor access error (FAX detection)

Trouble content	FAX 1-chip microprocessor access error (Read and write)
Section	MFP
Case 1	Cause Program writing trouble to the 1-chip microprocessor, or no program data written.
	Check and Remedy Use SIM66-42 to rewrite the 1-chip microprocessor program.
Case 2	Cause FAX 1-chip microprocessor circuit trouble.
	Check and Remedy Replace the FAX control PWB.

## F6-97 Incompatibility between FAX control PWB and the main machine

Trouble content	Incompatibility between FAX control PWB and the main machine
Section	MFP
Case 1	Cause The FAX control PWB installed is improper. FAX control PWB trouble.
	Check and Remedy Install a proper FAX control PWB. Replace the FAX control PWB.

## F6-98 Incompatibility between the FAX control PWB destination and the main machine destination

Trouble content	Incompatibility between the FAX control PWB destination and the main machine destination
Section	MFP
Case 1	Cause Incompatibility between the destination information written into the FAX control PWB EEPROM and that in the main machine (set with SIM26-6)
	Check and Remedy 1) Check the destination of the FAX control PWB. 2) Check the destination of the machine. (SIM26-6)

## H2-00 Thermistor open trouble (TH\_UM)

Trouble content	Main thermistor open hardware detection trouble
Detail	PCU
Cause	Main thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble Fusing section connector connection trouble Fusing unit not installed
Check & Remedy	Use SIM44-14 to check the state of the thermistor. Replace the thermistor. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Check the connector in the fusing section.

## H2-01 Thermistor open trouble (TH\_US)

Trouble content	Sub thermistor open hardware detection trouble
Detail	PCU
Cause	Sub thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble Fusing section connector connection trouble Fusing unit not installed
Check & Remedy	Use SIM44-14 to check the state of the thermistor. Replace the thermistor. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Check the connector in the fusing section.

## H3-00 Fusing section high temperature trouble (TH UM)

Trouble content	Main heater lamp abnormally high temperature software detection trouble
Detail	PCU
Cause	The fusing temperature exceeds the specified level. Main thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble Power unit trouble.
Check & Remedy	Use SIM44-14 to check the state of the thermistor. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermistor. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Replace the power unit.

## H3-01 Fusing section high temperature trouble (TH\_US)

Trouble content	Sub heater lamp abnormally high temperature software detection trouble
Detail	PCU
Cause	The fusing temperature exceeds the specified level. Sub thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble Power unit trouble.
Check & Remedy	Use SIM44-14 to check the state of the thermistor. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermistor. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Replace the power unit.

#### H4-00 Fusing section low temperature trouble (TH\_UM)

Trouble content	The fusing temperature does not reach the specified level within the specified time from turning ON the power relay.
Detail	PCU
Cause	Main thermistor trouble. Main heater lamp trouble. PCU PWB trouble. Thermostat trouble. Connector, harness connection trouble. HL control PWB trouble. Power unit trouble.
Check & Remedy	Use SIM14 to cancel the trouble. Use SIM44-14 to check the state of the thermistor. Use SIM5-2 to check the flashing operation of the heater lamp. Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the HL control PWB. Replace the power unit.

#### H4-01 Fusing section low temperature trouble (TH\_US)

Trouble content	The fusing temperature does not reach the specified level within the specified time from turning ON the power relay.
Detail	PCU
Cause	Sub thermistor trouble. Sub heater lamp trouble. PCU PWB trouble. Thermostat trouble. Connector, harness connection trouble. HL control PWB trouble. Power unit trouble.
Check & Remedy	Use SIM14 to cancel the trouble. Use SIM44-14 to check the state of the thermistor. Use SIM5-2 to check the flashing operation of the heater lamp. Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the HL control PWB. Replace the power unit.

#### H5-01 5-time continuous jams of POD1, POD2, or PPD2

Trouble content	
Detail	PCU
Cause	A fusing jam is not canceled completely. (A jam paper remains.) POD1/POD2/PPD2 sensor trouble Fusing unit installation trouble POD1/POD2/PPD2 sensor connector and harness connection trouble PCU PWB trouble Fusing unit, drive section trouble
Check & Remedy	Replace the POD1/POD2/PPD2 sensor. Check installation of the fusing unit. Replace the fusing unit. Check paper around the fusing unit section. Check connection of the POD1/POD2/PPD2 sensor connector and the harness. Replace the PCU PWB. Use SIM14 to cancel the trouble.

#### L1-00 Scanner feed trouble

Trouble content	Scanner feed is not completed within the specified time.
Detail	SCU
Cause	Scanner unit trouble. SCU PWB trouble. Scanner control PWB trouble. Harness and connector connection trouble. Scanner home position sensor trouble. Scanner motor trouble.
Check & Remedy	Use SIM1-1 to check the scan operation. Replace the scanner unit. Replace the SCU PWB. Check connection of the connectors and the harness. Replace the scanner home position sensor. Replace the scanner motor.

#### L3-00 Scanner return trouble

Trouble content	Scanner return is not completed within the specified time.
Detail	SCU
Cause	Scanner unit trouble SCU PWB trouble Scanner control PWB trouble Harness and connector connection trouble Scanner home position sensor trouble Scanner motor trouble
Check & Remedy	Use SIM1-1 to check the scan operation. Replace the scanner unit. Replace the SCU PWB. Check connection of the connectors and the harness. Replace the scanner home position sensor. Replace the scanner motor.

## L4-01 Main motor lock trouble

Trouble content	The motor lock signal is detected during rotation of the main motor.
Detail	PCU
Cause	Main motor lock trouble Harness and connector connection trouble PCU PWB trouble
Check & Remedy	Use SIM6-1 to check the operation of the main motor lock. Replace the main motor. Check connection of the connectors and the harness. Replace the PCU PWB.

## L4-35 Fusing cooling fan trouble

Trouble content	The fan operation signal is not detected.
Detail	PCU
Cause	Fusing cooling fan trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check that the fan is actually rotating. Replace the fusing cooling fan. Replace the PCU PWB. Check connection of the connector and the harness.

## L4-11 Shift motor trouble

Trouble content	No change in the shifter home position sensor signal is detected in the operation of the shifter initializing.
Detail	PCU
Cause	Shift motor trouble. PCU PWB trouble. Connection trouble of the connector and the harness. Shifter home position sensor trouble.
Check & Remedy	Use SIM6-1 to check the shift operation. Use SIM30-1 to check the operation of the shifter home position sensor. Replace the shift motor. Replace the PCU PWB. Check connection of the connector and the harness. Replace the shifter home position sensor.

## L4-30 MFP fan motor trouble

Trouble content	The motor lock signal is detected during rotation of the MFP fan motor.
Detail	MFP
Cause	Fan motor trouble. Harness connection trouble between the MFPC PWB and the fan motor. MFP circuit trouble.
Check & Remedy	Use SIM6-2 to check the rotating operation of the fan. Check the harness and the connector between the MFPC PWB and the fan motor.

## L4-31 Paper exit cooling fan trouble

Trouble content	The fan operation signal is not detected.
Detail	PCU
Cause	Paper exit cooling fan trouble. PCU PWB trouble Connection trouble of the connector and the harness.
Check & Remedy	Check connection of the connectors and the harness. Use SIM6-2 to check the rotating operation of the fan. Replace the paper exit cooling fan. Replace the PCU PWB.

## L4-32 Power source cooling fan trouble

Trouble content	The fan operation signal is not detected.
Detail	PCU
Cause	Power cooling fan trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check that the fan is actually rotating. Replace the power cooling fan. Replace the PCU PWB. Check connection of the connectors and the harness.

## L4-43 Paper exit cooling fan 2 trouble

Trouble content	The fan operation signal is not detected.
Detail	PCU
Cause	Paper exit cooling fan trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Replace the fan. Replace the PCU PWB. Check the connector and the harness. Use SIM6-2 to check that the fan is actually rotating.

## L4-44 Power cooling fan 2 trouble

Trouble content	The lock signal is detected while the power cooling fan is operating.
Detail	PCU
Cause	Power cooling fan trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check that the fan is actually rotating. Replace the power cooling fan. Replace the PCU PWB. Check the connector and the harness.

## L4-56 Fusing cooling fan 2 trouble

Trouble content	The fan operation signal is not detected.
Detail	PCU
Cause	Fusing cooling fan 2 trouble PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check that the fan is actually rotating. Replace the fusing cooling fan. Replace the PCU PWB. Check the connector and the harness.

## L6-10 Polygon motor trouble

Trouble content	The polygon motor does not reach the specified RPM within the specified time after starting rotation of the polygon motor.
Detail	PCU
Cause	Polygon motor trouble. LSU mother PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM61-1 to check the operation of the polygon motor. Check connection of the connector and the harness. Replace the LSU. Replace the LSU mother PWB.

## L8-01 Full wave signal detection error

Trouble content	The full wave signal is not detected.
Detail	PCU
Cause	PCU PWB trouble. Power unit trouble. Connection trouble of the connector and the harness.
Check & Remedy	Replace the PCU PWB. Replace the power unit. Check connection of the connector and the harness.

## L8-02 Full wave signal width abnormality

Trouble content	The full wave signal frequency is judged as abnormal. (The detected frequency is over 65Hz or below 45Hz.)
Detail	PCU
Cause	PCU PWB trouble. Power unit trouble. Harness trouble.
Check & Remedy	Replace the PCU PWB. Replace the power unit. Check connection of the connector and the harness.

## L8-20 Power controller communication trouble

Trouble content	Communication establishment error / Framing / Parity / Protocol error
Detail	MFP
Cause	PCU PWB - MFPC PWB connector connection trouble. Broken connector pin of the PCU PWB of the MFPC PWB.
Check & Remedy	Replace the PCU PWB. Check connector connection between the PCU PWB and the MFPC PWB. Check the ground of the main unit.

## P1-00 PCI communication error

Trouble content	
Detail	MFP
Cause	Communication error between the MFPC PWB and the PCI. Connection failure of connectors and harness between the MFPC PWB and the PCI. MFPC PWB trouble. PCI control PWB trouble.
Check & Remedy	Check connection of the harness and connectors between the MFPC PWB and the PCI. Check the MFPC PWB, and replace if necessary. (Refer to the necessary procedures after replacement of the MFPC PWB in the Service Manual, and perform the procedures.) Check the PCI control PWB, and replace if necessary.

## P1-01 PCI fan error

Trouble content	
Detail	MFP
Cause	The PCI fan operation signal is not detected. PCI fan trouble. PCI control PWB trouble.
Check & Remedy	Check connection of the connectors and harness between the PCI fan and the PCI control PWB. Check the PCI control PWB, and replace if necessary. Check the PCI fan, and replace if necessary.

## P1-02 Plasma generating device error

Trouble content	
Detail	MFP
Cause	Connection failure of connectors and harness between the plasma generating device and the PCI control PWB. Plasma generating device trouble. PCI control PWB trouble.
Check & Remedy	Check connection of the connectors and harness between the plasma generating device and the PCI control PWB. Replace the plasma generating device. Check the PCI control PWB, and replace if necessary.

## PC-- Personal counter not detected

Trouble content	
Detail	MFP
Cause	The personal counter is not installed. The personal counter is not detected. SCU PWB trouble.
Check & Remedy	Check connection of the connectors and the harness. Replace the SCU PWB.

## U1-01 Battery trouble

Trouble content	RTC backup battery voltage fall				
Detail	MFP				
Case 1	<table border="1"><tr><td>Cause</td><td>1) Battery life 2) Battery circuit abnormality</td></tr><tr><td>Check and Remedy</td><td>Check to confirm that the battery voltage is about 2.5V or above. Replace the battery.</td></tr></table>	Cause	1) Battery life 2) Battery circuit abnormality	Check and Remedy	Check to confirm that the battery voltage is about 2.5V or above. Replace the battery.
Cause	1) Battery life 2) Battery circuit abnormality				
Check and Remedy	Check to confirm that the battery voltage is about 2.5V or above. Replace the battery.				

## U2-00 MFP EEPROM read/write error

Trouble content	
Detail	MFP
Cause	MFPC PWB EEPROM trouble EEPROM socket contact trouble MFPC PWB trouble Strong external noises.
Check & Remedy	Replace the MFPC PWB EEPROM. Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.) Check the power environment.

## U2-05 SD/MFPC PWB SRAM contents inconsistency

Trouble content	The SD card or the MFPC PWB installed is improper. (Erroneous detection of account management data)
Detail	MFP
Cause	The SD card was replaced. The MFPC PWB was replaced. SD card trouble MFPC PWB trouble
Check & Remedy	Refer to the pages on the necessary works after replacing the SD and the MFPC PWB in the Service Manual, and perform the works. Use SIM16 to cancel the error.

## **U2-10 MFPC PWB SRAM user authentication index check sum error**

Trouble content	
Detail	MFP
Cause	SRAM user index information (user authentication basic data) check sum error. MFPC PWB SRAM trouble. MFPC PWB trouble. Strong external noises.
Check & Remedy	Use SIM16 to cancel the error. (Index information data in the HDD are transferred to the SRAM.) Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.)

## **U2-11 MFPC PWB EEPROM counter check sum error**

Trouble content	
Detail	MFP
Cause	MFPC PWB EEPROM trouble EEPROM socket contact trouble MFPC PWB trouble Strong external noises.
Check & Remedy	Use SIM16 to cancel the error. (The previous writing data (about the latest 8 sheets) are written into the EEPROM.) Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.)

## **U2-24 MFPC PWB SRAM memory user authentication counter check sum error**

Trouble content	
Detail	MFP
Cause	MFPC PWB SRAM trouble MFPC PWB trouble Strong external noises.
Check & Remedy	Use SIM16 to cancel the error. (The check sum error detection data are calculated again to reset the proper check sum data.) Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.)

## **U2-30 MFPC PWB and PCU PWB manufacturing No. data inconsistency**

Trouble content	Inconsistency between the manufacturing No. saved in the PCU PWB and that in the MFPC PWB.
Detail	MFP
Cause	When replacing the PCU PWB or the MFPC PWB, the EEPROM which was mounted on the PWB before replacement is not mounted on the new PWB. MFPC PWB trouble PCU PWB trouble
Check & Remedy	Check that the EEPROM is properly set. Check to confirm that the EEPROM which was mounted on the PWB before replacement is mounted on the new PWB. Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.) Replace the PCU PWB.

## **U2-40 SD card system storage data area error**

Trouble content	
Detail	MFP
Cause	A file error occurs in the SD card system storage data partition. SD card trouble MFPC PWB trouble
Check & Remedy	Turn OFF/ON the power, and the backup data in the HDD are written into the SD card and the machine is automatically booted. Check the MFPC PWB, and replace if necessary. Check the SD card, and replace if necessary.

## **U2-41 HDD system storage data area error**

Trouble content	
Detail	MFP
Cause	A file error occurs in the HDD system saved data area, disabling backup of the saved file of the machine adjustment values in the SD card. HDD trouble MFPC PWB trouble
Check & Remedy	Check the HDD, and replace if necessary. Check the MFPC PWB, and replace if necessary. When replacing the HDD and the MFPC PWB, refer to the chapter of "Necessary works and procedures of HDD and MFPC PWB replacement."

## U2-42 Machine adjustment data (system storage data area) error

Trouble content	
Detail	MFP
Cause	<p>The saved file of the machine adjustment values in the SD card and the HDD cannot be found or is broken.</p> <p>Both of the SD card set data and the HDD system saved data area are broken.</p> <p>HDD trouble</p> <p>MFPC PWB trouble</p> <p>SD card trouble</p>
Check & Remedy	<p>Check the HDD, and replace if necessary.</p> <p>Check the MFPC PWB, and replace if necessary.</p> <p>Check the SD card, and replace if necessary.</p> <p>When replacing the HDD, the MFPC PWB, and the SD card, refer to the chapter of "Necessary works and procedures of HDD, MFPC PWB, and SD card replacement."</p> <p>Use SIM to adjust the machine again and set the adjustment values.</p>

## U2-50 HDD\*1 user authentication data check sum error (SD card when no HDD is installed)

Trouble content	
Detail	MFP
Cause	<p>HDD trouble*1</p> <p>MFPC PWB trouble</p> <p>Strong external noises.</p>
Check & Remedy	<p>Check the data related to the check sum error (address book, image send system registration data (senders record, meta data)) and register again.</p> <p>Use SIM16 to cancel the U2 trouble.</p> <p>Replace the HDD*1.</p> <p>Replace the MFPC PWB.</p> <p>(Refer to the pages on the necessary works after replacing the HDD and the MFPC PWB in the Service Manual, and perform the works.)*1</p>

\*1: SD card when no HDD is installed.

## U2-60 Watermark check error

Trouble content	
Detail	MFP
Cause	<p>Watermark data trouble</p> <p>HDD trouble</p> <p>MFPC PWB trouble</p>
Check & Remedy	<p>Use SIM16 to cancel the U2 trouble.</p> <p>Use SIM49-5 to install the watermark data.</p> <p>Replace the HDD.</p> <p>Replace the MFPC PWB.</p> <p>(Refer to the pages on the necessary works after replacing the HDD and the MFPC PWB in the Service Manual, and perform the works.)</p>

## U2-80 SCU PWB EEPROM read/write error

Trouble content	
Detail	SCU
Cause	<p>SCU PWB EEPROM trouble</p> <p>SCU PWB trouble</p> <p>SCU PWB EEPROM socket connection trouble</p>
Check & Remedy	<p>Replace the SCU PWB EEPROM.</p> <p>Replace the SCU PWB.</p> <p>Check connection of the SCU PWB EEPROM socket.</p> <p>Check the SIM adjustment value of the following items, and adjust again if they are improper.</p> <ul style="list-style-type: none"> <li>• Scanner-related adjustments</li> <li>• Touch panel-related adjustments</li> </ul> <p>Use SIM16 to cancel the trouble.</p> <p>To avoid missing of the counter data and the adjustment values, use this simulation to save the counter data and the adjustment values. (If there is a printer option, use SIM22-01 to save the counter data and the adjustment values.)</p>

## U2-81 SCU PWB EEPROM check sum error

Trouble content	
Detail	SCU
Cause	<p>SCU PWB EEPROM trouble.</p> <p>Installation of non-initialized EEPROM.</p> <p>SCU PWB trouble.</p> <p>EEPROM socket contact trouble.</p>
Check & Remedy	<p>Replace the SCU PWB EEPROM.</p> <p>Replace the SCU PWB.</p> <p>Check contact of the EEPROM socket.</p> <p>Use SIM16 to cancel the trouble. (The check sum error detection data are calculated again to reset the proper check sum data.)</p> <p>To avoid missing of the counter data and the adjustment values, use this simulation to save the counter data and the adjustment values. (If there is a printer option, use SIM22-01 to save the counter data and the adjustment values.)</p>

## U2-90 PCU PWB EEPROM read/write error

Trouble content	
Detail	PCU
Cause	<p>PCU PWB EEPROM trouble</p> <p>PCU PWB trouble</p> <p>EEPROM socket contact trouble</p>
Check & Remedy	<p>Replace the PCU PWB EEPROM.</p> <p>Check the SIM adjustment values of the engine, and adjust again if they are improper.</p> <p>Replace the PCU PWB.</p> <p>Check contact of the EEPROM socket.</p> <p>Use SIM16 to cancel the trouble.</p> <p>To avoid missing of the counter data and the adjustment values, use this simulation to save the counter data and the adjustment values. (If there is a printer option, use SIM22-01 to save the counter data and the adjustment values.)</p>

## **U2-91 PCU PWB EEPROM check sum error**

Trouble content	
Detail	PCU
Cause	PCU PWB EEPROM trouble PCU PWB trouble EEPROM socket contact trouble
Check & Remedy	Replace the PCU PWB EEPROM. Replace the PCU PWB. Check contact of the EEPROM socket. Use SIM16 to cancel the trouble. (The check sum error detection data are calculated again to reset the proper check sum data.) To avoid missing of the counter data and the adjustment values, use this simulation to save the counter data and the adjustment values. (If there is a printer option, use SIM22-01 to save the counter data and the adjustment values.)

## **UC-20 DOCC ASIC error**

Trouble content	Access error to the DOCC-ASIC (The ASIC does not operate normally.)
Detail	SCU
Cause	BtoB connector connection trouble. SCU PWB trouble. DOCC-ASIC trouble.
Check & Remedy	Check the BtoB connector. Replace the SCU PWB or Option PWB.

## **U7-50 MFPC PWB - Vendor machine communication error**

Trouble content	Communication error between the MFP and the serial vendor.
Detail	MFP
Cause	Improper setting of the vendor machine specifications (SIM26-3). Vendor machine trouble. MFPC PWB trouble. Connector, harness connection trouble. Strong external noises.
Check & Remedy	Cancel the error by turning OFF/ON the power. Check the connector and the harness in the communication line. Change the specifications of the vendor machine (SIM26-3). Replace the MFPC PWB.

## **U7-51 Vendor machine error**

Trouble content	
Detail	MFP (Notification of a trouble from the serial vendor)
Cause	Serial vendor machine trouble. Connector, harness connection trouble.
Check & Remedy	Err.XX is displayed on the operation panel of the vendor. (XX is the detail code.) Repair the vendor machine referring to the detail code. Check the connector and the harness in the communication line.

## **UC-02 CPT - ASIC error**

Trouble content	Access error to the CPT-ASIC (The ASIC does not operate normally.)
Detail	SCU
Cause	BtoB connector connection trouble. SCU PWB trouble. CPT-ASIC trouble.
Check & Remedy	Check the BtoB connector. Replace the SCU PWB or Option PWB.

## (1) Descriptions on E7-91 - 94 errors

Two-digit numbers with double parentheses are added to E7-91 - 94 error codes recorded in SIM22-6 indicate the detailed contents of the errors.

The number in each digit has its own meaning.

(Example) E7-91(\*\*)

The upper digit of the added code indicates the job kind at the occurrence of the error.

Error code	The upper digit of the added code	Image type	Job kind at the occurrence of the error	
E7-91	0*	Other	<ul style="list-style-type: none"> <li>FAX (Internet FAX) reception print (Other than long size images)</li> </ul>	*1
	1*	JPEG		*1
	2*	JBIG		*1
	3*	Mxx1ch		
	4*	Mxx4ch		
	5*	Other		*1
	6*	JPEG		*1
	7*	JBIG		*1
	8*	Mxx1ch		
	9*	Mxx4ch		
E7-92	A* - F*	Not Used		*1
	0*	Other		*1
	1*	JPEG		
	2*	JBIG		*1
	3*	Mxx1ch		*1
	4*	Mxx4ch		
	5* - F*	Not Used		*1
E7-93	0*	Other	<ul style="list-style-type: none"> <li>Copy print (in ERDH)</li> <li>Copy composing system function (Custom Stamp, Water mark)</li> </ul>	*1
	1*	JPEG		
	2*	JBIG		
	3*	Mxx1ch		
	4*	Mxx4ch		
	5*	Other	<ul style="list-style-type: none"> <li>Image send</li> <li>Document filing</li> <li>Preview display</li> </ul>	*1
	6*	JPEG		
	7*	JBIG		
	8*	Mxx1ch		
	9*	Mxx4ch		
	A*	Other	<ul style="list-style-type: none"> <li>GDI/PCL printer print</li> <li>Copy composing system function (Custom Stamp, Water mark)</li> </ul>	*1
	B*	JPEG		
	C*	JBIG		
	D*	Mxx1ch		*1
	E*	Mxx4ch		
	F*	Not Used		*1
E7-94	0*	Other	<ul style="list-style-type: none"> <li>Backup restore (Filing data import)</li> </ul>	*1
	1*	JPEG		
	2*	JBIG		*1
	3*	Mxx1ch		*1
	4*	Mxx4ch		*1
	5* - F*	Not Used		*1

\*1: Added code without generating

The lower digit of the added code indicates the kind and the content of the abnormality or the result of the automatic memory check executed when the abnormality is detected.

	Lower digit of the added code → Kind/Content of the error								
	*1	*9	*A	*B	*C	*D	*E	*F	
Memory verify NG	—	Huffman code error	Restart marker error	Improper marker error	Head decoding error detection (ASIC detection)	Head decoding error detection (CPU detection)	Other abnormal termination		
The upper digit of the added code	1*, 6*, B*	JPEG	●	—	○	○	○	—	○
↓	2*, 7*, C*	JBIG	●	—	—	○	○	—	○
Error detection circuit	3*, 8*, D*	Mxx1ch	●	—	—	—	—	—	○
	4*, 9*, E*	Mxx4ch	●	—	—	—	—	—	○

●: Added code indicating that the memory and its peripheral must be focused for check in case of an error.

○: Added code indicating that doubtful sections are in a wider range such as the memory, PWB's, HDD, etc.

—: Added code without generating

## (2) Countermeasures in case of E7-91 - 94

In case of E7-9x (11), E7-9x (21), E7-9x (31), E7-9x (41)

Cause	In case of E7-91 - 94, the DIMM memory (DRAM) is automatically read/written to perform a simplified check. If an abnormality is detected in that case, the added code becomes (*1). Therefore, there is a strong possibility that an abnormality lies around the memory.
Check and remedy	<ul style="list-style-type: none"> <li>Check the installing state of the DIMM memory and the MFPC PWB to insure that there is no abnormality. (Disconnect and connect the DIMM memory and the MFPC PWB to check to insure that there is no error occurring again.)</li> <li>Use SIM60-01 (Memory read/write check) to check to insure that no error occurs.</li> <li>Replace the DIMM memory.</li> <li>Replace the MFPC PWB.</li> </ul>

NOTE: Since the automatic memory check executed when E7-91 - 94 occurs is a simplified check, it cannot detect an abnormality with absolute certainty.

If the added code is (\*1), there may be a memory abnormality. Even if it is not (\*1), however, it cannot be said that there is no abnormality around the memory.

### Other added codes

Cause	Mostly because the data inputted to the ASIC for decoding are broken for some reason. There is an abnormality in the process of read/write of the process data in the memory or the hard disk. A great noise unexpectedly generated may be the cause. For the cases of FAX or Internet FAX reception data, when broken data are saved, printing is performed every time when the machine is booted, generating an error repeatedly. (E7-91) (To clear the received data, execute SIM66-10.)
Check and remedy	<ul style="list-style-type: none"> <li>Check the DIMM memory, the MFPC PWB, and the HDD to insure that there is no abnormality.</li> <li>When the job at occurrence of an error is FAX (E7-91), check the installing state of the FAX control PWB and the SC CARD PWB.</li> <li>Perform SIM60-01 (Memory read/write check) to insure that there is no NG.</li> <li>Perform SIM62-02 and SIM62-03 (HDD read/write check) to insure that there is no NG. (It is not required, however, when the job at occurrence of an error is FAX.)</li> <li>Check the installing state of the DIMM memory and the MFPC PWB to insure that there is no abnormality. (Disconnect and connect the DIMM memory and the MFPC PWB to check to insure that there is no error occurring again.)</li> <li>Replace the HDD.</li> <li>Replace the FAX control PWB.</li> <li>Replace the DIMM memory.</li> <li>Replace the MFPC PWB.</li> <li>Replace the SD card.</li> </ul>

NOTE: When there is an abnormality around the HDD, E7-03 may occur.

If error E7-91 - 94 as well as E7-03 occurs, there is a high possibility that the error can be removed by replacing the HDD and the MFPC PWB.

## (3) Countermeasures against the case where nothing is displayed when the machine is booted

### [Trouble content]

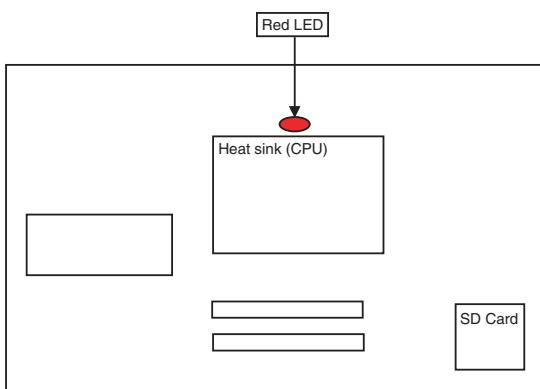
If nothing is displayed when the machine is booted, the error code cannot be checked and the cause is hard to identify.

One of the causes may be an abnormality in the boot program of the SD card. To check that, the following method is used.

### [Check method]

Check to confirm that the LED (red) upper the CPU heat sink on the MFPC PWB shown in the figure below is lighted when the power is supplied.

If the LED is lighted, it is judged as an abnormality of the SD card.



### [Countermeasures]

- 1) Replace the SD card with a new one. (Be sure to use a service part.)
- 2) Upgrade the firmware to the latest version.
- 3) Use SIIM66-62 to backup the FAX reception data from the HDD to a USB memory device. (If there is no FAX reception data, this procedure is not required.) (The FAX reception data are backed up in the PDF format. Supply the date to the user.)
- 4) Use SIM66-10 to clear the FAX and image send memory. (Ensure consistency between the HDD data and the image related memory.)

#### (4) Relation between the MFPC PWB LED status and errors

When the machine cannot be booted, check the LED status of the MFPC PWB to presume the error content and its cause.

##### <Process content and LED display>

LED status (Lighting)	Process operation content	Cause for halt during operation
○○○○	CPU initial setting	Reus ASIC trouble
○○○●	Memory adjustment	Memory and its peripheral circuit trouble
○○●○	Memory check	Memory and its peripheral circuit trouble
○○●●	—	—
○●○○	Program memory development	Memory-related trouble
○●●○●	Interruption-related initialization	Reus ASIC trouble
○●●●○	PCIe initialization	PCIe and its peripheral circuit trouble (SoC/ACRE, etc.)
○●●●●	Basic device initialization	Reus ASIC trouble
●○○○	SD card initialization SATA initialization	Reus ASIC trouble SD card trouble HDD trouble
●○○●●	OS initialization (1)	Reus ASIC trouble
●○●○○	Timer enabling	Reus ASIC trouble
●○●●●	Serial driver enabling I2C driver enabling	Reus ASIC trouble
●●○○	LCD initialization	Reus ASIC trouble
●●●○○	Image process IP initialization	Reus ASIC trouble
●●●○○	OS initialization (2)	Reus ASIC trouble
●●●●●	Main process	Reus ASIC trouble

\* ● : LED ON / ○: LED OFF

##### <When an error occurs>

LED status (Flashing)	Error content	Cause
○○○●	Nonsupport memory	Memory trouble
○○●○	Nonsupport memory (access speed)	Memory trouble
○○●●	Nonsupport memory controller	Memory trouble
○●○○	DDR-PHY setting error	Reus ASIC trouble
○●●○○	Interruption handler process error	Reus ASIC trouble
●○○○	Memory check error	Memory trouble
●●●●●	Memory combination error	Memory trouble

\* In case of an error, the LED's flash as shown in the above table.

\* ● : LED ON / ○: LED OFF



LED No. D25/D24/D23/D22  
3 / 2 / 1 / 0

## 2. JAM and troubleshooting

### A. JAM code list

#### (1) Main unit

JAM code	JAM content
NO_JAM_CAUSE	No JAM. Also used for JAM canceling.
TRAY1	Cassette 1 paper feed JAM (C1PFD not-reached JAM)
C1PFD_S1	C1PFD remaining JAM (Cassette 1 feed paper)
TRAY2	Cassette 2 paper feed JAM (C2PFD not-reached JAM)
C2PFD_N3	C2PFD not-reached JAM (Cassette 3 feed paper)
C2PFD_N4	C2PFD not-reached JAM (Cassette 4 feed paper)
C2PFD_S2	C2PFD remaining JAM (Cassette 2 feed paper)
C2PFD_S3	C2PFD remaining JAM (Cassette 3 feed paper)
C2PFD_S4	C2PFD remaining JAM (Cassette 4 feed paper)
TRAY3	Cassette 3 paper feed JAM (C3PFD not-reached JAM)
C3PFD_N4	C3PFD not-reached JAM (Cassette 4 feed paper)
C3PFD_S3	C3PFD remaining JAM (Cassette 3 feed paper)
C3PFD_S4	C3PFD remaining JAM (Cassette 4 feed paper)
TRAY4	Cassette 4 paper feed JAM (C4PFD not-reached JAM)
C4PFD_S4	C4PFD remaining JAM (Cassette 4 feed paper)
MFT	Manual feed tray paper feed JAM (PPD1 not-reached)
PPD1_N2	PPD1 not-reached JAM (Cassette 2 feed paper)
PPD1_N3	PPD1 not-reached JAM (Cassette 3 feed paper)
PPD1_N4	PPD1 not-reached JAM (Cassette 4 feed paper)
PPD1_NA	PPD1 not-reached JAM (ADU refeed paper)
PPD1_SM	PPD1 remaining JAM (Manual feed tray feed paper)
PPD1_S2	PPD1 remaining JAM (Cassette 2 feed paper)
PPD1_S3	PPD1 remaining JAM (Cassette 3 feed paper)
PPD1_S4	PPD1 remaining JAM (Cassette 4 feed paper)
PPD1_SA	PPD1 remaining JAM (ADU refeed paper)
POSD_N	POSD not-reached JAM
POSD_S	POSD remaining JAM
POD1_N	POD1 not-reached JAM
POD1_S	POD1 remaining JAM
POD2_N	POD2 not-reached JAM
POD2_S	POD2 remaining JAM
POD3_N	POD3 not-reached JAM
POD3_S	POD3 remaining JAM
APPD1_N	APPD1 not-reached JAM
APPD1_S	APPD1 remaining JAM
DRUM	Drum lock detection
FUSER	Fuser winding detection
PRI_JAM	Image preparation wait timeout
FIN_ERR	Finisher communication abnormality detection
MTR_ILG	Motor driver trouble JAM
SIZE_ILG	Size illegal JAM
STOP_JAM	Emergency stop request JAM (Controller request)
NO_MATCH	Parameter no matching

#### (2) Finisher

JAM code	JAM content
FPPD1_N	Finisher inlet port not-reached JAM
FPPD1_S	Finisher inlet port remaining JAM
FIN_TIME	Finisher paper early reaching JAM
FSTPD_S	Finisher paper exit remaining JAM
FSTPL	Finisher staple JAM
FPRD_N	Finisher compiler not-reached JAM
FPRD_S	Finisher compiler remaining JAM

#### (3) RSPF

JAM code	JAM content
SPPD1_N	SPPD1 not-reached JAM
SPPD1_S	SPPD1 remaining JAM
SPPD2_N	SPPD2 not-reached JAM
SPPD2_S	SPPD2 remaining JAM
SPPD3_N	SPPD3 not-reached JAM
SPPD3_S	SPPD3 remaining JAM
SPPD4_N	SPPD4 not-reached JAM
SPPD4_S	SPPD4 remaining JAM
SPPD5_N	SPPD5 not-reached JAM
SPPD5_S	SPPD5 remaining JAM
SPSD_SCN	Exposure start notification timer end
SPPD2_NR	SPPD2 reverse not-reached JAM
SPPD2_SR	SPPD2 reverse remaining JAM
P_SHORT	Short size JAM
SDFS_S	Overlap feed detection jam/accompanied feed jam
ICU_REQ	ICU factor stop JAM

### 3. Image send communication report code

#### A. Outline and code system descriptions

After completion of communication, the communication report table, the communication management table, and the protocol are described on the communication report column.

The communication report code is composed as follows:

Communication report: XX (XXXX)

The upper 2 digits of the communication report code:

Communication report code of 00 – 99 (Refer to communication report main code.)

The lower 4 digits of the communication report code:

Used by the serviceman.

The upper 2 digits: Communication report sub code 1 (Refer to communication report sub code 1.)

The lower 2 digits: Communication report sub code 2 (Refer to communication report sub code 2.)

CAUTION: The communication report sub code 1 and sub code 2 are in hexadecimal notation. (The others are in decimal notation.)

CAUTION: The communication report sub code 1 is not used in the these models.

#### B. Details

##### (1) Communication report main code

Report code	Final receive signal (Send side)	Final receive signal (Receive side)
0	Abnormal signal	Abnormal signal
1	NSF, DIS	(SID), (SUB), NSS, DCS
2	CFR	(PWD), (SEP), NSC, DTC
3	FTT	EOP
4	MCF	EOM
5	PIP, PIN	MPS
6	RTN, RTP	PRI-Q
7	No signal, DCN	DCN
8	PPR	PPS-EOP
9		PPS-EOM
10		PPS-MPS, PPS-NULL
11	RNR	RR
12	CTR	CTC
13	ERR	EOR-Q
14		PPS-PRI-Q
16	Abnormal signal	Abnormal signal
17	NSF, DIS	SID, SUB, NSS, DCS
18	CFR	PWD, SEP, NSC, DTC
19	FTT	PPS-EOP
20	MCF	PPS-EOM
21	PIP, PIN	PPS-MPS, PPS-NULL
22	RTN, RTP	PRI-Q
23	No signal, DCN	DCN
24	PPR	
25	RNR	RR
26	CTR	CTC
27	ERR	EOR-Q
28		PPS-PRI-Q
29	V.8 Phase-1	V.8 Phase-1
30	V.8 Phase-2	V.8 Phase-2
31	V.8 Phase-3	V.8 Phase-3

CAUTION: For report codes 16 – 31, V.34 MODE COMMUNICATION.

Report code (Communication result)	Display in the column of result	Content of communication interruption
0 – 31	Refer to "previous table".	Depends on the point of communication interruption. For 16 or later, V.34 mode communication.
33	BUSY	The calling side cannot establish connection with the remote party.
34	CANCEL	A communication interruption command is made during sending/receiving. The interruption key is pressed for interruption of input. <Send/Receive/Polling/Bulletin board>
35	NG35 XXXX	Power is failed during sending/receiving. <Send/Receive/Polling/Bulletin board>
36	(No record paper)	
37	(Record paper jam)	
38	MEM. FULL	Memory over during reception. <Receive/Polling> Print is not made during reception in acting reception inhibit. <Receive/Polling>
39	(Number of paper unmatched)	
40	(Relay not received)	
41	LENGTH OVER	The send data length of one page exceeds the limit (2m) in sending. <Send/Bulletin board>
42	LENGTH OVER	The receive data length of one page exceeds the limit. <Receive/Polling>
43	(Communication) (OK)	Speaking before data transmission
44	ORIGINAL ERROR	A document jam occurs in direct sending. <Send>
45	(Picture quality error)	
46	NO RESPONSE	The FAX signal from the remote party is not detected within T1 time. <Send/Polling> (When in recall, however, the recall setting in case of a communication error is valid.)
47	TX DECODE ERROR	A decode error occurs in the FAX board. <Send/Bulletin board>
48	OK	Normal end of communication
	OK REPLY RECEIVE	OK in Internet FAX send with reception confirmation.
49	NO RX POLL	The called side does not have polling function in polling reception. <Polling> The called side has no data to send. <Polling>
50	RX POLL FAIL	In polling reception, DCN is received for DTC. <Polling> In polling sending, there is no send data. <Bulletin board>
51	PASS # NG	In polling sending, the allow number is not matched. <Bulletin board> In polling sending, the system number is not matched. <Bulletin board>
52	(No confidential function in remote party)	In confidential sending, the remote party does not have confidential function. <Send> (Including other company's machines) 1) The NSF signal has not "Confidential function" bit. 2) The NSF is not a Sharp machine.
53	(Confidential not received)	1) In confidential sending, DCN is received for NSS. <Send>
54	(Confidential BOX NO NG)	1) In confidential reception, a confidential box number which is not registered is specified.
55	(No relay function in remote party)	In relay command sending, the remote machine has no relay function. <Send> (Including other company's machine) 1) The NSF signal has not "Confidential function" bit. 2) The NSF is not a Sharp machine.
56	NO REL RX	1) In relay command sending, DCN is received for NSS. <Send> 2) In relay command reception, a remote station number which is not registered is specified. <Receive> 3) In F code relay broadcasting, an F code relay command is received. <Receive>
57	(Relay ID unmatched)	1) In relay command reception, the relay ID does not match. <Receive>
58	REJECTED	In reception, data are sent from a remote machine of receive inhibit number. <Receive> (Not rejected in the bulletin board send or the F code bulletin board send.)
59	RX NO F-CODE POLL	In F code polling (calling), the remote machine has no DIS bit 47 (polling function). <Polling> In F code polling (calling), the called side has no send data. (DIS bit 9 is 0.) <Polling>
60	NO F-CODE POLL	In F code polling (calling), DCN is received for SEP. <Polling> In bulletin board, there is no send data for SEP. <Bulletin board>
61	RX POLL # NG	In bulletin board, the sub address (bulletin board number (SEP)) is not matched. <Bulletin board>
62	F POLL PASS # NG	In bulletin board, the pass code (PWD) is not matched. <Bulletin board>
63	NO F FUNC	In F code sending, the remote machine has no DIS bit 49 (sub address function). <Send> (Check that the remote machine conforms to F code.)
64	NO F-CODE	In F code sending : <Send> 1) DCN is received for SUB. --- Check the box number. 2) DCN is received for SID. --- Check the box number and pass code.  In F code receiving : <Receive> "F code relay broadcasting" or "F code confidential reception" is "Inhibited with soft SW."
67	F PASS # NG	In F code receiving, the pass code (SID) is not matched. <Receive>
68	BOX NO. NG	In F code reception, a box number which is not registered is specified. (SUB is not matched.) <Receive>
69	MEMORY OVER	Memory over in quick online sending <Send>
70	(JOB MEMORY OVER)	In PC-FAX reservation, the number of remote parties is exceeded. <Send>
71	NG71 XXXX *1	In PC-FAX reservation, data sent from PC includes some errors. <Send>
72	(NG72 XXXX) *1	In department management setting on the machine side: • In reservation from PC-FAX or PC-Internet FAX, a department number which is not registered on the machine side is specified. <Send> • In reservation from PC-FAX or PC-Internet FAX, the department number is not specified. <Send>
73	NG73 XXXX *1	In reservation from PC-FAX or PC-Internet FAX, the use quantity limit is exceeded. <Send>
74	NG74 XXXX *1	When reserving specified filing in document filing in PC-FAX or PC-Internet FAX; • The pass-code for the folder is set on the machine side and the pass-code from PC-XXX does not match with it. <Send> • The pass-code for the folder is set on the machine side and no pass-code is specified by PC-XXX. <Send>

Report code (Communication result)	Display in the column of result	Content of communication interruption
75	NG75 XXXX *1	<ul style="list-style-type: none"> <li>Reservation cannot be made due to machine busy. (Reservation of PC-FAX cannot be accepted.)</li> <li>When "PC-FAX or PC-internet FAX send inhibit" is set on the machine side.</li> </ul>
76	NG76 XXXX *1	Reserved with receive confirmation request in PC-Internet FAX, but the Internet FAX sender is not registered on the machine side. <Send>
77	NG77 XXXX *1	In reserving specified filing in PC-FAX or PC-Internet FAX, the machine has no filing function.
78	NG78 XXXX *1	The filing function is inhibited on the machine side when filing specification is reserved by PC-FAX or PC-Internet FAX.
79	NG79 XXXX *1	An authentication error occurs when PC-FAX or PC-Internet FAX is reserved.
80	NG80 XXXX *1	<p>NIC connect failure (network abnormality)</p> <ul style="list-style-type: none"> <li>Check for disconnection of cables.</li> <li>A network trouble (CE-XX) occurs.</li> <li>The port is set to DISABLE.</li> <li>Authentication of the POP server is failed when POP before SMTP is enabled.</li> <li>When an error other than the communication result code 93 or 94 in D-SMTP send (including error response of 5XX)</li> </ul>
81	NG REPORT	<p>In Internet FAX send, reply of receive confirmation of the remote machine is not normal. (Including PC-Internet FAX).</p> <ul style="list-style-type: none"> <li>Error of the disposition-modifier.</li> <li>The disposition modifier is not in an error, and the disposition type is other than displayed, dispatched, or processed.</li> </ul>
82	NO REPORT	<p>In Internet FAX send, time-out occurs in waiting for receive confirmation from the remote machine. (Including PC-Internet FAX).</p> <ul style="list-style-type: none"> <li>In a case where send confirmation wait time-out time is other than 0, when send confirmation reply from an Internet FAX destination is not received.</li> <li>Recalls of the set number of recalls are performed, but send confirmation reply from an internet FAX destination is not received.</li> </ul>
83	NG LIMIT	In E-mail/FTP, Internet FAX send, the send data size exceeds the upper limit of send data.
84	REJECTED	In e-mail receive, a sender is registered in receive reject address/domain. <Receive>
85	NG85 XXXX *1	<p>In e-mail receive, an error occurs in communication with POP3 server.</p> <ul style="list-style-type: none"> <li>Header acquisition error.</li> <li>Time-out during mail receive</li> </ul>
86	RECEIVED	<p>In e-mail receive, an unsupported attached file is received.</p> <p>Only the TIFF-F type is supported for attached files.</p> <ul style="list-style-type: none"> <li>The TIFF-F type of the attached file cannot be recognized.</li> <li>There is no attached file.</li> </ul>
87	NG87 XXXX *1	<p>In e-mail receive, an attached file cannot be stored in memory.</p> <ul style="list-style-type: none"> <li>Memory over</li> </ul>
88	NG88 XXXX *1	<p>In SMTP e-mail receive, an attached file cannot be stored in memory.</p> <ul style="list-style-type: none"> <li>Cannot be stored in memory.</li> <li>The number of items of acting receive data is the maximum, and an additional data cannot be stored.</li> </ul>
89	NG89 XXXX *1	<p>In SMTP e-mail receive, an error occurs in communication with the mail server.</p> <ul style="list-style-type: none"> <li>Time-out occurs during e-mail receive.</li> </ul>
90	NG90 XXXX *1	After reservation by re-operation of document filing, conversion for image send cannot be made.
91	NG91 XXXX *1 *2	Data cannot be written to the memory device when Scan To USB is executed.
		<ul style="list-style-type: none"> <li>The memory device is disconnected during writing to the memory device.</li> <li>An error occurs due to a memory device trouble.</li> </ul>
92	NG92 XXXX *1 *2	The USB device memory overflows during writing data into the memory device when "Scan to USB" is executed.
93	NG93 XXXX *1	<p>When error in D-SMTP send (with recall)</p> <ul style="list-style-type: none"> <li>An error response of 4XX occurs during communication with the SMTP server.</li> <li>Time out occurs after establishment of connection with the SMTP server.</li> </ul>
94	NG94 XXXX *1	<p>When busy in D-SMTP send</p> <p>Time out occurs during establishment of connection with the SMTP server.</p>
95	NG95 XXXX *1	When the path is too long in execution of Scan To USB.
96	NG96 XXXX *1	When the normal process is not executed in the secure mail sending.
98	NG98 XXXX *1	The copy inhibit pattern is detected when scanning a document.
99	NG99 XXXX *1	A document which is inhibited to be copied such as a banknote is scanned.

\*1: For a job status result in "Display in the column of result," "NG △△ XXXX" is displayed. "△△" is the code number.

For a communication result, "Communication error △△ (XXXX)" is displayed.

\*2: The error code of Scan To USB is specified only in the job log.

- When the communication result is OK, the communication sub code 1 and the communication sub code 2 are "0000."
- Errors in ( ) are not used.

## (2) Communication report sub code 1

The communication report sub code 1 (upper 2 digits) are always indicated as "00."

## (3) Communication report sub code 2

Report code 2	Content of communication interruption	Send/Receive
00	When the conditions after 01 do not apply.	Send/Receive
01	Send length over	Send
02	EOL time up	Receive
03	Carrier detection time up	Receive
04	Time up of the communication start command from the machine side	Receive
05	Time up in phase C (8 min)	Send
06	Memory image decode error	Receive
07	Memory image decode error	Send
08	Time up between frames in phase C (Report code is 0 or 16.)	Send/Receive
09	Not used	—
10	Not used	—
11	Polarity reversion detection	Receive
12	Invalid command reception	Receive
13	Time up (1-minute timer/6-second time)	Receive
14	PUT error	Receive
15	In V.34 mode, time up is generated when shifting from Primary to Control.	Receive
16	In V.34 mode, time up is generated when shifting from Control to Primary.	Receive
17	Command receive time-up from MFP controller	Receive
18	Not used	—
19	Not used	—
20	Polarity reversion detection	Send
21	Invalid command reception	Send
22	Fallback retry number over	Send
23	Command retry number resend over	Send
24	Time up (T5 timer)	Send
25	Time up (T5 timer) in V.34 mode	Send
26	In V.34 mode, time up is generated when shifting from Primary to Control.	Send
27	In V.34 mode, time up is generated when shifting from Control to Primary.	Send
28	When sending the FSK signal, no response of send completion is sent back from the MODEM chip within a certain time. (V.34, other than V.34)	Send
29	Not used	—
30	A communication error is generated between MFP controller and Modem controller. (Report code is 0 or 16.)	—
31	DC current not detected (busy)	Send
32	Dial tone not detected (busy)	Send
33	Busy tone detection (busy)	Send
34	T0 time up (Remote machine not responding)	Send
35	T1 time up (Remote machine not responding)	Send
36	In dialing, polarity reversion detection (Remote machine not responding)	Send
37	Calling is not made (busy)<Collision detected (including CNG detection)>	Send
38	Not used	—
60	In resend of document filed data, an error occurs in decoding or coding.	Resend
61	In resend of document filed data, setting to inhibit resolution conversion is made. (The resolution after resend is set to be Enlarged.)	Resend
62	In resend of document filed data, rotation setting is made for data which cannot be rotated.	Resend
63	In resend of document filed data, data cannot be stored in HD after conversion of resolution for resend.	Resend
64	In resending data of document file, during conversion for resending, the number of IMS management pages exceeds the upper limit (999). (It occurs in OSA Scan to FTP also, resulting in memory over.)	Resend OSAScanToFTP
70	E-mail header acquisition error	E-mail receive
71	Time out occurs during e-mail receive.	E-mail receive
72	Receive reject occurs during e-mail receive.	E-mail receive
73	Network communication cannot be made due to port disable.	Network send
74	An authentication of the POP server is failed when POP before SMTP is enabled.	Network send
75	In the setting of SSL communication, when SSL communication is tried but the server side does not support SSL.	Network send
76	There is no image in network communication (transfer).	Network send
80	There is no attached file in received e-mail.	E-mail receive
81	The attached file of received e-mail is not of TIFF type which is supported.	E-mail receive
82	The TIFF type of the attached file in received e-mail cannot be recognized. ID error	E-mail receive
83	The TIFF type of the attached file in received e-mail cannot be recognized. Endian error	E-mail receive
84	The TIFF type of the attached file in received e-mail cannot be recognized. Version error	E-mail receive
85	The TIFF type of the attached file in received e-mail cannot be recognized. Tag data error	E-mail receive
86	The TIFF type of the attached file in received e-mail cannot be recognized. Tag parameter error	E-mail receive
87	The TIFF type of the attached file in received e-mail cannot be recognized. Header size error	E-mail receive

Report code 2	Content of communication interruption	Send/Receive
88	The TIFF type of the attached file in received e-mail cannot be recognized. Data error	E-mail receive
90	In e-mail receive, an attached file cannot be stored in memory. Memory over. Cannot be stored in memory.	E-mail receive
91	In e-mail receive, an attached file cannot be stored in memory. The file size is too great to be stored in memory.	E-mail receive
92	In SMTP e-mail receive, an attached file cannot be stored in memory. Cannot be stored in memory.	E-mail receive

When the sub code 2 is "08" or "30" and the communication report is "OK," the report code is "00" or "16."

#### 4. Dial tone

When shipping from the factory, the dial tone detection when sending is set to Enable (changed from OFF to ON). When installing this machine, be sure to check and confirm that the dial tone is properly detected and the auto dial sending is enabled.

Check to confirm that the continuous buzzer sound is heard when the on-hook key is pressed. (Press the on-hook key again to cancel the buzzer sound.)

If facsimile communication cannot be executed normally through the IP telephone line, try the general telephone line.

# [8] FIRMWARE UPDATE

## 1. Outline

### A. Cases where update is required

ROM update is required in the following cases:

- 1) When there is a necessity to upgrade the performance.
- 2) When installing a new spare part ROM for repair to the machine.
- 3) When installing a new spare parts PWB unit (with ROM) for repair to the machine.
- 4) When there is a trouble in the ROM program and it must be repaired.

### B. Notes for update

#### (1) Relationship between each ROM and update

Before execution of ROM update, check combinations with ROM's installed in the other PWB's including options. Some combinations of each ROM's versions may cause malfunctions of the machine.

### C. Update procedures and kinds of firmware

There are following methods of update of the firmware.

- 1) Update method using SIM 49-1
- 2) Update method using FTP
- 3) Update method using the Web page
- 4) Update method using the CN update function (There are three methods.)

Normally, one of 1) - 3) is used to update the firmware.

When any one of 1) - 3) is interrupted by an error such as power-off during updating, etc., and when retries of these methods are failed, the method 4) is employed.

#### Firmware types

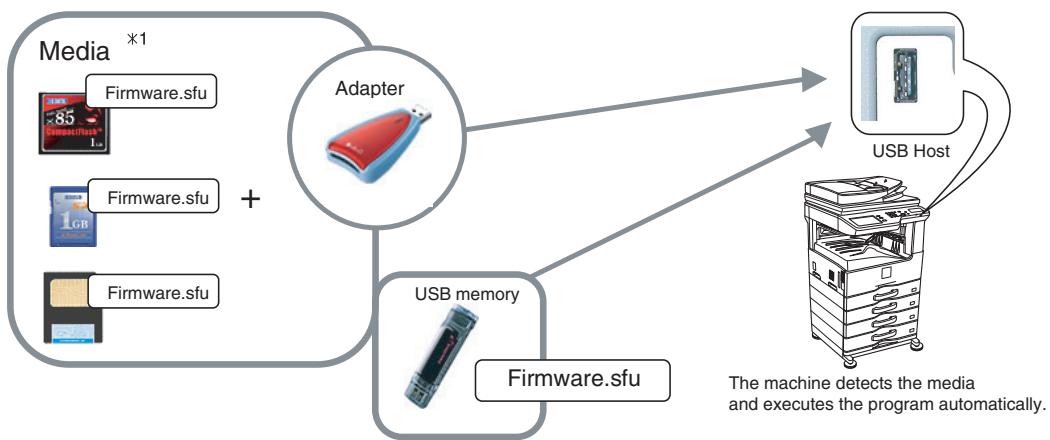
The firmware type can be displayed by SIM22-5.

Use SIM22-5 to check the firmware type.

## 2. Update procedure

### A. Update method using SIM 49-1

For the update, connect the media or USB memory to the USB port that exists in the main body, and select the firmware data in the media or USB memory by simulation screen in the main unit.



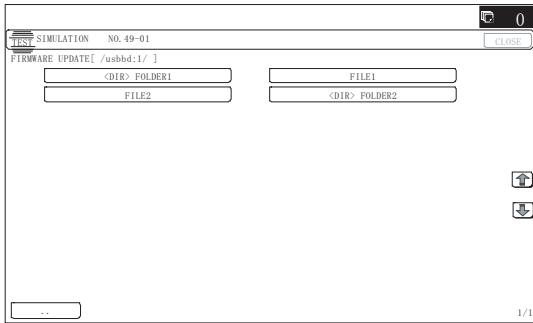
\*1:

- Store the firmware data (xxx .sfu) to the media or USB memory beforehand.
- The media used for the update must have an enough capacity for storing the firmware data.
- The USB memory equipped with the security (secure) function cannot be used.

## Execution of the firmware by SIM49-01

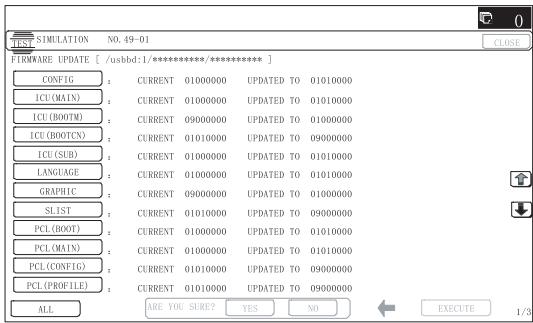
- 1) Insert the media or USB memory which stores the firmware into the main unit. (Be sure to use the USB I/F on the operation panel.)
- 2) Enter the SIM49-01.

Press the key of the file to be updated. The screen transfers to the update screen.



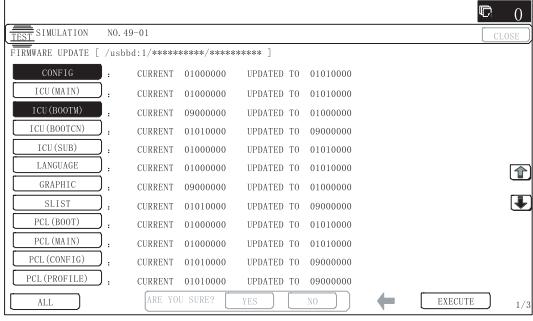
- \* The number of key changes according to the number of the sfu file in the media or USB memory inserted.
- \* If the media or USB memory was not inserted when entry to the SIM49-01 screen, "INSERT A USB MEMORY DEVICE CONTAINING MFP FIRMWARE [OK]" is displayed on the screen. Insert the media or USB memory and push the [OK] key to open the file. If the media have not been inserted and [OK] key is pushed, the next screen does not appear and the screen waits the entry. Conversely, if the media or USB memory is pulled out on the file list screen, the error is detected by the [FILE] key pressing, and the first screen appears.

  - 3) Current version number and the version number to be updated will be shown for each firmware respectively.



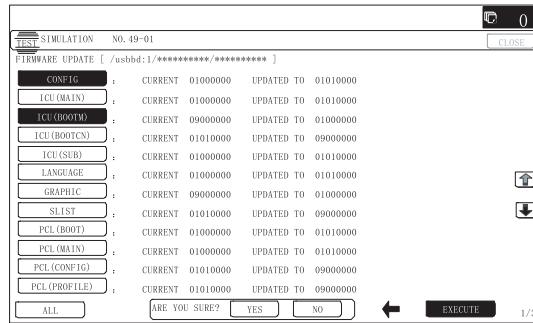
- 4) Press [ALL] key.

All the firmware programs are selected.

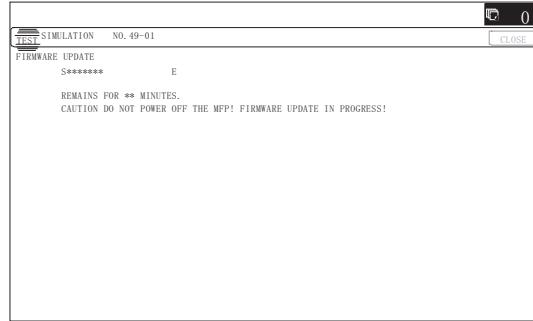


- \* Normally select all the firmwares and execute updating.
  - \* In this case, firmwares which do not exist on the machine side are ignored.
- To update a certain firmware only, select the firmware with the firmware display key.
- \* If firmware's key is not selected, [EXECUTE] key is gray out and cannot be pressed.

- 5) Press [EXECUTE] key. "ARE YOU SURE? [YES] [NO]" becomes clear. Press [YES] key to start the update of selected firmware.

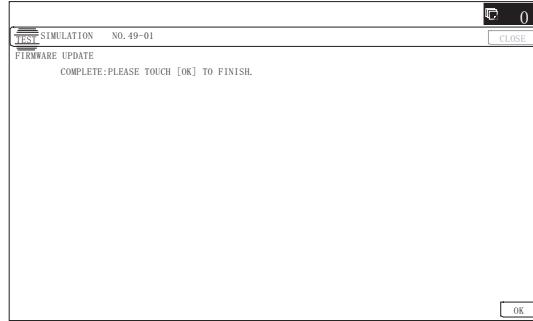


The progress is displayed on right side of "FIRMWARE UPDATE" title by 20 steps.



At this time, only the progress gauge is displayed on the screen, and the version and the firmware selection key are not displayed.

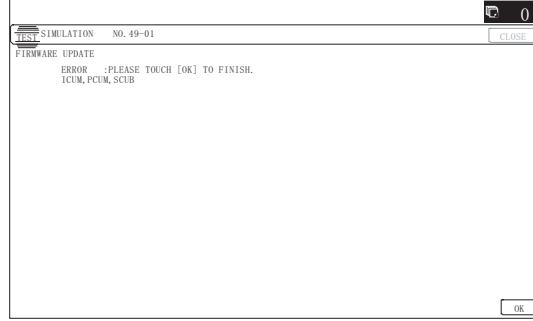
- 6) If the update is normal completion, following screen is displayed.



Press [OK] key. (The machine is rebooted.)

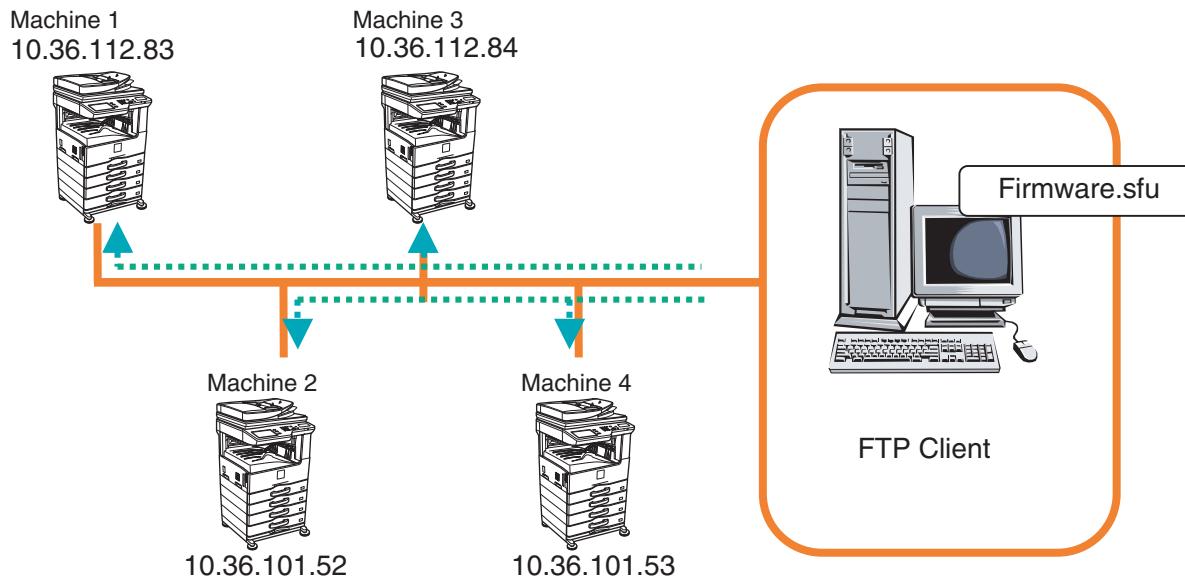
Go to SIM22-05 and confirm the firmware has upgraded successfully.

- 7) If the update is not normal completion, following screen is displayed.



#### **B. Firmware update using FTP**

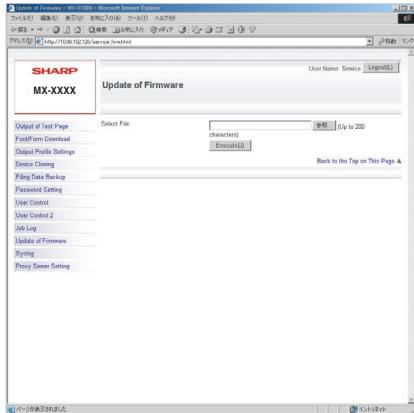
FTP software is used to transfer the firmware data (extension ".sfu") from the PC to the machine. The controller recognizes the firmware identifier and the machine automatically switches to firmware write mode. After the firmware is updated, the machine automatically resets.



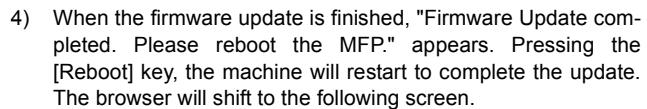
### **C. Firmware update using the Web page**

An Web browser (service technician's Web page) is used to update the firmware.

- 1) Start the Web browser on a PC and enter the specified URL. A special firmware upgrade page appears.
  - 2) Click the "Update of Firmware" key in the Web page. Click the [Browse] key and select the firmware for the update.

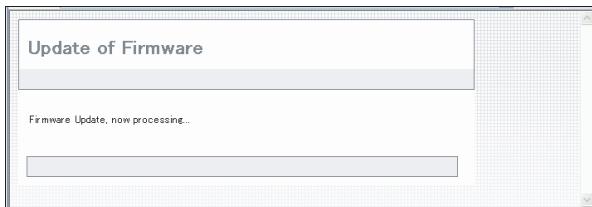


- 3) After selecting the file, click the [Submit] key to send the firmware to the machine. Update processing begins. While processing takes place, "Firmware Update, now processing..." appears.



"Close the browser and open again to display latest information." will be displayed.

- #### 5) Check the firmware version of machine again



#### D. Firmware update using the CN update function (There are three methods.)

## (1) Outline

The update method using the DIP SW of the MFP PWB is called the CN update.

a. Function

There are the following three functions in the CN update mode.

#### 1) Firmware update function

This function is used to update the firmware by transferring data from the PC which is connected to the MFP PWB, the SCU PWB, the PCU PWB, the FAX PWB, and various options by means of a USB memory or USB cable.

This is basically the same as SIM49-01, but differs in the following points:

When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CNT update, this method can be used to update the firmware.

If, however, an abnormality occurs in the boot program, the SD card must be replaced with a new one having the normal boot program.

If the boot animation is not displayed, there is an abnormality in the boot program.

If the boot animation is displayed but "Copying is enabled" is not displayed on the copier basic menu, there is an abnormality in the main program.

## 2) Firmware version check function

(The method to check the firmware version by using SIM22-5 is easier than this method. Therefore, it is not described in this manual.)

### 3) ROM making function

(This function is not used in the market, and not described in this manual.)

**b. Purpose**

This function is used in the following cases:

1) When an error occurs

When the power is shut down or an error occurs in a section

If, however, an abnormality occurs in the boot program, the SD update operation of other method than the CN update, this method can be used to update the firmware.

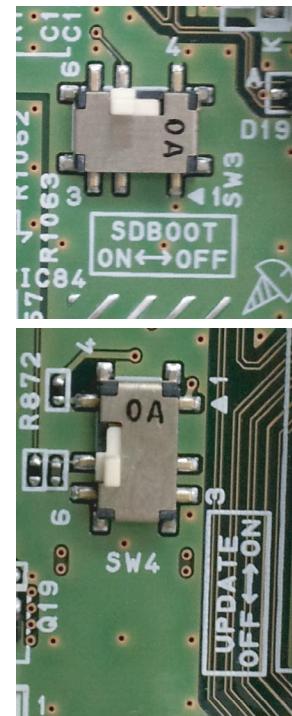
If an error occurs in the boot program, this method cannot be used.

If an error occurs in the boot program, this method cannot be used. In such a case, the SD card must be replaced with a new one having the normal boot program.

#### c. DIP-SW used in the CN update mode

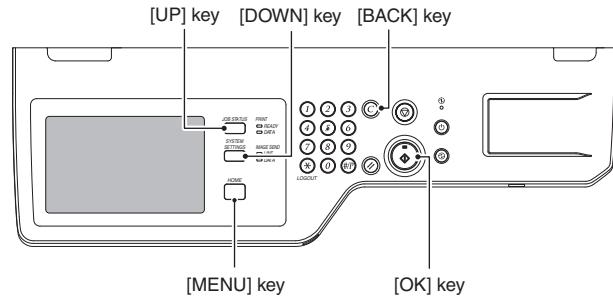
To enter the CN update mode, turn ON the UPDATE DIP-SW on the MEP PWB and boot the machine.

When terminating the CN update mode, reset UPDATE DIP-SW to OFF (normal mode).



**d. Keys used in the CN update mode**

The following five keys are used for operations in the CN update mode. Be careful that the functions of the keys differ those in the normal mode.



<b>Key name</b>	<b>Functions in the CN update mode</b>
[OK] key	Executes the selected function or item.
[MENU] key	Selects a menu.
[BACK] key	Selects a menu. (Serves as a cancel key in the execution check screen.)
[UP] key	Selects an item.
[DOWN] key	Selects an item.

## (2) Operating procedures

### a. Firmware update function

This function is used to revise the firmware by using the USB memory for the MFP PWB, the SCU PWB, the PCU PWB, the FAX PWB, and each option.

It is basically same as SIM 49-01, but differs in the following points.

- 1) The update target ROM is automatically selected.
- 2) When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update.

If, however, an abnormality occurs in the boot program, this method cannot be used. On that case, the SD card must be replaced with a new one having the normal boot program.

When the boot animation is displayed but "Copying is enabled" is not displayed on the copier basic menu, there is an abnormality in the main program (SD card).

#### a-1. Necessary items

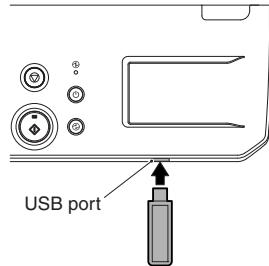
- 1) Insert the SD card to the MFP PWB of the machine.
- 2) USB memory with the firmware file (SFU) saved in it.

NOTE: Save the firmware file in the main directory or in a one-level lower directory.

#### a-2. Procedures

- 1) Turn OFF the power, and remove the cabinet and the MFP PWB cover.
- 2) Turn ON the DIP SW of the MFP PWB UP DATE. (Tilt it to the PWB side.)
- 3) Install the USB memory into the USB port.

#### USB memory installing position



- 4) Turn ON the power.
- 5) Check to confirm that the machine starts booting. (It takes more than ten seconds to display the menu.)

Update Program Init  
Please wait

Version Check  
Conf : 00050000

Display when booting is completed

- 6) Select the firmware update mode.  
Select the update mode with [MENU] key and [BACK] key.

Firm Update  
From USB Memory

Display of the firmware update mode

- 7) Press [OK] key.

The firmware file saved in the USB memory is retrieved, and the file selection menu is displayed.

Firm Update  
> F 0100P000.sfu

Display of file selection

- 8) Select the firmware file (SFU).  
Select the target firmware file (SFU) with [UP] key and [DOWN] key.  
When [OK] key is pressed with a directory name (the head: "> D") displayed, the menu goes to the one-stage lower directory.  
When [BACK] key is pressed in the lower-stage directory, the menu returns to the original upper directory.
- 9) Press [OK] key.  
The selected firmware file (SFU) is read. It takes about one minute.

Firm Update  
Reading Data

Display of file reading

- 10) After completion of reading, the firmware update process is continued.

Firm Update IcuM  
Writing Data

Display of the firmware update process

- \* The abbreviated name of the firmware which is under update process is indicated on the right upper corner of the display.
- \* During the update process, the display may flash instantaneously. It is a normal operation.

- 11) Check the update result.  
Use [UP] key and [DOWN] key to display the results of all the firmware programs.

Firm Update Result : OK	IcuM	Firm Update Result : Not Update	IcuM	Firm Update Result : NG	IcuM
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Display of the firmware update result

OK: Update is completed successfully.

NG: Update is failed.

Not Update: Update is not executed.

- 12) Turn OFF the power.
- 13) Turn OFF the DIP SW of the MFP PWB UP DATE. (Set the DIP-SW to the normal mode.)
- 14) Turn ON the power, and check to confirm that the machine boots up normally.  
Check to confirm that the boot animation is displayed.  
Check to confirm that "Copying is enabled" is displayed on the copier basic menu.
- 15) Check to confirm the version of each firmware with SIM22-5.
- 16) Attach the MFP PWB cover and the cabinet.

## [9] MAINTENANCE

### 1. Maintenance list

#### 26cpm machine

X: Check (Check, clean, replace or adjust according to necessity.) O: Cleaning ▲: Replace ☆: Lubricate

			When calling	75 k	150 k	225 k	300 k	375 k	450 k	525 k	600 k	675 k	750 k	Remark
Monochrome supply	Process section	Drum		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
		Cleaner blade		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
		Seal F/R	X	X	X	X	X	X	X	X	X	X	X	
		Drum frame unit (Toner reception sheet)		X	X	▲	X	X	▲	X	X	▲	X	Usable for three PM cycles
		MC unit		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
		Separation pawl unit		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
		Star ring		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	Packed with the drum.
	Developing section	Developer		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
		Toner filter		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
		DV blade	X	▲	X	▲	X	▲	X	X	▲	X	▲	
		DV side sheet F	X	▲	X	▲	X	▲	X	X	▲	X	▲	
		DV side sheet R	X	▲	X	▲	X	▲	X	X	▲	X	▲	
		Toner sensor	X	X	X	X	X	X	X	X	X	X	X	
	Toner cartridge	BK	User replacement for every toner empty.											
Transfer section	Transfer unit	Transfer roller unit	-	O	▲	O	▲	O	▲	O	▲	O	▲	
		Gear	-	X	-	X	-	X	-	X	-	X	-	
Fusing section		Upper heat roller		O	▲	O	▲	O	▲	O	▲	O	▲	
		Lower heat roller		O	O	O	▲	O	O	O	▲	O	O	
		Fusing separation pawl (Upper)		O	▲	O	▲	O	▲	O	▲	O	▲	
		Upper cleaning pad		X	▲	X	▲	X	▲	X	▲	X	▲	
		Thermistor cleaning pad		X	▲	X	▲	X	▲	X	▲	X	▲	
		Fusing separation pawl (Lower)		O	O	O	▲	O	O	O	▲	O	O	
		Thermistor		O	O	O	O	O	O	O	O	O	O	
		Fusing gear		☆	▲	☆	▲	☆	▲	☆	▲	☆	▲	
		Upper heat roller bearing		X	▲	X	▲	X	▲	X	▲	X	▲	
		Fusing bearing (Lower)		X	☆	X	▲	X	☆	X	▲	X	☆	
		Paper guide		O	O	O	O	O	O	O	O	O	O	
Paper feed/ Transport/ Paper exit sections	Paper feed	Pickup roller	X	O	O	O	O	O	O	O	O	O	O	Part replacement reference: 100K or 1 year of use
		Separation sheet	X	X	X	X	X	X	X	X	X	X	X	Part replacement reference: 100K or 1 year of use
		Transport rollers	X	O	O	O	O	O	O	O	O	O	O	
		Gears	X	X	X	X	X	X	X	X	X	X	X	
		Discharge brush	X	X	X	X	X	X	X	X	X	X	X	
		Transport paper guides	O	O	O	O	O	O	O	O	O	O	O	
		Sensors	X	X	X	X	X	X	X	X	X	X	X	
Others		Ozone filter	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
		Gear	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	When checking, apply to the necessary positions. (Specified positions)
Optical system		Mirror/Lens/Reflector/CCD	O	O	O	O	O	O	O	O	O	O	O	
		Table glass/SPF glass	O	O	O	O	O	O	O	O	O	O	O	
		Scanner lamp	O	O	O	O	O	O	O	O	O	O	O	
		Rails	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
		Drive belt/drive wire	X	X	X	X	X	X	X	X	X	X	X	
		Sensors	X	X	X	X	X	X	X	X	X	X	X	

			When calling	75 k	150 k	225 k	300 k	375 k	450 k	525 k	600 k	675 k	750 k	Remark
RSPF	Paper feed section/ Transport section	Paper feed roller	○	○	○	○	○	○	○	○	○	○	○	Replacement reference: Replace according to the SPF paper feed counter value. SPF section roller: 100K or 1 year of use When replacing the paper feed roller, apply grease to the paper feed shaft. (GP-501MR)
		Pickup roller	○	○	○	○	○	○	○	○	○	○	○	
		Separation roller	○	○	○	○	○	○	○	○	○	○	○	
		Torque limiter SPF (for separation)	×	×	×	×	×	×	×	×	×	×	×	Replacement reference: Replace according to the SPF paper feed counter value. SPF section torque limiter: 400K or 2 years of use When replacing the paper feed roller, apply grease to the paper feed shaft. (GP-501MR)
		Takeup torque limiter (for takeup)	×	×	×	×	×	×	×	×	×	×	×	
		Discharge brush	×	×	×	×	×	×	×	×	×	×	×	
		Transport rollers	○	○	○	○	○	○	○	○	○	○	○	
		Sensors	×	×	×	×	×	×	×	×	×	×	×	
		Scanning plate	○	○	○	○	○	○	○	○	○	○	○	
		Drive section	Gears	×	×	×	×	×	×	×	×	×	×	
		Belts	×	×	×	×	×	×	×	×	×	×	×	
		Other	OC mat	○	○	○	○	○	○	○	○	○	○	

### 31/35cpm machine

X: Check (Check, clean, replace or adjust according to necessity.)    O: Cleaning    ▲: Replace    ☆: Lubricate

			When calling	100 k	150 k	200 k	300 k	400 k	450 k	500 k	600 k	700 k	750 k	Remark
Monochrome supply	Process section	Drum		▲	×	▲	▲	▲	×	▲	▲	▲	▲	
		Cleaner blade		▲	×	▲	▲	▲	×	▲	▲	▲	▲	
		Seal F/R		×	×	×	×	×	×	×	×	×	×	
		Drum frame unit (Toner reception sheet)		×	×	×	▲	×	×	×	▲	×	×	Usable for three PM cycles
		MC unit		▲	×	▲	▲	▲	×	▲	▲	▲	▲	
		Separation pawl unit		▲	×	▲	▲	▲	×	▲	▲	▲	▲	
		Star ring		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	Packed with the drum.
	Developing section	Developer		▲	×	▲	▲	▲	×	▲	▲	▲	▲	
		Toner filter		▲	×	▲	▲	▲	×	▲	▲	▲	▲	
		DV blade		×	▲	×	▲	×	▲	×	▲	×	▲	
		DV side sheet F		×	▲	×	▲	×	▲	×	▲	×	▲	
		DV side sheet R		×	▲	×	▲	×	▲	×	▲	×	▲	
		Toner sensor		×	-	×	×	×	-	×	×	×	-	
	Toner cartridge	BK		User replacement for every toner empty.										
Transfer section	Transfer unit	Transfer roller unit	-	○	▲	○	▲	○	▲	○	▲	○	▲	
		Gear	-	×	-	×	-	×	-	×	-	×	-	
Fusing section		Upper heat roller		○	▲	○	▲	○	▲	○	▲	○	▲	
		Lower heat roller		○	○	○	▲	○	○	○	▲	○	○	
		Fusing separation pawl (Upper)		○	▲	○	▲	○	▲	○	▲	○	▲	
		Upper cleaning pad		×	▲	×	▲	×	▲	×	▲	×	▲	
		Thermistor cleaning pad		×	▲	×	▲	×	▲	×	▲	×	▲	
		Fusing separation pawl (Lower)		○	○	○	▲	○	○	○	▲	○	○	
		Thermistor		○	○	○	○	○	○	○	○	○	○	
		Fusing gear		☆	▲	☆	▲	☆	▲	☆	▲	☆	▲	
		Upper heat roller bearing		×	▲	×	▲	×	▲	×	▲	×	▲	
		Fusing bearing (Lower)		×	☆	×	▲	×	☆	×	▲	×	☆	
		Paper guide		○	○	○	○	○	○	○	○	○	○	

			When calling	100 k	150 k	200 k	300 k	400 k	450 k	500 k	600 k	700 k	750 k	Remark
Paper feed/ Transport/ Paper exit sections	Paper feed	Pickup roller	×	○	-	○	○	○	-	○	○	○	-	Part replacement reference: 100K or 1 year of use
		Separation sheet	×	×	-	×	×	×	-	×	×	×	-	Part replacement reference: 100K or 1 year of use
		Transport rollers	×	○	-	○	○	○	-	○	○	○	-	
		Gears	×	×	-	×	×	×	-	×	×	×	-	
		Discharge brush	×	×	-	×	×	×	-	×	×	×	-	
		Transport paper guides	○	○	-	○	○	○	-	○	○	○	-	
Others		Sensors	×	×	-	×	×	×	-	×	×	×	-	
		Ozone filter	▲	▲	-	▲	▲	▲	-	▲	▲	▲	-	
Optical system		Gear	☆	☆	-	☆	☆	☆	-	☆	☆	☆	-	When checking, apply to the necessary positions. (Specified positions)
		Mirror/Lens/Reflector/ CCD	○	○	-	○	○	○	-	○	○	○	-	
		Table glass/SPF glass	○	○	-	○	○	○	-	○	○	○	-	
		Scanner lamp	○	○	-	○	○	○	-	○	○	○	-	
		Rails	☆	☆	-	☆	☆	☆	-	☆	☆	☆	-	
		Drive belt/drive wire	×	×	-	×	×	×	-	×	×	×	-	
RSPF	Paper feed section/ Transport section	Sensors	×	×	-	×	×	×	-	×	×	×	-	
		Paper feed roller	○	○	-	○	○	○	-	○	○	○	-	Replacement reference: Replace according to the SPF paper feed counter value. SPF section roller: 100K or 1 year of use When replacing the paper feed roller, apply grease to the paper feed shaft. (GP-501MR)
		Pickup roller	○	○	-	○	○	○	-	○	○	○	-	
		Separation roller	○	○	-	○	○	○	-	○	○	○	-	
		Torque limiter SPF (for separation)	×	×	-	×	×	×	-	×	×	×	-	Replacement reference: Replace according to the SPF paper feed counter value. SPF section torque limiter: 400K or 2 years of use When replacing the paper feed roller, apply grease to the paper feed shaft. (GP-501MR)
		Takeup torque limiter (for takeup)	×	×	-	×	×	×	-	×	×	×	-	
		Discharge brush	×	×	-	×	×	×	-	×	×	×	-	
		Transport rollers	○	○	-	○	○	○	-	○	○	○	-	
		Sensors	×	×	-	×	×	×	-	×	×	×	-	
		Scanning plate	○	○	-	○	○	○	-	○	○	○	-	
		Drive section	Gears	×	×	-	×	×	×	-	×	×	-	
		Belts	×	×	-	×	×	×	-	×	×	×	-	
		Other	OC mat	○	○	-	○	○	○	-	○	○	○	-

## 2. Other related items

### A. Counter clear

Item	SIM	Remarks
Maintenance cycle setting	SIM 21-1	
Jam/trouble counter clear	SIM 24-1	
Paper feed counter clear	SIM 24-2	
Scan/Stapler/Stamp counter clear	SIM 24-3	
Maintenance counter clear	SIM 24-4	*
Developing counter clear	SIM 24-5	At developer replacement
Copy counter clear	SIM 24-6	
Printer/other counter clear	SIM 24-9	
FAX counter clear	SIM 24-10	
Scanner mode counter clear	SIM 24-15	

\*: When maintenance message is displayed, replace consumption part reaching the number of sheets of maintenance, then clear the replaced part's counter only.

## [10] DISASSEMBLY AND ASSEMBLY

Unit	Parts		
1. Process unit	A.	Drum	
	B.	Drum section	(1) Main charger (2) Cleaning blade (3) Drum frame unit (4) Moquette F/R (5) Separation pawl
	A.	Developer	
	B.	Toner filter unit	
	C.	DV side sheet F/ DV side sheet R	
	D.	DV blade	
2. Developing unit	E.	Toner sensor	
	A.	Thermostat	
	B.	Thermistor	
	C.	Paper guide	
	D.	Fusing separation pawl (lower)	
	E.	Lower heat roller	
	F.	Heater lamp	
	G.	Upper cleaning pad	
	H.	Fusing separation pawl (upper)	
	I.	Upper heat roller	
3. Fusing section	J.	Thermistor cleaning pad	
	A.	Table glass, SPF glass	
	B.	Drive belt, Drive wire	
	C.	Rails	
	D.	Mirror, Reflector, Scanner lamp	
	E.	Lens, CCD	
4. Optical section	F.	LED PWB, LED driver PWB	
	A.	Upper 500 sheets tray paper feed	(1) Paper feed roller/pickup roller (2) Separation sheet (3) Lift unit
	B.	Lower 500 sheets tray paper feed	(1) Paper feed roller/pickup roller (2) Separation sheet (3) Lift unit (4) Transport clutch (5) Paper feed clutch (6) Transport roller (7) Solenoid (8) Sensor PWB
	C.	Paper feed solenoid	
	D.	Tray sensor PWB	
	E.	Manual P-in sensor/Manual empty sensor	
5. Paper feed section	F.	Multi manual paper feed	(1) Paper feed roller/pickup roller (2) Reverse sensor (3) Separation sheet (4) Clutch/solenoid
	A.	Transport roller unit	
	B.	Transport roller	
	C.	DUP transport roller	
	D.	DUP motor	
	A.	Cooling fan	
7. 1st paper exit unit	B.	Transport/Exit roller	
	A.	LSU	
8. Laser unit	A.	Power source	
10. PWB	A.	SCN PWB	
	B.	PCU PWB	
	C.	MFPC PWB	
	D.	Second interface PWB	
11. Ozone filter			
12. Transport section	A.	Transport roller	
13. Operation section	A.	Operation panel unit	
	B.	USB I/F PWB	
	C.	KEY PWB	
	D.	LVDS PWB, LCD, Touch panel	

Unit	Parts		
14. RSPF	A.	RSPF unit	(1) Document pickup roller, Paper feed roller (2) Separation roller, Torque limiter SPF (3) Take-up torque limiter (4) Discharge brush (5) Registration roller (6) OC mat
	B.	RSPF paper feed tray unit	
	C.	RSPF transport unit	(1) Transport roller 2, Transport roller 3, Paper exit roller (2) Scan plate

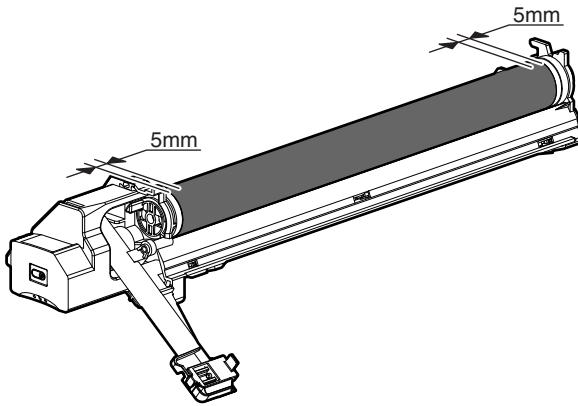
## 1. Process unit

### Note for servicing the OPC drums

#### 1. Prevention of oily dirt attachment

##### Note

- Be careful not to attach fingerprints or oily dirt on the OPC drum surface. (Keep the unit away from oils and dust.)
- When replacing the OPC drum, cover the OPC drum with the protection sheet and hold the protection sheet. If it is required to hold the OPC drum directly, use enough care not to touch the cleaning blade area, 5mm inside from both edges of the OPC drum. (If a fingerprint or oily dirt is attached to the cleaning blade area of the OPC drum, the cleaning blade may flip.)



##### Countermeasures

If a fingerprint is attached to the OPC drum surface erroneously, perform the following countermeasures.

- 1) Use dry cloth to clean and remove the dirt.
- 2) Apply Kynar powder to prevent blade flip.

##### Check method

Check to confirm that the OPC drum is free from fingerprints or oily dirt and that the cleaning blade is completely cleaned by the following method.

- Make a print of a half tone image on all the surface of A4 (11" x 8.5") paper, and check the printed paper for any abnormality in the image.

#### 2. Prior exposure prevention

##### Note

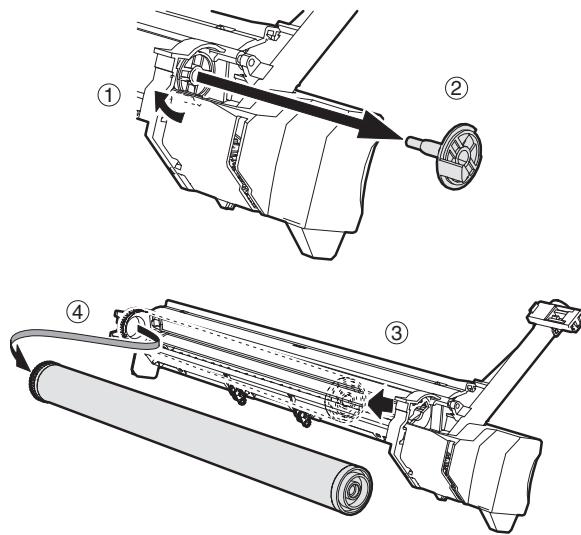
- Avoid servicing in a place where there is strong light.
- Do not expose the unit to light for a long time.
- Cover the OPC drum with light-blocking material. (When using paper, use about 10 sheets of paper to block light.)

##### Countermeasures

If the OPC drum is erroneously exposed to light too much (prior exposure), perform the following countermeasures.

- 1) Print half tone images on the whole surface of A4 (11" x 8.5") paper, and check to confirm that there is no irregular density area in the previously exposed section.
- 2) Damages due to prior exposure may be recovered by keeping the OPC drum for several hours. If, however, image are not recovered, replace the OPC drum.

### A. Drum

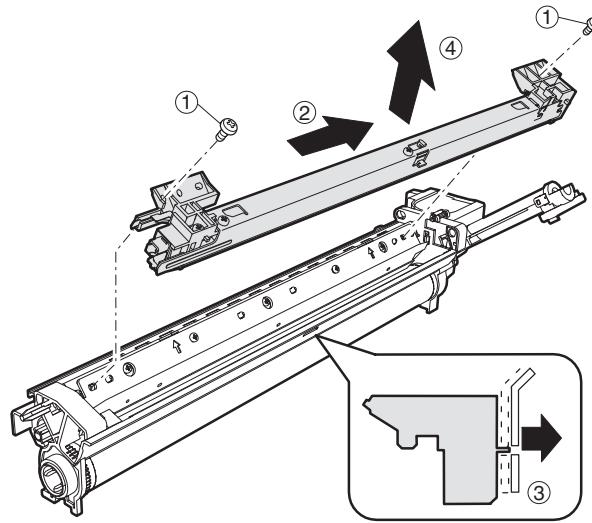


CAUTION: When installing the process unit in the main unit after replacing the drum, process unit may not be able to install by reason of the drum drive coupling position.

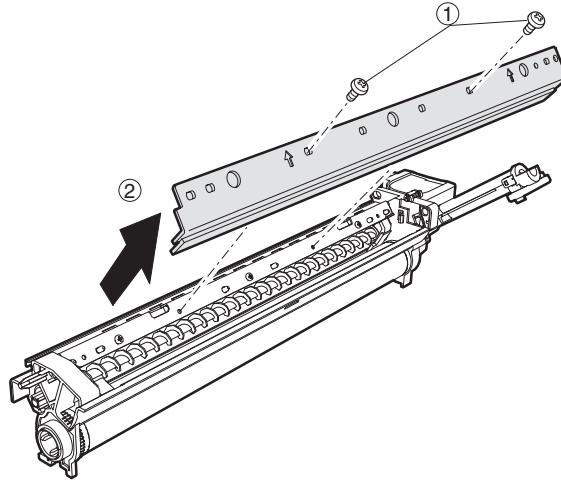
In this case, rotate the drum about 45 degrees and install again.

### B. Drum section

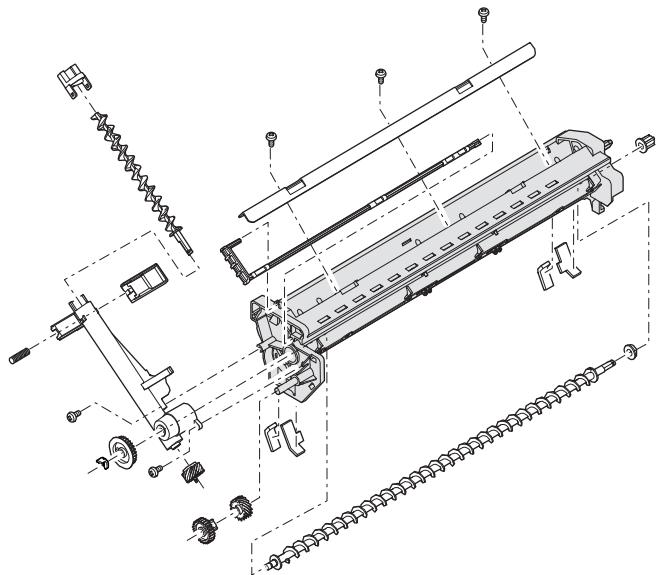
#### (1) Main charger



#### (2) Cleaning blade

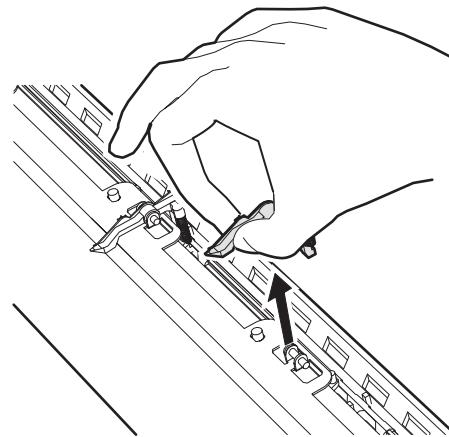


**(3) Drum frame unit**



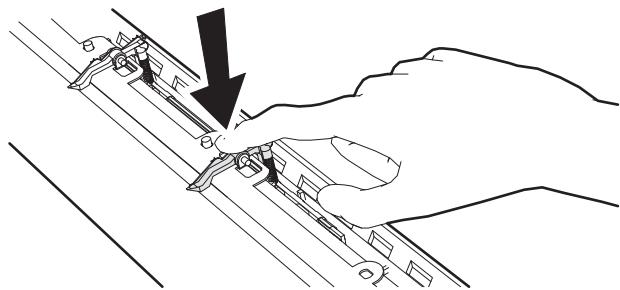
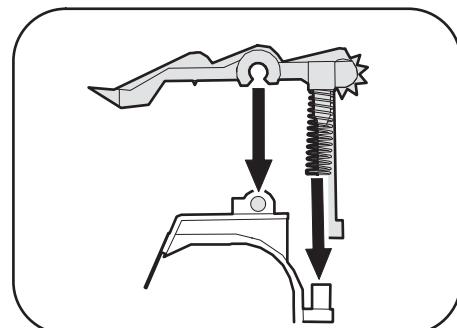
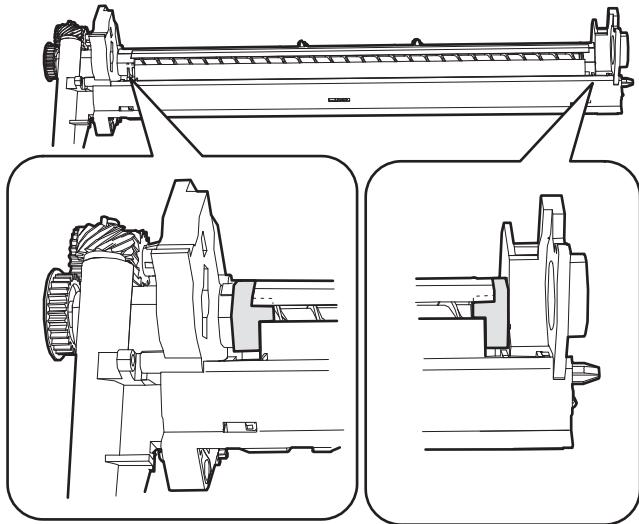
**(5) Separation pawl**

Disassembly \* Hold the tip of the separation pawl and remove it.



Assembly \* Press the center of the separation pawl and install it.

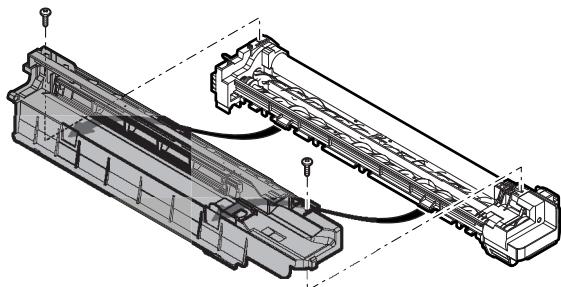
**(4) Moquette F/R**



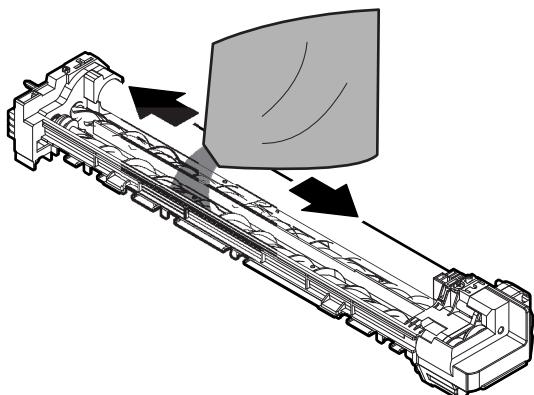
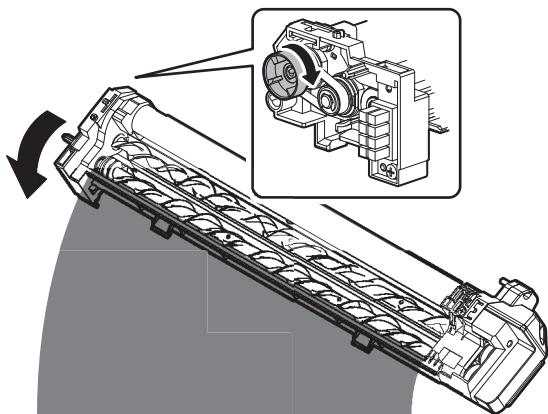
CAUTION: If it disturbs the blade movement, replace it and attach new one.

## 2. Developing section

### A. Developer



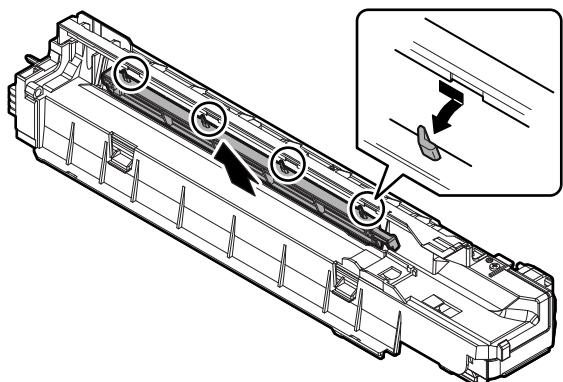
Turn the MG roller to discharge developer.



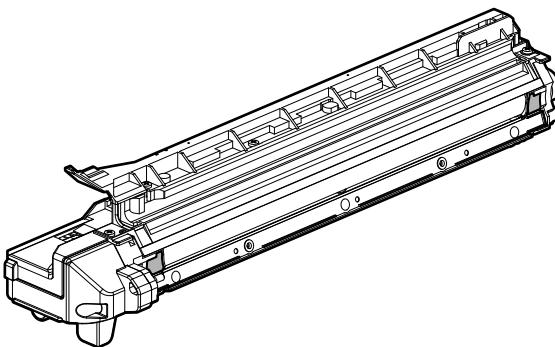
### B. Toner filter unit

With the guide AS (cover) removed, replace it.

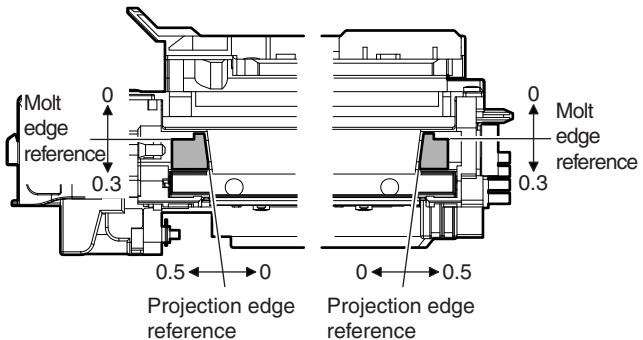
When replacing, clean the guide AS.



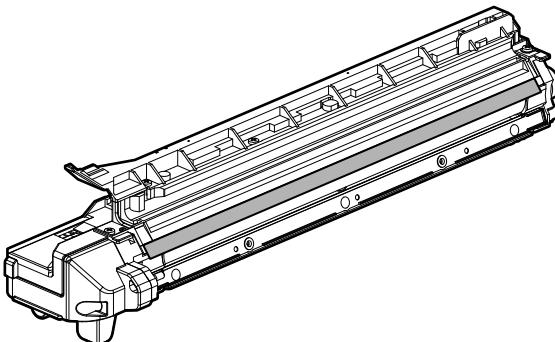
### C. DV side sheet F/ DV side sheet R



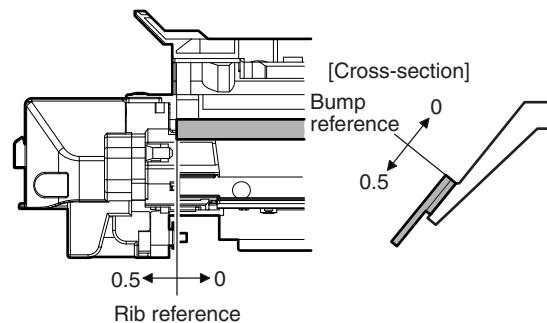
#### DV side sheet F/ DV side sheet R attachment reference



### D. DV blade

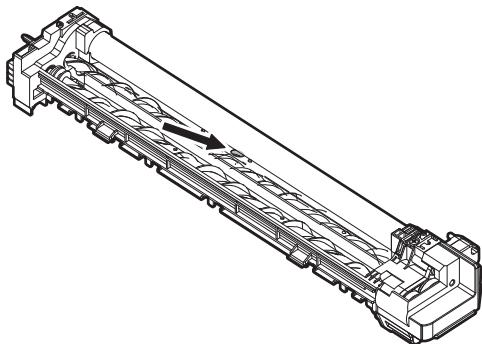


#### DV blade attachment reference

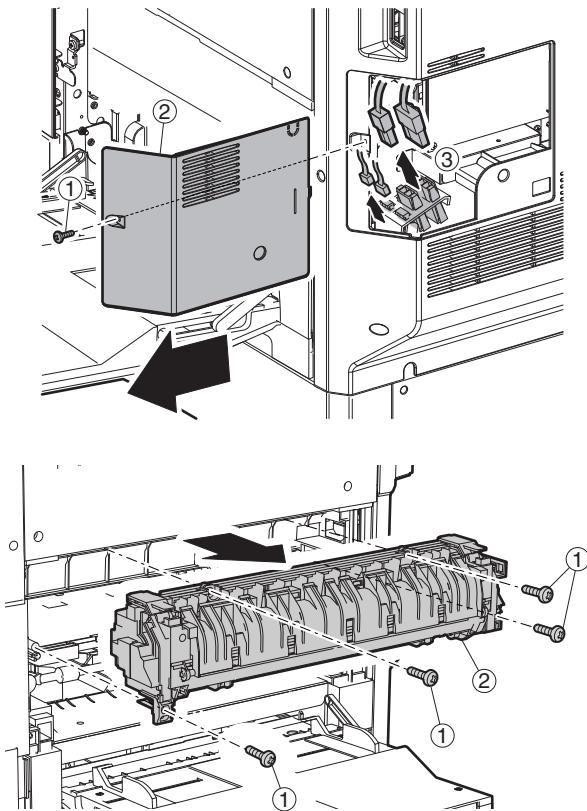


## E. Toner sensor

- Clean the sensor only after removing used DV when replacing DV.
- Without removing the MG roller, clean the sensor surface with waste cloth in the arrow direction to remove toner.

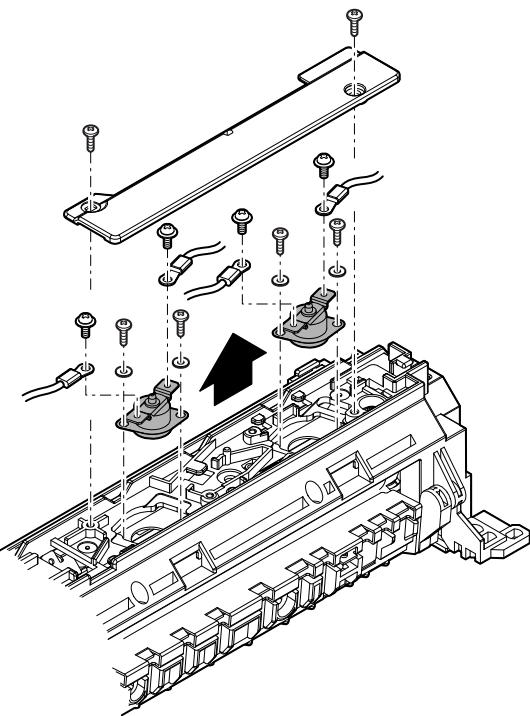


## 3. Fusing section

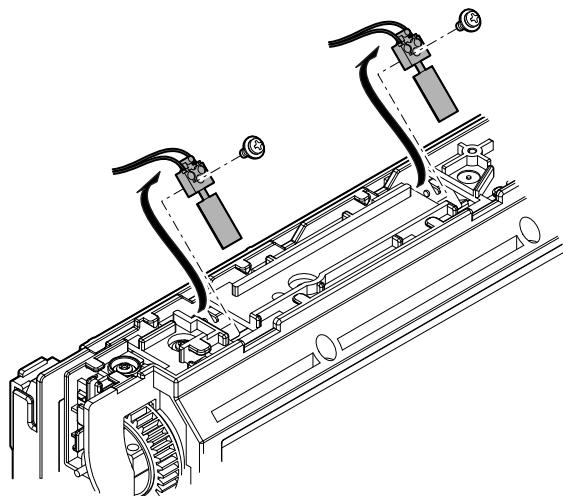


## A. Thermostat

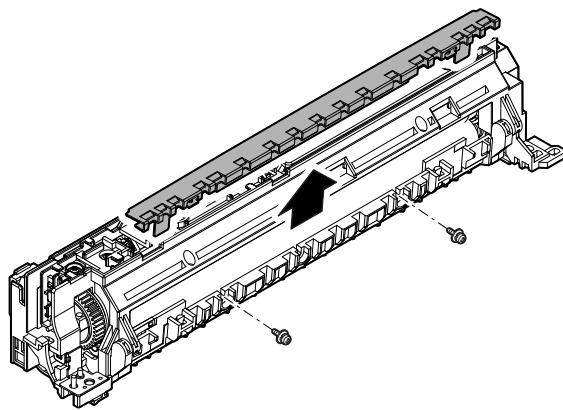
CAUTION: When securing the lamp harness and the thermostat, the tightening torque of the screw (4 positions) is 6-9 kgs.



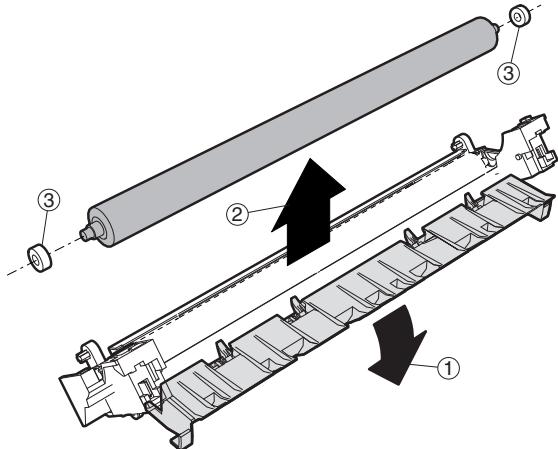
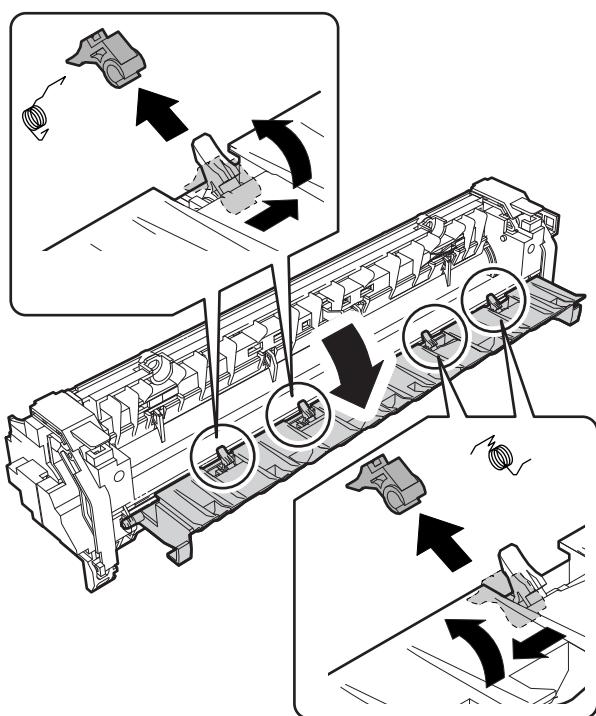
## B. Thermistor



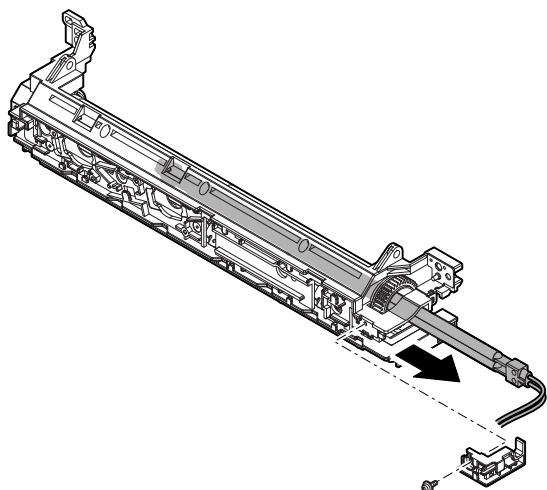
## C. Paper guide



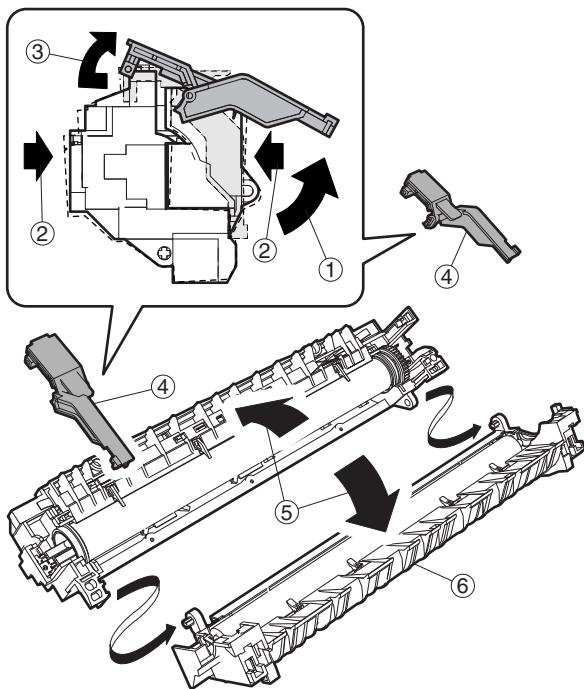
#### D. Fusing separation pawl (lower)



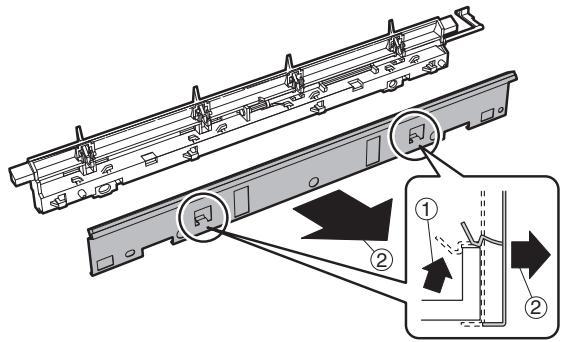
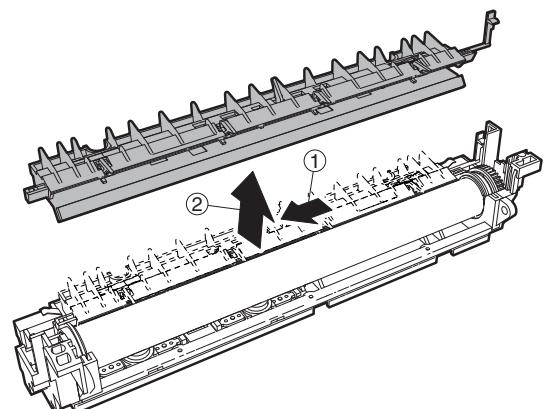
#### F. Heater lamp



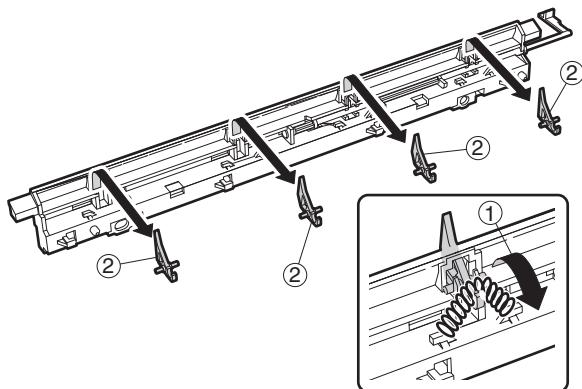
#### E. Lower heat roller



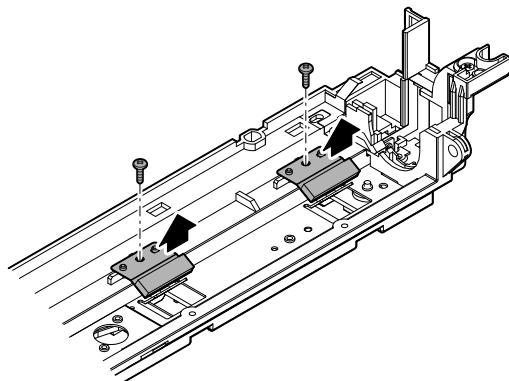
#### G. Upper cleaning pad



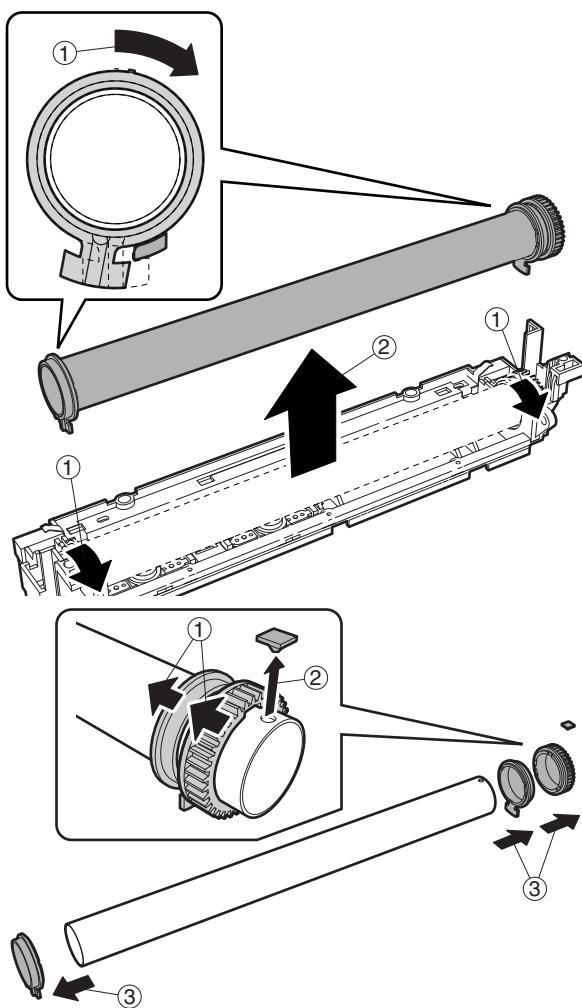
## H. Fusing separation pawl (upper)



## J. Thermistor cleaning pad



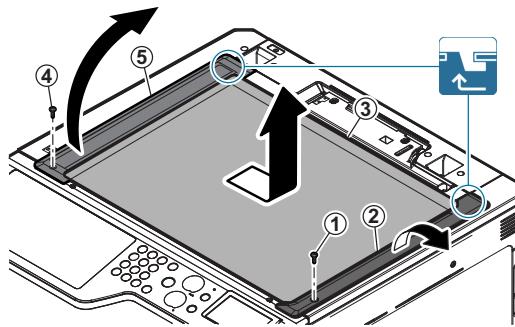
## I. Upper heat roller



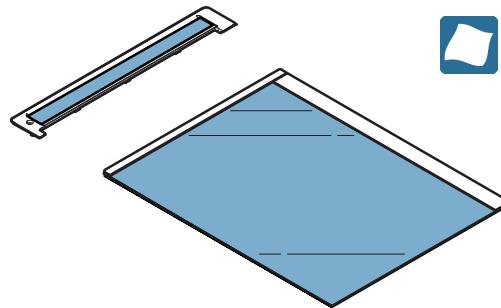
## 4. Optical section

### A. Table glass, SPF glass

- 1) Remove the glass holder, and the table glass. Remove the table glass, and the SPF glass.

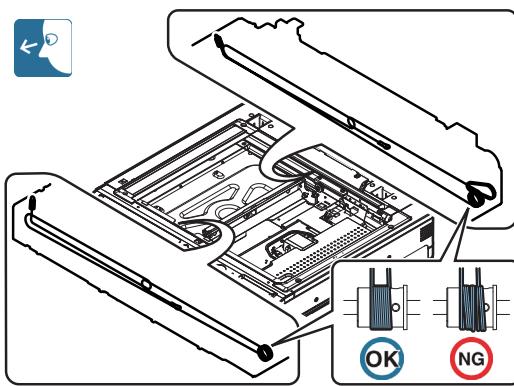


- 2) Clean the both surfaces of the table glass, and the SPF glass.



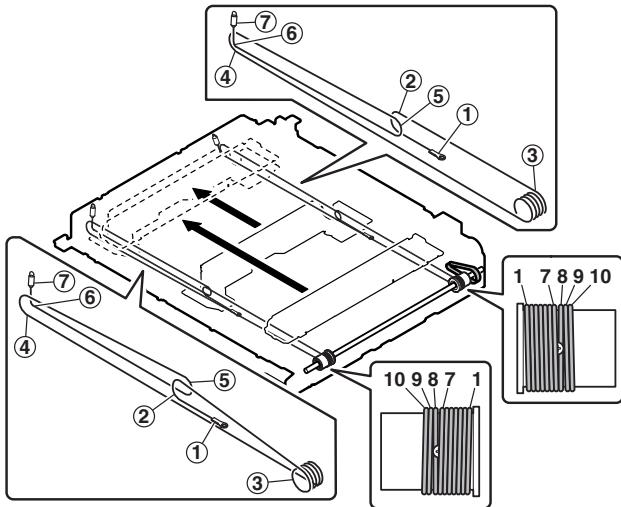
### B. Drive belt, Drive wire

- 1) Remove the table glass.
- 2) Check the tension of the drive belt and the drive wire. Check to confirm that the drive wire in the winding pulley is wound without clearance.



**CAUTION:** Wind the drive wire in the sequence of 1 to 7 as shown in the figure below and fix it.

When winding the drive wire around the pulley, shift the mirror unit to the vicinity of the home position, and wind 7 turns as shown in the figure, and fix the 8th turn with a screw. Then wind two turns furthermore around the pulley.

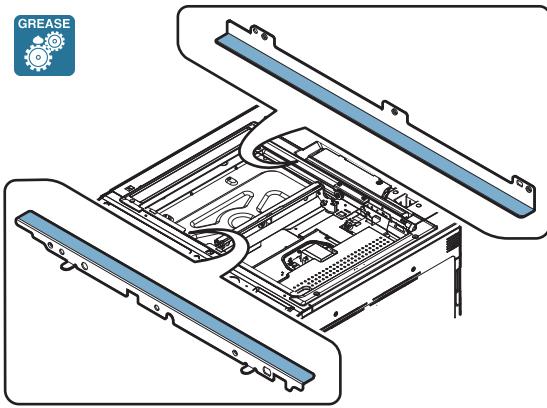


### C. Rails

- 1) Remove the table glass.
- 2) Grease each rail.

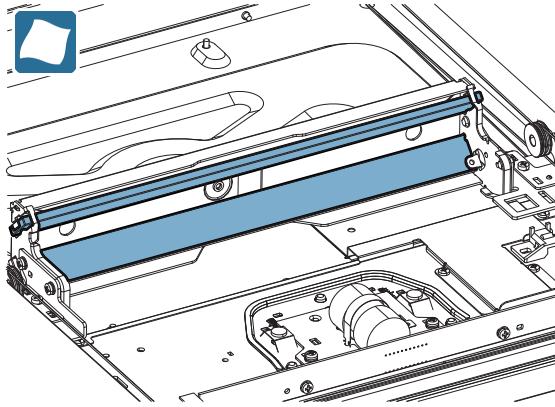
**CAUTION:** Be careful not to allow grease to come in contact with drive wires.

If grease contacts drive wires, clean wires thoroughly.

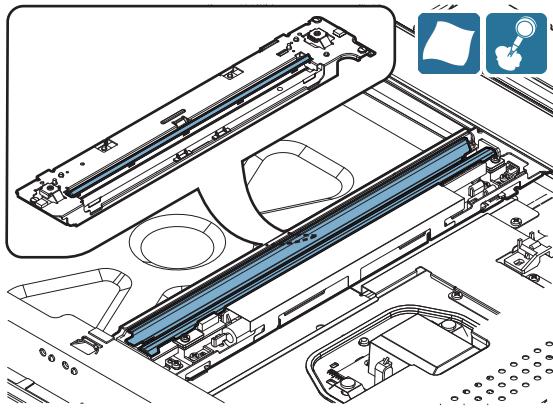


### D. Mirror, Reflector, Scanner lamp

- 1) Remove the table glass.
- 2) Clean the No. 2 mirror, and the No. 3 mirror.

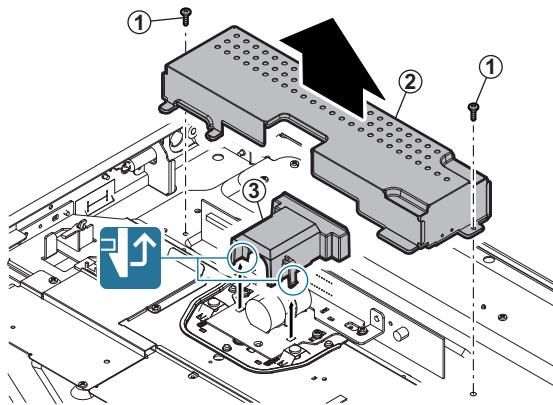


- 3) Clean the reflector, the scanner lamp, and the No. 2 mirror.

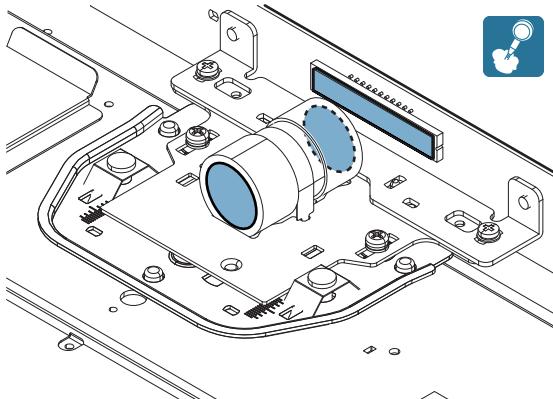


### E. Lens, CCD

- 1) Remove the table glass.
- 2) Remove the dark box, and the cover.

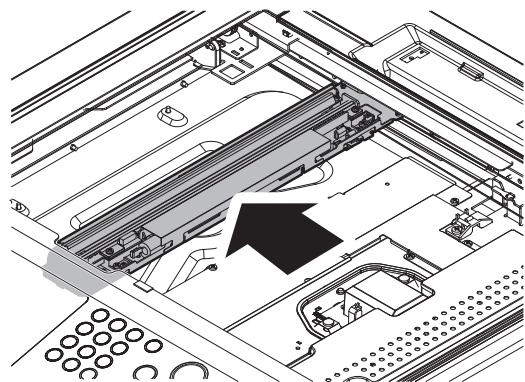


- 3) Clean the lens, and the CCD.



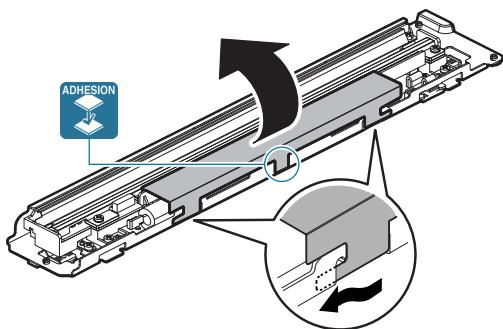
## F. LED PWB, LED driver PWB

- 1) Remove the table glass.
- 2) Shift the lamp unit to the notch section of the scanner base plate.

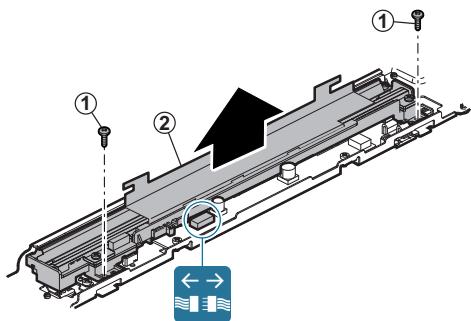


- 3) Turn over the sheet.

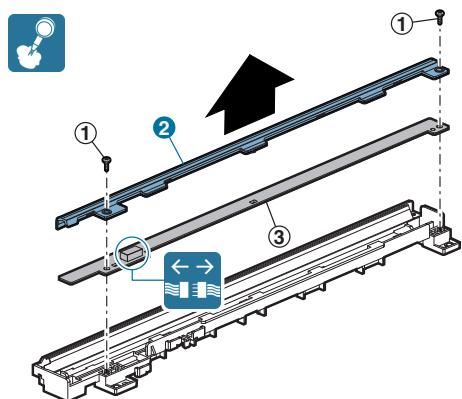
**CAUTION:** When attaching the sheet to the original position, insert the L-shape sections into the inside of the metal plate and attach the center portion to the metal plate with double-stick tape.



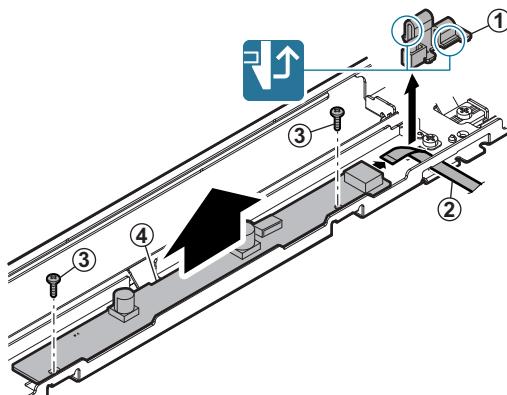
- 4) Remove the lamp guide. Disconnect the connector from the LED driver PWB.



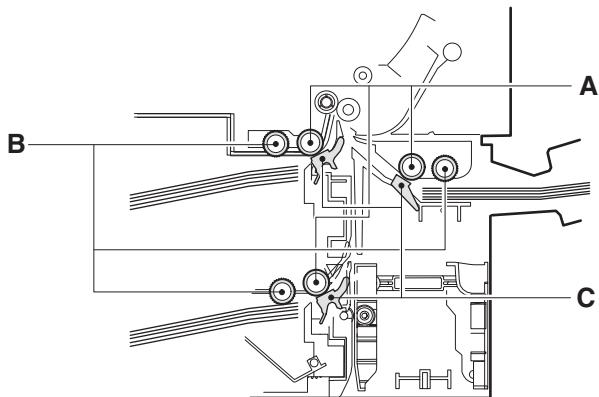
- 5) Remove the scanner lamp, and the LED PWB. Disconnect the connector from the LED PWB.



- 6) Remove the harness holder, and remove the flat cable from the LED driver PWB. Remove the LED driver PWB.



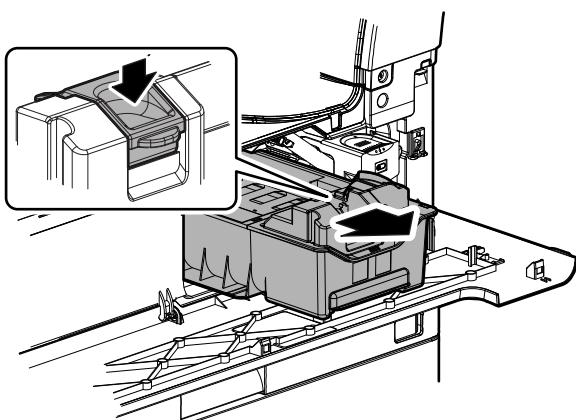
## 5. Paper feed section

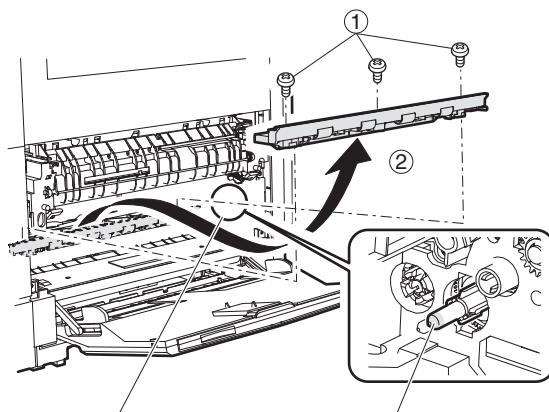
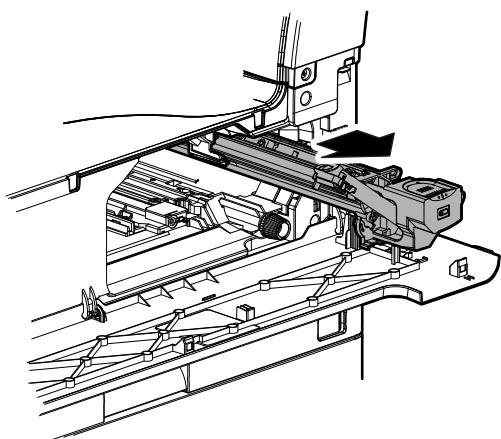
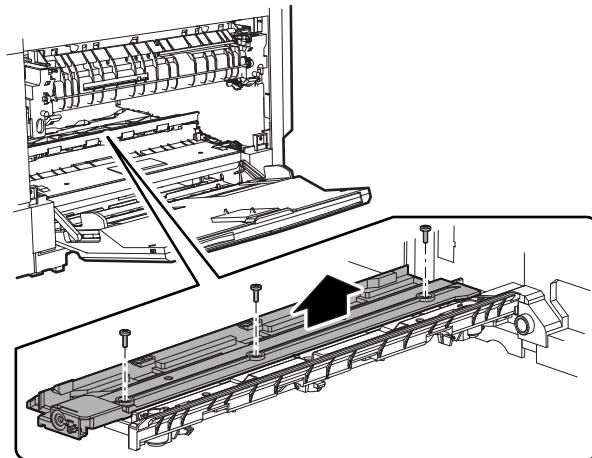
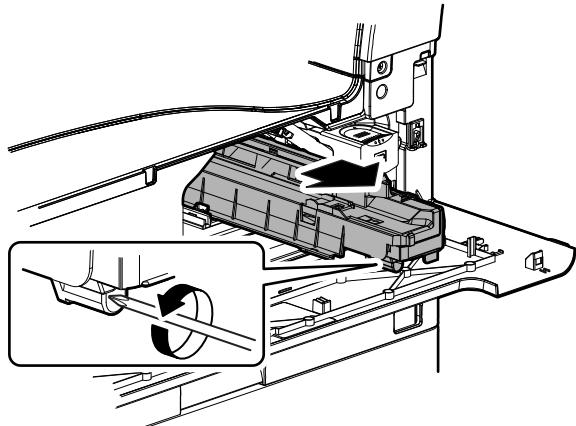


A	Paper feed roller
B	Pickup roller
C	Separation sheet

### A. Upper 500 sheets tray paper feed

#### (1) Paper feed roller/pickup roller

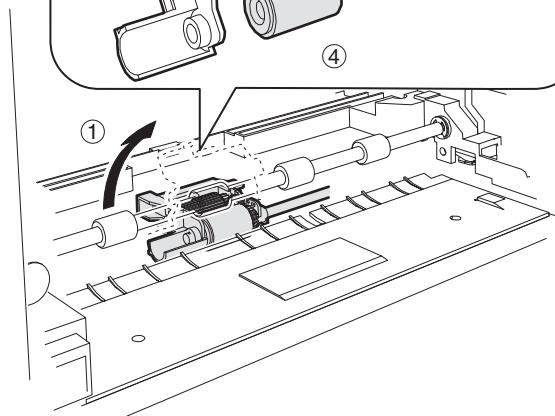
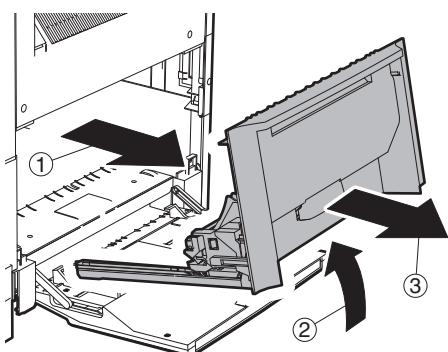
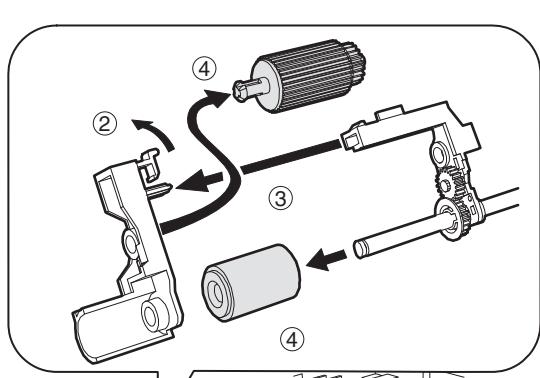
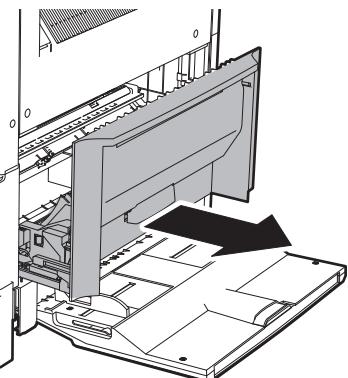




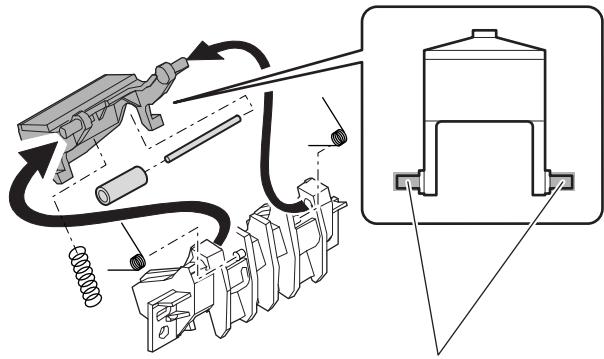
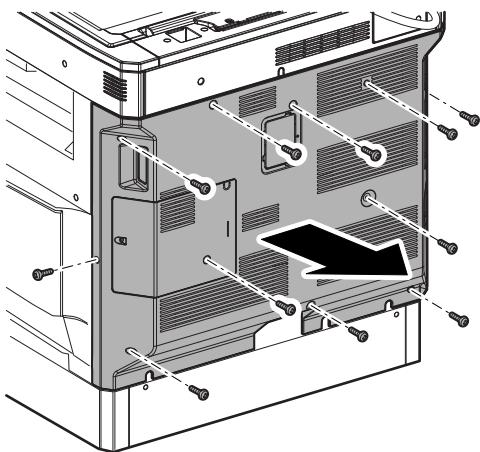
**CAUTION:** With the toner cartridge installed, do not tilt or shake the developer cartridge.

When replacing, be careful not to adhere conduction grease (black) to the drive section.

Slightly apply grease GE676 (UKOG-0013QSZZ) to the drum boss.



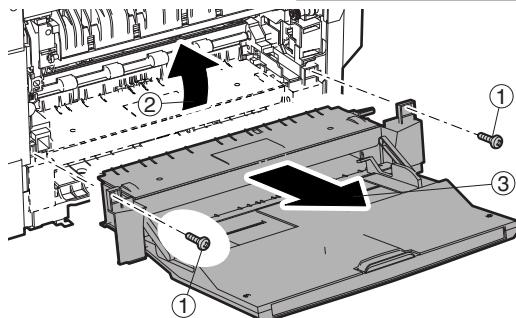
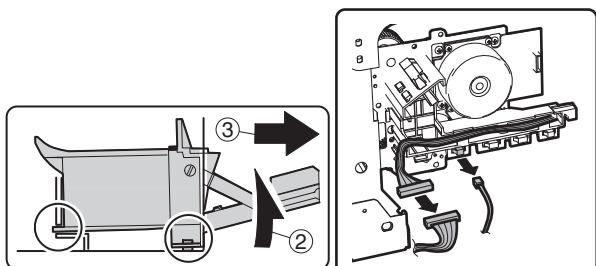
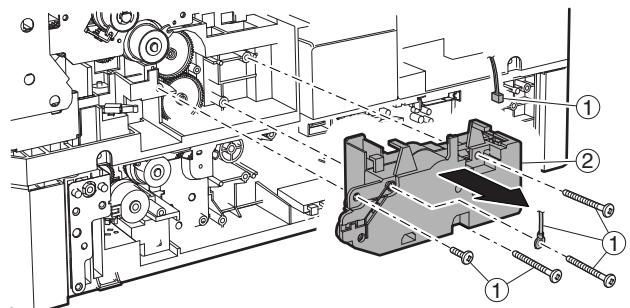
**(2) Separation sheet**



\* Slightly apply grease GP501MR (UKOG-0012QSZZ) around the axis. One rice grain for each.

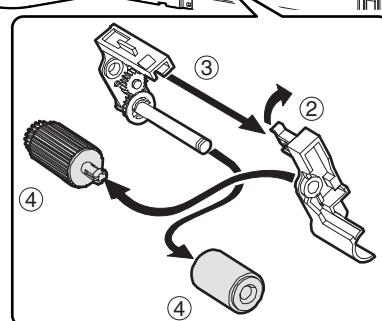
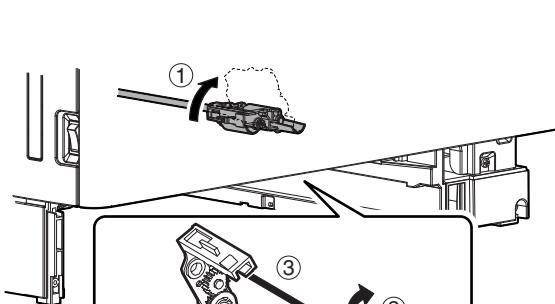
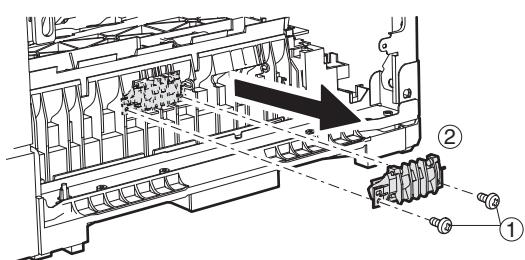
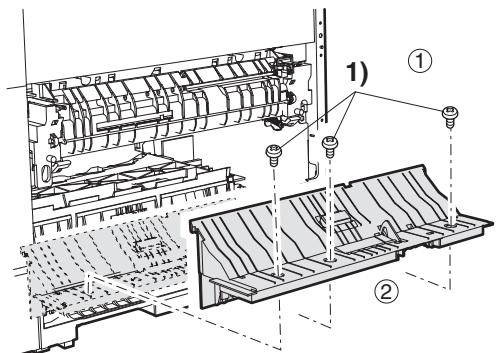
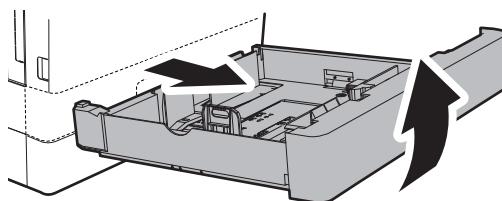
Grease should not come out when assembling.

**(3) Lift unit**

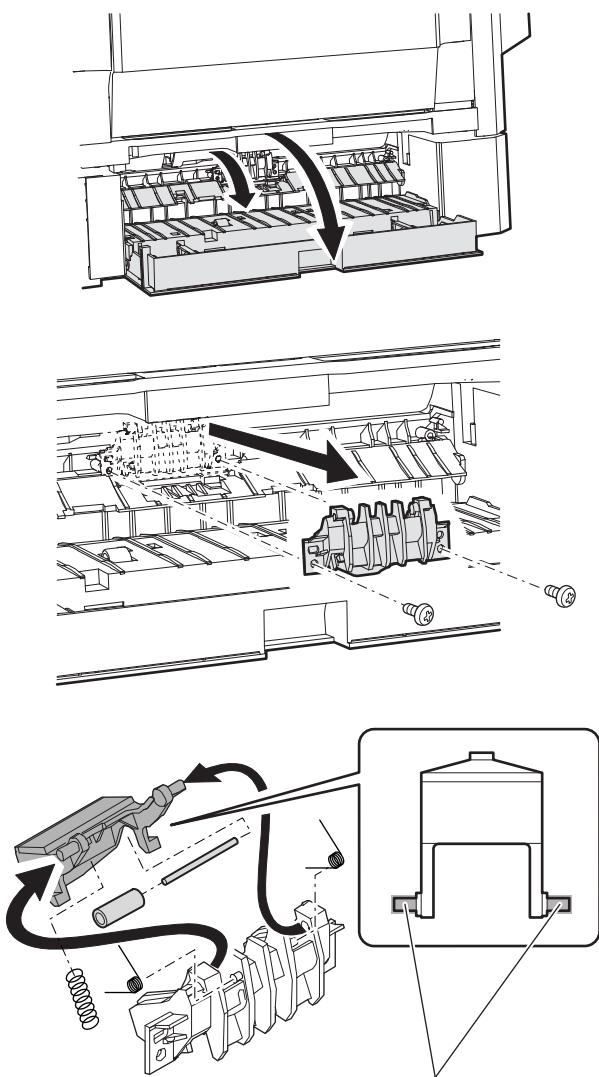


**B. Lower 500 sheets tray paper feed**

**(1) Paper feed roller/pickup roller**



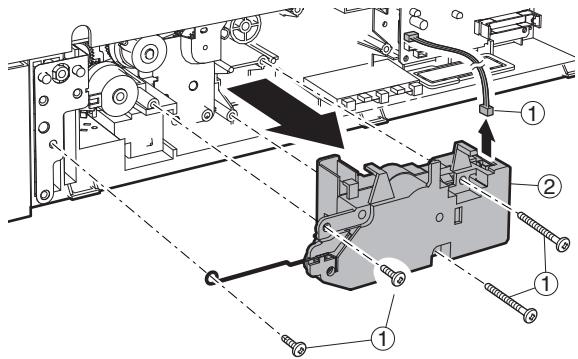
## (2) Separation sheet



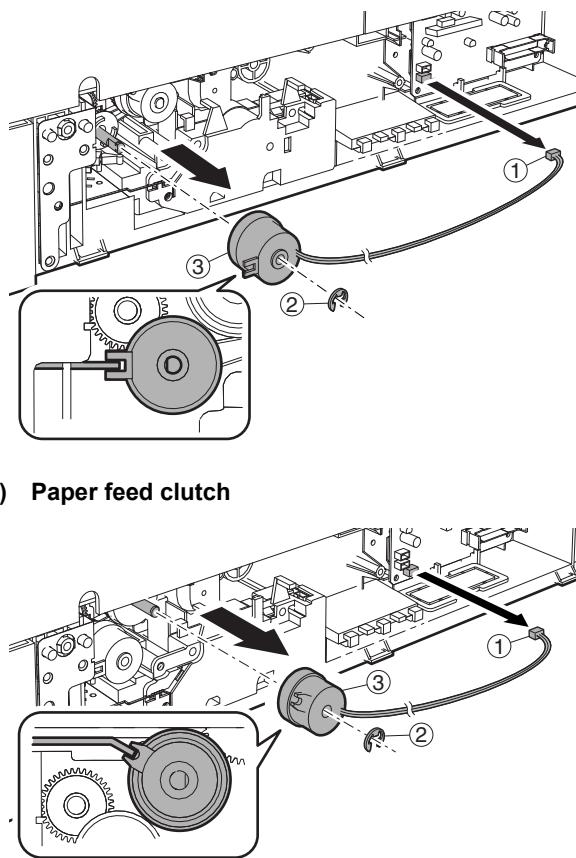
\* Slightly apply grease GP501MR (UKOG-0012QSZZ) around the axis. One rice grain for each.

Grease should not come out when assembling.

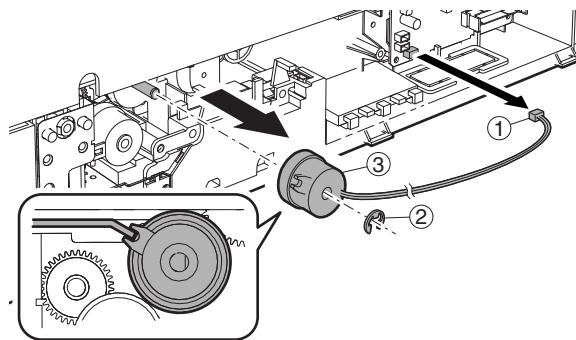
## (3) Lift unit



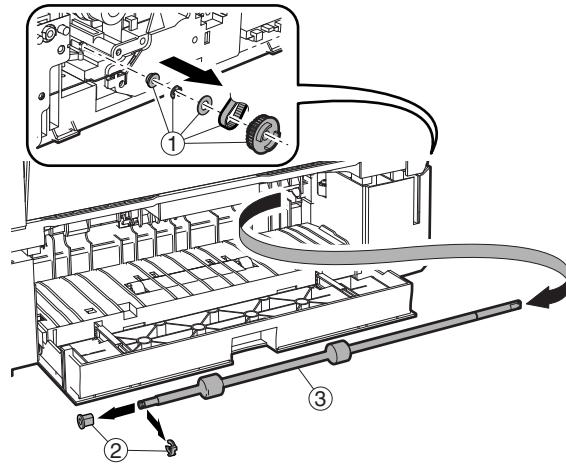
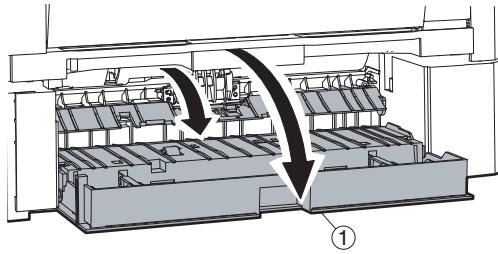
## (4) Transport clutch



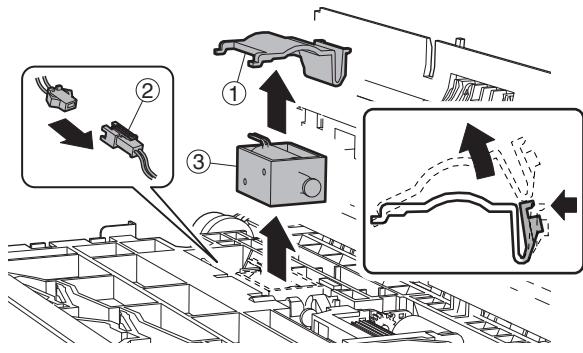
## (5) Paper feed clutch



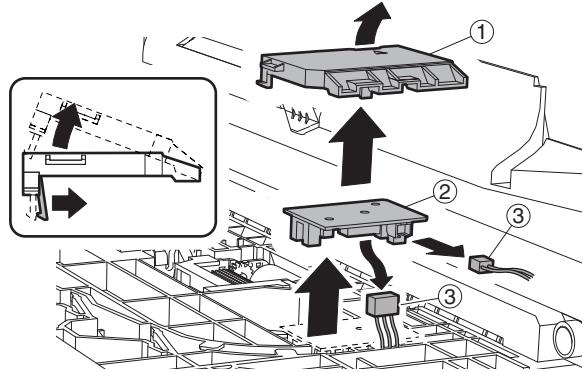
## (6) Transport roller



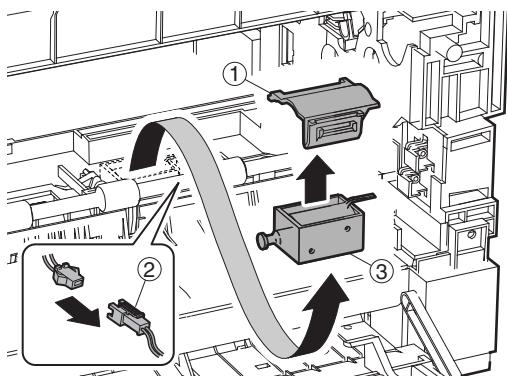
**(7) Solenoid**



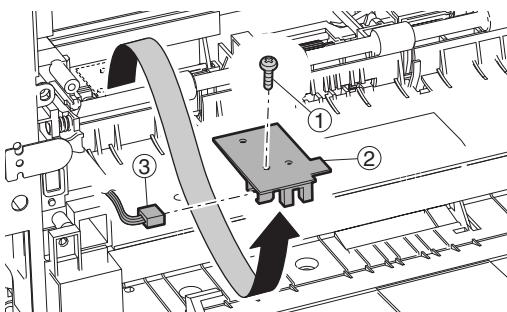
**(8) Sensor PWB**



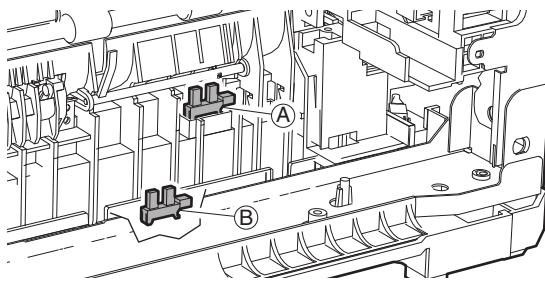
**C. Paper feed solenoid**



**D. Tray sensor PWB**

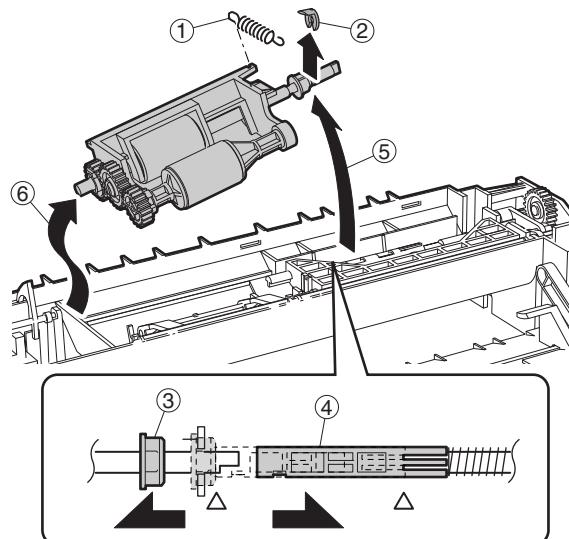
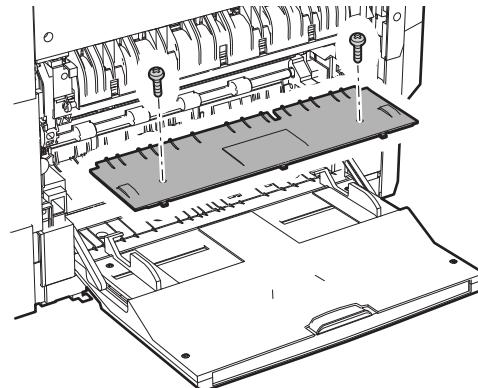


**E. Manual P-in sensor/Manual empty sensor**

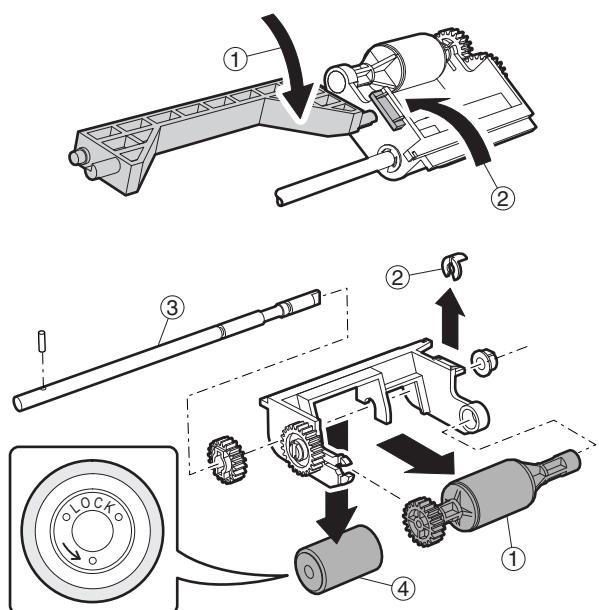


**F. Multi manual paper feed**

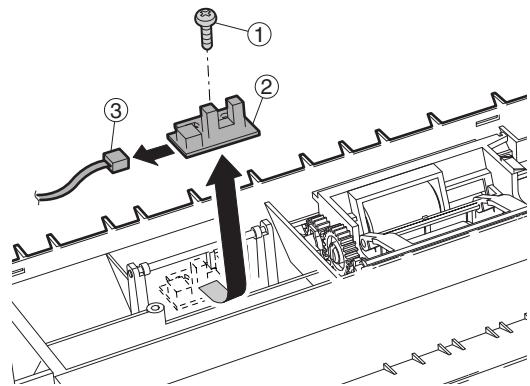
**(1) Paper feed roller/pickup roller**



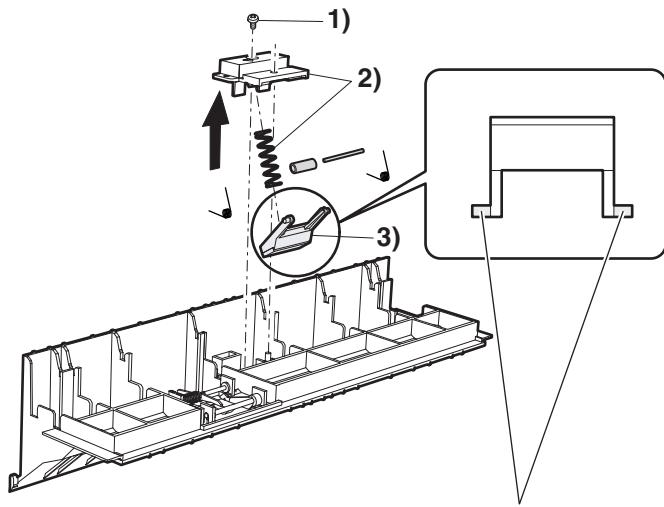
Installation \* Install so that the cam transmit arm (1) comes under the roller arm (2).



#### (2) Reverse sensor



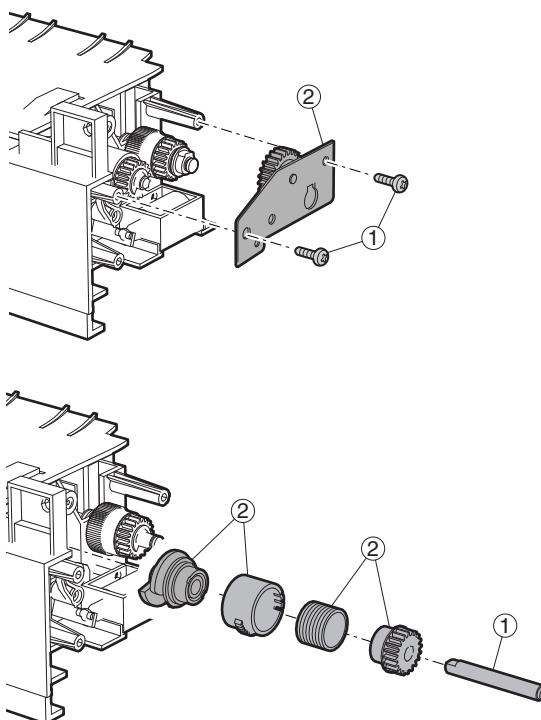
#### (3) Separation sheet



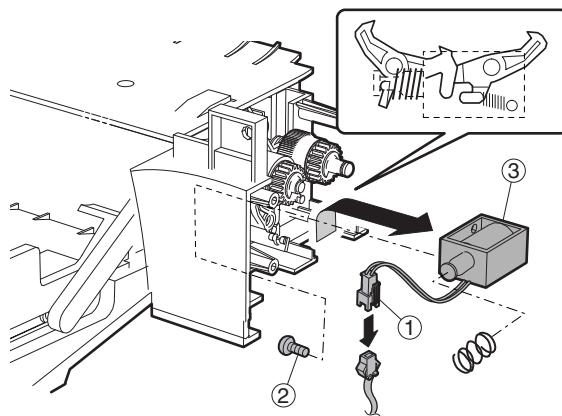
\* Slightly apply grease GP501MR (UKOG-0012QSZZ) around the axis. One rice grain for each.

#### (4) Clutch/solenoid

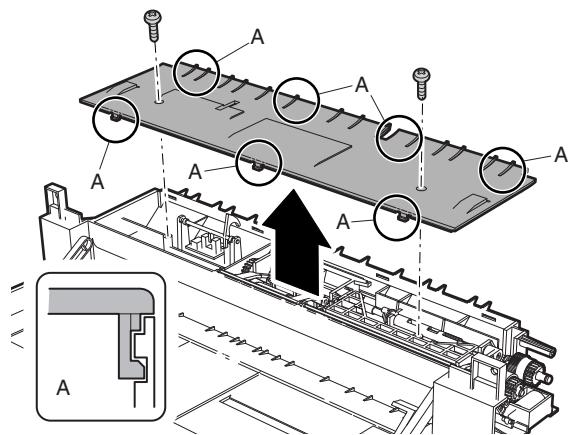
##### Clutch

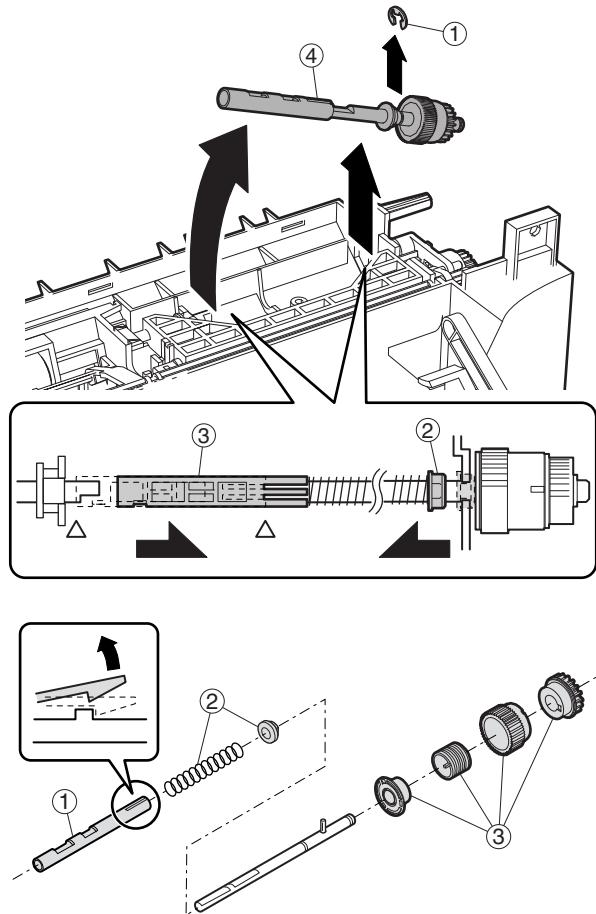


##### Solenoid

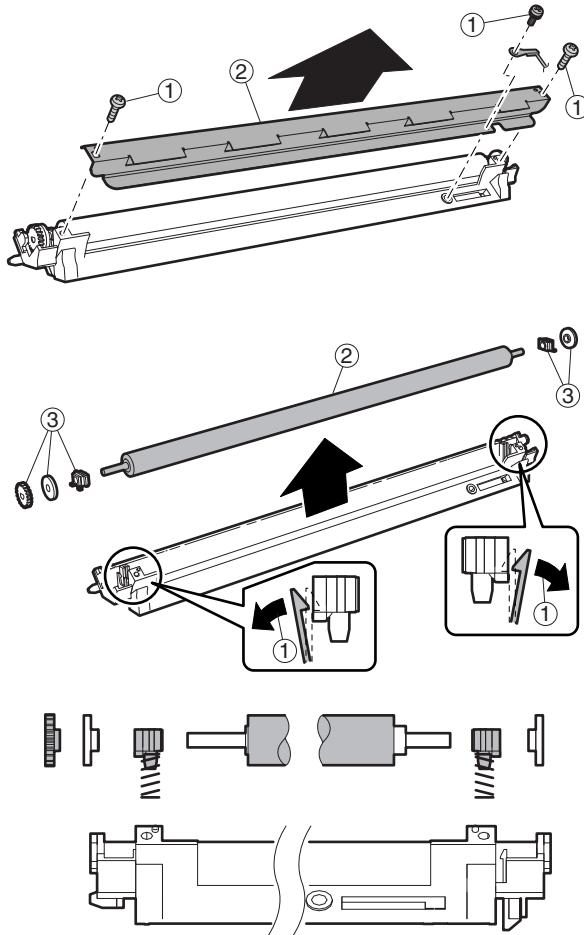


##### Clutch



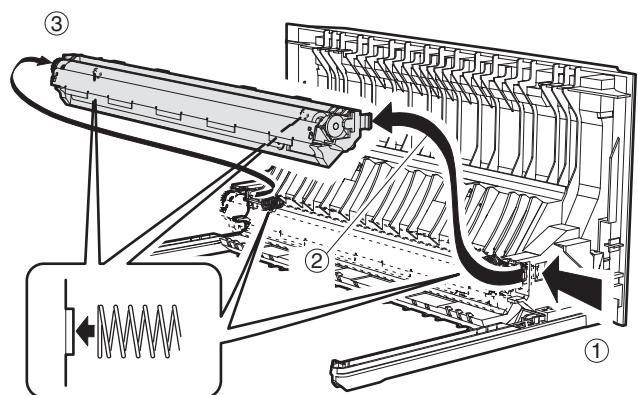


**B. Transport roller**

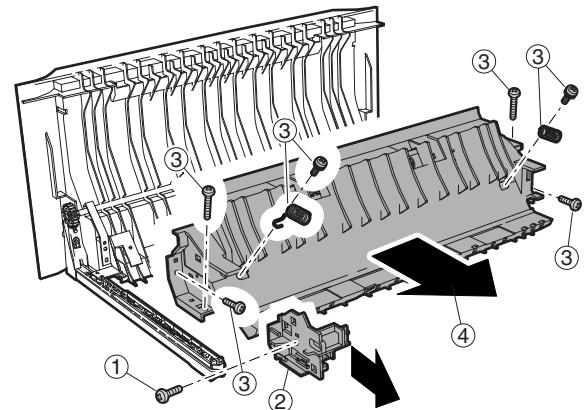


## 6. Side door unit

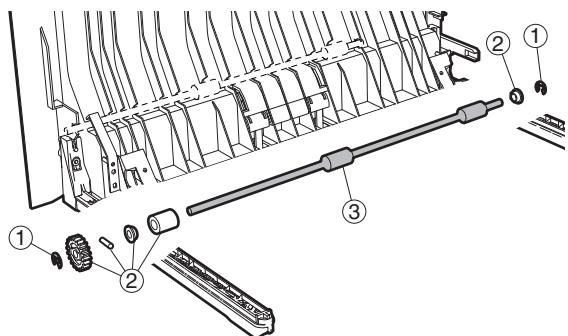
### A. Transport roller unit



**C. DUP transport roller**

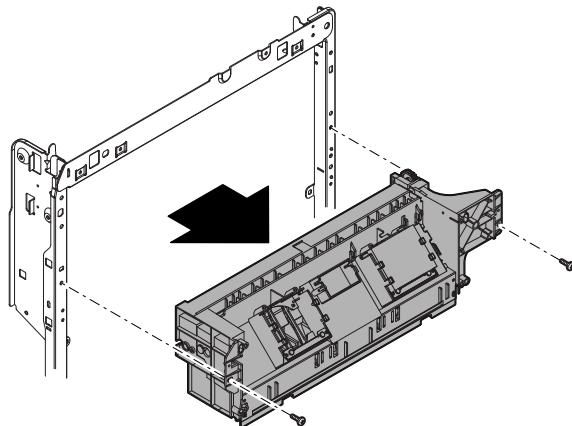
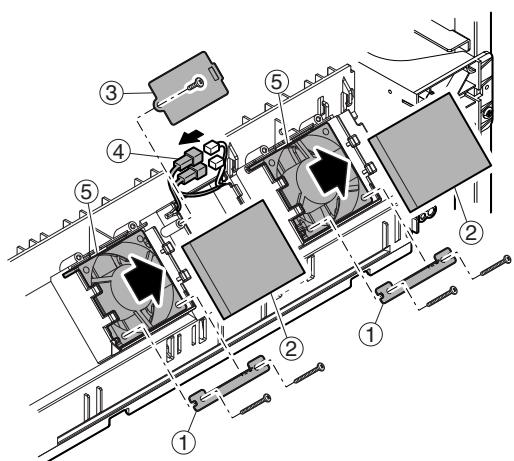
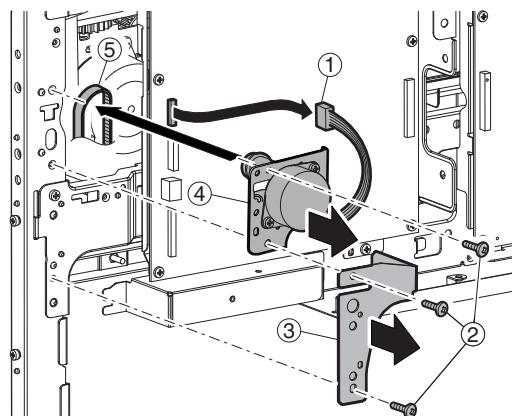
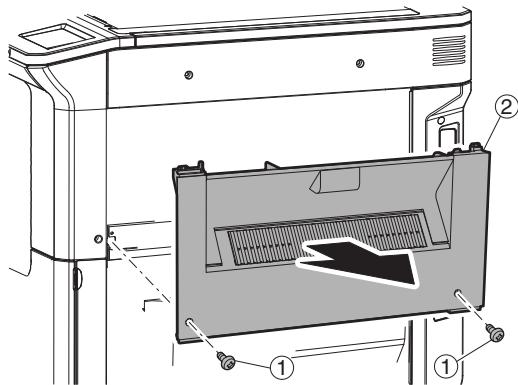


\* Check that two springs are securely inserted into the transfer roller unit bosses.

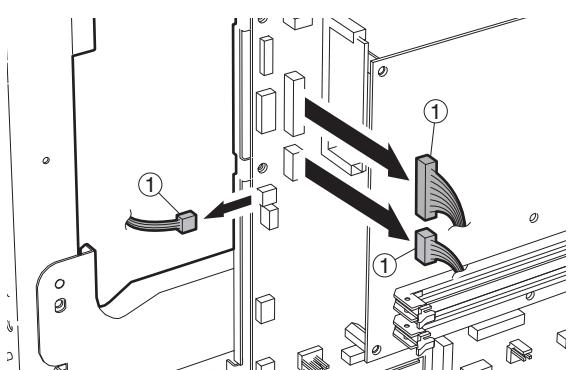
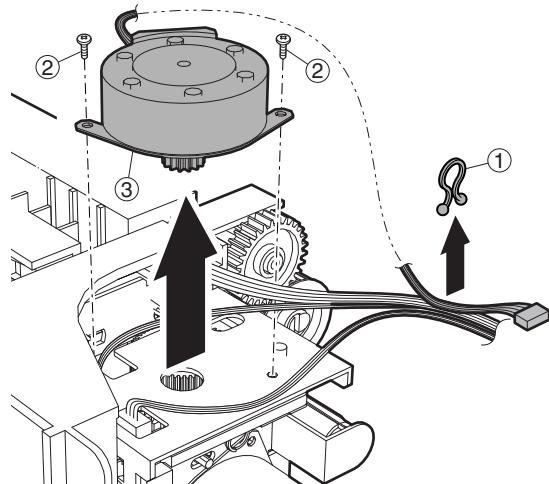
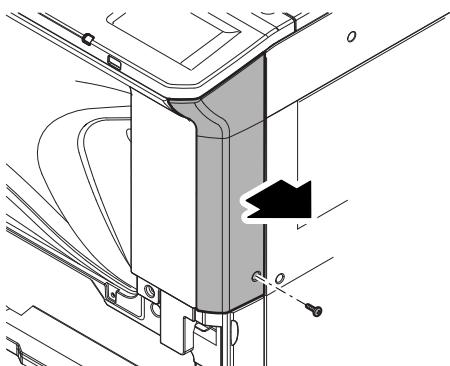


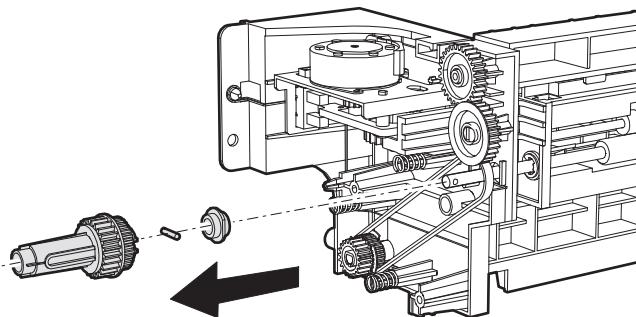
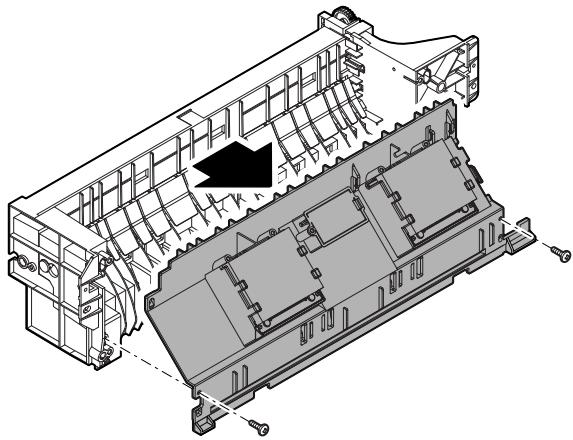
## 7. 1st paper exit unit

### A. Cooling fan

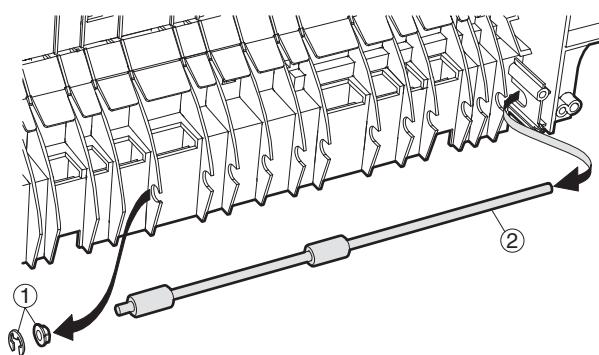
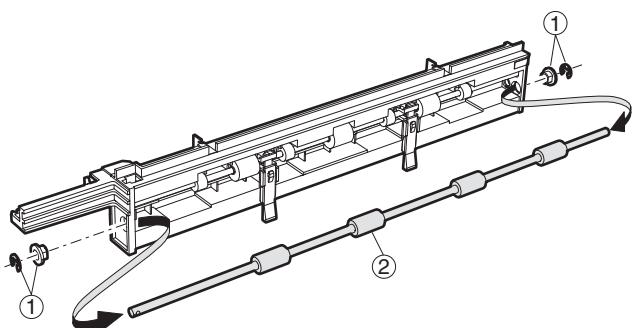
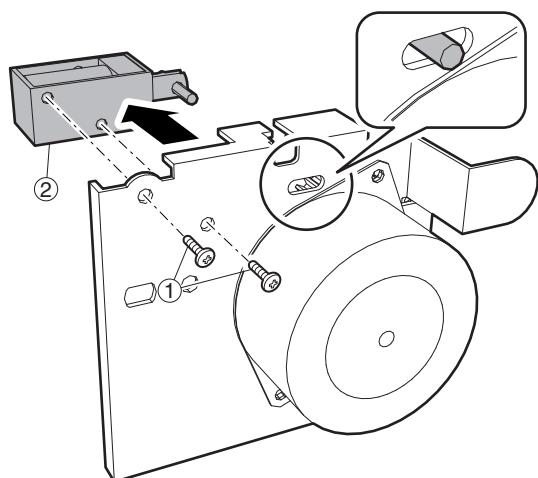
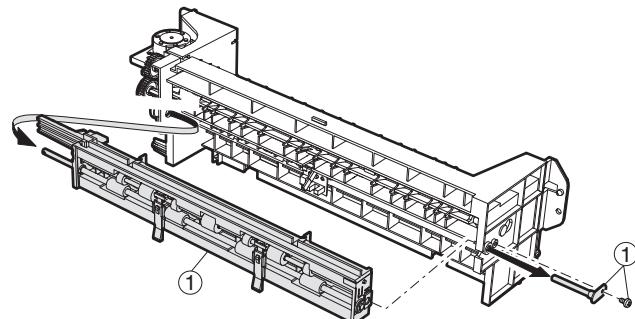
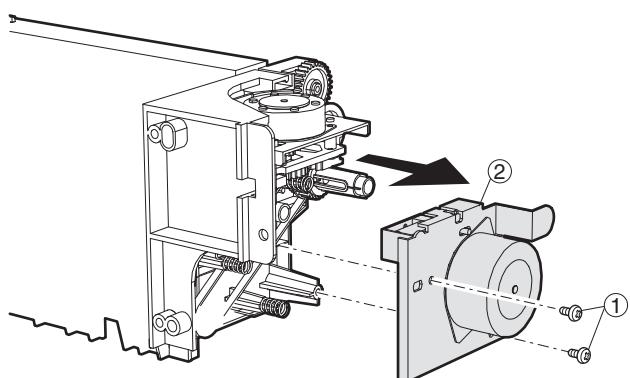


### B. Transport/Exit roller





CAUTION: Check to confirm that the solenoid shaft is in the gate bracket, and fix with the screw.

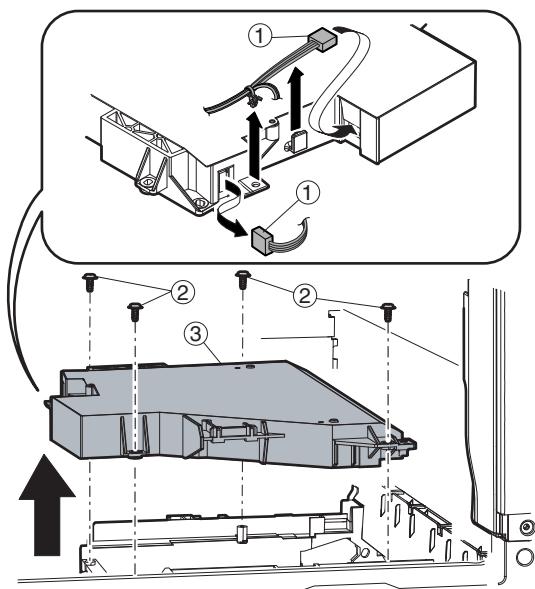
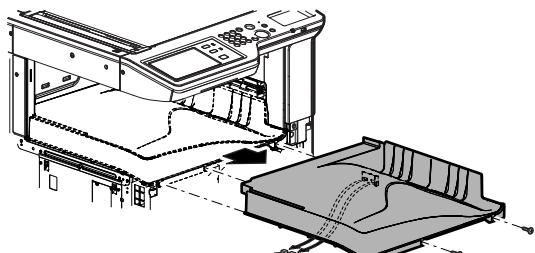


## 8. Laser unit

CAUTION: Do not disassemble the LSU unit.

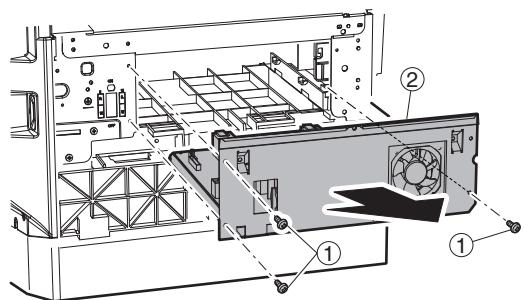
### A. LSU

- 1) Turn OFF the machine power, and disconnect the power plug from the power outlet.
- 2) Remove the left cabinet and exit tray.
- 3) Disconnect the LSU connector, and remove the securing screws to remove the LSU.

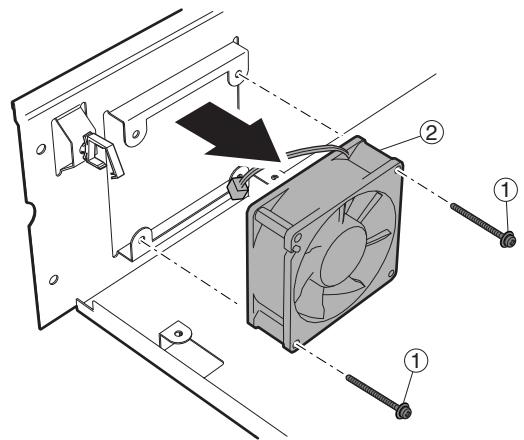
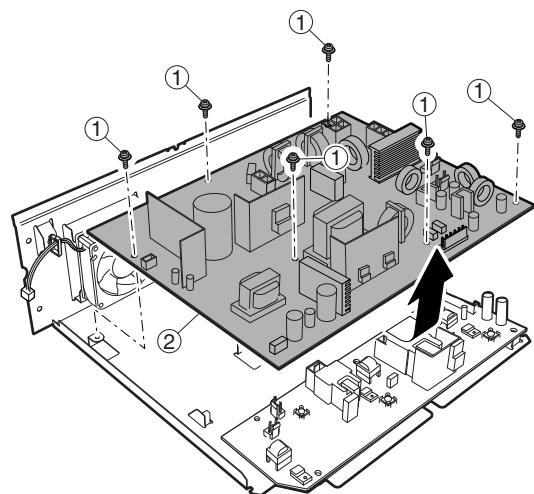
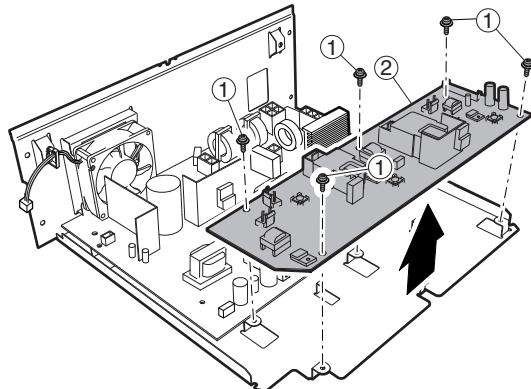


## 9. Power unit

### A. Power source

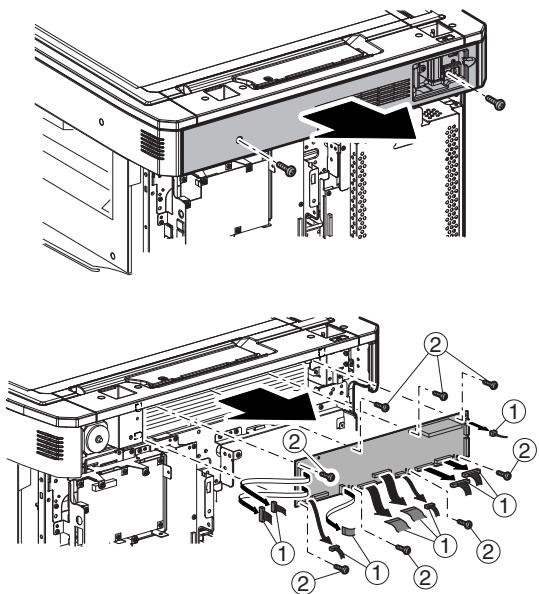


CAUTION: Disconnect the connector, and remove the unit.

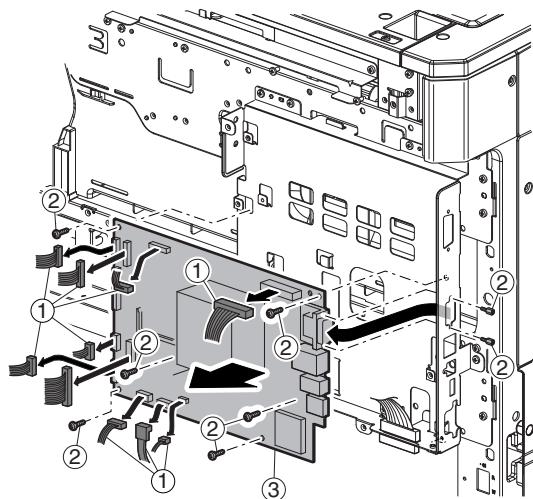


## 10. PWB

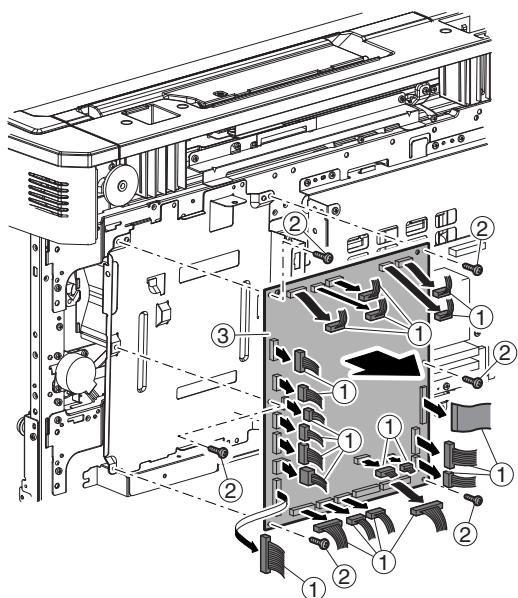
### A. SCN PWB



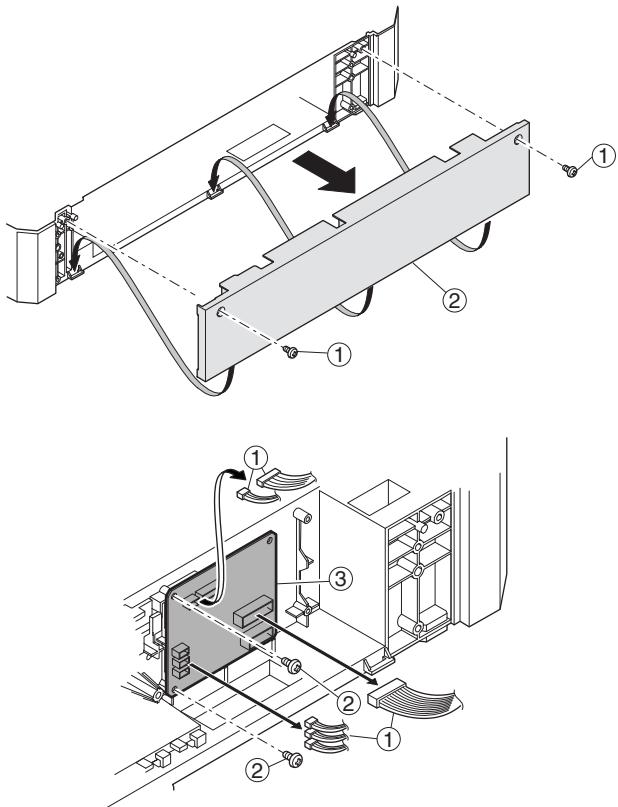
### C. MFPC PWB



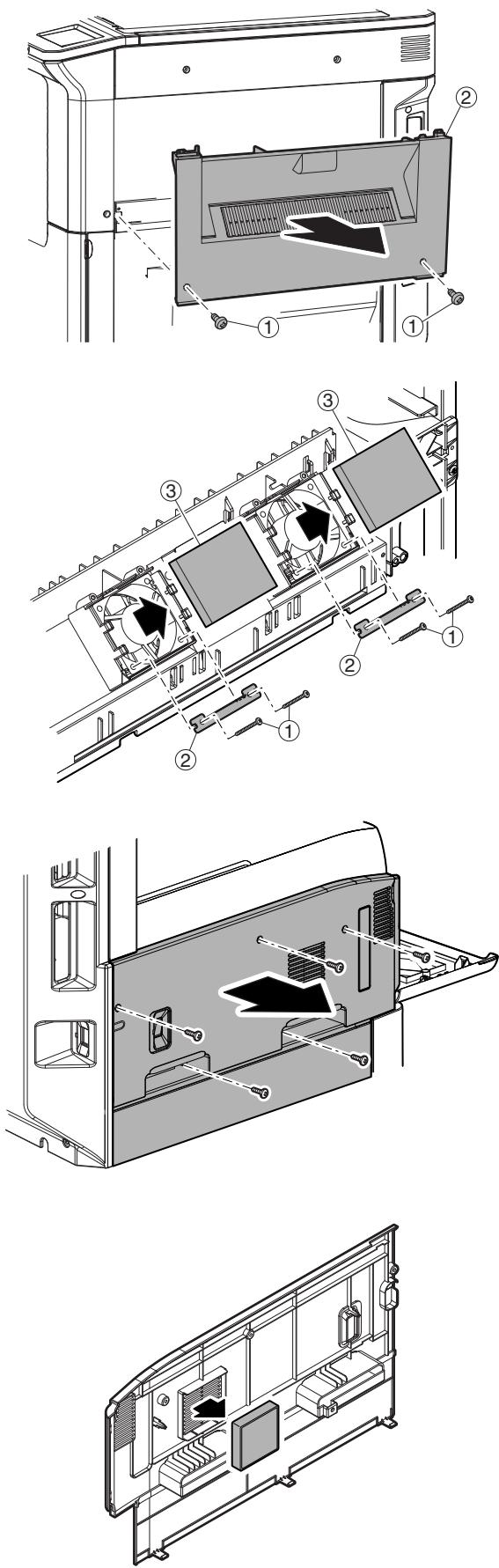
### B. PCU PWB



### D. Second interface PWB

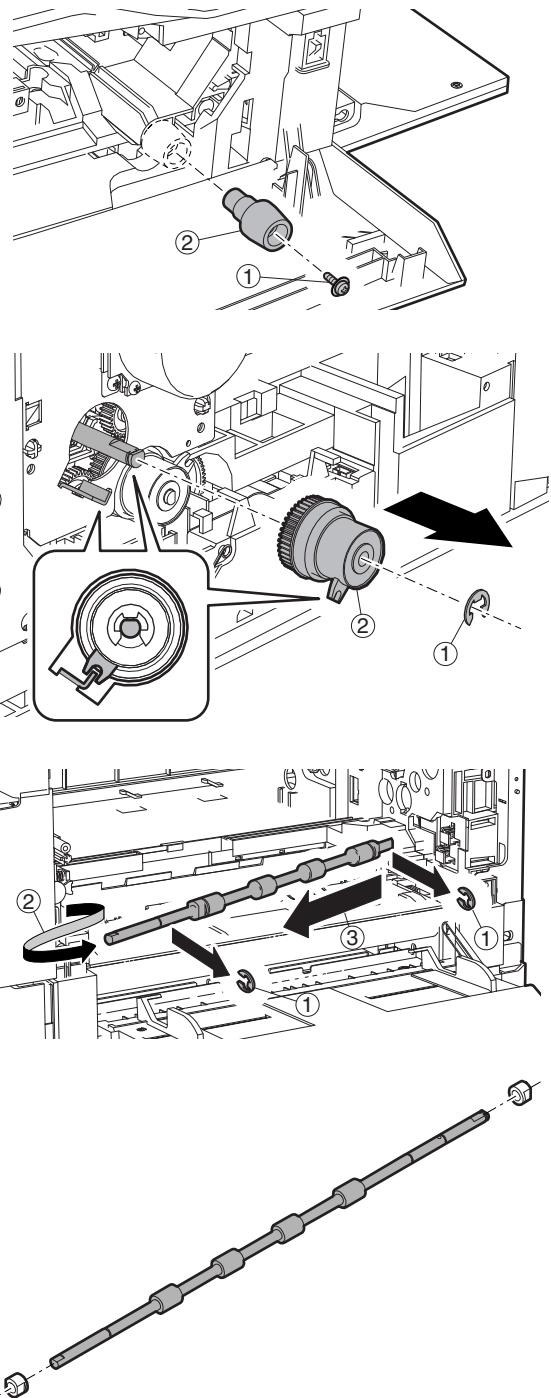


## 11. Ozone filter



## 12. Transport section

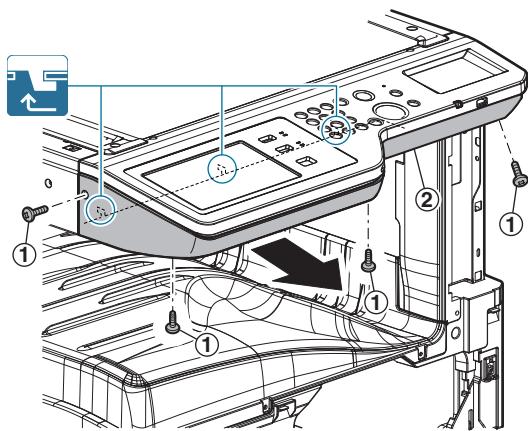
### A. Transport roller



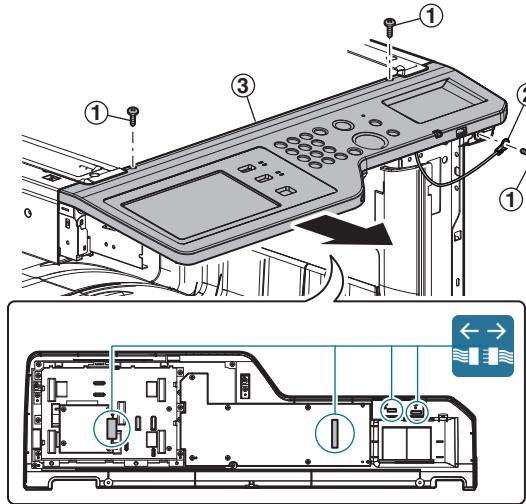
## 13. Operation section

### A. Operation panel unit

- 1) Remove the front cabinet upper.
- 2) Remove the operation panel base plate.

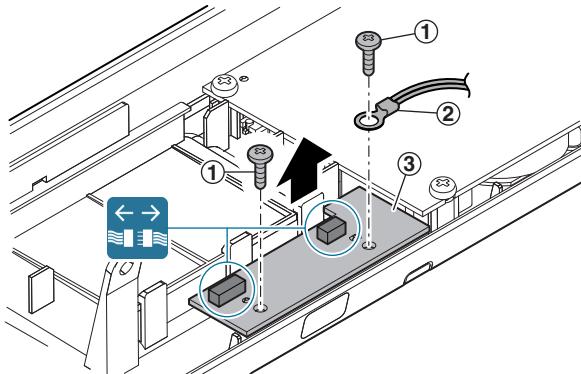


- 3) Remove the operation panel unit.



### B. USB I/F PWB

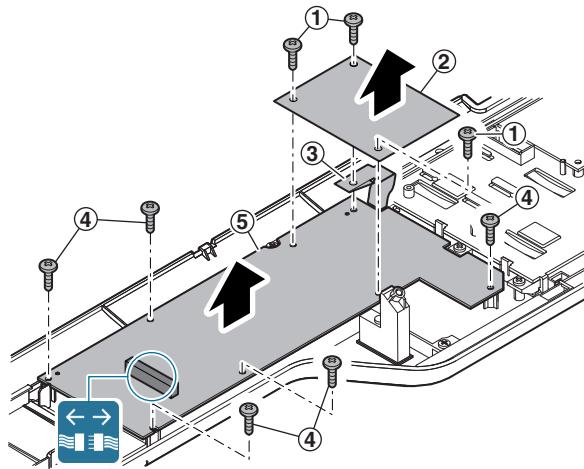
- 1) Remove the USB I/F PWB.



### C. KEY PWB

- 1) Remove the Mylar, the earth sheet, and remove the KEY PWB.

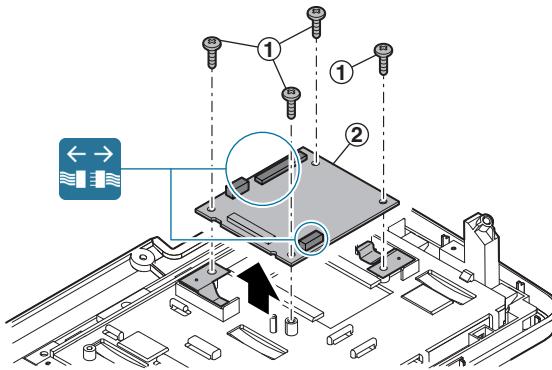
CAUTION: When installing, be careful of the overlapping sequence of the Mylar and the earth sheet.



### D. LVDS PWB, LCD, Touch panel

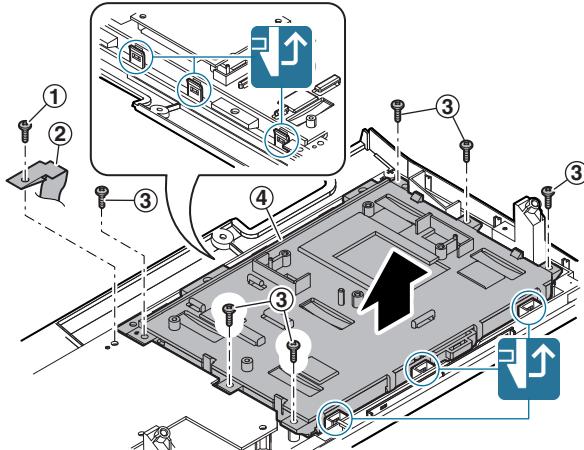
- 1) Remove the screw, disconnect the connector, and remove the LVDS PWB.

CAUTION: When installing, be careful of the overlapping sequence of the earth sheet.



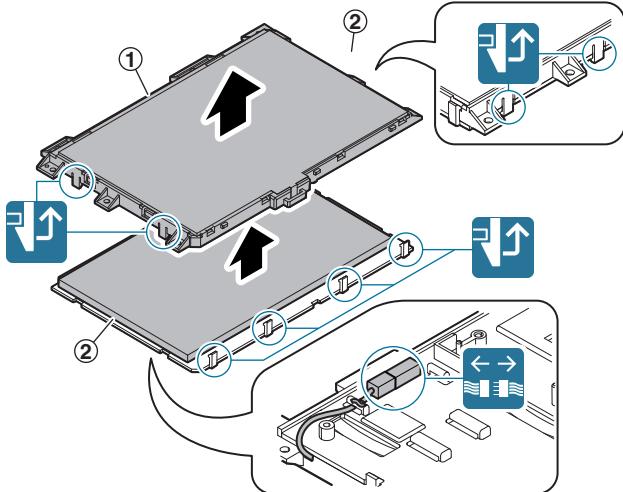
- 2) Remove the screw, and remove the LCD holder.

CAUTION: When installing, be careful of the overlapping sequence of the earth sheet.



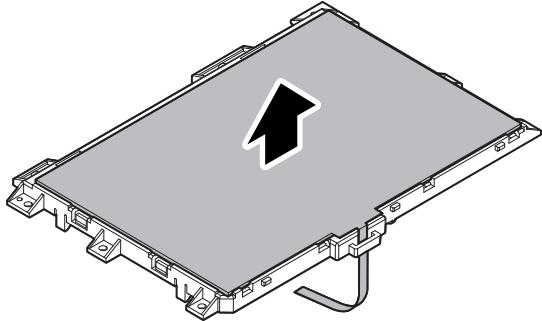
- 3) Remove the holder, and remove the LCD.

CAUTION: Use enough care not to put finger prints on the LCD surface.

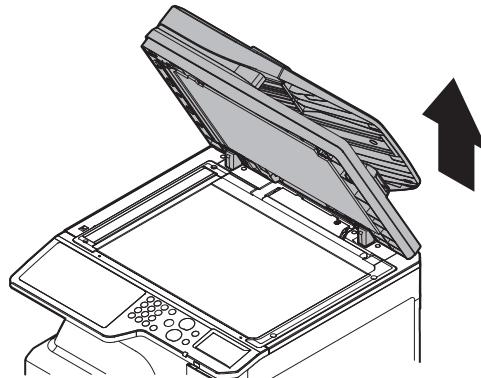


- 4) Remove the touch panel.

CAUTION: Use enough care not to put finger prints on the touch panel surface.

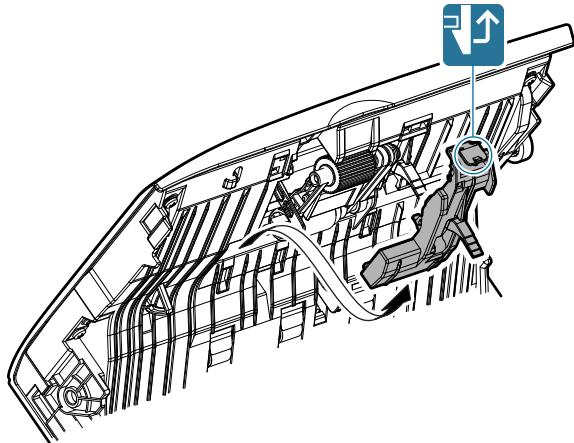


- 3) Remove the RSPF unit from the machine.

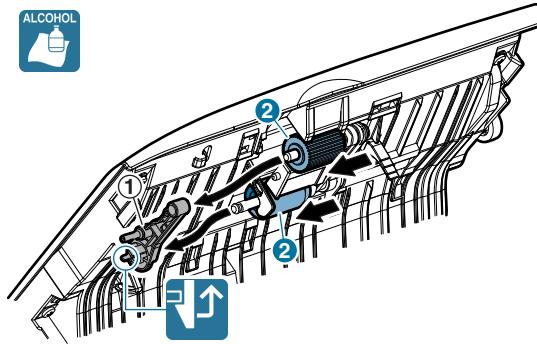


**(1) Document pickup roller, Paper feed roller**

- 1) Open the paper feed unit, and remove the cover.

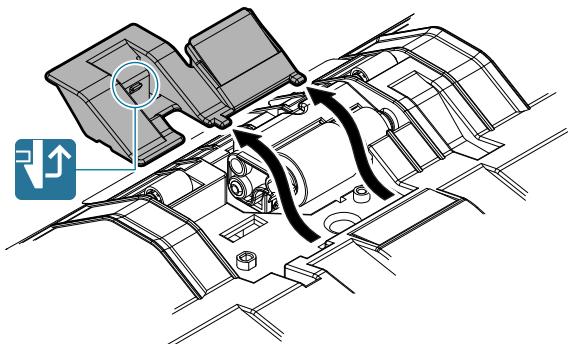


- 2) Remove the holder, and remove the document pickup roller, and the paper feed roller.



**(2) Separation roller, Torque limiter SPF**

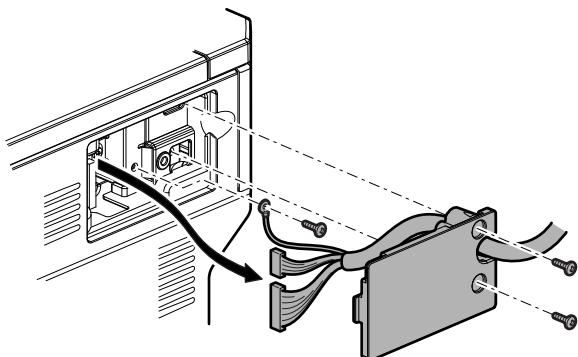
- 1) Open the paper feed unit, and remove the cover.



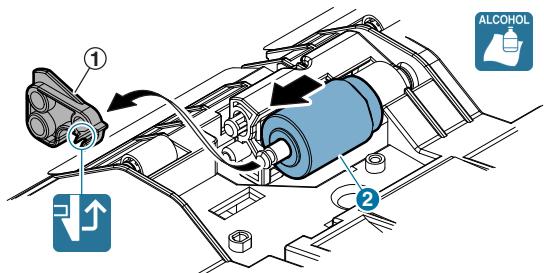
## 14. RSPF

### A. RSPF unit

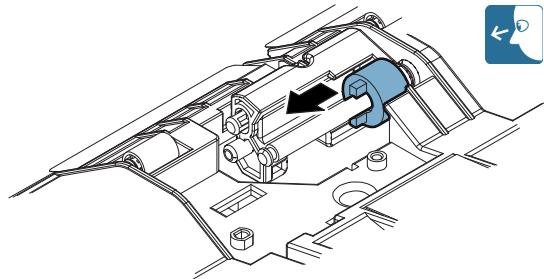
- 1) Remove the rear upper cabinet.
- 2) Disconnect the connector. Remove the harness guide.



- 2) Remove the holder, and remove the separation roller.

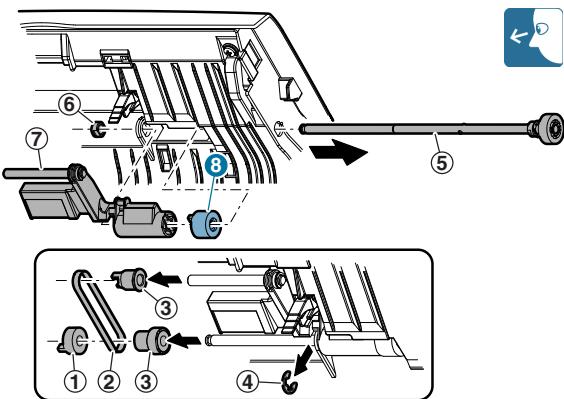


- 3) Remove the torque limiter SPF.



### (3) Take-up torque limiter

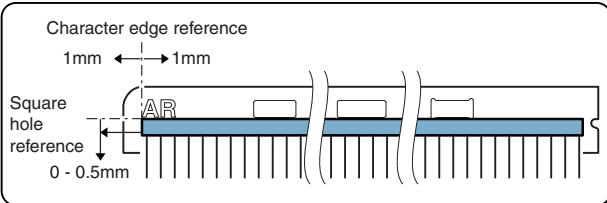
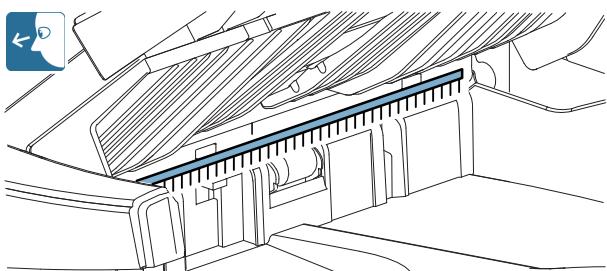
- 1) Remove the one-way coupling, the belt, and the pulley. Remove the E-ring. Pull out the shaft, and remove the bearing, the holder, and the take-up torque limiter.



### (4) Discharge brush

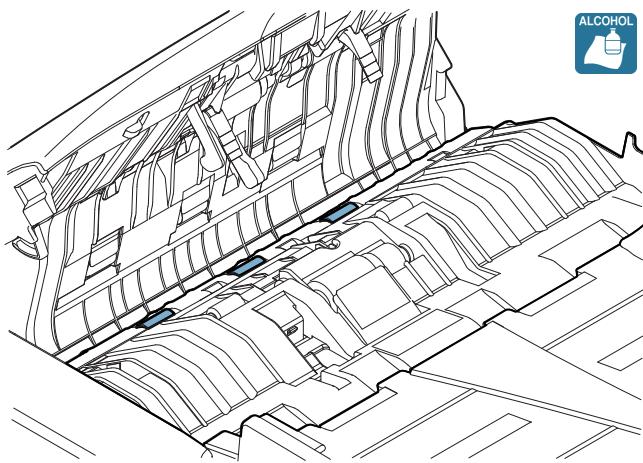
- 1) Open the document tray, and remove the discharge brush.

CAUTION: When replacing the discharge brush, attach a new brush to the reference.



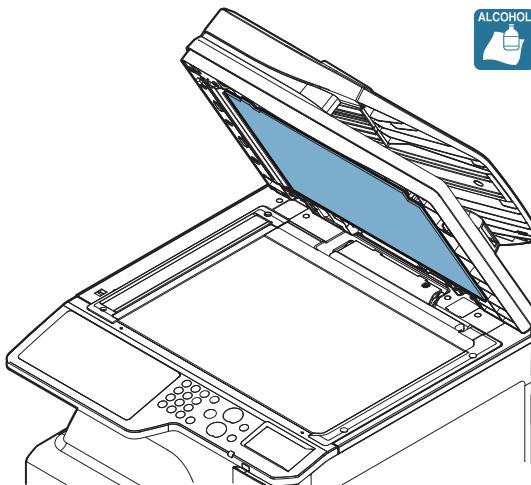
### (5) Registration roller

- 1) Open the paper feed unit, and clean the registration roller.



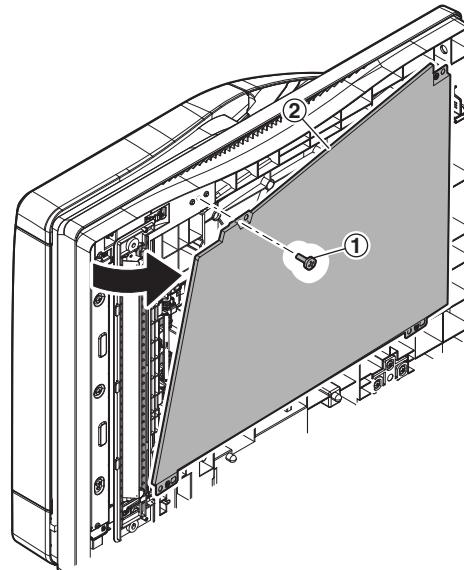
### (6) OC mat

- 1) Open the RSPF unit, and clean the OC mat.

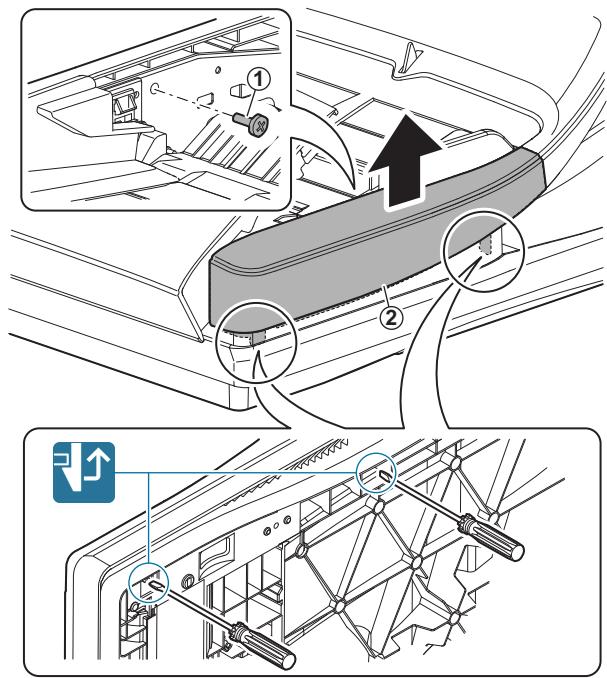


## B. RSPF paper feed tray unit

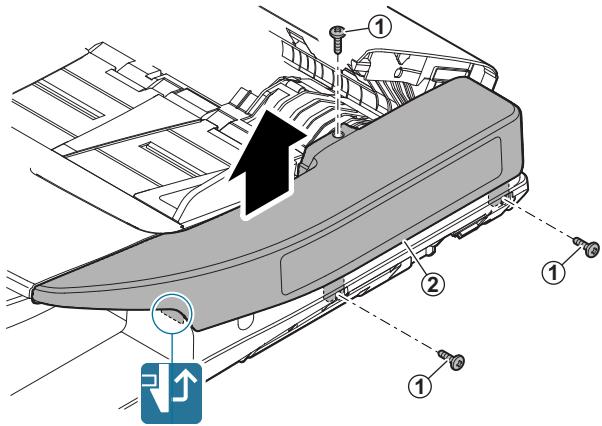
- 1) Turn over the left upper corner of the OC mat.



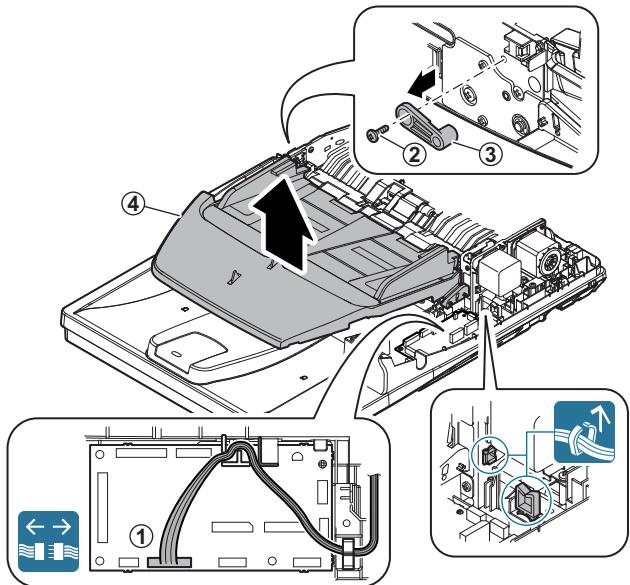
- 2) Remove the front cabinet.



- 3) Remove the rear cabinet.

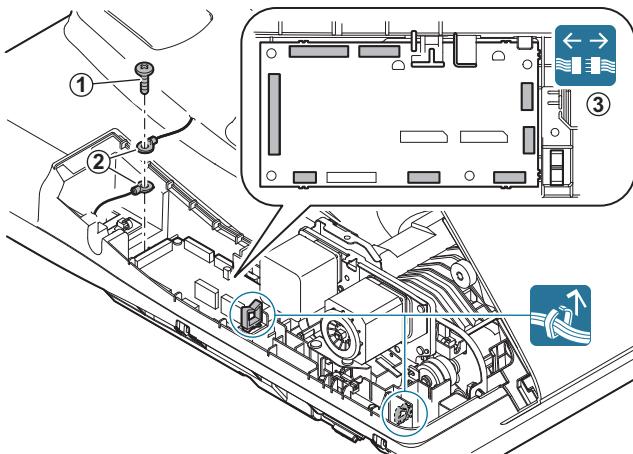


- 4) Disconnect the connector from the RSPF driver PWB. Remove the holder, and remove the RSPF paper feed tray unit.

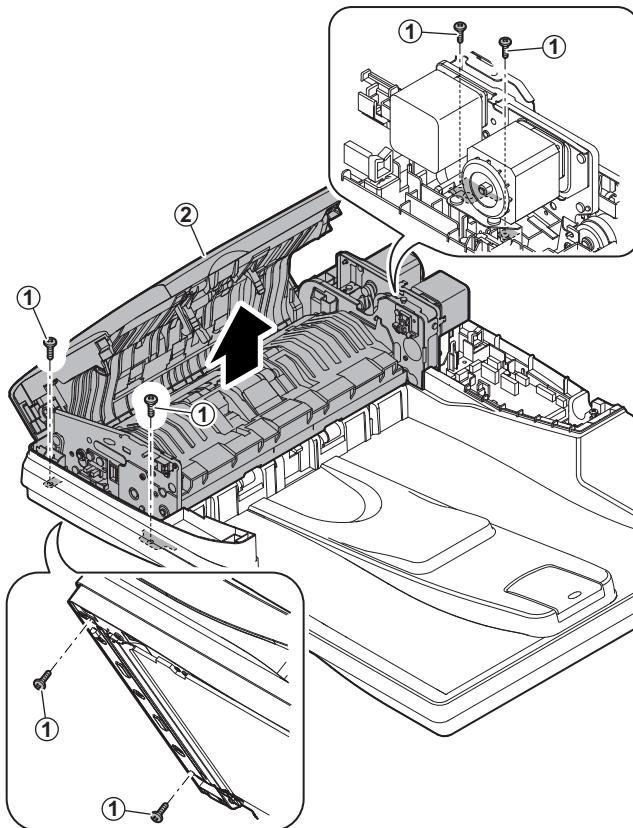


### C. RSPF transport unit

- 1) Remove the paper feed tray unit.
- 2) Remove the earth wire. Disconnect the connector from the RSPF driver PWB.

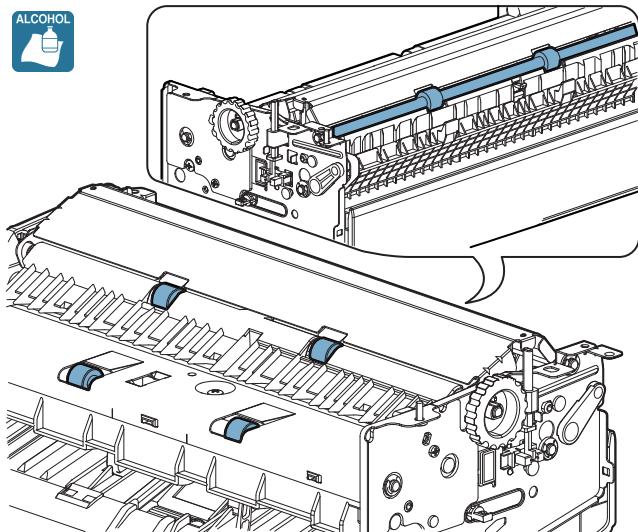


- 3) Remove the RSPF transport unit.



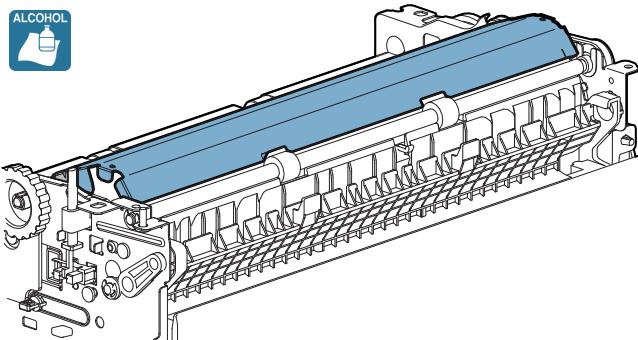
**(1) Transport roller 2, Transport roller 3,  
Paper exit roller**

- 1) Clean the transport roller 2, the transport roller 3, and the paper exit roller



**(2) Scan plate**

- 1) Clean the scan plate.



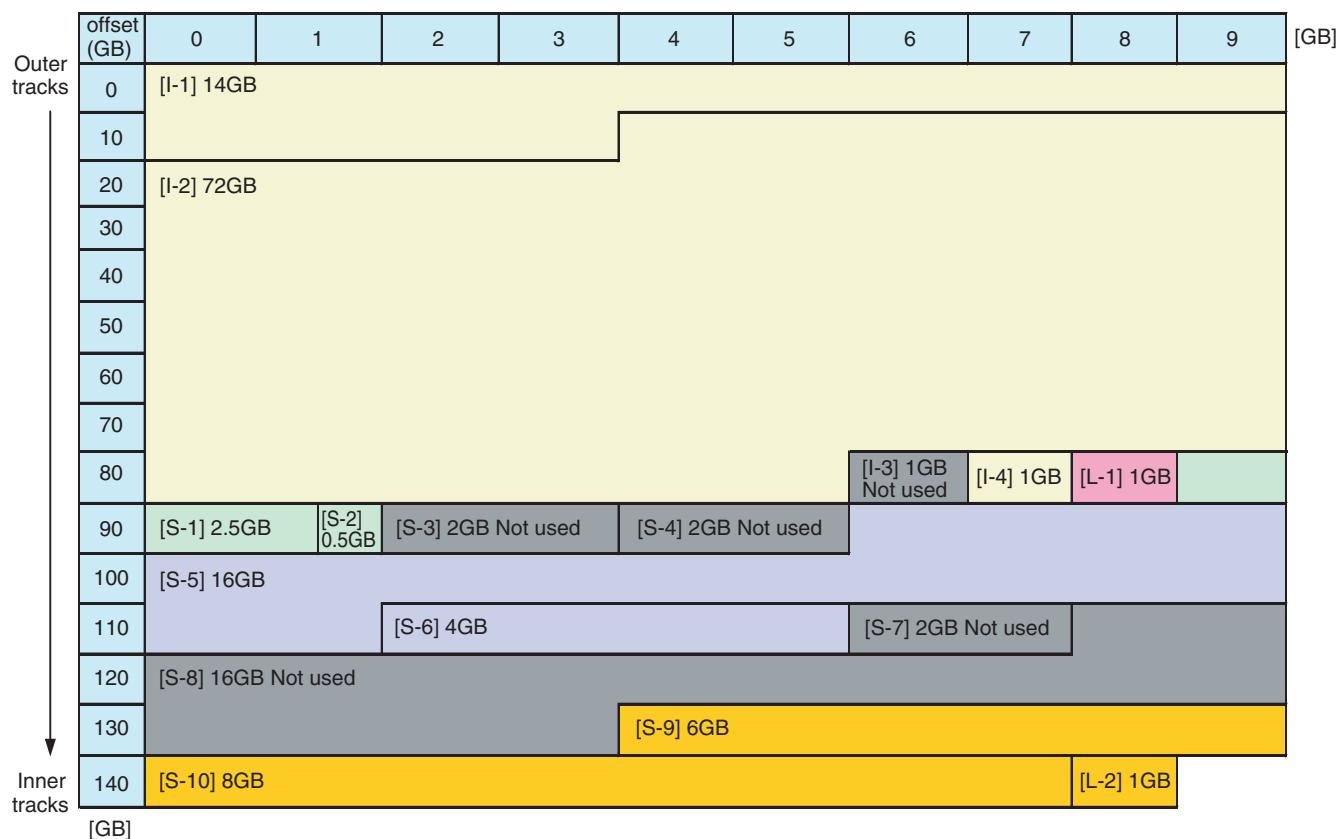
# [11] VARIOUS STORAGE DATA HANDLING

## 1. HDD/SD card memory map

### A. HDD partition

Option HDD installed

HDD size = 160GB (Actual size 149GB)



### B. HDD data contents

Option HDD installed

No.	File system	Stored data	NOTE
I-1	Image data	Image data (ERDH/Temporary storage)	1000 documents, 3000 images
I-2	Image data	Image data (Document filing)	3000 documents, 20000 images
I-3	Image data	Not available	Not used
I-4	Image data	FAX/Internet Fax receive images	
L-1	Not available	System storage data (Address book, image send system registration data (sender's information, meta data, etc.), FSS collection data)	
S-1	Universal	Download font User macro Database system file System log System setting data (Backup)	
S-2	Universal	Document filing (Database) Job log (Database) Job completion list	
S-3	Universal	Not available	Not used
S-4	Universal	Not available	Not used
S-5	Universal	Spool area for printer	
S-6	Universal	Application work area (User file used in USB direct print)	
S-7	Universal	Not available	Not used
S-8	Universal	Not available	Not used
S-9	Universal	Data backup when installing DSK (User data (Address book, account information))	
S-10	Universal	e-manual Watermark	
L-2	Universal	Not available	Not used

## C. SD card partition

### Option HDD installed

SD card size = 4GB (Actual size 3.6GB)

	0	100	200	300	400	500	600	700	800	900	[MB]
0	[L-101] 500MB					[S-101] 500MB					
1	[S-102] 500MB					[S-105] 100MB	[S-103] 924MB				
2						[I-101] 1GB					
3											

[GB]

### Option HDD uninstalled

SD card size = 8GB (Actual size 7.2GB)

	0	100	200	300	400	500	600	700	800	900	[MB]
0	[L-101] 500MB					[S-101] 200MB		[S-102] 200MB			[S-105] 100MB
1	[S-103] 924MB										
2	[S-104] 200MB	[I-101] 500MB				[I-102] 500MB					
3											
4											
5	[I-103] 4GB										
6											
7											

[GB]

## D. SD card data contents

### Option HDD installed

No.	File system	Stored data	NOTE
L-101	Not available	ICU firmware (Boot/Main) Boot animation Boot (CN Update mode) ARM9 firmware lang.sfu (language data) graph.sfu (Animation data)	
S-101	Universal	font web help spdl Option FontROM	
S-102	Universal	Same as above (Mirror)	
S-105	Universal	Setting value data file (System setting/SIM setting data (Image quality adjustment)/FAX Soft SW)	
S-103	Universal	Key operator setting storage data FEP leaning data (Japanese/Chinese) Firmware update data (differential between new and old) (For FSS) Account management information/User authentication data	
I-101	Image data	FAX/Internet Fax receive images (for backup) (HDD 1-4 area data backup)	

**Option HDD uninstalled**

No.	File system	Stored data	NOTE
L-101	Not available	ICU firmware (Boot/Main) Boot animation Boot (CN Update mode) ARM9 firmware lang.sfu (language data) graph.sfu (Animation data)	
S-101	Universal	font web help spdl Option FontROM	
S-102	Universal	S-101 area data backup (mirror)	
S-105	Universal	Setting value data file (System setting/SIM setting data (Image quality adjustment)/FAX Soft SW)	
S-103	Universal	Key operator setting storage data IMS job management data FAX reception data (For power shut off and paper empty) FEP leaning data (Japanese/Chinese) Firmware update data (differential between new and old) (For FSS) Account management information/User authentication data System log	
S-104	Universal	S-105 area data backup (mirror)	
I-101	Image data	FAX/Internet Fax receive images	
I-102	Image data	FAX/Internet Fax receive images (Backup)	
I-103	Image data	ERDH work	Not used when an option HDD is installed.

## 2. Necessary steps when replacing the PWB, HDD and the SD Card

### A. MFP substrate replacement procedure (work flow)

CAUTION: Registered user information will not be recovered if the MFP PWB is affected by U2-05 trouble. (\*1)

- 1) Attach the flash ROM, the memory, the EEPROM, the SD card etc. of the MFP PWB on the service parts MFP PWB and install it to the main unit.

CAUTION: Ground your body with grounding band during the work.

- 2) When U2 trouble occurs, use SIM16 to cancel it.

- 3) Set as follows after restarting the main unit.

At this timing, F6-21 may occur. Whether it may occur or not, go to execute procedure 1.

(1) Set the appropriate country code by Sim66-02 (clear the software switches related to FAX).

CAUTION: Make sure to execute even if the fax option is not installed on the machine.

### B. Procedures necessary for HDD replacement

#### Note for HDD replacement

- Data of the following list are saved in the HDD of the complex machine. If the HDD operates normally and data backup is possible before replacement, perform data backup and then replace the HDD.
- If the HDD does not operate normally, data cannot be backed up.
- The HDD replacement procedures with a broken HDD differs from that with a normal HDD.

#### Contents of this chapter

- HDD storage data and backup
- Replacement procedures when HDD storage data can be backed up
- Replacement procedures when HDD storage data cannot be backed up due to breakdown of HDD
- Reinstall and update procedures of Operation Manual data saved in HDD
- Reinstall and update procedures of watermark data.

#### (1) HDD storage data and backup

Some HDD storage data can be backed up, and some other data cannot. Some HDD storage data can be reinstalled, and some other storage data cannot.

If the HDD operates normally before replacement and data can be backed up, back up the data before replacement of the HDD referring to the HDD storage data list. Then reinstall the data after replacement of the HDD.

##### a. HDD storage data list

No.	Data kind	Before installation (When shipping from the factory)	After installation (After use by users)	Enable/ Disable of data backup	Backup means	Enable/ Disable of data reinstall	Data reinstall procedures	Reinstall operator
1	e-Manual	Available	Available	Disable	*1	Enable	Sim49-3	Service
2	Address book	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
3	Image send series registration data (Sender's information, meta data, etc.)	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
4	User authentication Account management	Not available	Available	Enable	Sim56-2	Enable	Sim56-2	Service
5	Japanese FEP dictionary (Learning)	Not available	Available	Disable	Not available	Disable		—
6	Chinese FEP dictionary (Learning)	Not available	Available	Disable	Not available	Disable		—
7	JOB LOG	Not available	Available	Enable	Perform with WEB PAGE.	Disable		—
8	JOB completion list	Not available	Available	Disable	Not available	Disable		—
9	New N/A (FSS) information	Not available	Available	Disable	Not available	Disable		—
10	User font (Added)	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	Service or User
11	User macro	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	
12	Document filing	Not available	Available	Enable	Perform with WEB PAGE.	Enable	Perform with WEB PAGE.	
13	Some of system setting data	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
14	Watermark	Available	Available	Disable	*2	Enable	Sim49-5	Service
15	FAX reception data	Not available	Available	Enable	Sim66-62	Disable	—	—

\*1: The e-Manual cannot be backed up, but can be reinstalled by using Sim49-3 and USB memory.

\*2: Watermark data cannot be backed up, but can be reinstalled by using Sim49-5 and USB memory.

**(2) Replacement procedures when HDD data can be backed up**

**a. Work contents and procedures**

Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Back up the HDD storage data before replacement. (Servicing) Use SIM66-2 or the device cloning, or the storage backup function to backup the data. (Back up the data to the USB memory.) (Backup enable data: HDD storage data list No. 2, 3, 4 (Address book, Image send series registration data, User authentication data))	
Step 2	Back up the HDD storage data before replacement. (User or servicing) Back up the data to PC with Web page. (Backup enable data: HDD storage data list No. 7, 10, 14 (Document filing data, JOB LOG data))	
Step 3	When there are some FAX or Internet Fax data, use SIM66-62 to backup the image data from the SD card to the USB memory. (The backup image data are of PDF file type, and cannot be restored to the machine. The backup data are given to the user.)	
Step 4	Replace the HDD.	
Step 5	Boot the complex machine. → Formatting is automatically performed.	Boot the complex machine.
Step 6		The trouble code, U2-05, is displayed. → Cancel with SIM16.
Step 7	Since a blank HDD is automatically formatted, there is no need to perform formatting procedure with SIM.	Use SIM62-1 to format the HDD.
Step 8	Use SIM66-10 to clear the FAX image memory. The memory is cleared in order to keep compliance between the HDD data and the image related memory and to prevent malfunctions. (The memory must be cleared not only in the FAX model but in the scanner and the Internet Fax models.)	
Step 9	Use SIM49-3 to install the manual data to the HDD.	
Step 10	The trouble code, U2-60, is displayed. → Use SIM49-5 to install the watermark data to the HDD. → After booting the machine, use SIM16 to cancel the "U2-60" trouble.	
Step 11	Import the data backed up in Step 1. Use SIM66-2, or the device cloning, or the storage backup to import. (Import enable data: HDD storage data list No. 2, 3, 4 (Address book, Image send series registration data, User authentication data))	
Step 12	Import the data backed up with the Web page function in Step 2. Import enable data: Document filing data, User font, Use macro (The JOB LOG data can be backed up but cannot be imported.)	

**(3) Replacement procedures when the HDD storage data cannot be backed up due to breakdown**

**a. Display when HDD breakdown**

When a trouble occurs in the HDD, the error code display of E7-03 is popped up.

In this case, the main power must be turned OFF and the HDD must be replaced.

**b. Work contents and procedures**

Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Install a HDD to the machine, and boot the complex machine. → Formatting is automatically performed.	Install a HDD to the machine, and boot the complex machine.
Step 2		The trouble code, U2-05, is displayed. → Cancel with SIM16.
Step 3	Since a blank HDD is automatically formatted, there is no need to perform formatting procedure with SIM.	Use SIM62-1 to format the HDD.
Step 4	When there are some FAX or Internet Fax data, use SIM66-62 to backup the image data from the SD card to the USB memory. (The backup image data are of PDF file type, and cannot be restored to the machine. The backup data are given to the user.)	
Step 5	Use SIM66-10 to clear the FAX image memory. The memory is cleared in order to keep compliance between the HDD data and the image related memory and to prevent malfunctions. (The memory must be cleared not only in the FAX model but in the scanner and the Internet Fax models.)	
Step 6	Use SIM49-3 to install the manual data to the HDD.	
Step 7	The trouble code, U2-60, is displayed. → Use SIM49-5 to install the watermark data to the HDD. → After booting the machine, use SIM16 to cancel the "U2-60" trouble.	

With the above procedures, the HDD is reset to the state of factory shipping.

#### (4) Reinstall and update procedures of the HDD storage Operation Manual data

##### 1) Obtain the Operation Manual data.

Download the Operation Manual data from the utility menu on the web site (Tech-DS home page).

Copy the downloaded files to the USB device without changing the file hierarchy.

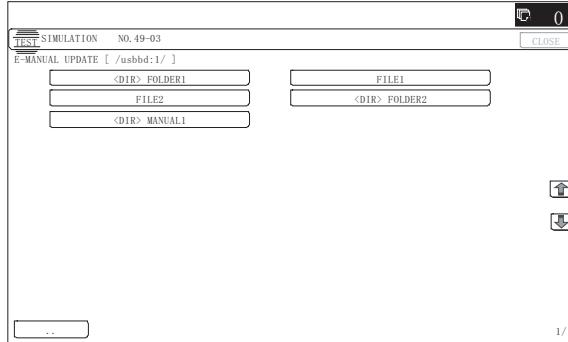
To upload to the complex machine, files of "\*/\_pdf\_fax.idx" and "\*/\_pdf.idx" and "version.txt" as well as the Operation Manual data (\*.pdf) are required. When the downloaded files are copied without changing the file hierarchy, these files also are copied.

**NOTE:** When data are uploaded from the USB memory to the HDD, if there are some data in the HDD, the files in the memory are compared with the files in the HDD and only the files which satisfy the following conditions are written into the HDD.

- The file size is different.
- The time stamp is different.
- The file exists only in the USB memory.

**CAUTION:** The data backed up with SIM56-2 must not be installed to another machine. If installed, the adjustment data will be overwritten and a trouble may be generated.

##### 2) Enter the SIM49-3 mode.



##### 3) Insert the USB memory into the machine.

- When the USB memory is not inserted, "INSERT A STOR- ANGEE-MANUAL STORED ON" is displayed. When [OK] button is pressed, the screen shifts to the folder select menu 1.

##### 4) Select the folder of the Operation Manual data. (The screen shifts to the Operation Manual data install menu.)

The current version and the update version are displayed.

##### 5) Press [EXECUTE] button.

[EXECUTE] button is highlighted, and [YES] and [NO] buttons are changed from gray-out to active display.

##### 6) When [YES] button is pressed, the selected Operation Manual is installed.

When install is completed, "COMPLETE" is displayed. In case of an abnormality, "ERROR" is displayed.

#### (5) Watermark data reinstall and update procedures

##### 1) Obtain the watermark data.

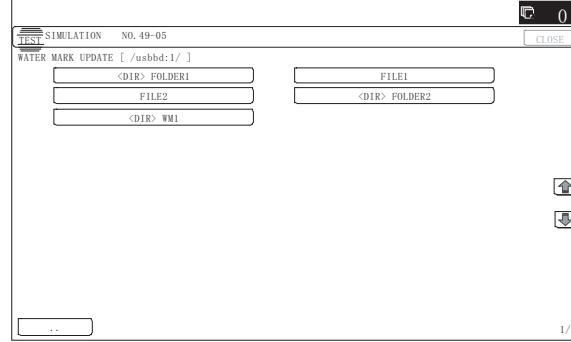
Download the watermark data from the utility menu on the web site (Tech-DS home page).

Copy the downloaded files to the USB device without changing the file hierarchy.

**NOTE:** When data are uploaded from the USB memory to the HDD, if there are some data in the HDD, the files in the memory are compared with the files in the HDD and only the files which satisfy the following conditions are written into the HDD.

- The file size is different.
- The time stamp is different.
- The file exists only in the USB memory.

##### 2) Enter the SIM49-5 mode.



##### 3) Insert the USB memory into the machine.

- When the USB memory is not inserted, "INSERT A STOR- ANGEE-MANUAL STORED ON" is displayed. When [OK] button is pressed, the screen shifts to the folder select menu 1.

##### 4) Select the folder of the watermark data. (The screen shifts to the watermark data install menu.)

The current version and the update version are displayed.

##### 5) Press [EXECUTE] button.

[EXECUTE] button is highlighted, and [YES] and [NO] buttons are changed from gray-out to active display.

##### 6) When [YES] button is pressed, the selected watermark data are installed.

When install is completed, "COMPLETE" is displayed. In case of an abnormality, "ERROR" is displayed.

## C. Procedures necessary for SD card replacement

### (1) SD card data and backup

Some SD card storage data can be backed up, and some data cannot. Some SD card storage data can be reinstalled, and some data cannot. If the SD card operates normally before replacement and data can be backed up, back up the data before replacement of the SD card referring to the storage data list. Then reinstall the data after replacement of the SD card.

The SD card includes the following data.

#### SD card backup

##### Option HDD installed

Partition number	Stored data		Enable/Disable of data backup	Backup means	Enable/Disable of data reinstall	Data reinstall procedures
L-101	ICU firmware data	ICU firmware (Boot/Main) lang.sfu graph.sfu Boot animation Boot (CN) ARM9 firmware	Disable		Enable	SIM49-1 (BOOT cannot be installed again.)
S-101	ICU firmware fixed data (Pre-install)	font	Disable		Enable	SIM49-1
		web help	Disable		Enable	SIM49-1
		spdl	Disable		Enable	SIM49-1
		Option FontROM	Disable		Enble	SIM49-1
S-102	ICU firmware fixed data (Mirror)	Same as above	Disable		Enable	SIM49-1
S-105	System data	Setting value data file (System setting/SIM setting data (Image quality adjustment)/FAX Soft SW)	Disable	SIM56-2	Enable	SIM56-2
S-103	User data	System setting data	Enable	sim56-02	Enable	SIM56-2
		Key operator custom setting data (Data changed from the default)	Enable	System setting - data backup - device cloning	Enable	System setting - data backup - device cloning
		FEP learning data (Japanese/Chinese)	Disable		Disable	
		Firmware update data (differential between new and old) (For FSS)	Disable		Disable	
		Account management information/ User authentication data	Enable	sim56-02	Enable	SIM56-2
I-101	FAX reception data	FAX/Internet Fax reception image data	Enable	SIM66-62	Disable	

- 1) Use SIM56-02 to backup the SD card data to the USB memory.
- 2) When the operation panel home screen has been customized, backup the SD card data by using the device cloning function.
- 3) When there are some FAX/Internet Fax data received, use SIM66-62 to backup the image data to the USB memory in the PDF file type, and give the PDF file to the user. (The data cannot be restored to the machine.)
- 4) Replace the SD card with a new one.
- 5) Upgrade the firmware to the latest version.
- 6) Use SIM66-10 to clear the image send memory. (This is in order to obtain consistency between the HDD data and the image related memory.)
- 7) Use SIM56-02 to restore the data backed up in procedure 1).

- 8) Restore the data backed up in procedure 2) by using the device cloning function.

CAUTION: When replacing the SD card, be sure to use only the specified SD card supplied as a service part.

**The firmware required for booting must be included in the SD card used in this machine. The commercially available SD cards have no such data.**

NOTE: MEMO: When U2-40 error occurs, if the error cannot be canceled by SIM16, or when E7-07 error occurs, there may be some trouble in the SD card.

CAUTION: The data backed up with SIM56-2 must not be installed to another machine. If installed, the adjustment data will be overwritten and a trouble may be generated.

## SD card backup

### Option HDD uninstalled

Partition number	Stored data		Enable/Disable of data backup	Backup means	Enable/Disable of data reinstall	Data reinstall procedures
L-101	ICU firmware data	ICU firmware (Boot/Main) lang.sfu graph.sfu Boot animation Boot (CN) ARM9 firmware	Disable		Enable	SIM49-1 (BOOT cannot be installed again.)
S-101	ICU firmware fixed data (Pre-install)	font	Disable		Enable	SIM49-1
		web help	Disable		Enable	SIM49-1
		spdl	Disable		Enable	SIM49-1
		Option FontROM	Disable		Enable	SIM49-1
S-102	ICU firmware fixed data (Mirror)	Same as above	Disable		Enable	SIM49-1
S-105	System data	Setting value data file (System setting/SIM setting data (Image quality adjustment)/FAX Soft SW)	Disable	SIM56-2	Enable	SIM56-2
S-103	User data	System setting data	Enable	sim56-02	Enable	SIM56-2
		Key operator custom setting data (Data changed from the default)	Enable	System setting - data backup - device cloning	Enable	System setting - data backup - device cloning
		FAX reception data (For power shut off and paper empty)	Disable		Disable	
		FEP learning data (Japanese/Chinese)	Disable		Disable	
		Firmware update data (differential between new and old) (For FSS)	Disable		Disable	
		Account management information/ User authentication data	Enable	sim56-02	Enable	SIM56-2
		Home screen customize data	Enable	System setting - data backup - device cloning	Enable	System setting - data backup - device cloning
I-101	FAX reception data	FAX/Internet Fax reception image data	Enable	SIM66-62	Disable	
	FAX reception data	FAX/Internet Fax reception image data (Backup)	Enable	SIM66-62	Disable	

- 1) Use SIM56-02 to backup the SD card data to the USB memory.
- 2) When the address book has been registered, use the storage backup function to backup the address book data.
- 3) When the operation panel home screen has been customized, backup the SD card data by using the device cloning function.
- 4) When there are some FAX/Internet Fax data received, use SIM66-62 to backup the image data to the USB memory in the PDF file type, and give the PDF file to the user. (The data cannot be restored to the machine.)
- 5) Replace the SD card with a new one.
- 6) Upgrade the firmware to the latest version.
- 7) Use SIM66-10 to clear the image send memory.
- 8) Use SIM56-02 to restore the data backed up in procedure 1).
- 9) Restore the address book data backed up in the procedure 2). By using the storage backup function.
- 10) Restore the data backed up in procedure 3) by using the device cloning function.

CAUTION: When replacing the SD card, be sure to use only the specified SD card supplied as a service part.

**The firmware required for booting must be included in the SD card used in this machine. The commercially available SD cards have no such data.**

NOTE: When U2-40 error occurs, if the error cannot be canceled by SIM16, or when E7-07 error occurs, there may be some trouble in the SD card.

CAUTION: The data backed up with SIM56-2 must not be installed to another machine. If installed, the adjustment data will be overwritten and a trouble may be generated.

### 3. HDD/SD card SIM format operation

The relations between SIM62/66 and formatted (deleted) data are as follows:

\*1: Physical format ("0" is written to the all area.)

\*2: Logical format (Only the management area is initialized.)

\*3: Nothing is done.

#### SIM66-10 FAX image memory clear

HDD

Partition number	Partition	
I-1	ERDH work + Temporary storage	*3
I-2	Document filing data (Standard + User)	*3
I-4	FAX/Internet Fax reception data	*2
L-1	System storage data	*3
S-1	User data 1	*3
S-10	Pre-install data (e-manual/ Watermark)	*3
S-2	Application #1 (Job log data)	*3
S-3	Redial information of the address book	*3
S-5	Printer spooler	*3
S-6	Application work	*3
S-9	DSK data save	*3

SD Card

Partition number	Partition	
I-101	FAX/Internet Fax reception data	*2
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	ICU firmware fixed data (Mirror)	*3
S-103	User data 2	*3
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3

#### SIM62-1 Hard disk format

HDD

Partition number	Partition	
I-1	ERDH work + Temporary storage	*1
I-2	Document filing data (Standard + User)	*1
I-4	FAX/Internet Fax reception data	*1
L-1	System storage data	*1
S-1	User data 1	*1
S-10	Pre-install data (e-manual/ Watermark)	*3
S-2	Application #1 (Job log data)	*1
S-5	Printer spooler	*1
S-6	Application work	*1
S-9	DSK data save	*1

SD Card

Partition number	Partition	
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	ICU firmware fixed data (Mirror)	*3
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3
S-103	User data 2	*1
I-101	FAX/Internet Fax reception data	*1

#### SIM62-8 Hard disk format (Excluding the system area)

HDD

Partition number	Partition	
I-1	ERDH work + Temporary storage	*1
I-2	Document filing data (Standard + User)	*1
I-4	FAX/Internet Fax reception data	*1
L-1	System storage data	*3
S-1	User data 1	*1
S-10	Pre-install data (e-manual/ Watermark)	*3
S-2	Application #1 (Job log data)	*1
S-5	Printer spooler	*1
S-6	Application work	*1
S-9	DSK data save	*1

SD Card

Partition number	Partition	
I-101	FAX/Internet Fax reception data	*1
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	ICU firmware fixed data (Mirror)	*3
S-103	User data 2	*1
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3

#### SIM62-10 Job complete list (Job log data) delete

HDD

Partition number	Partition	
I-1	ERDH work + Temporary storage	*3
I-2	Document filing data (Standard + User)	*3
I-4	FAX/Internet Fax reception data	*3
L-1	System storage data	*3
S-1	User data 1	*3
S-10	Pre-install data (e-manual/ Watermark)	*3
S-2	Application #1 (Job log data)	*2
S-5	Printer spooler	*3
S-6	Application work	*2
S-9	DSK data save	*3

SD Card

Partition number	Partition	
I-101	FAX/Internet Fax reception data	*3
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	ICU firmware fixed data (Mirror)	*3
S-103	User data 2	*3
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3

**SIM62-11 Document filing data delete**

HDD

Partition number	Partition	
I-1	ERDH work + Temporary storage	*2
I-2	Document filing data (Standard + User)	*2
I-4	FAX/Internet Fax reception data	*3
L-1	System storage data	*3
S-1	User data 1	*3
S-10	Pre-install data (e-manual/ Watermark)	*3
S-2	Application #1 (Job log data)	*3
S-5	Printer spooler	*2
S-6	Application work	*3
S-9	DSK data save	*3

SD Card

Partition number	Partition	
I-101	FAX/Internet Fax reception data	*3
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	ICU firmware fixed data (Mirror)	*3
S-103	User data 2	*3
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3

**SIM62-13 Hard disk format (Manual area only)**

HDD

Partition number	Partition	
I-1	ERDH work + Temporary storage	*3
I-2	Document filing data (Standard + User)	*3
I-4	FAX/Internet Fax reception data	*3
L-1	System storage data	*3
S-1	User data 1	*3
S-10	Pre-install data (e-manual/ Watermark)	*2
S-2	Application #1 (Job log data)	*3
S-5	Printer spooler	*3
S-6	Application work	*3
S-9	DSK data save	*3

SD Card

Partition number	Partition	
I-101	FAX/Internet Fax reception data	*3
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	ICU firmware fixed data (Mirror)	*3
S-103	User data 2	*3
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3

# [12] SERVICE WEB PAGE

## 1. General

The following functions are available on the Hidden Web Page exclusively used for the serviceman.

Menu/Item	Function and content
Password Setting	Used to set the password to enter the Hidden Web Page exclusively used for the serviceman.
Output of Test Page	Used to print out the test page (system setting contents).
Font/Form Download	Used to download Font/Form. Font/Form of PCL and PostScript, macro, and other resources are downloaded to the HDD and controlled. (PS, PCL5 only)
Device Cloning	Used to import/export the system setting information in XML format. By importing the export file to the other device, the setting values and setting contents of the device can be copied to another device. This function is useful to set the same setting to two or more machines efficiently.
Filing Data Backup	Used to import/export the document filing data in the unit of folder.
User Control	Used to shift to the user mode. After log in, the screen is shifted to the setting screen of user management.
User Control 2	Used to set the Pages Limit Group and the Favorite Operation Group by authority of the serviceman. (Select among preset items.)
Job Log	Used to save the Job Log.
Save Job Log	Used to display the Job Log.
Update of Firmware	Used to update the firmware version.
Syslog*1	Administration Settings Used to set the Log Type. (Set to the default.) Storage/Send Settings Keep all the items selected. Save/ Delete Syslog Used to save or delete the log data. View Syslog Used to display the log data.

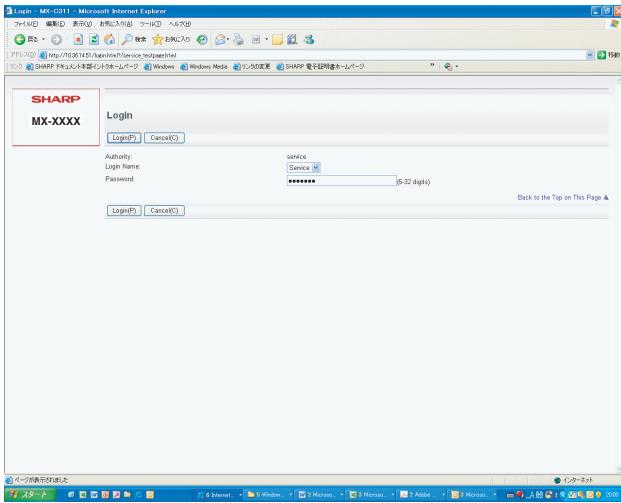
\*1: This may be useful for troubleshooting when a trouble occurs. When submission of the log data file is requested in order to troubleshoot, use the log file save mode to export the log data file to the client PC.

## 2. Details and operation procedures

### A. Procedures to enter the Hidden Web page exclusively used for the serviceman

- 1) Boot a browser program.
- 2) Enter the specified URL ([http://xxx.xxx.xxx.xxx/service\\_login.html](http://xxx.xxx.xxx.xxx/service_login.html)) and enter the servicing page menu.

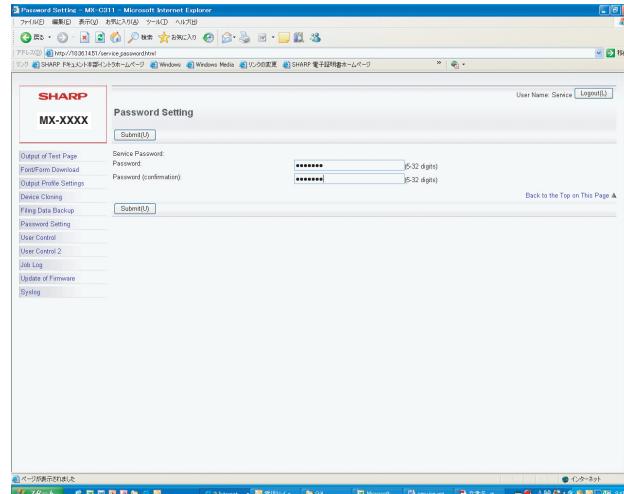
Default password: "service"



NOTE: The password can be optionally changed in the Password Setting menu.

If the password is changed and forgotten, use SIM24-31 to reset the password to the default.

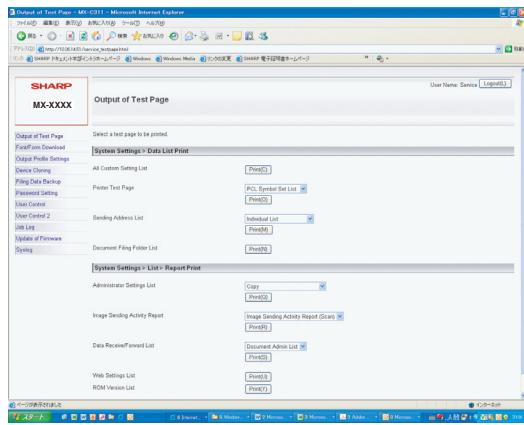
### B. Password Setting



\* The password can be optionally changed in the following procedures.

- 1) Enter a new password.
- 2) Enter the new password again to make confirmation.
- 3) Click "Submit" (registration) button.

## C. Output of Test Page

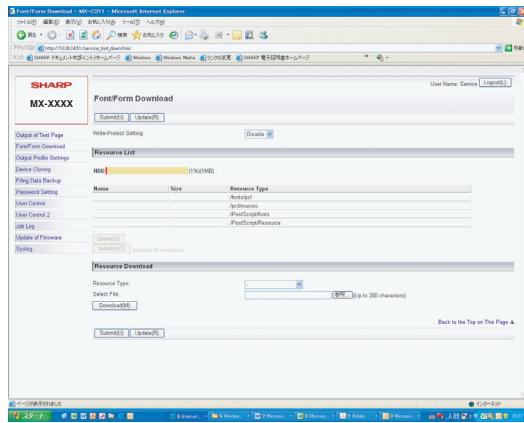


- Click "Print" button of an item or report to be printed.

When there is a list of items for selection, select one of the items in the pull-down menu list, and click "Print" button.

The list is printed out.

## D. Font/Form Download



### (1) Download of Font, Form, and Macro

- Select "Resource Type" from the pull-down menu list. (Example: PCL/PostScript Font/Form or Macro)
- Click "Refer" button to select a target file.
- Click "Download" button.
- Click "Submit" (registration) button.

The file is downloaded to the HDD.

The list of the downloaded files and the use percentage of the HDD are displayed.

### (2) Delete of downloaded font

#### Procedures to delete a file separately

- Select a file to be deleted from the list of the downloaded files, and click "Delete" button.
- Check that the confirmation message is displayed, and press Yes key.
- Click "Submit" (registration) button.

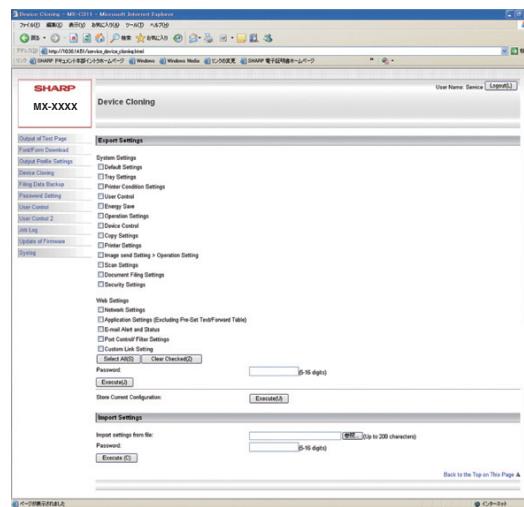
The file in the HDD is deleted.

### (3) Procedures to delete all the files at a time

- Click "Initialize" button.
- Check that the confirmation message is displayed, and press OK key.
- Click "Submit" (registration) button.

NOTE: By the Write-Protect Setting function, the downloaded files can be set to write protect.

## E. Device Cloning



### (1) Export

- Select an item to be backed up.

- Click "Execute" button.

Specify the save position of the file, and save the file. (File name: \*\*\*\*\*.bin)

When the password is set, the set password must be entered when importing.

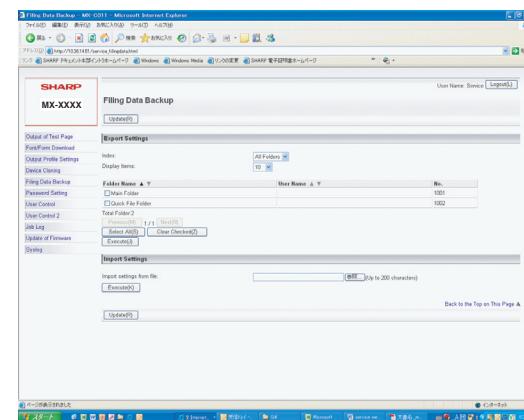
### (2) Import

- Import from a file: Click "Refer" button to select the back-up file. (File name: \*\*\*\*\*.bin)
- Click "Execute" button to execute import.

If the password is set when exporting, the password must be entered.

- Reboot the machine.

## F. Filing Data Backup



### (1) Export

- Select the folder to be backed up.

The list display conditions can be specified by changing the index and the number of display items on the pull-down menu.

- Click "Execute" button.

Specify the save position of the file, and save the file. (File name: \*\*\*\*\*.bin)

- Click "Update" button.

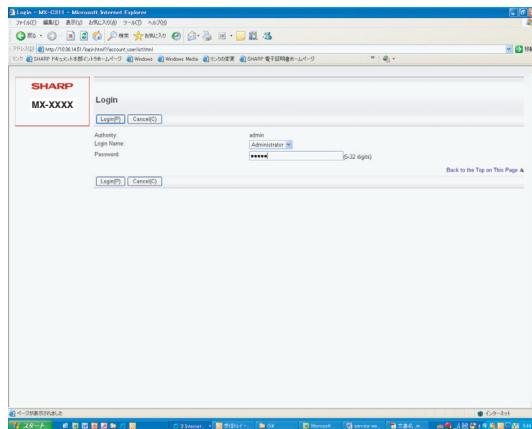
### (2) Import

- Click "Refer" button to select a target file. (File name: \*\*\*\*\*.bin)
- Click "Execute" button.

The target file is imported.

- Click "Update" button.

## G. User Control 1

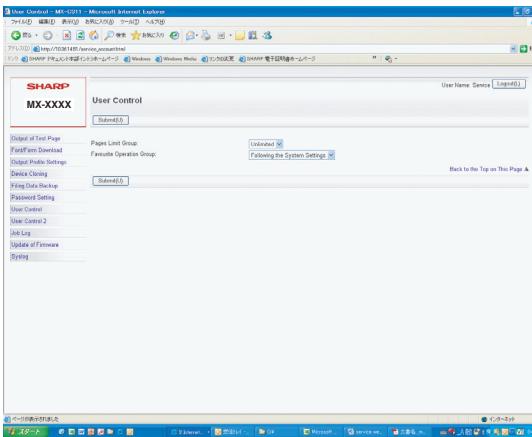


- Enter the password to log in.

Default Password: admin

The screen is shifted to the setting menu of user management.

## H. User Control 2



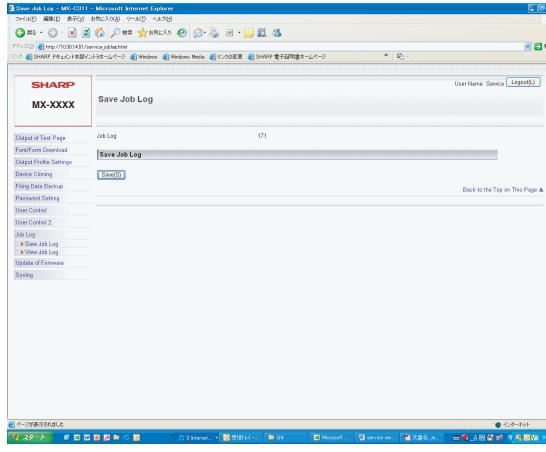
- Select the Pages Limit Group and the Favorite Operation Group. (The Pages Limit Group and the Favorite Operation Group must be set in advance.)

### (Example of use)

The use sets the conditions for servicing work by using the Pages Limit Group and the Favorite Operation Group functions in advance, and the serviceman selects the set conditions in this mode for servicing work.

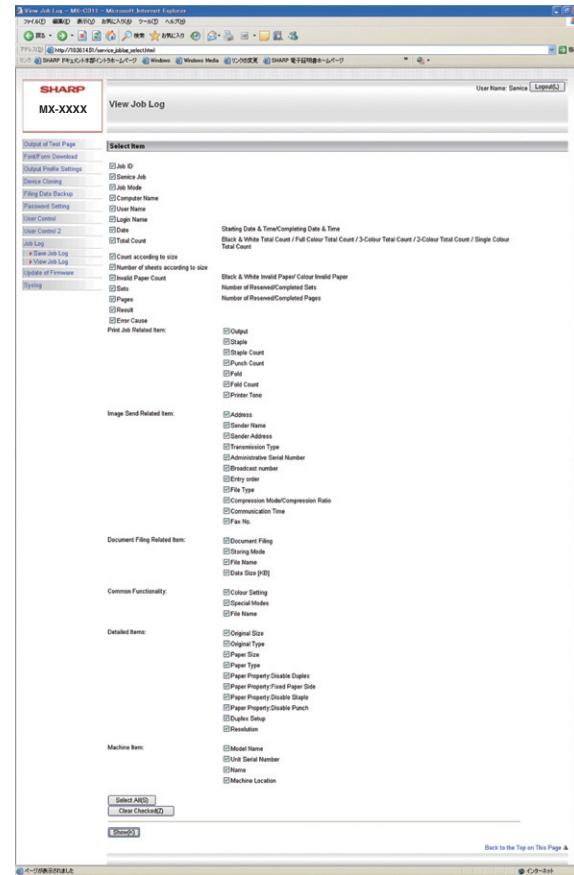
## I. Job Log

### (1) Save Job Log



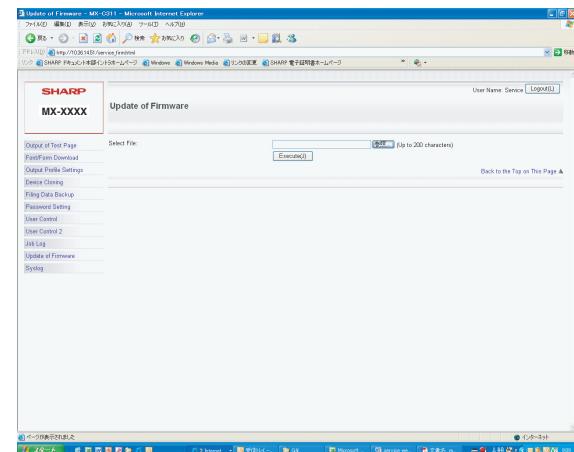
- Click "Save" button, and specify the save position of the Job Log to save it.

## (2) View Job Log



- Select a Jog Log item to be displayed. (In the default setting, all the items are selected. Remove check marks of the items which are not to be displayed.)
- Click "Show" (display) button.  
The Jog Log is displayed.

## J. Update of Firmware



- Click "Refer" button to select a firmware file.
- After selecting a firmware file, click "Execute" button.  
The firmware data are sent to the machine, and update of the firmware is processed.

During the process, the message of "Firmware Update, now processing..." is displayed.

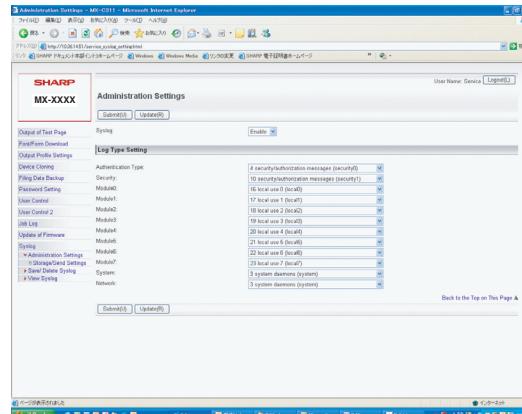
## K. Syslog

There are following functions in the Syslog mode.

This function is provided to acquire the detailed Syslog to troubleshoot when a trouble occurs.

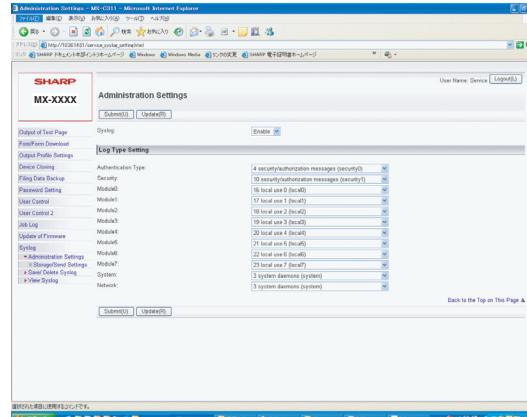
When submission of the log data file is requested for troubleshooting, use the log file save mode to export the log data file to the client PC.

Syslog	Administration Settings	Log Type Setting (Set to the default.)
	Storage/Send Settings	Set all the items selected.
	Save/ Delete Syslog	Log data save, delete
	View Syslog	Log data display



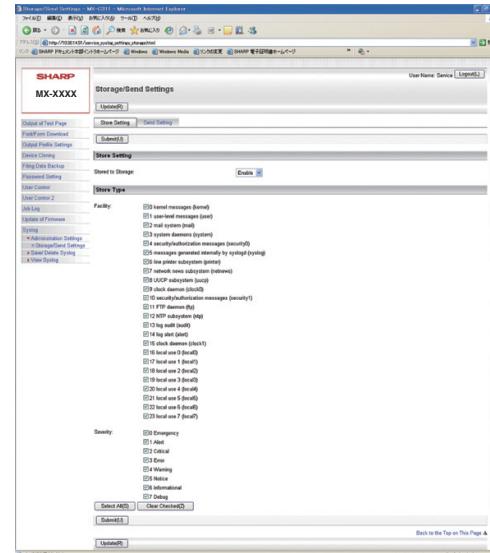
## (1) Administration Settings/ Log Type Setting

Set to the default.

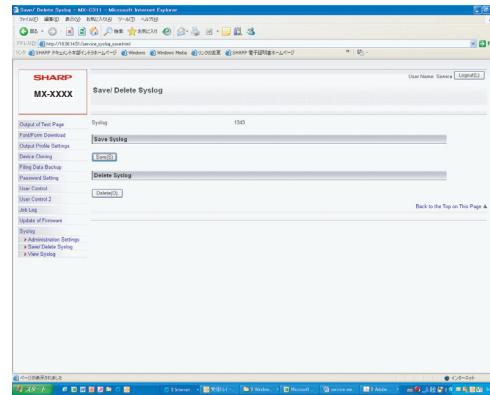


## (2) Storage/Send Settings

Keep all the items selected.



## (3) Save/ Delete Syslog

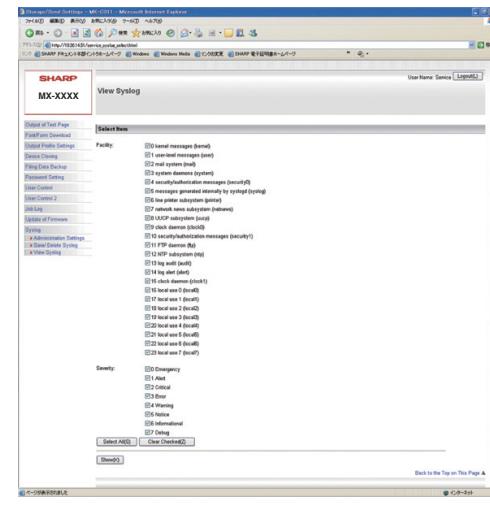


When saving the Syslog, click "Save" button and specify the save position and save it.

When deleting, click "Delete" button.

Check to confirm that the confirmation message is displayed, and press OK key.

## (4) View Syslog



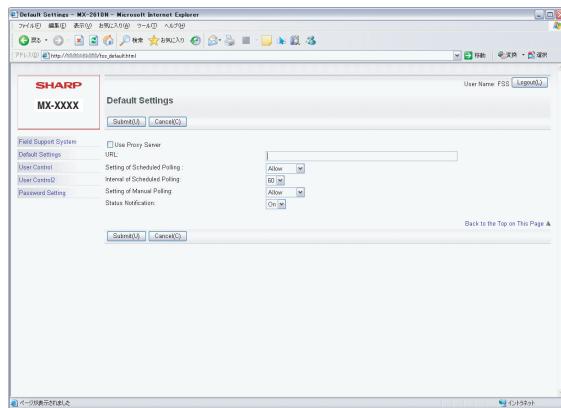
- Select a Syslog item to be displayed.

- Click "Show" button.

The Syslog is displayed.

## L. FSS (Field Support System) Setting

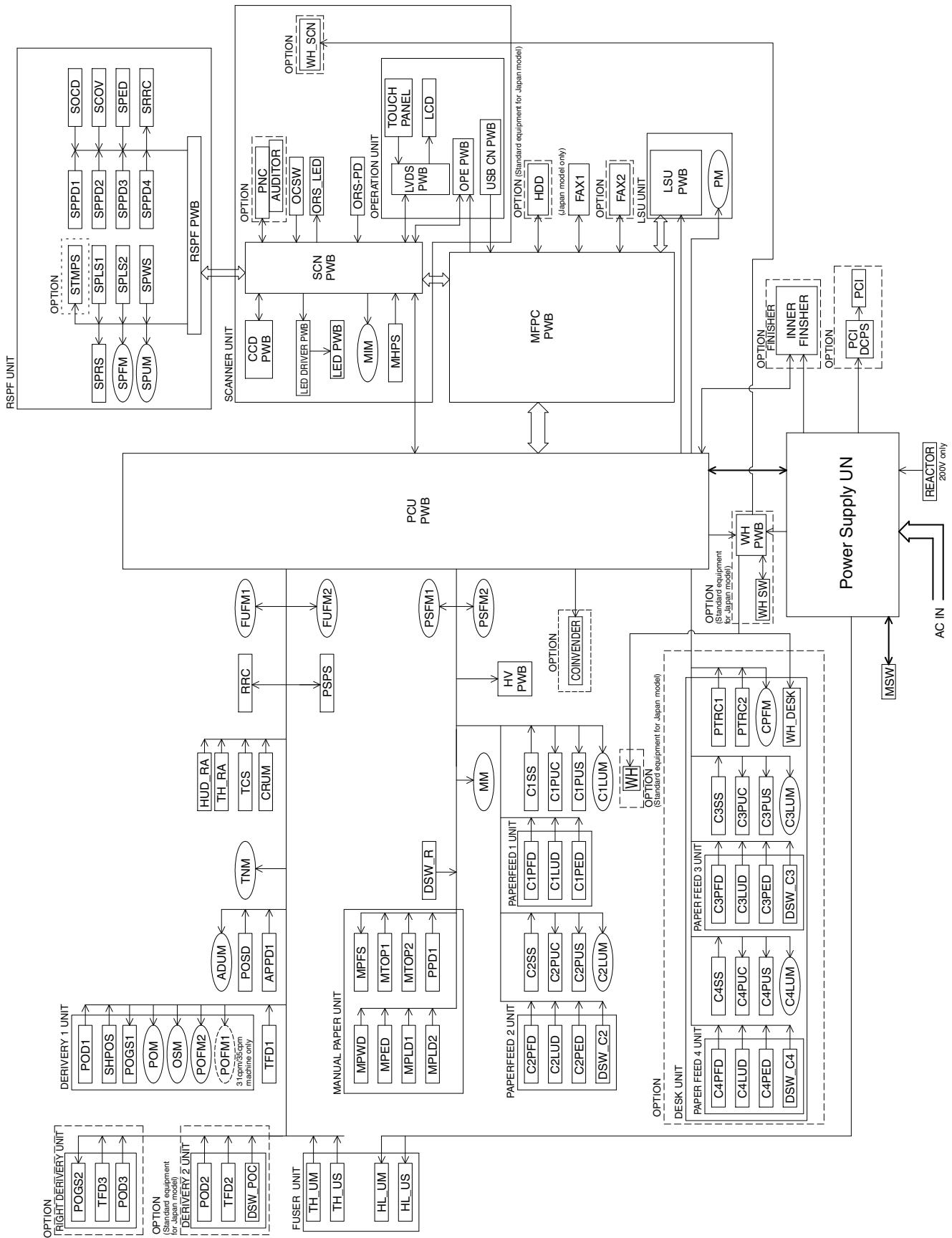
- 1) Set the following items.
  - Use Proxy Server: Yes/No
  - Setting of Scheduled Polling: Allow/Inhibit
  - Interval of Scheduled Polling: 1 - 60 min
  - Setting of Manual Polling: Allow/Inhibit
  - Status Notification: On/Off
- 2) Click the Submit (Registration) button.



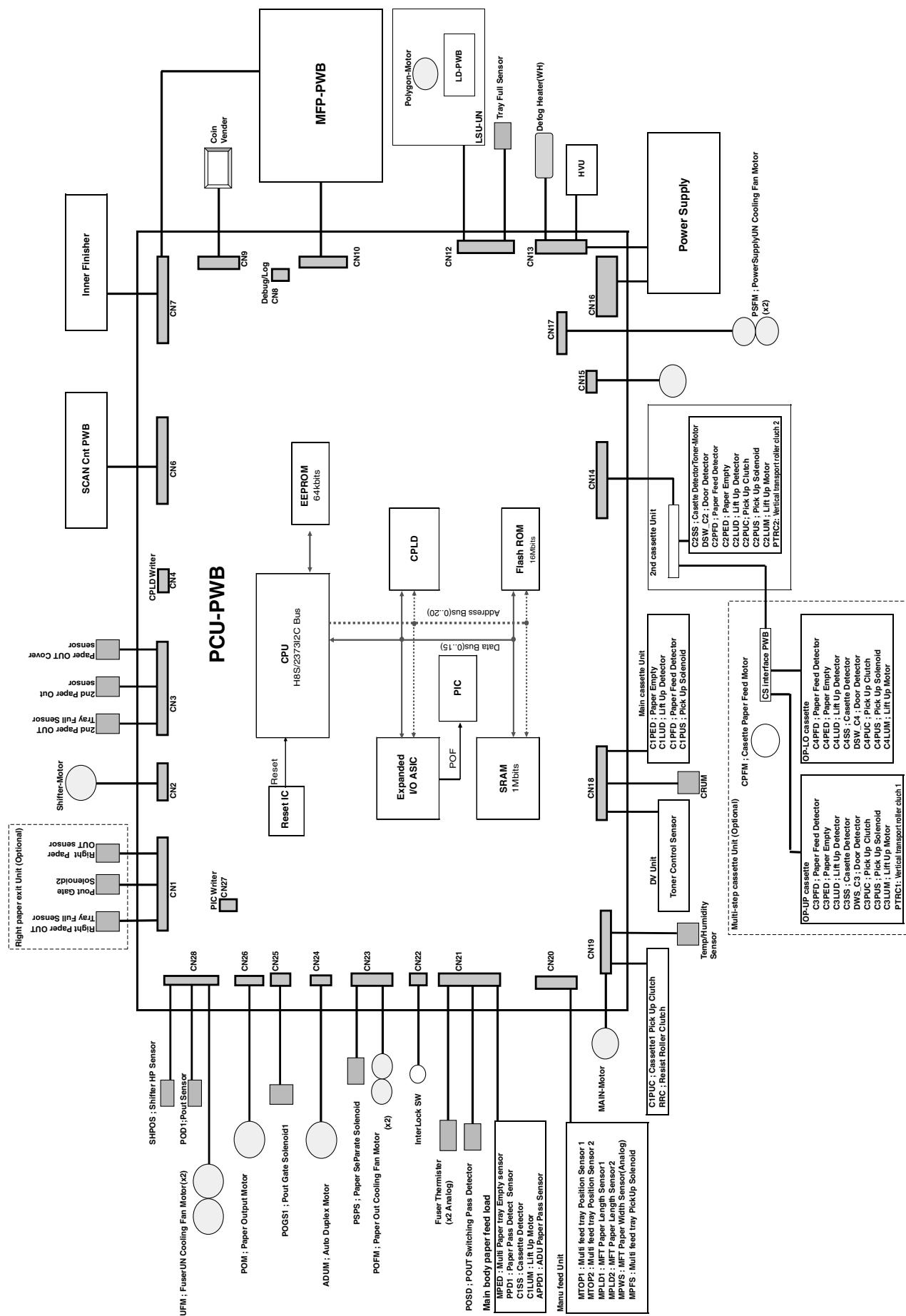
## **[13] ELECTRICAL SECTION**

## 1. Block diagram

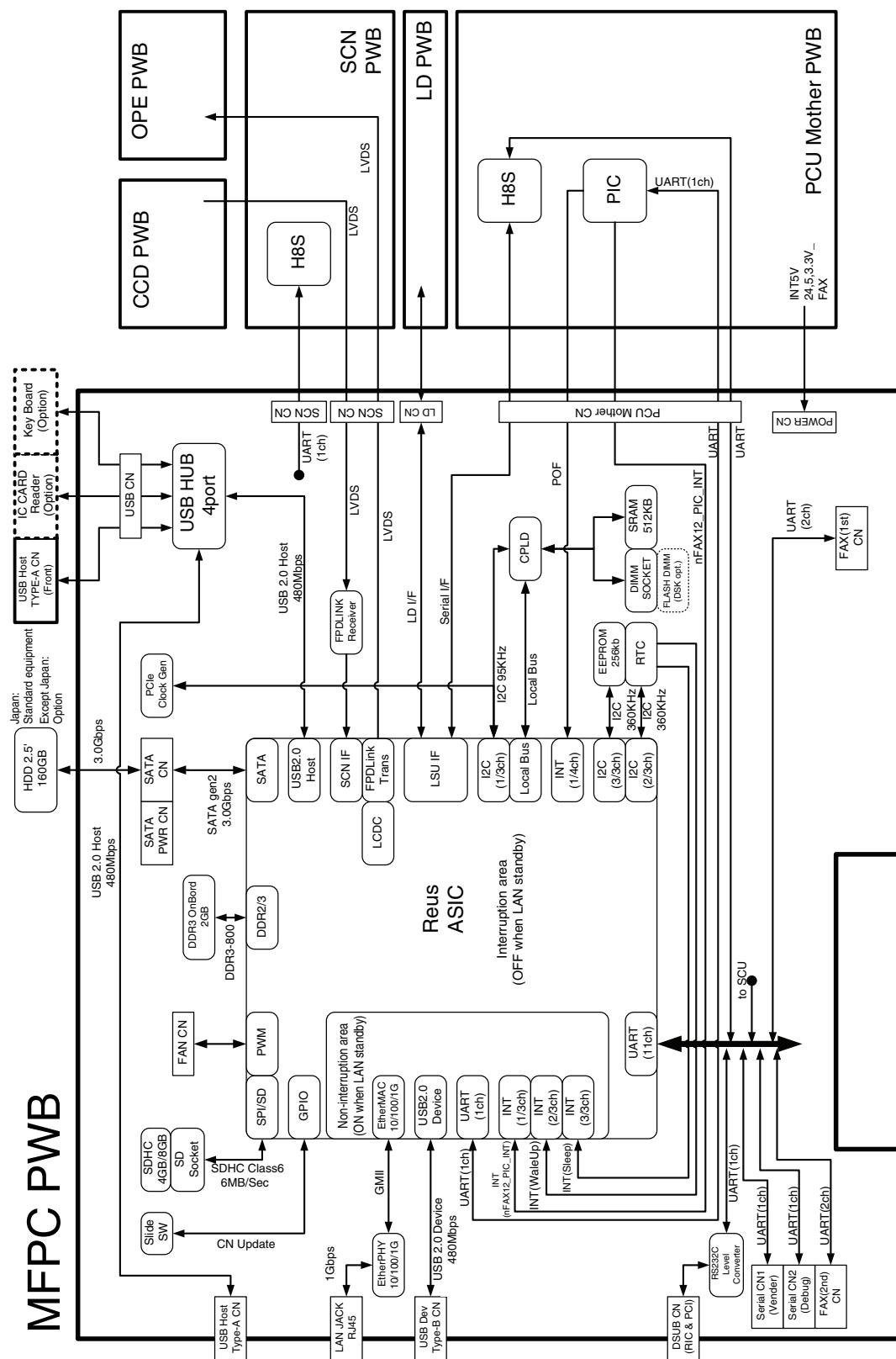
## A. System block diagram



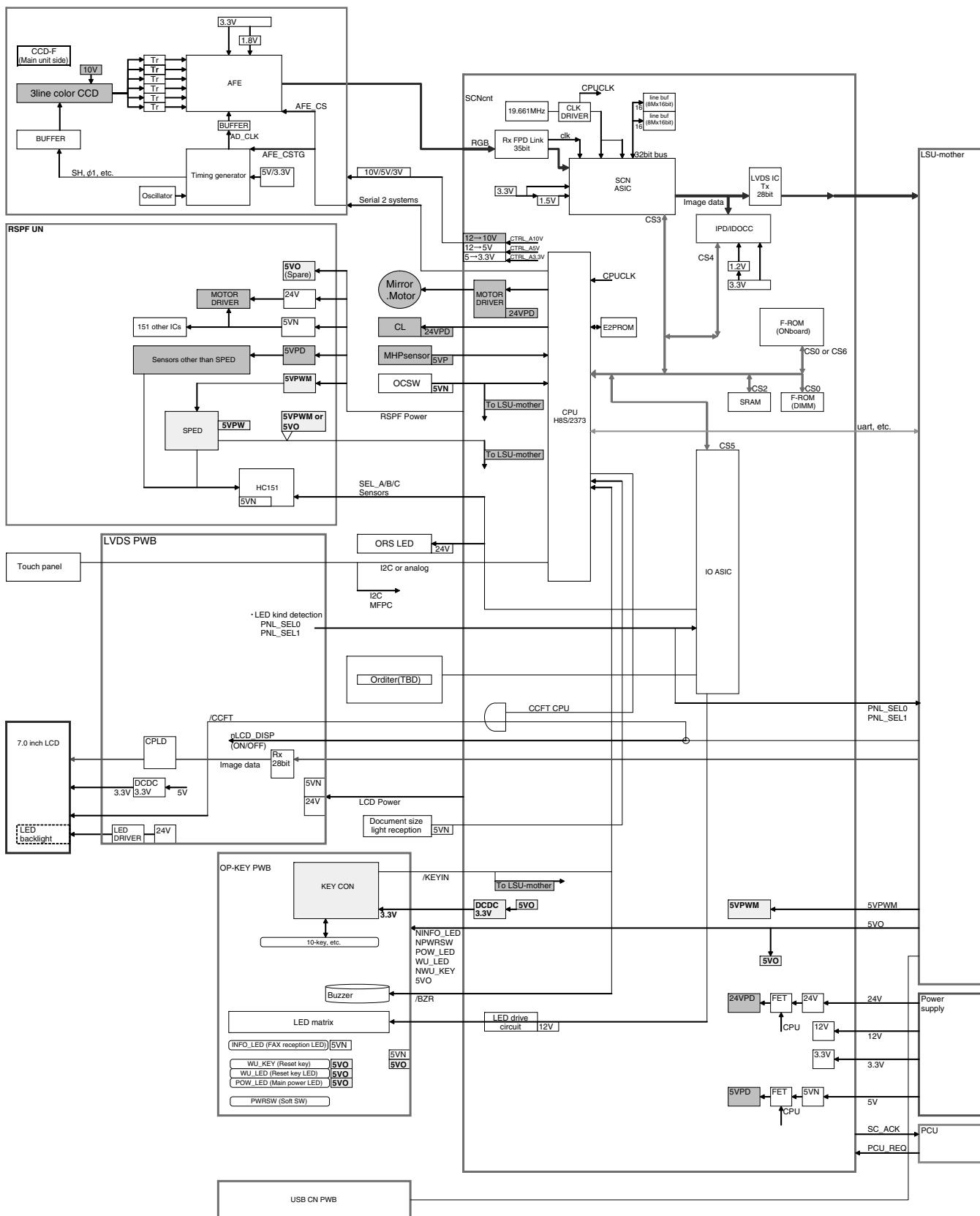
## **B. PCU PWB**



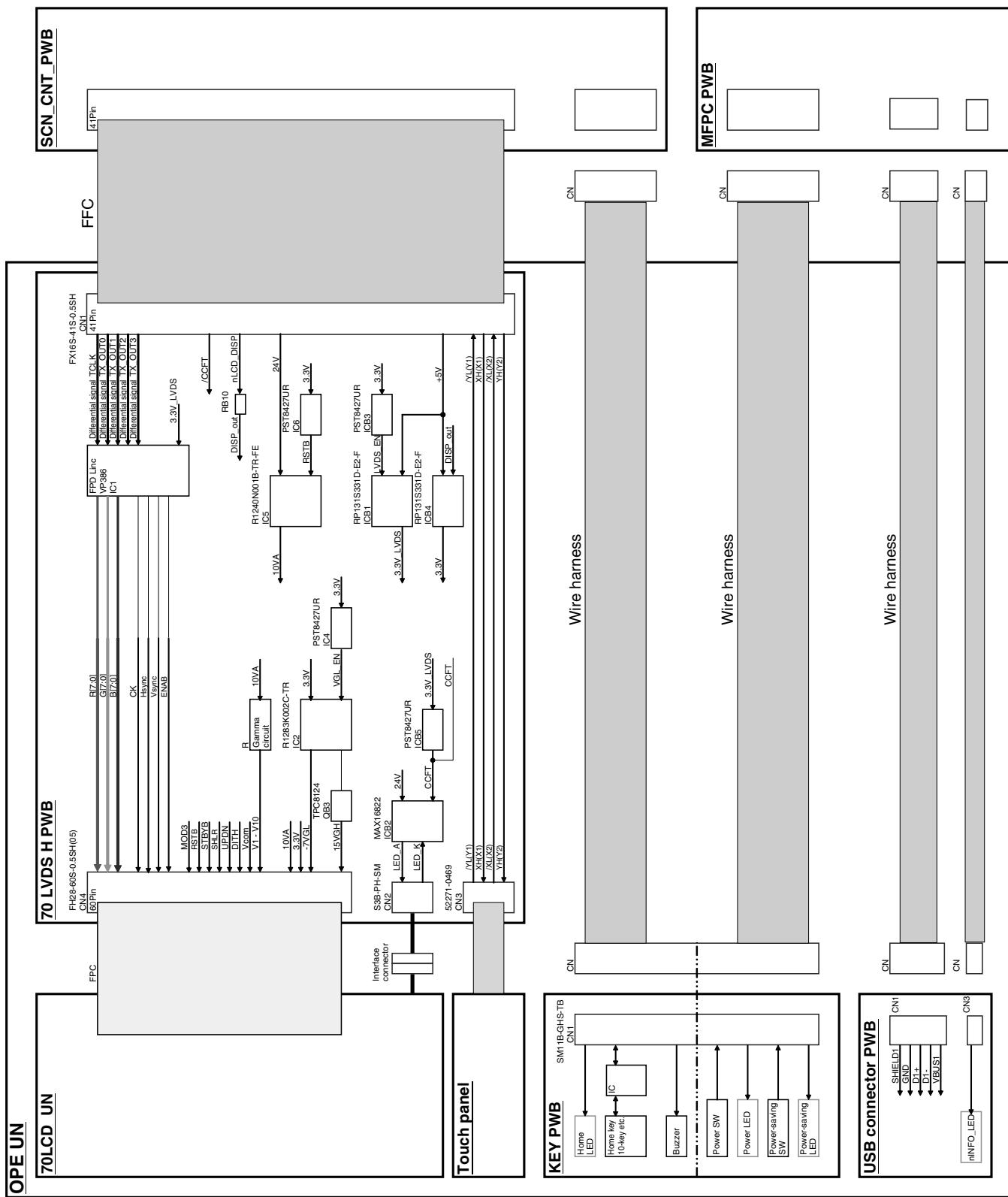
### C. MFP control PWB



## D. Scanner control PWB

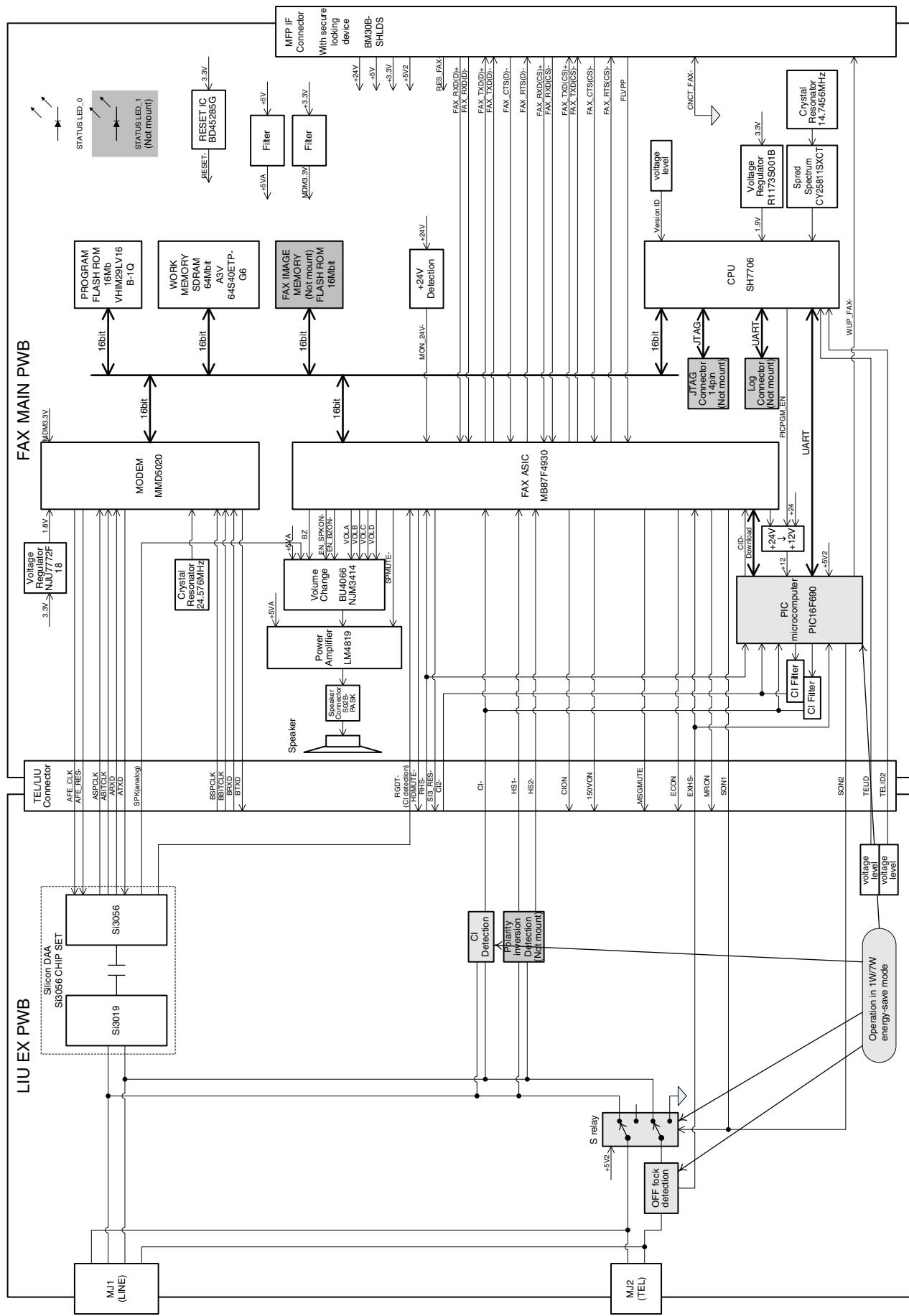


#### **E. Operation unit**

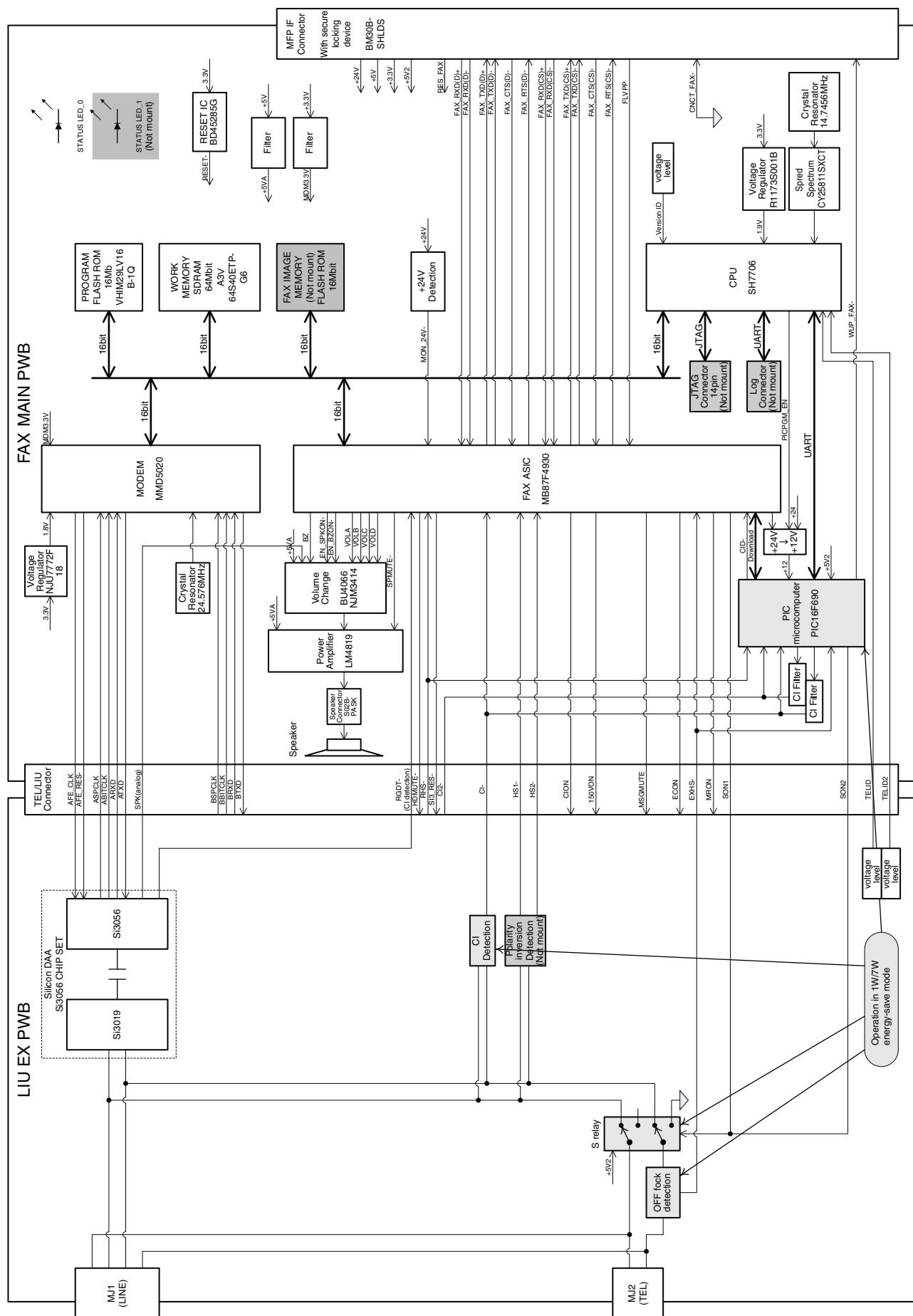


## F. FAX section

### (1) MX-FX11



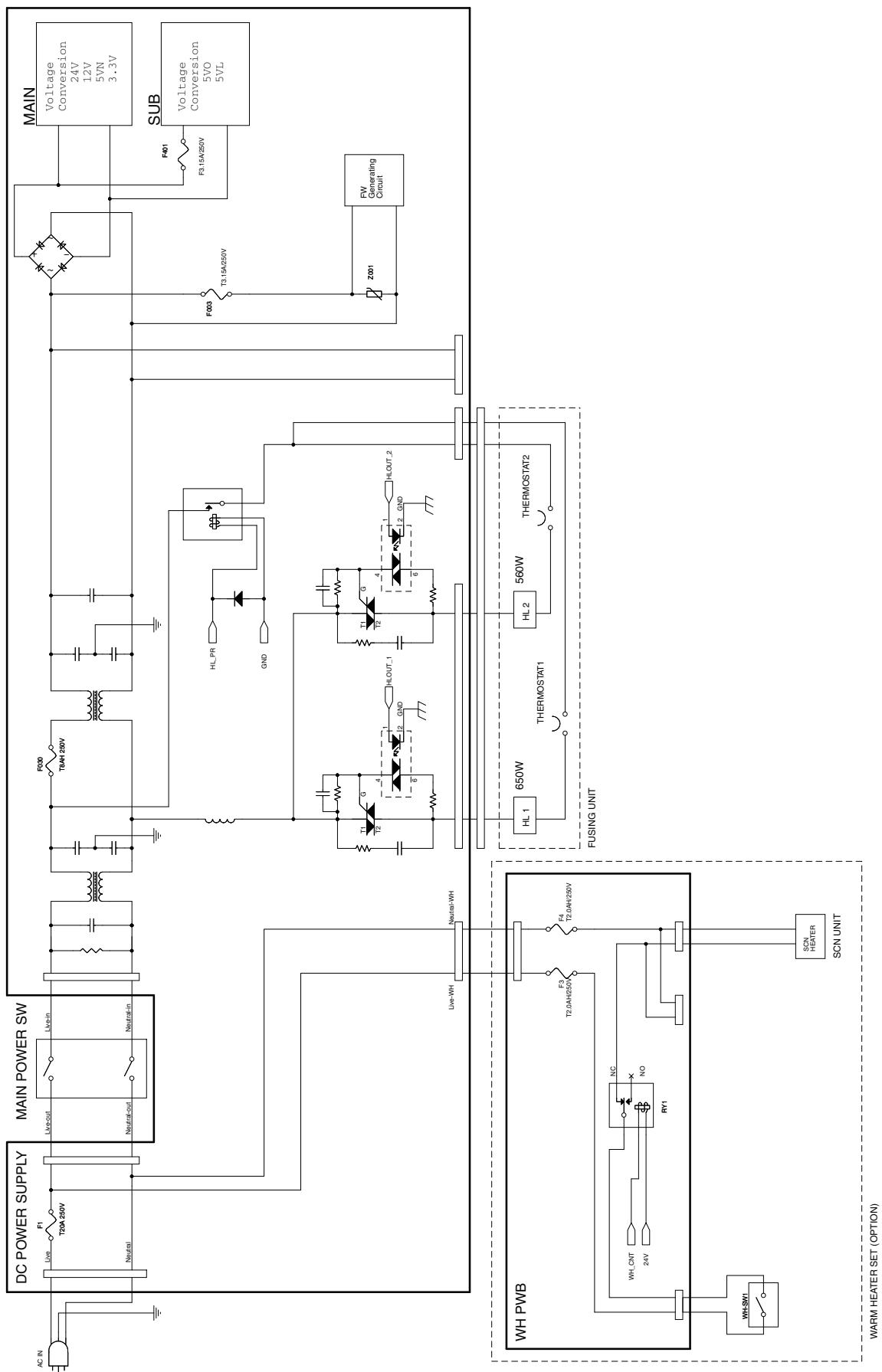
#### **G. FAX (Option)**



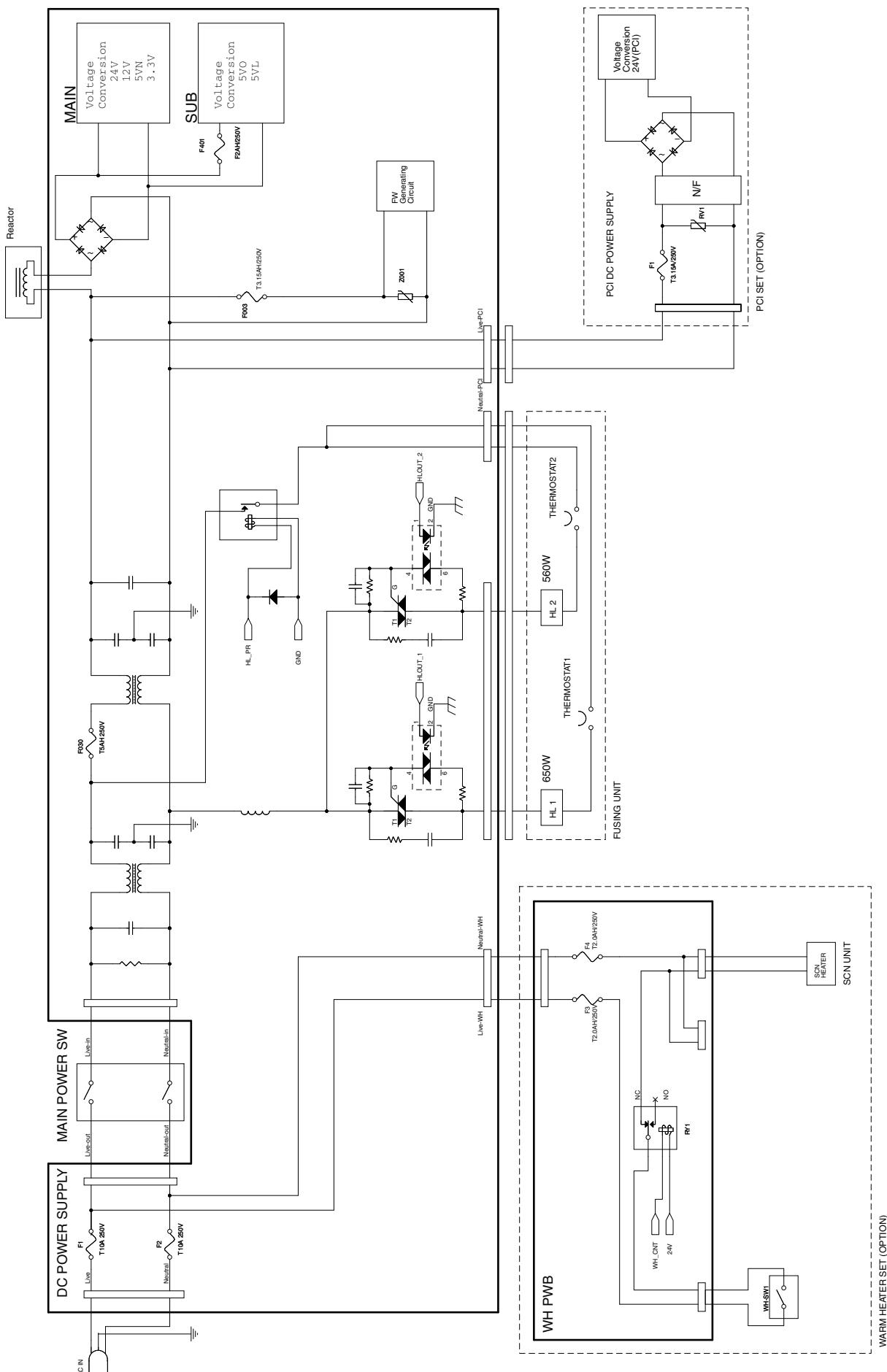
## 2. Power line diagram

### A. AC power line diagram

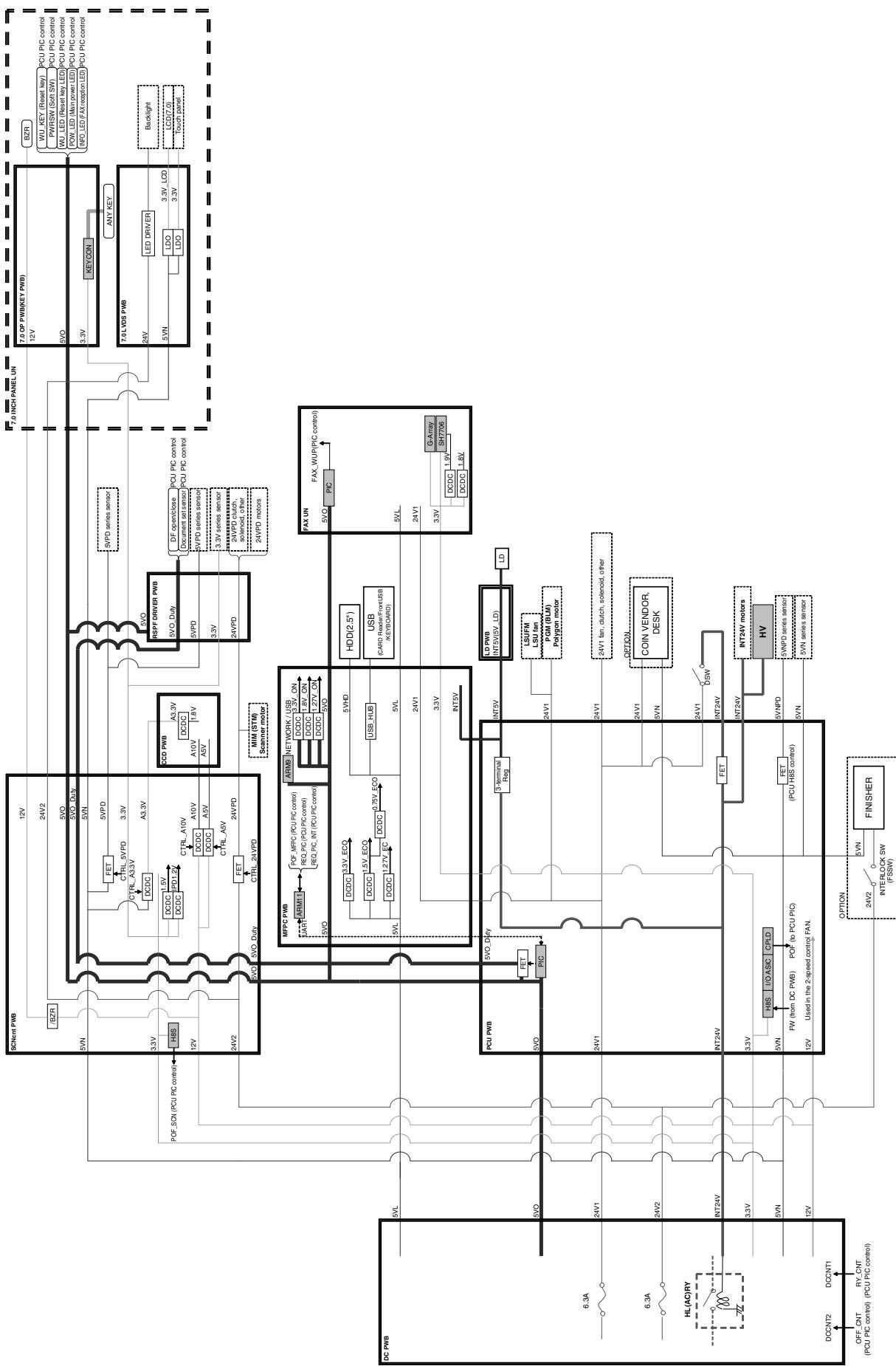
#### (1) AC power line diagram (120V)



(2) AC power line diagram (230V)

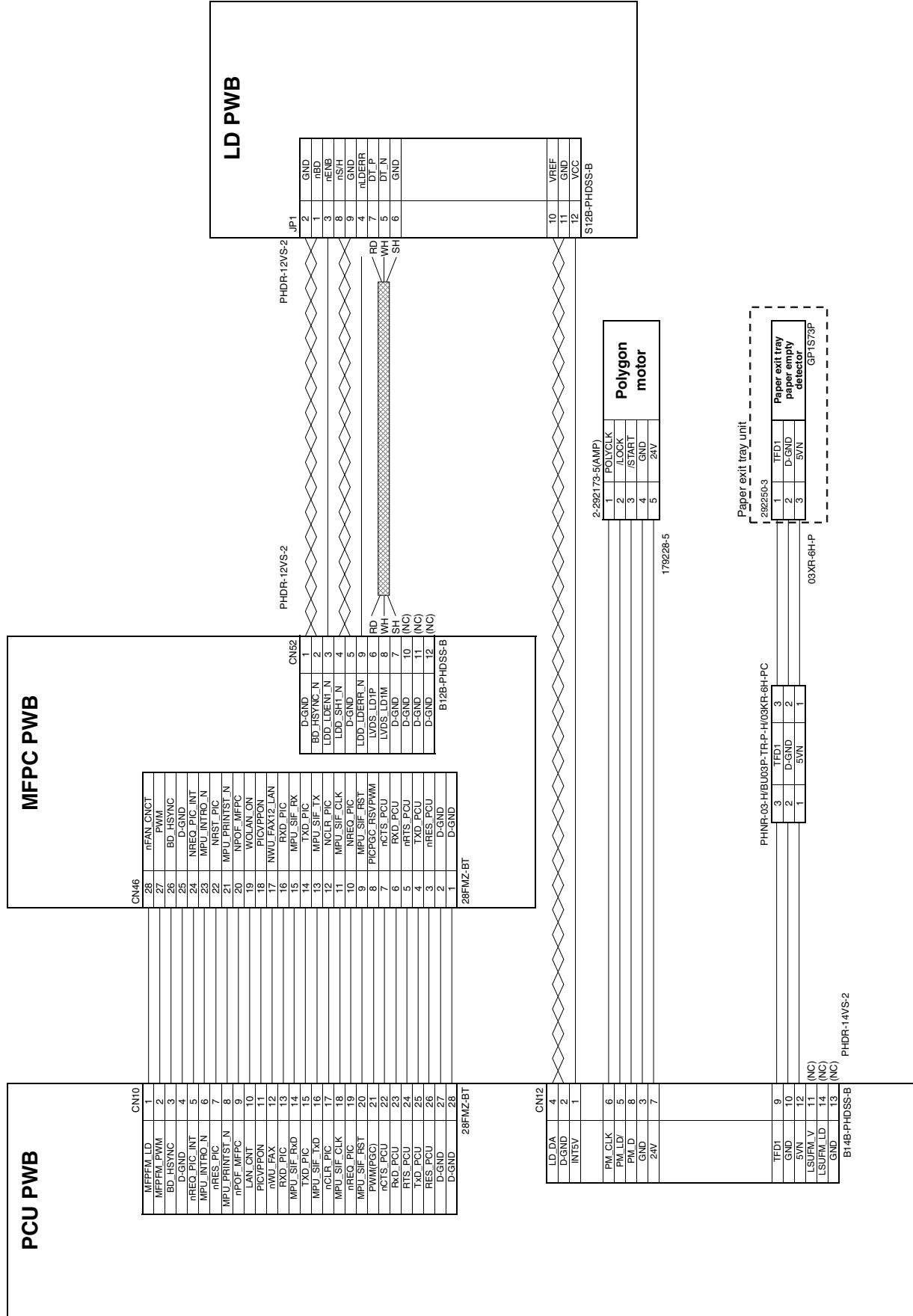


## B. DC power line diagram

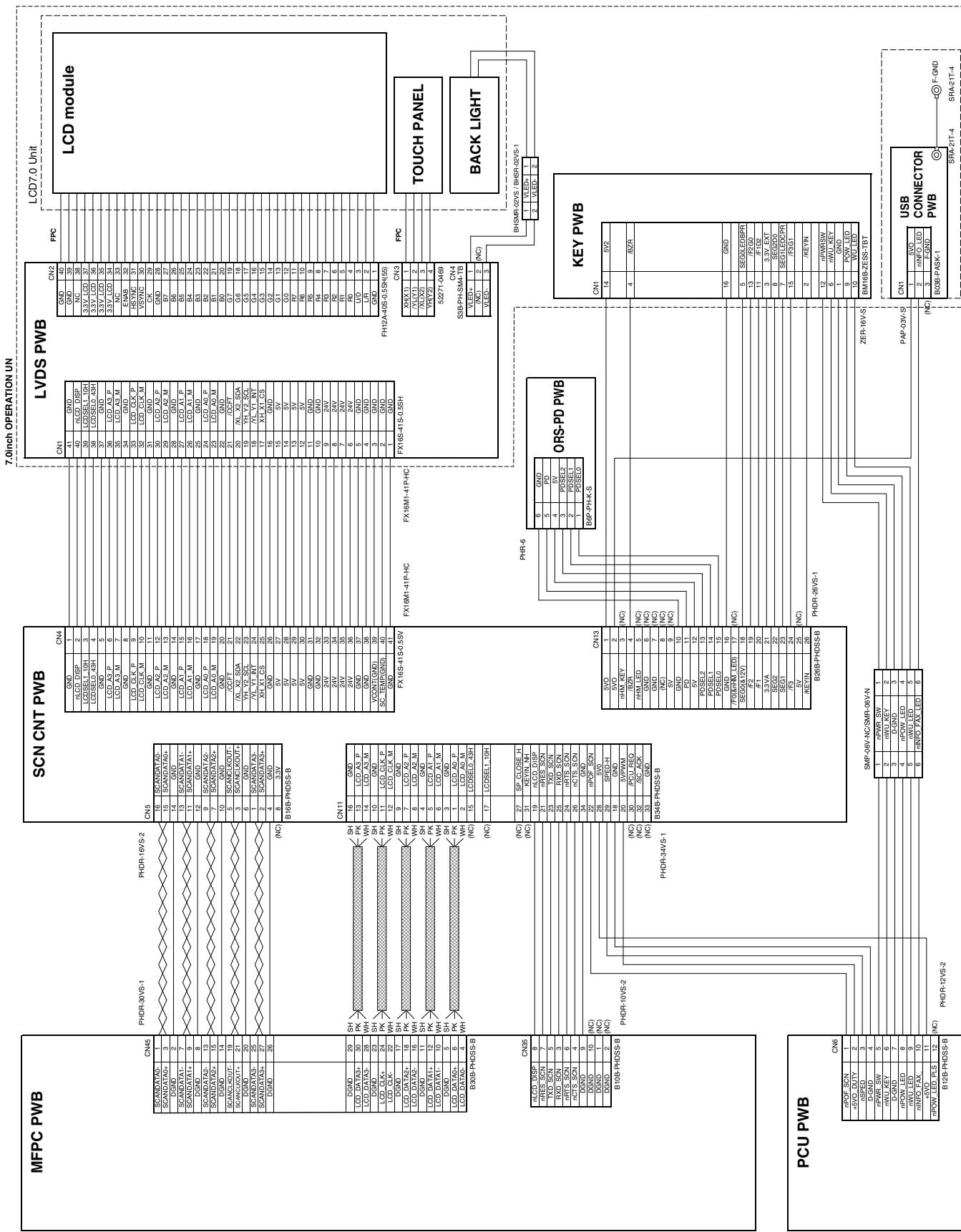


### 3. Actual wiring chart

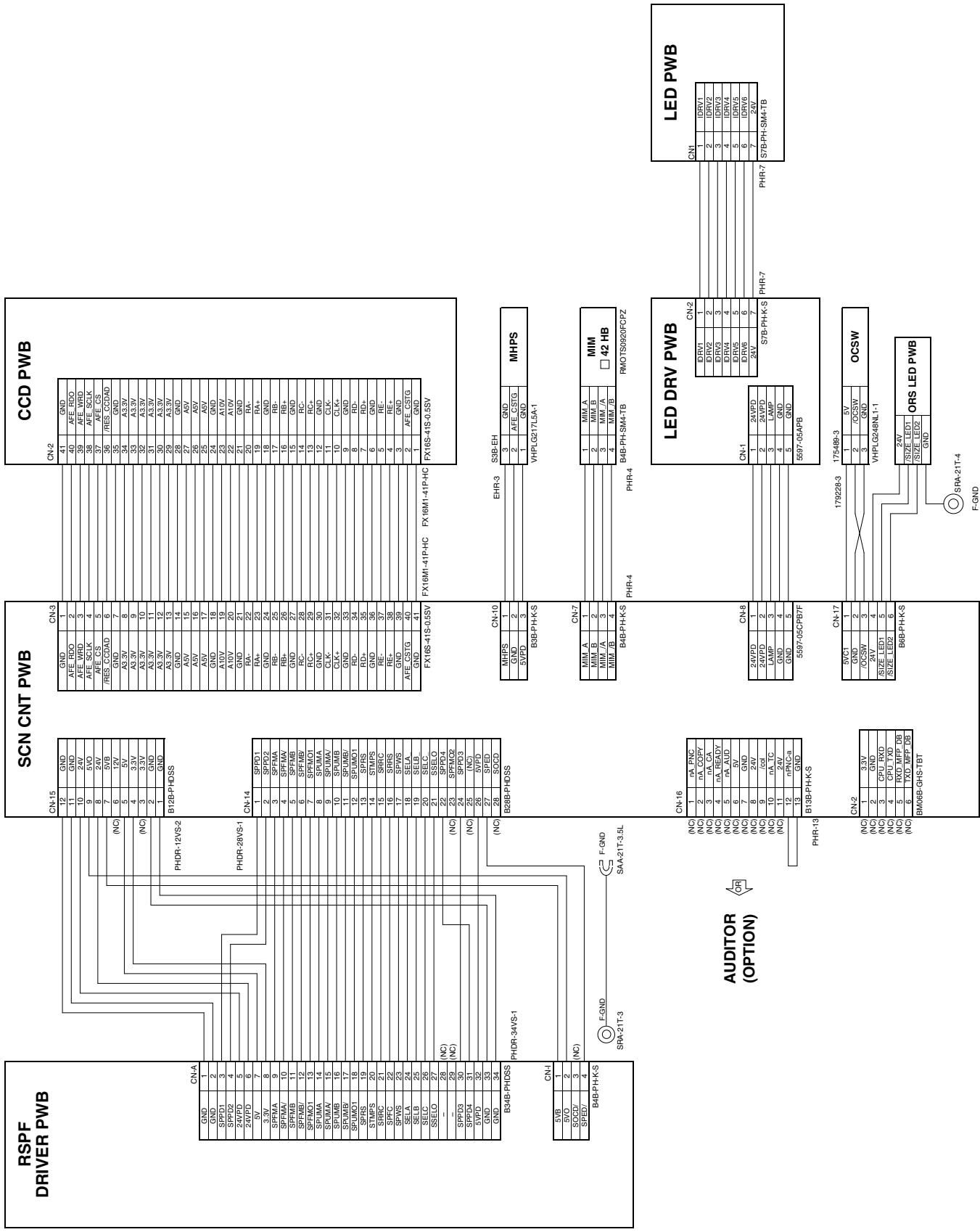
#### A. LSU section



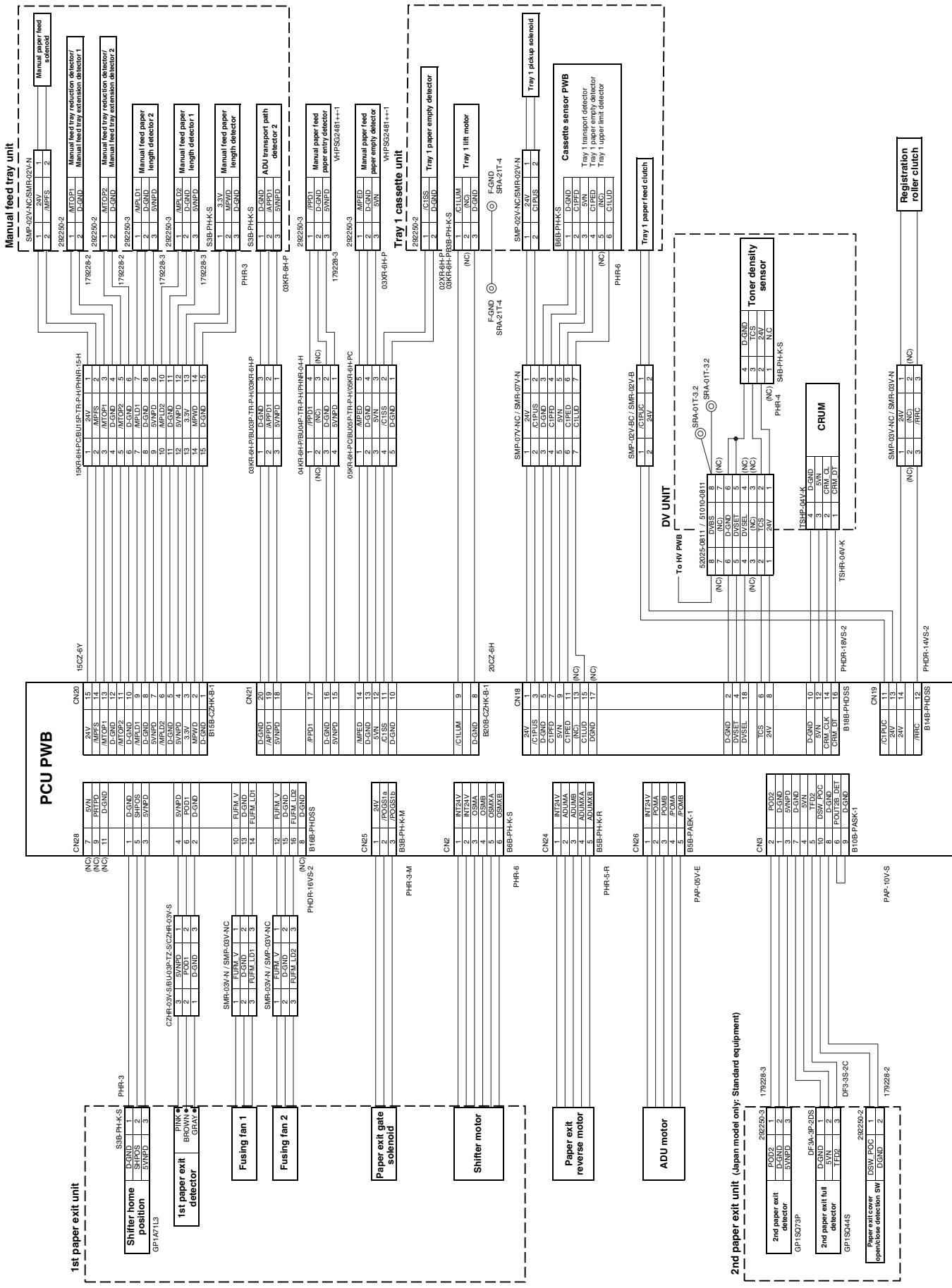
## B. Operation section



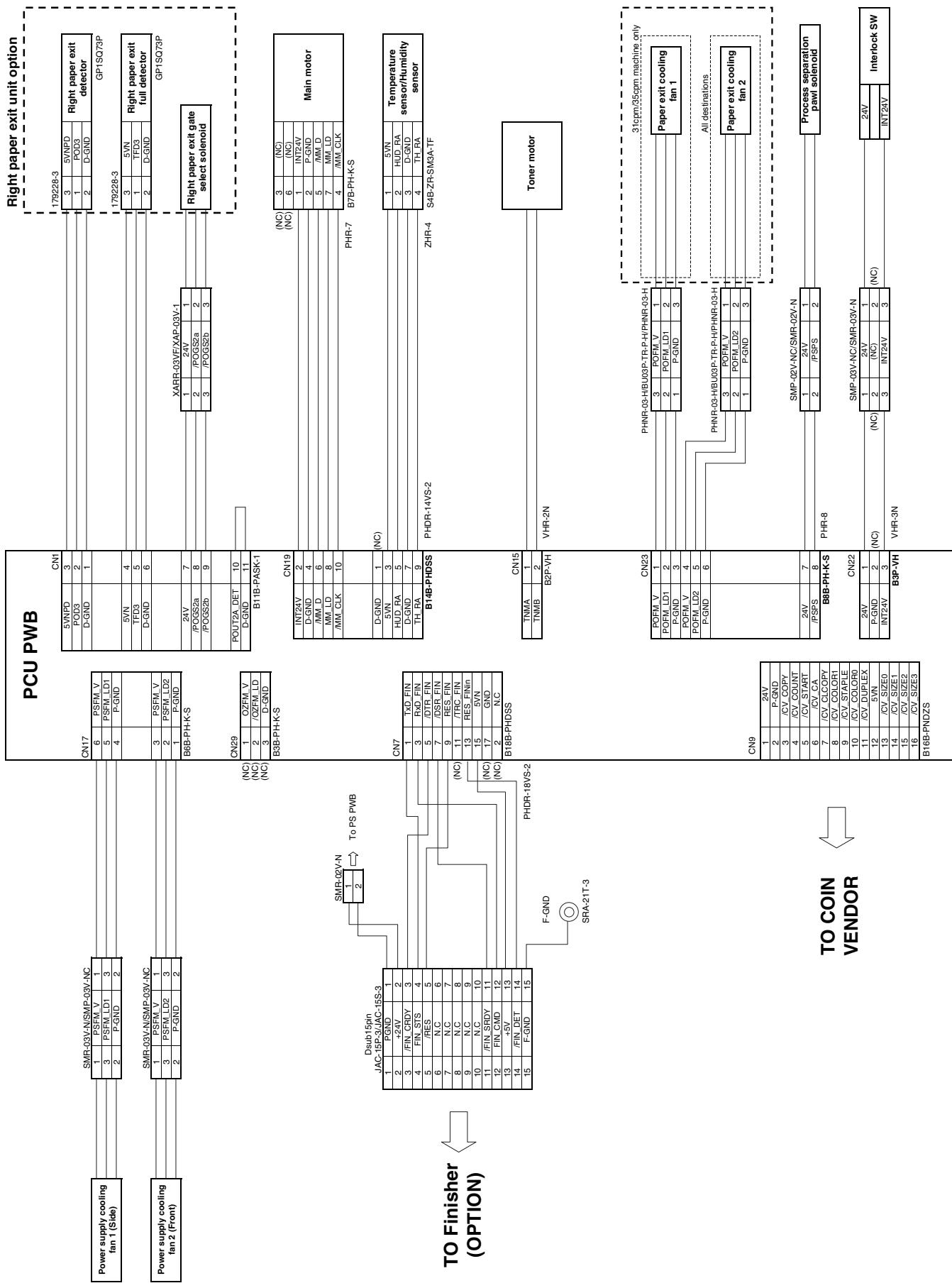
### C. Scanner section



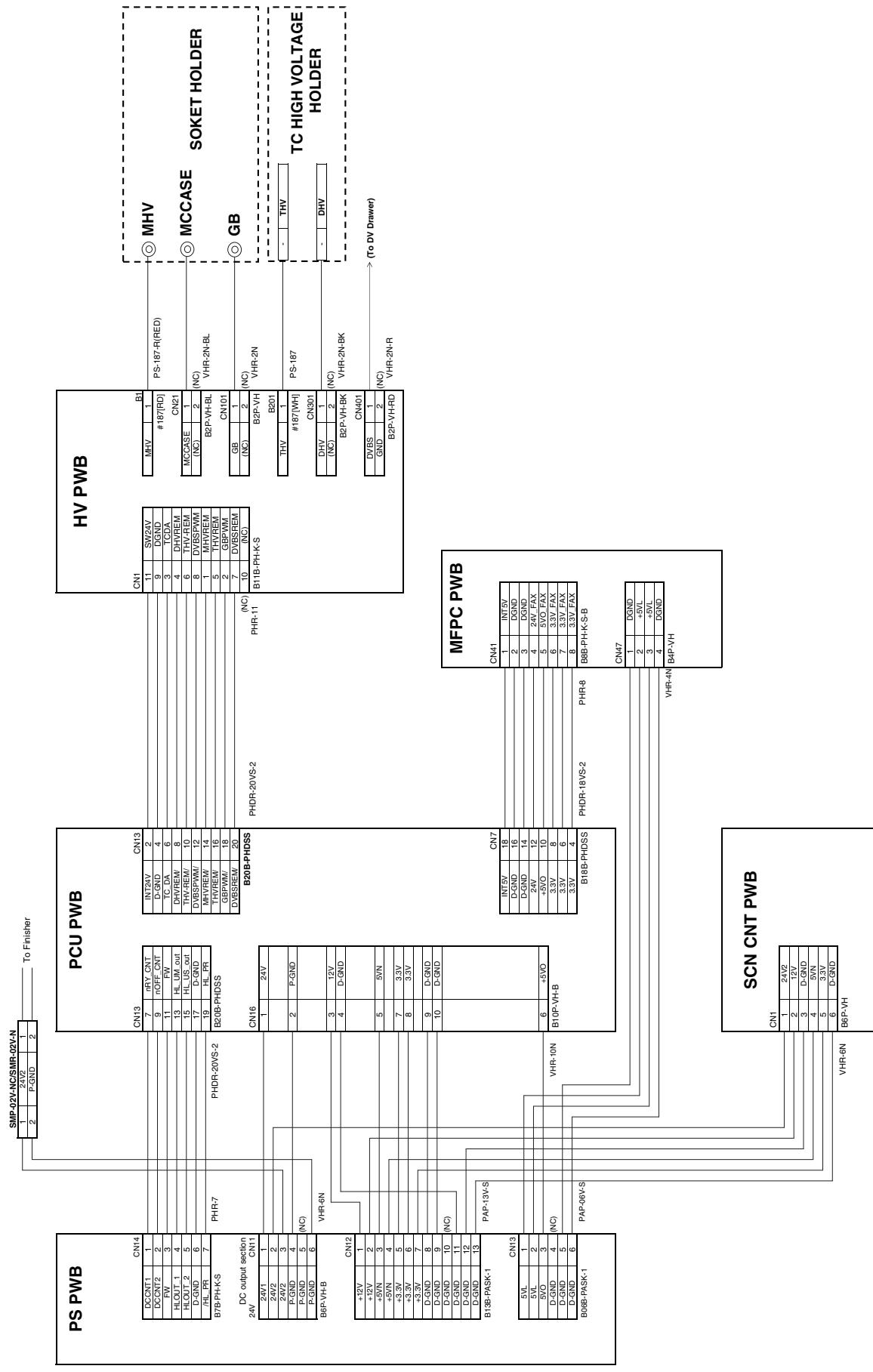
#### **D. Manual feed, DV, Paper exit (1st, 2nd), Tray 1 section**



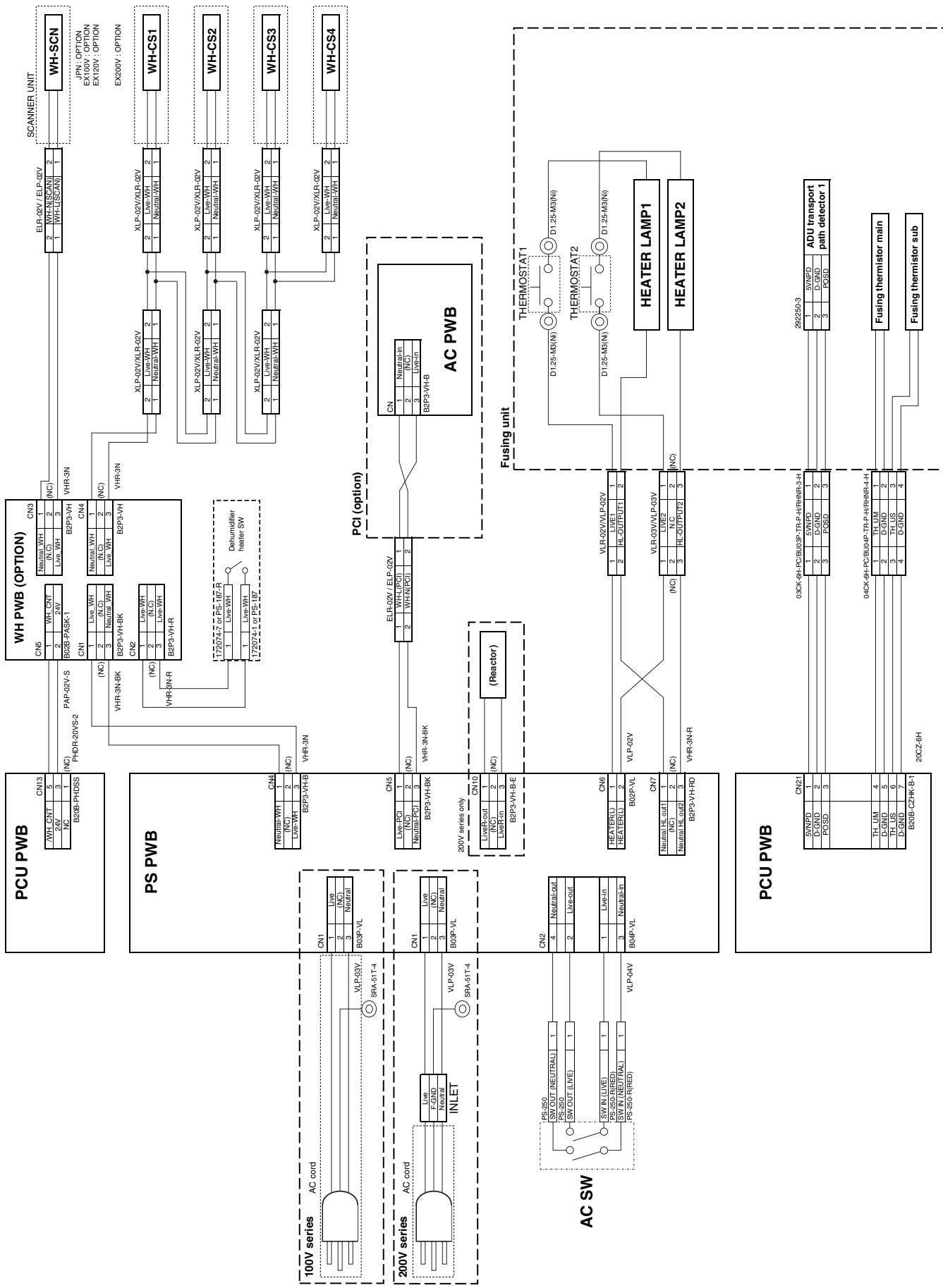
#### **E. Right paper exit, ILSW, Fan, Finisher, CV section**



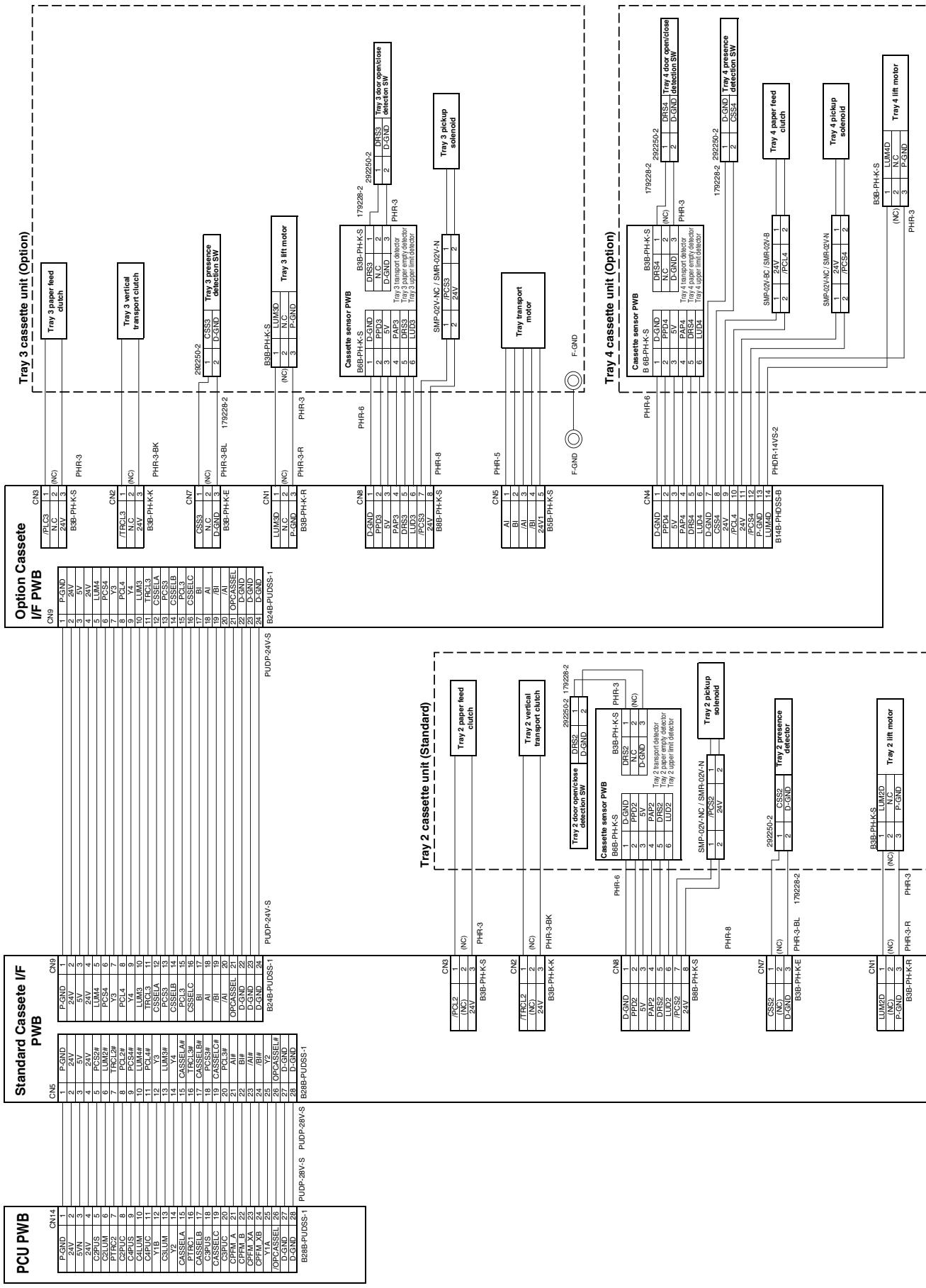
#### **F. DC power supply section, High voltage section**



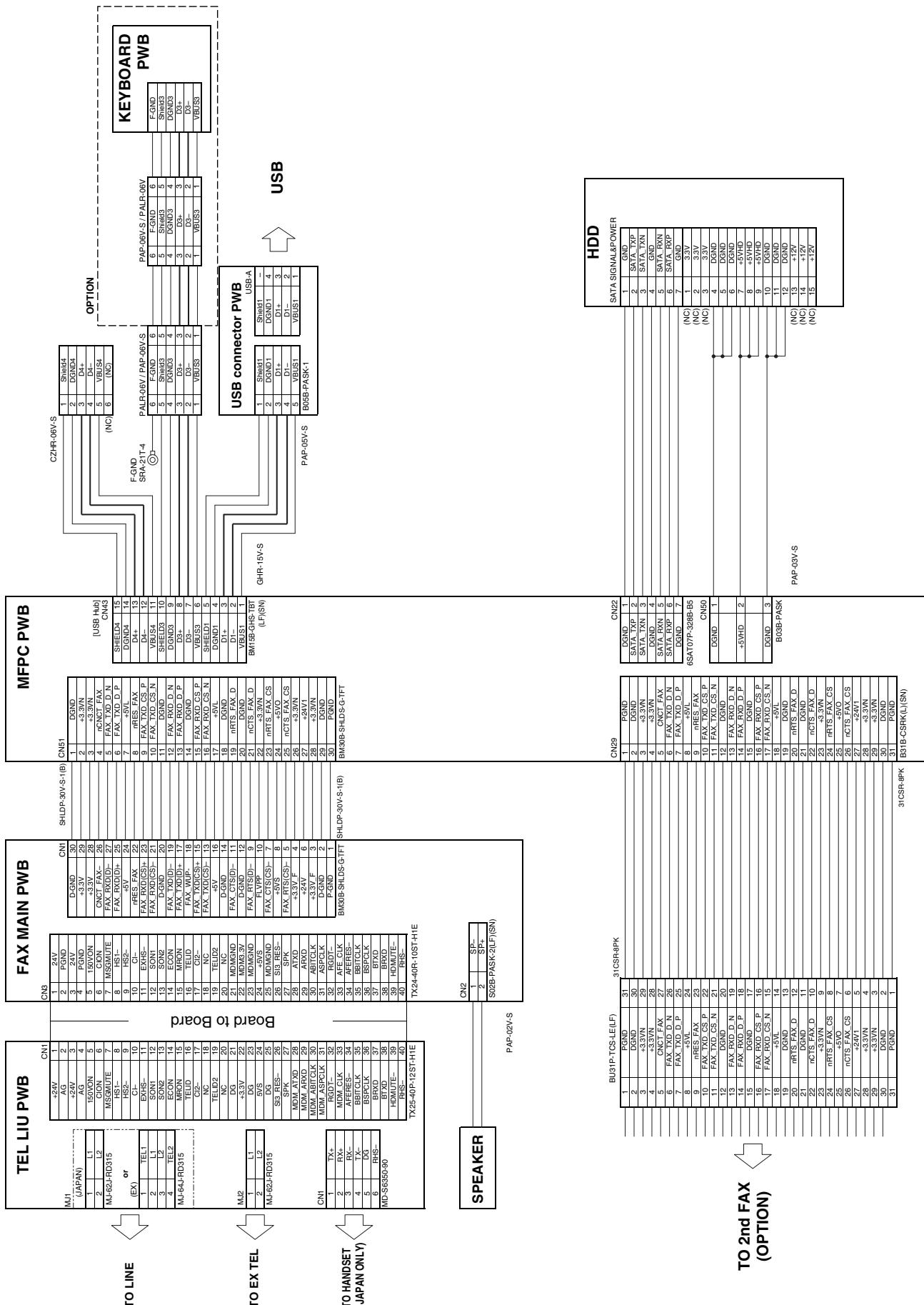
#### **G. AC power supply section, Fusing section**



#### **H. Tray 2, Tray 3, Tray 4 section**



## I. USB, FAX, PCI, HDD section



## 4. Signal list

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
+5VHD	HDD power source	HDD power source	Power shutoff	Power supply	CN50	2	MFPC PWB	
5VO_DUTY	5VO power signal	5VO power signal	5VO power supply OFF	–	CN6	2	PCU	
ADUMA	ADU motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN24	2	PCU	
ADUMB	ADU motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN24	3	PCU	
ADUMXA	ADU motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN24	4	PCU	
ADUMXB	ADU motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN24	5	PCU	
/APPD1	DUP2 sensor	Paper transport detection	–	Paper provided	CN21	19	PCU	
BD_HSYNC	HSYNC signal of BD	HSYNC signal of BD	–	–	CN10	3	PCU	
C1LUD	Paper upper limit detection_1CS	Paper upper limit detection	–	Upper limit detection	CN18	15	PCU	
/C1LUM	Lift motor 1CS	Motor drive signal	–	Motor rotation	CN21	9	PCU	
C1PED	Paper empty detection_1CS	Paper empty detection	Paper empty	Paper provided	CN18	11	PCU	
C1PFD	Paper entry detection_1CS	Paper transport detection	Paper provided	–	CN18	7	PCU	
/C1PUC	1CS clutch	Clutch drive signal	Clutch ON	–	CN19	11	PCU	
/C1PUS	Paper feed solenoid 1CS	Solenoid drive signal	Solenoid ON	–	CN18	3	PCU	
/C1SS	1CS sensor	Paper transport detection	1CS not provided	1CS provided	CN21	11	PCU	
C2LUM	Lift motor 2CS	Motor drive signal	–	Motor rotation	CN14	6	PCU	
C2PUC	Paper feed clutch 2CS	Clutch drive signal	Clutch OFF	Clutch ON	CN14	8	PCU	
C2PUS	Paper feed solenoid 2CS	Solenoid drive signal	Solenoid OFF	Solenoid ON	CN14	5	PCU	
C3LUM	Lift motor 3CS (OP)	Motor drive signal	–	Motor rotation	CN14	13	PCU	
C3PUC	Paper feed clutch 3CS (OP)	Clutch drive signal	Clutch OFF	Clutch ON	CN14	20	PCU	
C3PUS	Paper feed solenoid 3CS (OP)	Solenoid drive signal	Solenoid OFF	Solenoid ON	CN14	18	PCU	
C4LUM	Lift motor 4CS (OP)	Motor drive signal	–	Motor rotation	CN14	10	PCU	
C4PUC	Paper feed clutch 4CS (OP)	Clutch drive signal	Clutch OFF	Clutch ON	CN14	11	PCU	
C4PUS	Paper feed solenoid 4CS (OP)	Solenoid drive signal	Solenoid OFF	Solenoid ON	CN14	9	PCU	
CASSELA	OP_DESK selector signal A	OP_DESK selector signal A	–	–	CN14	15	PCU	
CASSELB	OP_DESK selector signal B	OP_DESK selector signal B	–	–	CN14	17	PCU	
CASSEL_C	OP_DESK selector signal C	OP_DESK selector signal C	–	–	CN14	19	PCU	
CCFT	LCD backlight [CCFT cool cathode ray tube]	LCD backlight	ON	OFF	CN4	21	SCNcnt	
CL_ON	Scanner lamp	Radiates lights to the document for the CCD to scan the document images.	ON	OFF	CN8	3	SCNcnt	
CPFM_A	Desk motor	Motor drive signal	Motor OFF	Motor ON (phase excitation ON)	CN14	21	PCU	
CPFM_B	Desk motor	Motor drive signal	Motor OFF	Motor ON (phase excitation ON)	CN14	22	PCU	
CPFM_XA	Desk motor	Motor drive signal	Motor OFF	Motor ON (phase excitation ON)	CN14	23	PCU	
CPFM_XB	Desk motor	Motor drive signal	Motor OFF	Motor ON (phase excitation ON)	CN14	24	PCU	
CRM_CLK	CRUM_CLK	CRUM communication signal	–	–	CN18	14	PCU	
CRM_DT	CRUM input/output	CRUM communication signal	–	–	CN18	16	PCU	
CTS	RIC, PCI (main) send enable input	RIC, PCI (main) send enable input	Negative	Active	CN12	8	MFPC PWB	
CTS_PCI	PCI (sub) send enable input	PCI (sub) send enable input	Active	Negative	CN5	4	MFPC PWB	
CTS_PCU	ICU communication	ICU-PCU communication signal	–	–	CN10	22	PCU	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
D+	USB Device differential data +	USB Device differential data +	–	–	CN17	3	MFPC PWB	
D+	USB Host (Rear) differential data +	USB Host (Rear) differential data +	–	–	CN18	3	MFPC PWB	
D1+	USB Host1 differential data +	USB Host1 differential data +	–	–	CN43	3	MFPC PWB	
D1–	USB Host1 differential data –	USB Host1 differential data –	–	–	CN43	2	MFPC PWB	
D3+	USB Host3 differential data +	USB Host3 differential data +	–	–	CN43	8	MFPC PWB	
D3–	USB Host3 differential data –	USB Host3 differential data –	–	–	CN43	7	MFPC PWB	
D4+	USB Host4 differential data +	USB Host4 differential data +	–	–	CN43	13	MFPC PWB	
D4–	USB Host4 differential data –	USB Host4 differential data –	–	–	CN43	12	MFPC PWB	
DHVREM/	DHV remote output	Separation bias ON signal	–	High voltage output ON	CN13	8	PCU	
DSR	RIC, PCI (main) Data Set Ready	RIC, PCI (main) Data Set Ready	Negative	Active	CN12	6	MFPC PWB	
/DSR_FIN	Finisher communication	Finisher communication signal	–	–	CN7	7	PCU	
DSR_PCI	PCI (sub) Data Set Ready	PCI (sub) Data Set Ready	Active	Negative	CN5	2	MFPC PWB	
DSW-R(INT24)	Interlock 24V detection	Interlock 24V detection	Front door/ Side door open	Front door/ Side door close	CN22	3	PCU	
DSW_POC	Paper exit cover open/close detection	Cover open/close detection	Paper exit cover Open	Paper exit cover Close	CN3	10	PCU	
DTR	RIC, PCI (main) Data Terminal Ready	RIC, PCI (main) Data Terminal Ready	Negative	Active	CN12	4	MFPC PWB	
/DTR_FIN	Finisher communication	Finisher communication signal	–	–	CN7	5	PCU	
DTR_PCI	PCI (sub) Data Terminal Ready	PCI (sub) Data Terminal Ready	Active	Negative	CN5	7	MFPC PWB	
DVBSPWM/	DV bias PWM	Developing bias PWM signal	–	–	CN13	12	PCU	
DVBSREM/	DVBS remote output	Developing bias ON signal	–	High voltage output ON	CN13	20	PCU	
DVSET	Developer empty detection	Developing unit installation detection	DV unit detection	DV unit not installed	CN18	4	PCU	
D–	USB Device differential data –	USB Device differential data –	–	–	CN17	2	MFPC PWB	
D–	USB Host (Rear) differential data –	USB Host (Rear) differential data –	–	–	CN18	2	MFPC PWB	
FAXCS_RXD_N	Option FAXdata differential input +	Option FAXdata differential input +	–	–	CN29	17	MFPC PWB	
FAXCS_RXD_P	Option FAXdata differential input –	Option FAXdata differential input –	–	–	CN29	16	MFPC PWB	
FAXCS_TXD_N	Option FAX data differential output +	Option FAX data differential output +	–	–	CN29	11	MFPC PWB	
FAXCS_TXD_P	Option FAX data differential output –	Option FAX data differential output –	–	–	CN29	10	MFPC PWB	
FAXD_RXD_N	Option FAX data differential input –	Option FAX data differential input –	–	–	CN29	13	MFPC PWB	
FAXD_RXD_P	Option FAX data differential input +	Option FAX data differential input +	–	–	CN29	14	MFPC PWB	
FAXD_TXD_N	Option FAX data differential output –	Option FAX data differential output –	–	–	CN29	6	MFPC PWB	
FAXD_TXD_P	Option FAX data differential output +	Option FAX data differential output +	–	–	CN29	7	MFPC PWB	
FUFM_LD1	Fusing FAN1_LD signal	FAN lock detection signal	Normal rotation state	–	CN28	14	PCU	
FUFM_LD2	Fusing FAN2_LD signal	FAN lock detection signal	Normal rotation state	–	CN28	16	PCU	
FUFM_V	Fusing FAN_ON (24V drive)	FAN ON signal	–	FAN motor ON	CN28	10	PCU	
FUFM_V	Fusing FAN_ON (24V drive)	FAN ON signal	–	FAN motor ON	CN28	12	PCU	
FW	FW signal	Power frequency monitor signal	–	–	CN13	11	PCU	
GBPWM/	Grid bias PWM	Grid bias PWM signal	–	–	CN13	18	PCU	
HL_PR	Fusing relay control	Fusing relay ON signal	Fusing relay OFF	Fusing relay ON	CN13	19	PCU	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
HL_UM_out	Fusing HL1_ON signal	Fusing lamp ON signal	Heater lamp OFF	Heater lamp ON	CN13	13	PCU	
HL_US_out	Fusing HL2_ON signal	Fusing lamp ON signal	Heater lamp OFF	Heater lamp ON	CN13	15	PCU	
HUD_RA	Humidity analog sensor signal input	Humidity detection signal	–	–	CN19	5	PCU	Analog
LAN_CNT	–	LAN power supply signal	FAX nighttime	–	CN10	10	PCU	
LD_DA	LD strength adjustment analog output	LD strength adjustment analog output	–	–	CN12	4	PCU	Analog
MDI_0+	LAN send/receive data 0 +	LAN send/receive data 0 +	–	–	CN15	1	MFPC PWB	
MDI_0-	LAN send/receive data 0 –	LAN send/receive data 0 –	–	–	CN15	2	MFPC PWB	
MDI_1+	LAN send/receive data 1 +	LAN send/receive data 1 +	–	–	CN15	3	MFPC PWB	
MDI_1-	LAN send/receive data 1 –	LAN send/receive data 1 –	–	–	CN15	4	MFPC PWB	
MDI_2+	LAN send/receive data 2 +	LAN send/receive data 2 +	–	–	CN15	5	MFPC PWB	
MDI_2-	LAN send/receive data 2 –	LAN send/receive data 2 –	–	–	CN15	6	MFPC PWB	
MDI_3+	LAN send/receive data 3 +	LAN send/receive data 3 +	–	–	CN15	7	MFPC PWB	
MDI_3-	LAN send/receive data 3 –	LAN send/receive data 3 –	–	–	CN15	8	MFPC PWB	
MHPS	Scanner home position sensor [Transmission type]	Detects the scanner home position.	–	Home	CN10	1	SCNcnt	
MHVREM/	MHV remote output	Main charger ON signal	–	High voltage output ON	CN13	14	PCU	
MIM_*	Scanner motor [Stepping motor]	Scanner (reading) section	–	–	CN7	1, 2, 3, 4	SCNcnt	
/MM_CLK	Main motor CLK (frequency dividing output)	Polygon motor CLK signal	–	–	CN19	10	PCU	
/MM_D	Main motor ON signal	Polygon motor ON signal	Motor ON	Motor OFF	CN19	6	PCU	
MM_LD	Main M_LD signal	Polygon motor lock detection signal	Normal rotation state	–	CN19	8	PCU	
/MPED	Manual feed empty sensor	Paper empty detection	–	Paper provided	CN21	14	PCU	
/MPFS	Manual feed solenoid	Solenoid drive signal	Solenoid ON	–	CN20	14	PCU	
/MPLD1	Manual feed length sensor 1	Manual feed paper length sensor 1	–	Paper provided	CN20	9	PCU	
/MPLD2	Manual feed length sensor 2	Manual feed paper length sensor 2	–	Paper provided	CN20	6	PCU	
MPU_INTRO_N	ICU (for LSU) communication	ICU (for LSU)-PCU communication signal	–	–	CN10	6	PCU	
MPU_PRINTS_N	ICU (for LSU) communication	ICU (for LSU)-PCU communication signal	–	–	CN10	8	PCU	
MPU_SIF_CLK	ICU (for LSU) communication	ICU (for LSU)-PCU communication signal	–	–	CN10	18	PCU	
MPU_SIF_RST	ICU (for LSU) communication	ICU (for LSU)-PCU communication signal	–	–	CN10	20	PCU	
MPU_SIF_RXD	ICU (for LSU) communication	ICU (for LSU)-PCU communication signal	–	–	CN10	14	PCU	
MPU_SIF_TXD	ICU (for LSU) communication	ICU (for LSU)-PCU communication signal	–	–	CN10	16	PCU	
MPWD	Manual feed paper width detection	Manual feed paper width detection	–	–	CN20	2	PCU	Analog
/MTOP1	Manual feed tray sensor 1 (reduction detection)	Manual feed tray detection 1 (reduction detection)	–	Manual feed tray reduction position	CN20	13	PCU	
/MTOP2	Manual feed tray sensor 2 (extension detection)	Manual feed tray detection 2 (extension detection)	–	Manual feed tray extension position	CN20	11	PCU	
nCLR_PIC	ICU-PIC communication	ICU-PIC communication signal	–	–	CN10	17	PCU	
nCNCT_FAX	Option FAX installation detection	Option FAX installation detection signal	Installed	Not installed	CN29	5	MFPC PWB	
nFAX_WUP	Option FAX wakeup	Option FAX wakeup interruption	Active	Negative	CN29	15	MFPC PWB	
nFAXCS_CTS	Option FAX send enable input	Option FAX send enable input	Active	Negative	CN29	26	MFPC PWB	
nFAXCS RTS	Option FAX send request	Option FAX send request	Active	Negative	CN29	24	MFPC PWB	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
nFAXD_CTS	Option FAX send enable input	Option FAX send enable input	Active	Negative	CN29	22	MFPC PWB	
nFAXD_RTS	Option FAX send request	Option FAX send request	Active	Negative	CN29	20	MFPC PWB	
nINFO_FAX_LED	FAX notice LCD signal	FAX notice LCD signal	LED lighting	–	CN6	10	PCU	
nOFF_CNT	5VL power relay signal	5VL power relay signal	5VL power OFF	–	CN13	9	PCU	
nPOF_MFPC	Power interruption detection signal	Power interruption detection signal	AC power OFF	–	CN10	9	PCU	
nPOF_SCN	Power interruption detection signal	Power interruption detection signal	AC power OFF	–	CN6	1	PCU	
nPOW_LED	Power LED signal	Power LED signal	LED lighting	–	CN6	8	PCU	
nPWR_SW	Power SW detection signal	Power SW detection signal	SW_ON state	–	CN6	5	PCU	
nREQ_PIC	ICU-PIC communication	ICU-PIC communication signal	–	–	CN10	19	PCU	
nREQ_PIC_INT	ICU-PIC communication	ICU-PIC communication signal	–	–	CN10	5	PCU	
nRES_FAX	Option FAX reset	Option FAX reset	Active	Negative	CN29	9	MFPC PWB	
nRES_PIC	ICU-PIC communication	ICU-PIC communication signal	–	–	CN10	7	PCU	
nRY_CNT	Main power relay signal	Main power relay signal	Main power OFF	–	CN13	7	PCU	
nSPED	Document detection WU signal	Document detection WU signal	WU detection	–	CN6	3	PCU	
nWU_FAX	WU signal (Start request)	FAX_WU signal (Start request)	WU (Start request)	–	CN10	12	PCU	
nWU_KEY	Energy-saving key detection signal	Energy-saving key detection signal	Start request detection	–	CN6	6	PCU	
nWU_LED	Reset key LED signal	Reset key LED signal	LED lighting	–	CN6	9	PCU	
OCSW	Light emitting UN open/close detection	Light emitting UN open/close detection	Close	Open	CN17	3	SCNcnt	
/OPCASSEL	Desk motor Enable	Desk motor Enable signal	–	Motor rotation Enable	CN14	26	PCU	
OSMA	Shift motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN2	3	PCU	
OSMB	Shift motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN2	4	PCU	
OSMXA	Shift motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN2	5	PCU	
OSMXB	Shift motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN2	6	PCU	
PICVPPON	For PIC program	PIC program writing signal	–	–	CN10	11	PCU	
/PM_CLK	Polygon motor CLK (frequency dividing output)	Polygon motor CLK signal	–	–	CN12	6	PCU	
/PM_D	Polygon motor ON signal	Polygon motor ON signal	Motor ON	Motor OFF	CN12	8	PCU	
PM_LD	Polygon M_LD signal	Polygon motor lock detection signal	Normal rotation state	–	CN12	5	PCU	
POD1	Paper exit sensor	Paper transport detection	–	Paper provided	CN28	6	PCU	
POD2	Second paper exit discharge	Paper transport detection	Paper provided	–	CN3	2	PCU	
POD3	Right paper exit discharge sensor	Paper transport detection	Paper provided	–	CN1	2	PCU	
POFM_LD1	Paper exit cooling FAN1_LD signal	FAN ON signal	Normal rotation state	–	CN23	2	PCU	
POFM_LD2	Paper exit cooling FAN2_LD signal	FAN ON signal	Normal rotation state	–	CN23	5	PCU	
POFM_V	Paper exit cooling FAN_ON signal	FAN lock detection signal	–	FAN motor ON	CN23	1	PCU	
POFM_V	Paper exit cooling FAN_ON signal	FAN lock detection signal	–	FAN motor ON	CN23	4	PCU	
/POGS1a	Paper exit gate solenoid	Gate select	Solenoid ON (Normal paper exit direction)	–	CN25	2	PCU	
/POGS1b	Paper exit gate solenoid	Gate select	Solenoid ON (Second paper exit direction)	–	CN25	3	PCU	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
/POGS2a	Right paper exit keep solenoid	Gate select	Solenoid ON (Left paper exit direction)	–	CN1	8	PCU	
/POGS2b	Right paper exit keep solenoid	Gate select	Solenoid ON (Right paper exit direction)	–	CN1	9	PCU	
/POMA	Paper exit motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN26	4	PCU	
POMA	Paper exit motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN26	2	PCU	
/POMB	Paper exit motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN26	5	PCU	
POMB	Paper exit motor	Motor drive signal	Motor ON (phase excitation ON)	Motor OFF	CN26	3	PCU	
POSD	PaperOutputSect sensor	Paper transport detection (Paper exit reverse section)	Paper provided	–	CN21	3	PCU	
POUT2A_DET	Right paper exit UN detection	UN installation detection	Wight paper exit UN connection detection	Right paper exit UN not connected	CN1	10	PCU	
POUT2B_DET	Second paper exit UN installation detection	UN installation detection	Second paper exit UN connection detection	Second paper exit UN not connected	CN3	6	PCU	
/PPD1	Manual paper feed entry sensor	Paper transport detection	Paper provided	–	CN21	17	PCU	
PSFM_LD1	Power FAN1_LD signal	FAN lock detection signal	Normal rotation state	–	CN17	5	PCU	
PSFM_LD2	Power FAN2_LD signal	FAN lock detection signal	Normal rotation state	–	CN17	2	PCU	
PSFM_V	Power FAN_ON signal	FAN ON signal	–	FAN motor ON	CN17	3	PCU	
PSFM_V	Power FAN_ON signal	FAN ON signal	–	FAN motor ON	CN17	6	PCU	
/PSPS	Process separation pawl solenoid	Separation pawl drive	Solenoid ON	Solenoid OFF	CN23	8	PCU	
PTRC1	Vertical transport clutch 3CS	Clutch drive signal	Clutch OFF	Clutch ON	CN14	16	PCU	
PTRC2	Vertical transport clutch 2CS	Clutch drive signal	Clutch OFF	Clutch ON	CN14	7	PCU	
PWM(PGC)	For PIC program	PIC program writing signal	–	–	CN10	21	PCU	
RES_FIN	Finisher communication	Finisher communication signal	–	–	CN7	9	PCU	
RES_FINin	Finisher installation detection signal	Finisher installation detection	FIN connection detection	FIN not connected	CN7	13	PCU	
RES_PCU	ICU communication	ICU-PCU communication signal	–	–	CN10	26	PCU	
/RRC	PS clutch	Clutch drive signal	Clutch ON	–	CN19	12	PCU	
RTS	RIC, PCI (main) send request	RIC, PCI (main) send request	Negative	Active	CN12	7	MFPC PWB	
RTS_PCI	PCI (sub) send request	PCI (sub) send request	Active	Negative	CN5	5	MFPC PWB	
RTS_PCU	ICU communication	ICU-PCU communication signal	–	–	CN10	24	PCU	
RXD	RIC,PCI (main) reception data	RIC,PCI (main) reception data	–	–	CN12	2	MFPC PWB	
RxD_FIN	Finisher communication	Finisher communication signal	–	–	CN7	3	PCU	
RXD_PCI	PCI (sub) reception data	PCI (sub) reception data	–	–	CN5	3	MFPC PWB	
RXD_PCU	ICU communication	ICU-PCU communication signal	–	–	CN10	23	PCU	
RXD_PIC	ICU-PIC communication	ICU-PIC communication signal	–	–	CN10	13	PCU	
SATA_RXN	HDD differential data input +	HDD differential data input +	–	–	CN22	5	MFPC PWB	
SATA_RXP	HDD differential data input –	HDD differential data input –	–	–	CN22	6	MFPC PWB	
SATA_TXN	HDD differential data output –	HDD differential data output	–	–	CN22	3	MFPC PWB	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
SATA_TXP	HDD differential data output +	HDD differential data output +	–	–	CN22	2	MFPC PWB	
SHPOS	Shifter HP sensor	Shifter HP detection	HP detection	–	CN28	5	PCU	
SOCD	SPF open/close detection	SPF open/close detection	Close	–	CN14	28	SCNcnt	
SPED	Document sensor	Document detection	Detection	–	CN14	27	SCNcnt	
SPFM*	SFP transport motor	SPF transport motor drive	–	–	CN14	3, 4, 5, 6, 7	SCNcnt	
SPM*	SPF paper feed motor	SPF paper feed motor drive	–	–	CN14	8, 9, 10, 11, 12	SCNcnt	
SPPD1	SPF transport sensor 1	Detects paper pass.	Detection	–	CN14	1	SCNcnt	
SPPD2	SPF transport sensor 2	Detects paper pass.	Detection	–	CN14	2	SCNcnt	
SPPD3	SPF transport sensor 3	Detects paper pass.	Detection	–	CN14	24	SCNcnt	
SPPD4	SPF transport sensor 4	Detects paper pass.	Detection	–	CN14	22	SCNcnt	
SPRS	Pressure release solenoid	Controls the pressure release solenoid.	OFF	ON	CN14	13	SCNcnt	
SPWS	Document width sensor	Detects document width.	–	–	CN14	17	SCNcnt	
SRRC	PS clutch	Controls the PS clutch.	OFF	ON	CN14	15	SCNcnt	
STMPS	Stamp solenoid	Controls the stamp solenoid.	–	Stamp	CN14	14	SCNcnt	
TC_DA	Transfer output adjustment analog output	Transfer output adjustment analog output signal	–	–	CN13	6	PCU	Analog
TCS	Toner sensor density detection	Toner sensor density detection	–	–	CN18	6	PCU	Analog
TFD1	Paper exit tray paper sensor	Paper detection signal	–	Paper provided	CN12	9	PCU	
TFD2	Second paper exit full	Paper full detection	–	Full detection	CN3	5	PCU	
TFD3	Right paper exit full sensor	Paper full detection	Full detection	–	CN1	5	PCU	
TH_RA	Temperature analog sensor signal input	Temperature detection signal	–	–	CN19	9	PCU	Analog
TH UM	Fusing thermistor temperature detection (upper main)	Fusing thermistor signal	–	–	CN21	4	PCU	Analog
TH_US	Fusing thermistor temperature detection (upper sub)	Fusing thermistor signal	–	–	CN21	6	PCU	Analog
THV-REM/	THV(–) remote output	Transfer bias (–) ON signal	–	High voltage output ON	CN13	10	PCU	
THVREM/	THV(+) remote output	Transfer bias (+) ON signal	–	High voltage output ON	CN13	16	PCU	
TNMA	Toner motor A	Motor drive signal	–	–	CN15	1	PCU	
TNMB	Toner motor B	Motor drive signal	–	–	CN15	2	PCU	
/TRC_FIN	Finisher communication	Finisher communication signal	–	–	CN7	11	PCU	
TXD	RIC, PCI (main) send data	RIC, PCI (main) send data	–	–	CN12	3	MFPC PWB	
TxD_FIN	Finisher communication	Finisher communication signal	–	–	CN7	1	PCU	
TXD_PCI	PCI (sub) send data	PCI (sub) send data	–	–	CN5	6	MFPC PWB	
TXD_PCU	ICU communication	ICU-PCU communication signal	–	–	CN10	25	PCU	
TXD_PIC	ICU-PIC communication	ICU-PIC communication signal	–	–	CN10	15	PCU	
VBUS	USB Device VBUS	USB Device power supply	Power shutoff	Power supply	CN17	1	MFPC PWB	
VBUS	USB Host (Rear) VBUS	USB Host (Rear) power supply	Power shutoff	Power supply	CN18	1	MFPC PWB	
VBUS1	USB Host1 VBUS	USB Host1 power supply	Power shutoff	Power supply	CN43	1	MFPC PWB	
VBUS3	USB Host3 VBUS	USB Host3 power supply	Power shutoff	Power supply	CN43	6	MFPC PWB	
VBUS4	USB Host4 VBUS	USB Host4 power supply	Power shutoff	Power supply	CN43	11	MFPC PWB	
/WH_CNT	Dehumidifying heater OFF signal	Dehumidifying heater OFF signal	Dehumidifying relay OFF	Dehumidifying relay ON	CN13	5	PCU	
Y1A	151 selector output signal_2CS	151 selector output signal_2CS	–	–	CN14	25	PCU	
Y1B	151 selector output signal_3CS (Op)	151 selector output signal_3CS (Op)	–	–	CN14	12	PCU	
Y2	151 selector output signal_4CS (Op)	151 selector output signal_4CS (Op)	–	–	CN14	14	PCU	

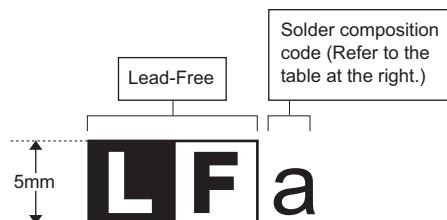
## [14] TOOL LIST

Name	Part code	Note
Color copy test chart	UKOG-0326FCZZ/UKOG-0326FC11	
SIT chart	UKOG-0280FCZZ/UKOG-0280FCZ1	
Gray test chart	UKOG-0162FCZZ	
Color image density sensor calibration jig	UKOG-0318FCZZ	
Kynar powder	UKOG-0123FCZZ	For transfer belt
Grease (HANARL FL-955R)	UKOG-0299FCZZ	
Conduction grease (FLOIL GE-676)	UKOG-0012QSZZ	Other shaft
Grease (FLOIL G-313S)	UKOG-0307FCZZ	
Grease (JFE552)	UKOG-0235FCZZ	
Stearic acid powder	UKOG-0312FCZZ	OPC drum
Grease (FLOIL GP-501MR)	UKOG-0013QSZZ	RSPF paper feed roller shaft
Grease (MOLYKOTE X5-6020)	UKOG-0158FCZZ	
Grease (MOLYKOTE BR-2 Plus)	UKOG-0097FCZZ	

## LEAD-FREE SOLDER

The PWB's of this model employs lead-free solder. The "LF" marks indicated on the PWB's and the Service Manual mean "Lead-Free" solder. The alphabet following the LF mark shows the kind of lead-free solder.

### Example:



<Solder composition code of lead-free solder>

Solder composition	Solder composition code
Sn-Ag-Cu	a
Sn-Ag-Bi Sn-Ag-Bi-Cu	b
Sn-Zn-Bi	z
Sn-In-Ag-Bi	i
Sn-Cu-Ni	n
Sn-Ag-Sb	s
Bi-Sn-Ag-P Bi-Sn-Ag	p

### (1) NOTE FOR THE USE OF LEAD-FREE SOLDER THREAD

When repairing a lead-free solder PWB, use lead-free solder thread.

Never use conventional lead solder thread, which may cause a breakdown or an accident.

Since the melting-point of lead-free solder thread is about 40°C higher than that of conventional lead solder thread, the use of the exclusive-use soldering iron is recommended.

### (2) NOTE FOR SOLDERING WORK

Since the melting-point of lead-free solder is about 220°C, which is about 40°C higher than that of conventional lead solder, and its soldering capacity is inferior to conventional one, it is apt to keep the soldering iron in contact with the PWB for longer time. This may cause land separation or may exceed the heat-resistive temperature of components. Use enough care to separate the soldering iron from the PWB when completion of soldering is confirmed.

Since lead-free solder includes a greater quantity of tin, the iron tip may corrode easily. Turn ON/OFF the soldering iron power frequently.

If different-kind solder remains on the soldering iron tip, it is melted together with lead-free solder. To avoid this, clean the soldering iron tip after completion of soldering work.

If the soldering iron tip is discolored black during soldering work, clean and file the tip with steel wool or a fine filer.

## CAUTION FOR BATTERY REPLACEMENT

(Danish)                    **ADVARSEL !**  
Lithiumbatteri – Eksplorationsfare ved fejlagtig håndtering.  
Udskiftning må kun ske med batteri  
af samme fabrikat og type.  
Levér det brugte batteri tilbage til leverandoren.

(English)                    **Caution !**  
Danger of explosion if battery is incorrectly replaced.  
Replace only with the same or equivalent type  
recommended by the manufacturer.

Dispose of used batteries according to manufacturer's instructions.

(Finnish)                    **VAROITUS**  
Paristo voi räjähtää, jos se on virheellisesti asennettu.  
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan  
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden  
mukaisesti.

(French)                    **ATTENTION**  
Il y a danger d'explosion s'il y a remplacement incorrect  
de la batterie. Remplacer uniquement avec une batterie du  
même type ou d'un type équivalent recommandé par  
le constructeur.  
Mettre au rebut les batteries usagées conformément aux  
instructions du fabricant.

(Swedish)                    **WARNING**  
Explosionsfara vid felaktigt batteribyte.  
Använd samma batterityp eller en ekvivalent  
typ som rekommenderas av apparattillverkaren.  
Kassera använt batteri enligt fabrikantens  
instruktion.

(German)                    **Achtung**  
Explosionsgefahr bei Verwendung inkorrekt Batterien.  
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder  
vom Hersteller empfohlene Batterien verwendet werden.  
Entsorgung der gebrauchten Batterien nur nach den vom  
Hersteller angegebenen Anweisungen.

## CAUTION FOR BATTERY DISPOSAL

(For USA, CANADA)  
**"BATTERY DISPOSAL"**  
THIS PRODUCT CONTAINS A LITHIUM PRIMARY  
(MANGANESE DIOXIDE) MEMORY BACK-UP BATTERY  
THAT MUST BE DISPOSED OF PROPERLY. REMOVE THE  
BATTERY FROM THE PRODUCT AND CONTACT YOUR  
LOCAL ENVIRONMENTAL AGENCIES FOR INFORMATION  
ON RECYCLING AND DISPOSAL OPTIONS.

**"TRAITEMENT DES PILES USAGÉES"**  
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