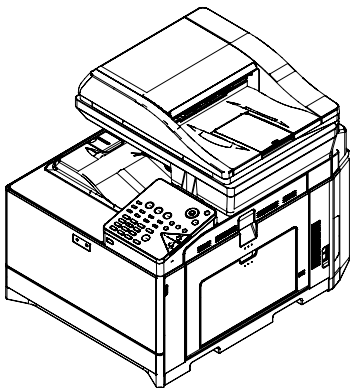


SHARP SERVICE MANUAL

CODE: 00ZMXC250/S7E



DIGITAL FULL COLOR MULTIFUNCTIONAL SYSTEM

MX-C250/C250E
MX-C250F/C250FE
MX-C250FR 
MX-C300F/C300W
MX-C300WE/C300A 
MODEL MX-C300WR 

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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.

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NOTE FOR SERVICING

1. Precautions for servicing

- 1) 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.
- 2) There is a high temperature area inside the machine. Use extreme care when servicing.
It may cause a burn.
- 3) There is a high voltage section inside the machine which may cause an electric shock. Be careful when servicing.
- 4) 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.
- 5) When servicing with the machine operating, be careful not to place your hands by belts, gears, chains, and other drive components.
- 6) 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.
- 7) 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.
- 8) The machine has got sharp edges inside. Be careful not to damage fingers when servicing.
- 9) Do not throw toner or a toner cartridge in a fire. Otherwise, toner may explode and burn you.
- 10) When replacing the lithium battery on the PWB, use only the specified battery.
If a battery of different specification is used, the battery may cause malfunction or breakdown of the machine.
- 11) When transporting a PWB, be sure to place the PWB in an anti-static bag.
It may cause a breakdown or malfunctions.

CAUTION
DOUBLE POLE/NEUTRAL FUSING

(200V series only)

2. Warning for servicing

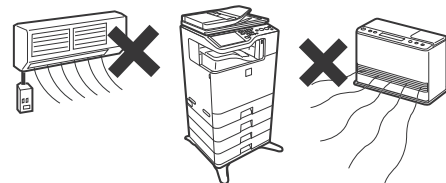
- 1) Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements.
Avoid complex wiring, which may lead to a fire or an electric shock.
- 2) If there is any abnormality such as a smoke or an abnormal smell, interrupt the job and disconnect the power plug.
It may cause a fire or an electric shock.
- 3) Be sure to connect the grounding wire. If an electric leakage occurs without grounding, a fire or an electric shock may result.
For proper machine functionality, the machine must be grounded.

- 4) When connecting the grounding wire, never connect it to the following points.
It may cause an explosion, a fire or an electric shock.
 - 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
- 5) Do not damage, break, or twist the power cord.
Do not put heavy objects on the power cable. Do not forcefully bend or pull the power cable.
It may cause a fire or an electric shock.
- 6) 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.
- 7) Do not put a metallic object or a container with water in it inside the machine.
It may cause a fire or an electric shock.
- 8) With wet or oily hands, do not touch the power plug, do not perform servicing, touch the power plug, insert a telephone jack, or operate the machine with wet or oily hands.
It may cause an electric shock.

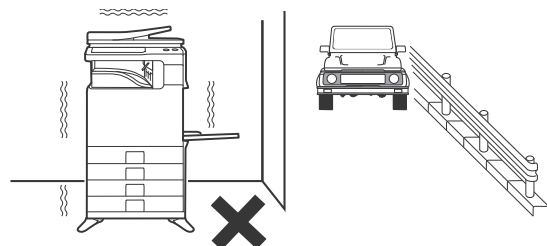
3. Note for installing site

Do not install the machine at the following sites.

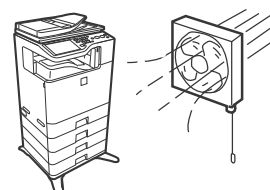
- 1) **Place of high temperature, high humidity, low temperature, low humidity, place under an extreme change in temperature and humidity.**
Paper may get damp and form moisture inside the machine, causing paper jam or copy dirt.
For operating condition, refer to the specifications described later.



- 2) **Place of much vibration**
It may cause a breakdown.



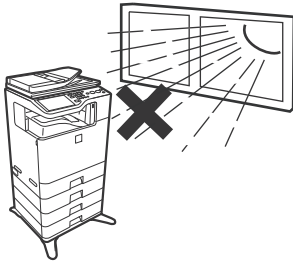
- 3) **Poorly ventilated place**
An electro-static type copier will produce ozone inside it.
The quantity of ozone produced is designed to a low level so as not to affect human bodies. However, continuous use of such a machine may produce an odor of ozone. Install the machine in a well ventilated place.



4) **Place of direct sunlight.**

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

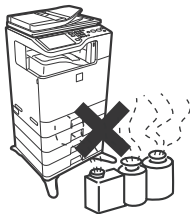
It may cause a breakdown or copy quality issues.



5) **Place which is full of organic gases such as ammonium**

The organic photoconductor (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 may result in copy quality issues.



6) **Place of much dust**

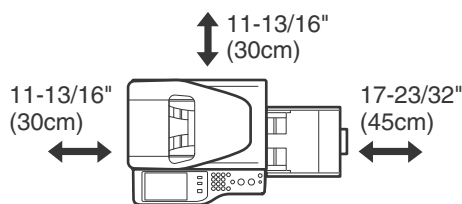
When dusts enter the machine, it may cause a breakdown or copy quality issues.



7) **Place near a wall**

Some machines require intake and exhaust of air.

If intake and exhaust of air are not properly performed, copy dirt or a breakdown may be a result.



8) **Unstable or slant surface**

If the machine drops or falls down, it may cause an injury or a breakdown.

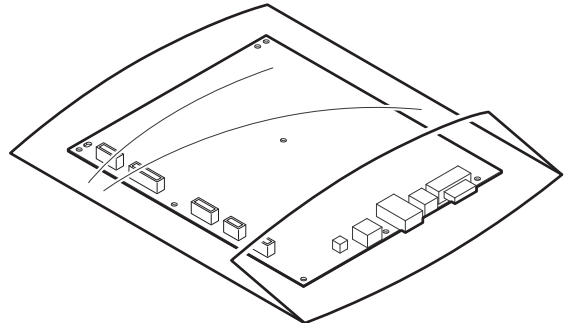
If there are optional paper desks and the copier desks specified, it is recommendable to use them.

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.

- 1) 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.

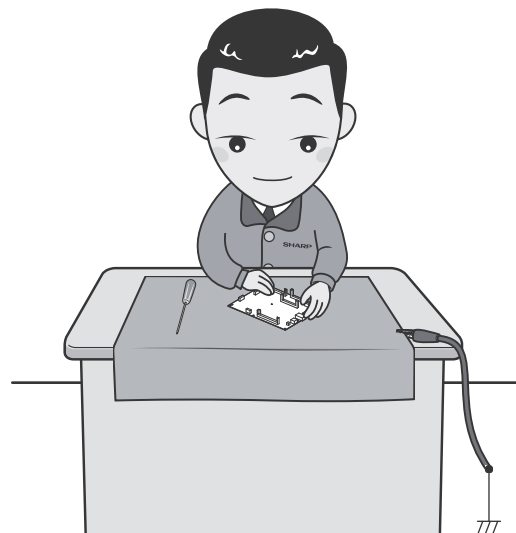


- 2) When and after removing the parts from an anti-static bag (case), use an earth band as shown below:

- 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 replacing the LSU

When replacing, be sure to observe the following items.

- 1) When replacing the LSU, be sure to disconnect the power plug from the power outlet.
- 2) When replacing the LSU, follow the procedures described in this Service Manual.
- 3) When checking the operations after repairing the LSU, keep all the parts including the cover installed and perform the operation check.
- 4) Do not modify the LSU.
- 5) 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 an undesignated work is performed, safety may not be assured.

6. Note for handling the OPC drum unit, the transfer unit, and the developer unit

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

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

(OPC drum)

- 1) Avoid working at a place with strong lights.
- 2) Do not expose the OPC drum to lights including interior lights for a long time.
- 3) 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.)
- 4) Be careful not to attach fingerprints, oil, grease, or other foreign material on the OPC drum surface.

(Transfer unit)

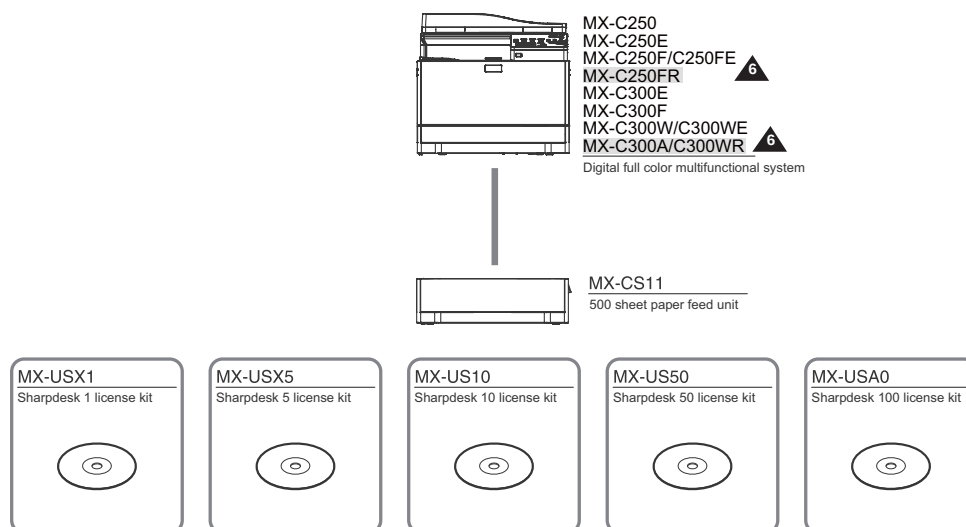
- 1) Be careful not to attach fingerprints, oil, grease, or other foreign material on the transfer belt and the transfer roller.

(Developer unit)

- 1) Be careful not to attach fingerprints, oil, grease, or other foreign material on the developer unit.

[1] PRODUCT OUTLINE

1. System configuration



2. Product list

A.North America

Product Name	cpm*	Panel	HDD	NIC	Wireless LAN	Copy	Print			NW Scan	Fax	iFAX	DF	OSA
							SAPL	PCL	PS					
MX-C250	25cpm	Mono CD	No	STD	No	STD	No	STD	STD	STD	No	No	STD SPF	No
MX-C300W	30cpm	Mono CD	No	STD	STD	STD	No	STD	STD	STD	STD	No	STD RSPF	No

B.Europe

Product Name	cpm*	Panel	HDD	NIC	Wireless LAN	Copy	Print			NW Scan	Fax	iFAX	DF	OSA
							SAPL	PCL	PS					
MX-C250E	25cpm	Mono CD	No	STD	No	STD	No	STD	STD	STD	No	No	STD SPF	No
MX-C250F / MX-C250FE / MX-C250FR	25cpm	Mono CD	No	STD	No	STD	No	STD	STD	STD	STD	No	STD SPF	No
MX-C300E	30cpm	Mono CD	No	STD	No	STD	No	STD	STD	STD	No	No	STD RSPF	No
MX-C300W / MX-C300WE / MX-C300WR	30cpm	Mono CD	No	STD	STD	STD	No	STD	STD	STD	STD	No	STD RSPF	No

C.Other

Product Name	cpm*	Panel	HDD	NIC	Wireless LAN	Copy	Print			NW Scan	Fax	iFAX	DF	OSA
							SAPL	PCL	PS					
MX-C250	25cpm	Mono CD	No	STD	No	STD	No	STD	STD	STD	No	No	STD SPF	No
MX-C250F	25cpm	Mono CD	No	STD	No	STD	No	STD	STD	STD	STD	No	STD SPF	No
MX-C300F	30cpm	Mono CD	No	STD	No	STD	No	STD	STD	STD	STD	No	STD RSPF	No
MX-C300W	30cpm	Mono CD	No	STD	STD	STD	No	STD	STD	STD	STD	No	STD RSPF	No
MX-C300A	30cpm	Mono CD	No	STD	STD	STD	No	STD	STD	STD	No	No	STD RSPF	No

*The same speed in both Color/Monochrome. The same speed in both A4/LTR.

3. Option list

Model	Name	Model name	MX-C250, MXC250E, MX-C250F, MX-C250FE, MX-C300E, MX-C300F, MX-C300W, MX-C300W, MX-C300A	MX-C250FR, MX-C300WR
Feeding equipment	500-SHEET Paper Feed Unit	MX-CS11	OPT	OPT
Application	Sharpdesk 1 License Kit	MX-USX1	OPT	-
	Sharpdesk 5 License Kit	MX-USX5	OPT	-
	Sharpdesk 10 License Kit	MX-US10	OPT	-
	Sharpdesk 50 License Kit	MX-US50	OPT	-
	Sharpdesk 100 License Kit	MX-USA0	OPT	-

STD: Standard provision, OPT: Option, - : No setting

[2] SPECIFICATIONS

1. Basic specifications

A. Engine Specification

Photo Conductor	OPC(Diameter: Black:φ30mm, Color: φ30mmx3 pieces)
Recording	Electronic Photo (Laser)
Development	Dry-Type Dual-Component Magnetic Brush Development
Charging	Charged Saw-Tooth Method Roller Charging
First Transfer	Mid-Transfer (Belt)
Second Transfer	Transfer Roller
Cleaning	Counter Blade
Fusing	Heat Roller
Waste toner disposal	No toner recycling system/Toner collection container system
Continuous toner supply	Not available
Appearance color	Neo White

B. Engine speed (ppm)

(1) Tray 1, 2

Paper size	MX-C250		MX-C300	
	Monochrome	Color	Monochrome	Color
8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5	25	25	25	25
A4R	25	25	30	30
8.5x11R, 7.25x10.5R, B5R,16KR	25	25	30	30
A5R, 5.5x8.5R	25	25	30	30

(2) Bypass tray

Paper size	MX-C250		MX-C300	
	Monochrome	Color	Monochrome	Color
8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5	16	16	16	16
A4R	21	21	21	21
8.5x11R, 7.25x10.5R, B5R,16KR	21	21	21	21
A5R, 5.5x8.5R	21	21	21	21
Extra	16	16	16	16
OHP(A4R, 8.5x11R)	9	9	9	9
Envelope (Monarch, Com-10, DL, C5)	9	9	9	9
Heavy paper (A4R,A5R,8.5x11R,8.5x5.5R,16KR)	9	9	9	9
Heavy paper (other than above size)	9	9	9	9

C. Printable area

A4R	202x289 mm
B5R	176x249 mm
A5R	140x202 mm
ExecutiveR	176x249 mm
16KR	187x262 mm
8.5x14	208x348 mm
8.5x13.5	208x335 mm
8.5x13.4	208x342 mm
8.5x13	208x322 mm
8.5x11R	208x271 mm
5.5x8.5R	132x208 mm

D. Engine resolution

Resolution	Copy	Writing : 600x600dpi
	Print	Writing : 600x600dpi
Smoothing Function		No
Tone	Copy	1bit / 2bit
	Print	1bit / 2bit

E. Scanner section

(1) Resolution/Gradation

Scan Resolution for Copying (dpi)		Monochrome	Color
	Original Glass	600x600dpi 600x400dpi (default)	600x600dpi 600x400dpi (default)
Transmission Resolution (dpi)	SPF/ RSPF	600x600dpi 600x300dpi (default)	600x600dpi 600x300dpi (default)
	Refer to Image Transmission Feature.		
Exposure Lamp		LED	

Void area	Shipment Value	Top/Rear total: 8mm or less (Lead edge : below 5.5mm) FR Total: 8mm or less
	Authorized value	Lead edge : below 4.5 - 5.5mm Rear edge : 2.0 - 3.5mm or less Lead edge/Rear edge total : 8mm or less FRONT/REAR total : 8mm or less
Image loss		Lead edge/Rear edge/Front/Rear:4mm or less

* No margin print function not provided.

Scan Resolution for Copying (dpi)		Monochrome	Color
	Original Glass	600x600dpi 600x400dpi (default)	600x600dpi 600x400dpi (default)
	SPF/RSPF	600x600dpi 600x300dpi (default)	600x600dpi 600x300dpi (default)
Scan Levels	16 bit		
Output Levels	Monochrome : 2bit		
	Gray scale : 8bit		
	Full Color : RGB each color 8bit		

(2) Document table

Form	Fixed original glass (Flatbed)
Scan Range	216x297mm(A4/LTR)
Standard Location of Original	Rear Left
Original size detection	No
Heater (scanner section)	No

F. Document feeder

(1) SPF

Type		SPF			
Scanning speed		Monochrome	Color	Monochrome	Color
		(8.5x11R)	(8.5x11R)	(A4R)	(A4R)
Copy	Single side 600x300dpi	19page/min	9.5page/min	18 page/min	9 page/min
	Single side 600x600dpi	9.5page/min	4.5page/min	9 page/min	4 page/min
	Double side 600x300dpi	No	No	No	No
	Double side 600x600dpi	No	No	No	No
Fax(for non-U.S. models only)	Single side	13.5page/min (200x200dpi)	No	13 page/min (200x200dpi)	No
	Double side	No	No	No	No
SCAN	Single side	19page/min (200x200dpi)	9.5page/min (200x200dpi)	18 page/min (200x200dpi)	9 page/min (200x200dpi)
	Double side	No	No	No	No
Document Setting Direction		Face up			
Standard Location of Original Document		Center alignment			
Document Feeding Method		Sheet through			
Document Size	Standard Type	<Single side> Horizontal scanning : 139.7mm -216mm Vertical scanning : 139.7mm . 356mm <Double> Not supported			
	Long Paper	Length: Max. 500mm (mono: 1 bit only)			
	Business Card*1	Y:51mm-55mm X:89mm-91mm			
Mix Paper Feeding		Available for Fax mode (single side send only)			
Random Paper Feeding		No			
Document Weight		<Single side> Regular paper : 50-105g/m2, 13-28 lb Bond <Double> Not supported			
Document Capacity		Max. 35 pages (80g/m2, 21 lbs Bond)			
Type of document that may not be used		OHP, the 2nd original drawing sheet, Tracing paper, carbon paper, thermal paper, wrinkled / broken / torn document, document with cut or paste, document printed with ink ribbon, and perforated document except for the document having wide width for 2 holes, 3 holes, or 4 holes			

Type	SPF
Standard Location of Original Document	Center alignment
Document size detection	No
Paper Feeding Direction	Right hand side paper feeding
Stamp	No

(2)RSPF

Type		RSPF			
Scanning speed		Monochrome	Color	Monochrome	Color
		(8.5x11R)	(8.5x11R)	(A4R)	(A4R)
Copy	Single side 600x300dpi	19page/min	9.5page/min	18 page/min	9 page/min
	Single side 600x600dpi	9.5page/min	4.5page/min	9 page/min	4 page/min
	Double side 600x300dpi	8sheet/min	4.5sheet/min	8sheet/min	4sheet/min
	Double side 600x600dpi	4.5sheet/min	2sheet/min	4.5sheet/min	2sheet/min
Fax	Single side	13.5page/min (200x200dpi)	No	13 page/min (200x200dpi)	No
	Double side	7.5sheet/min	No	7sheet/min	No
SCAN	Single side	19page/min (200x200dpi)	9.5page/min (200x200dpi)	18 page/min (200x200dpi)	9 page/min (200x200dpi)
	Double side	8sheet/min	4.5sheet/min	8sheet/min	4.5sheet/min
Document Setting Direction		Face up			
Standard Location of Original Document		Center alignment			
Document Feeding Method		Sheet through			
Document Size	Standard Type	<Single side> Horizontal scanning : 139.7mm - 216mm Vertical scanning : 139.7mm . 356mm <Double side> Horizontal scanning : 139.7mm -216mm Vertical scanning : 170mm . 356mm			
	Long Paper	Length: Max. 500mm (mono: 1 bit only)			
	Business Card*1	Y:51mm-55mm X:89mm-91mm			
Mix Paper Feeding		Available for Fax mode			
Random Paper Feeding		No			
Document Weight		<Single side> Regular paper : 50-105g/m2, 13-28 lb Bond <Double side> Regular paper : 50-105g/m2, 13-28 lb Bond Business Card: Thickness 0.1mm-0.2mm			
Document Capacity		Max. 50 pages (80g/m2, 21 lbs Bond)			
Type of document that may not be used		OHP, the 2nd original drawing sheet, Tracing paper, carbon paper, thermal paper, wrinkled / broken / torn document, document with cut or paste, document printed with ink ribbon, and perforated document except for the document having wide width for 2 holes, 3 holes, or 4 holes			
Standard Location of Original Document		Center alignment			
Document size detection		No			
Paper Feeding Direction		Right hand side paper feeding			
Stamp		No			

G. Paper feed section

(1) Basic specifications

Form	Std: 1-Paper Tray / Multi Bypass Tray
Heater	Max: 2-Paper Tray / Multi Bypass Tray

	Tray	Tray 1	Bypass Tray
Paper Capacity	Standard paper (80g/m2)	250sheets	50 sheets
Paper Size Detection	No		
Paper Size Changing Method	Changed by Users		
Detection of Remaining Paper	Only detects if any paper remains or not		

(2) Other paper type capacities

Paper Type	Bypass Tray
Envelope	10 sheets
OHP	10 sheets
Heavy paper	20 sheets
Tab Paper	No
Gloss Paper	1 sheets
Other Special Paper	1 sheet

(3) Size of paper which can be fed

			Paper Feeding Section		
			Main Unit	Optional Drawer	Multi Bypass
Paper size	8.5"x14" (Legal)	216x356mm	No	No	Yes
	8.5"x13.5" (Asian Legal)	216x343mm	No	No	Yes
	8.5"x13.4" (Mexican Legal)	216x340 mm	No	No	Yes
	8.5"x13" (Foolscap)	216x330 mm	No	No	Yes
	8.5"x11"R (Letter R)	216x279 mm	Yes	Yes	Yes
	5.5"x8.5"R (Invoice R)	140x216 mm	Yes	Yes	Yes
	ExecutiveR	184x266 mm	Yes	Yes	Yes
	A4R	210x297 mm	Yes	Yes	Yes
	B5R	182x257 mm	Yes	Yes	Yes
	A5R	148x210 mm	Yes	Yes	Yes
	A6R	105x148mm	No	No	Yes
	16KR	195x270 mm	Yes	Yes	Yes
	Envelope		No	No	Yes
	Custom		No	No	Yes
Paper Type	Thin Paper	55-59g/m2 13-16lb bond	No	No	Yes
	Plain Paper	60-105g/m2 16-28lb bond	Yes	Yes	Yes
		Recycled Paper	Yes	Yes	Yes
		Color Paper	Yes	Yes	Yes
		Letter Head	Yes	Yes	Yes
		Pre-Printed Paper	Yes	Yes	Yes
		Pre-Punched Paper	Yes	Yes	Yes
	Heavy paper	106-220g/m2 28 lb bond -80 lb Cover	No	No	Yes
		221 g/mor more 81lb Cover or more	No	No	No
	Envelope	75-90g/m2	No	No	Yes
	Transparency		No	No	Yes
	Label		No	No	Yes
	Tab Paper		No	No	No
	Glossy Paper		No	No	Yes
	User Setting 1-7		No	No	No

Envelope Type

Type	Size
Monarch	98x191
Com10	105x241
DL	110x220
C5	162x229

Custom Size

		AB System (mm)		Inch System (inch)	
		Min.	Max.	Min.	Max.
Multi Bypass Tray	X	140	356	5 1/2	14
	Y	90	216	3 5/8	8 1/2

H. Paper exit section

(1) Exit Capacity

Ejection part	Center part of the main unit
Ejection method	Face-down ejection
Paper capacity for ejection	150 sheets (for A4R, 8.5x11R)
Ejectable paper size and weight	Refer to "Size of paper which can be discharged".
Shifter function	No
Detection of ejected paper	No
Detection of full ejected paper	Yes

(2) Size of paper which can be discharged

			Duplex Section	Paper Ejection Section
				Exit Tray
Paper size	8.5"x14" (Legal)	216x356mm	Yes	Yes
	8.5"x13.5" (Asian Legal)	216x343mm	Yes	Yes
	8.5"x13.4" (Mexican Legal)	216x340 mm	Yes	Yes
	8.5"x13" (Foolscap)	216x330 mm	Yes	Yes
	8.5"x13" (Foolscap)	216x330 mm	Yes	Yes
	8.5"x11"R (Letter R)	216x279 mm	Yes	Yes
	5.5"x8.5"R (Invoice R)	140x216 mm	Yes	Yes
	Executive R	184x266 mm	No	Yes
	A4R	210x297 mm	Yes	Yes
	B5R	182x257 mm	Yes	Yes
	A5R	148x210 mm	Yes	Yes
	A6R	105x148mm	No	Yes
	16KR	195x270 mm	Yes	Yes
	Envelope		No	Yes
	Custom		No	Yes
Paper Type	Thin Paper	55-59g/m2 13-16lb bond	No	Yes
	Plain Paper	60-105g/m2 16-28lb bond	Yes	Yes
		Recycled Paper	Yes	Yes
		Color Paper	Yes	Yes
		Letter Head	Yes	Yes
		Pre-Printed Paper	Yes	Yes
		Pre-Punched Paper	Yes	Yes
		106-220g/m2 28 lb bond -80 lb Cover	No	Yes
	Heavy paper	106-220g/m2 28 lb bond -80 lb Cover	No	Yes
		221 g/m2 or more 81lb Cover or more	No	No
	Envelope	75-90g/m2	No	Yes
	Transparency		No	Yes
	Label		No	Yes
	Tab Paper		No	No
	Glossy Paper		No	Yes
	User Setting 1-7		No	No

Envelope Type

Type	Size
Monarch	98x191
Com10	105x241
DL	110x220
C5	162x229

Custom Size

		AB System (mm)		Inch System (inch)	
		Min.	Max.	Min.	Max.
Multi Bypass Tray	X	140	356	5 1/2	14
	Y	90	216	3 5/8	8 1/2

I. Operation panel

Form	LCD with backlight
Color	Monochrome
Number of display dots	192x73 dots
LCD driving display area (WxD)	63 x 65mm
LCD Backlight	White LED
LCD Contrast adjustment	No
Angle/position adjustment	No

J. Controller board

Interface		
IEEE1284 Parallel	No	
Ethernet	1 port	
	Interface	10Base-T, 100Base-TX
	Support Protocol	TCP/IP(IPv4, IPv6)
USB 2.0 (Host)	1port	
USB 2.0 (Device)	1 port	
USB authentication acquisition	No	
IrSimple I/F	No	
Serial I/F (for coin vender)	No	
Memory	Refer to Memory / Hard disc	
Memory Slot	No	
WHQL acquisition	Yes	

K. Memory/Hard disk

Memor y	Scan Resolu tion	E-sort copy capacity				Fax Memory *1	HDD
		Monochrome		Color			
		TEST SHEET D	Greg's fruits	TEST SHEET D	Greg's fruits		
512MB	600x30 Odpi	Over 50 sheets	Over 50 sheets	Over 50 sheets	13 sheets	8MB	No
	600x40 Odpi	Over 50 sheets	41 sheets	Over 50 sheets	12 sheets		No
	600x60 Odpi	Over 50 sheets	37 sheets	Over 50 sheets	11 sheets		No

*1 Fax model only

* For Printing, collate printing is available for every print files.

L. System environment

Copier memory (Local memory)	Printer memory (System Memory)
512MB (Standard)	

M. Warm-up time

Main power SW	
Warm up time	29 sec
Preheat	Yes

2. Copy functions

A. First copy time

Engine	MX-C250		MX-C300	
	Monochrome	Color	Monochrome	Color
Original Glass	10sec	18sec	10sec	18sec
SPF	14sec	22sec	-	-
RSPF	-	-	16sec	25sec

B. Job Speed

Engine	MX-C250		MX-C300	
	Monochrome	Color	Monochrome	Color
S to S	18 cpm 75.0%	9 cpm 37.5%	18 cpm 64.3%	9 cpm 32.1 %

* It regulates copy speed on combination of the main unit and the document feeder.

* S to S: A4R / 8.5x11R, 11 pages of original, 1 set of copy (not including the first copy)

* Monochrome: 600x300dpi, Color: 600x300dpi (default).

3. Printer function

A. Printer driver supported OS

OS		Custom PCL6	Custom PCL5c	Custom PS	PPD	PC-Fax*1	TWAIN
Windows	98 / Me	No	No	No	No	No	No
	NT 4.0 SP5 or later	No	No	No	No	No	No
	2000	No	No	No	No	No	No
	XP	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	XPx64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2003	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2003x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2008	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2008x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Vista	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Vistax64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows7	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows7x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows8	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows8x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2012 x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
Mac	9	No	No	No	No	No	No
	X 10.2	No	No	No	No	No	No
	X 10.3	No	No	No	No	No	No
	X 10.4	No	No	No	CD-ROM	No	No
	X 10.5	No	No	No	CD-ROM	Web*2	No
	X 10.6	No	No	No	CD-ROM	Web*2	No
	X 10.7	No	No	No	CD-ROM	Web*2	No
	X 10.8	No	No	No	CD-ROM	Web*2	No

*1: For fax model only

*2: Timing is to be determined

B. PDL emulation/Font

PDL (command)	Font installed
PCL5c compatible /	European outline font =80 font types
CL6 compatible	Line printer font (BMP) =1 font types
Postscript3 compatible	European outline font =136 font types

4. Sanner/Fax function

A. Transmission method

Mode	Fax
Transmission Time	Less than 2 sec. (Super G3 /JBIG) Less than 6sec.(G3 ECM)
Modem Speed	33.6 kbps -> 2.4kbps Auto-fallback
Intercommunication	Super G3 / G3
Communication line	Public switched telephone network (PSTN), private branch exchange (PBX)
Max. number of lines	1 line
ECM	Yes
Support the digital line network (Sending level)	Yes

B. Number of Support Line

Standard	1 line
Expansion	Not provided

C. Transmission Mode

RSPF/OC transmission switching	X
--------------------------------	---

D. Image Quality/Image Process

Mode	Scanner	Fax
Halftone reproduction	Equivalent to 256 gradations	Equivalent to 256 gradations
Exposure Adjustment	Auto	Yes
	Manual	Yes : 5 levels
Original document type (Selectable in manual mode)	Text	Yes
	Text / Photo	No
	Photo	No
Magical Scan (Area division + Suppress Background)	No	No
Selection of Image Quality	N/A	Halftone (B&W only) ON/OFF

E. Scanner/Fax function

(1) Support image

Mode	Format / Compression method		Support
Scanner	File format (Mono 2 gradation)	TIFF	Yes (1 page to 1 file, All pages to 1 file)
		PDF	Yes (All page to 1 file)
		PDF/A	No
		Encrypted PDF	No
	File format (Color / Gray scale)	Color TIFF	Yes (1 page to 1 file, All pages to 1 file)
		JPEG	Yes (All page to 1 file)
		PDF	Yes (All page to 1 file)
		PDF/A	No
		Encrypted PDF	No
	Compression method (Mono 2 gradation)	Non-compression	Yes
		G3 (1- dimensional) = MH (Modified Huffman)	Yes
		G4 = MMR (Modified MR)	Yes
	Compression method (Color / Gray scale)	JPEG (High / Middle / Low)	Yes
		BK Letter Emphasis	No
2-Color PDF		No	
Fax	File format (Monochrome)	N/A	No
	Compression method (Monochrome)	MH / MR / MMR / JBIG	Yes
File per page (Setting of the number of pages available)			No

(2) Specification of Addresses

Mode	Support	
	Scanner	Fax
Direct input from 10 keypad , # key, * key	Yes	Yes
Speed Dial (quick key)	No	Yes 300 addresses (000-299)
Address	Yes	Yes
Search	No	Yes
Tab	Yes USER / ABCD / EFGHI / JKLMN / OPQRST / UVWXYZ)	No
One-touch key	No	No
Group dial	Yes	Yes
Redial	No	Yes Last destination only, one-address only)
Selection from the LDAP server	Yes	No
USB memory Scan	Yes	No
Chain Dial	No	Yes (by the Pause key)

Mode	Support	
	Scanner	Fax
Destination Confirmation	No	Yes (Available when broadcasting to destinations including Individuals.)
Program	Yes (Registered up to 2) Neo MFP has Program1button and Program 2 button.	Yes (Registered up to 9)

(3) Specification of Multiple Addresses

Mode	Scanner	Fax
Broadcast Transmission	Yes	Yes
Number of destinations of broadcast transmission	Yes(20 addresses)	Yes(100 addresses) Number of group dial are up to 50 addresses
Sequential Broadcast Transmission request	No	Yes(100 addresses)
Deleting addresses from groups	No	No
CC/BCC	No	No

(4) Send function

Mode	Fax send
Memory transmission	Yes
Speaker	Yes
Quick online transmission	Yes
Direct transmission (Switching : Memory transmission <-> Direct transmission)	Yes
Manual transmission setting	Yes

(5) Special Functions of Send function

Mode	Scanner	Fax
Job Build	No	No
Slow Scan Mode	No	No
Mixed Size Original	No	Yes Only Single feed.
Original Count (Available to both DF/OC scanning)	No	No
Edge Erase (Edge/Edge+Center/ Center/Side)	No	No
Book Divide	No	No
Card Shot	No	No
Time Specified send	No	Yes
Own Number Sending	No	Yes
Own Number Sending	No	No
Date Print	No	Yes
Own Name sending	No	Yes
Own Number sending	N/A	Yes
Printing Page Number at Receiver	N/A	Yes
Suppress Background	Yes	N/A
Blank Page Skip (Available to both DF/OC scanning)	No	N/A
Drop Out Color	No	N/A
Sharpness	Yes	N/A
Contrast	No	N/A
Stamp	No	N/A
Watermark	No	No
Filing	No	No
Quick File	No	No
Multi shot	No	No
Verification Stamp	No	No
Preview	No	No
Job divide by recognizing blank pages	No	No
Dual Page Scan send	No	No
Combined pages send	No	No
Divide send by size limit	No	No

Mode	Scanner	Fax
Covers	N/A	No
Outbound message	N/A	No
Special Send (Polling / F-code)	N/A	Refer to 4.9 Memory box/ Polling / F-code
Memory box	N/A	Refer to 4.9 Memory box/ Polling / F-code

(6) Other Send Functions

Mode	Scanner	Fax
Auto Reduction Sending Setting	No	No
Rotation Sending	No	No
Zoom sending	No	No
Recall Mode		No
	Error	No
	Busy	Yes
Change of the number of pages for each file	No	No
Restriction on transmission size	No	No
Reception Report	No	No
Transmission result notification	No	No
Deleting the sending history	No	No
Keeping address for a certain time after sending	No	No
Retry mode from the transmission error job list display	No	No

(7) Receive function

Mode	Fax
Automatic reception	Yes
Manual reception	Yes
Switching from manual reception to auto receptio	Yes

(8) Print Functions for Received Data

Mode	Fax
Auto Receive Reduce Setting	Yes
Fixed size reception	No
Specified size scaled reception	No
Rotated reception	No
Setting of received data print condition (Setting of Print Actual Size or Reduction Print)	Yes
2-sided copy reception	Yes
Multi Shot (2in1) reception	No
Auto Reduction Sending Setting when A3 size is received (for only the places of destination of the fax with the inch system)	No
Auto Reduction Sending Setting when letter size is received (for only the places of destination of the fax with the AB system)	Yes
Received data bypass output	No
Index printing	No
Body Text Print Select Setting	No
Output tray setting	No
Insert job separators	No
Number of copies of received data	No
Staple setting of received data	No
Color print when empty black toner	No
Foot Print	No

(9) Inbound Routing of Received Data

Format	PDF
Destination	SMB
Auto create settings of PDF for PC Browsing to the HDD of the MFP	No
PDF creation for PC Browsing when storing in the HDD	No
File name setting when inbound routing (Attached TSI information)	Yes
The sender name is added to the inbounding file name	No
Information about the MFP that transfers the data is added to the transferred data	No

Format	PDF
Timetable	No
Inbound routing by line type	No
Alternative mode for destination error	Yes
Easy switching destinations of inbound routing	No
Forward Table	10 tables
Address (forward)	5 addresses at one table

(10) Other Receive Functions

Mode	Fax
Allowing specified address/domain reception	No
Rejecting specified address / domain reception	No
Allowing reception from specific numbers	No
Rejecting reception from specific numbers	Yes
Rejecting reception from fax numbers without a TSI value	No
External phone connection remote	Yes
Time Specified output	Yes
Reception Check Interval Setting	No
POP3 Communication Timeout Setting	No
Data Forwarding in case of trouble of output	Yes
Auto wake up print	No
Data Forwarding in case of trouble of output	Yes
Alternative reception	Yes
NJR transmission after reception (Notifying PC of reception)	No

(11) Record Size

Mode	Fax
Max. recording width	216mm
Record size	A4R . A8.5x11R . 5.5x8.5

(12) Registration-related settings

Import/export of VCF format	No
Import of CSV format	No
My address book	No
Cloning Address book	No
Retrieve local address book	Yes (Only Fax)
Fixed mode display	No
Linkage with the PC-Fax address book	Yes
Import/export of the address book	Yes (by the device cloning function)
Readout / read-in of data registered in other models	Yes (by the address book conversion utility,)
Default color mode registration to individual	No

Mode	Fax
Memory box	No
Number of item can be registered in the memory box	No
Number of characters can be registered in the memory box	No
Polling Send	Yes
Fax Polling Security	Yes
Passcode Number Setting	Yes
Polling Reception	Yes
Broadcast Polling Reception	Yes
F-code	No
Sub-address	No
Pass code	No
Polling Memory Send	No
Polling Memory Reception	No
Confidential Send	No
Confidential Reception	No
Relay Broadcast transmission request	No
Relay Broadcast Send	No

(13) Sound settings

Mode	Item	Scanner	Fax
Speaker	Speaker Volume Setting	No	Yes
Calling	Speaker Volume Setting	No	Yes
Ring tone	Speaker Volume Setting	No	No
Line monitor	Speaker Volume Setting	No	Yes
Reception	Speaker Volume Setting	No	No
Receive Complete Signal	Speaker Volume Setting	No	Yes
	Tone Pattern	No	Yes
	Transmission Complete Sound Time Setting	No	Yes
Send/Receive error signal	Speaker Volume Setting	No	No
	Tone Pattern	No	No
	Transmission Complete Sound Time Setting	No	No
Communication Error Signal	Speaker Volume Setting	No	Yes
Setting of Original Scan Complete Signal	Speaker Volume Setting	No	Yes
Tone	Speaker Volume Setting	No	Yes

5. Report/list function

A. User Authority

Item	Support
Printer	SPDL Symbol Set List
	SPDL Internal Font List
	PS Font List
	NIC page
Scanner	Sending Address List
	Group List
	Program List
Fax	Sending Address List
	Group List
	Program List
	Transmission Reservation List
	Stored Original Check List
Setting List	Yes

B. Administrator Authority

Item	Support
Web Setting List	Yes
Fax Setting List	Yes
Fax Activity Report	Yes
Reject Fax Name List	Yes
Inbound Routing List	Yes
User List	Yes
User Information Print	Yes

C. Other List Print Functions

Item	Support
Duplex print	Yes

6. Power consumption

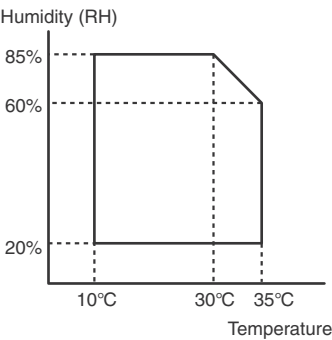
The full configuration can be operated with the rated power source.

	Overseas 100V	Overseas 200V
Max. Rated Power	1.1 kW	1.15 kW
Energy consumption efficiency	No restriction	No restriction
Preheat mode transition time	3min	3min
Recovery time from Pre-heat mode	10sec	10sec
Sleep mode transition time	15min	15min
Recovery time from Sleep mode	20sec	20sec

7. Dimensions and Weight

		MX-C250	MX-C300
		SPF Model	RSPF Model
Outer dimensions (WxDxH)		428mmx509mmx398mm	428mmx509mmx421mm
Full dimensions of the main unit		640mm	640mm
Weight	Main unit (developer and toner cartridge included)	MX-C250/ E:27.3kg MX-C250F/ FE:27.5kg	MX-C300E:28.1kg MX-C300F/W/ WE:28.3kg

8. Ambient conditions



[3] CONSUMABLE PARTS

1. Supply system table

A. North America, Middle America, South America

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner Cartridge (Black)	Toner Cartridge (Black) x1	6k	MX-C30NT-B	10	Life: A4 5% document
Toner Cartridge (Color)	Toner Cartridge (Color) x1	6k	MX-C30NT-C/M/Y	10	Life: A4 5% document
Develop Cartridge (Black)	Develop Cartridge (Black) x1	75K	MX-C30NV-B	10	
Develop Cartridge (Color)	Develop Cartridge (Color) x1	45K	MX-C30NV-C/M/Y	10	
Drum Cartridge	Drum Cartridge x1	BK : 75K CL : 45K	MX-C30DR	10	

B. Europe, Eastern Europe

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner Cartridge (Black)	Toner Cartridge (Black) x1	6k	MX-C30GT-B	10	Life: A4 5% document
Toner Cartridge (Color)	Toner Cartridge (Color) x1	6k	MX-C30GT-C/M/Y	10	Life: A4 5% document
Develop Cartridge (Black)	Develop Cartridge (Black) x1	75K	MX-C30GV-B	10	
Develop Cartridge (Color)	Develop Cartridge (Color) x1	45K	MX-C30GV-C/M/Y	10	
Drum Cartridge	Drum Cartridge x1	BK : 75K CL : 45K	MX-C30DR	10	

C. Australia, New Zealand, Korea

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner Cartridge (Black)	Toner Cartridge (Black) x1	6k	MX-C30GT-B	10	Life: A4 5% document
Toner Cartridge (Color)	Toner Cartridge (Color) x1	6k	MX-C30GT-C/M/Y	10	Life: A4 5% document
Develop Cartridge (Black)	Develop Cartridge (Black) x1	75K	MX-C30GV-B	10	
Develop Cartridge (Color)	Develop Cartridge (Color) x1	45K	MX-C30GV-C/M/Y	10	
Drum Cartridge	Drum Cartridge x1	BK : 75K CL : 45K	MX-C30DR	10	

D. Middle East, Taiwan, Africa, Israel, Philippines

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner Cartridge (Black)	Toner Cartridge (Black) x1	6k	MX-C30FT-B	10	Life: A4 5% document
Toner Cartridge (Color)	Toner Cartridge (Color) x1	6k	MX-C30FT-C/M/Y	10	Life: A4 5% document
Develop Cartridge (Black)	Develop Cartridge (Black) x1	75K	MX-C30FV-B	10	
Develop Cartridge (Color)	Develop Cartridge (Color) x1	45K	MX-C30FV-C/M/Y	10	
Drum Cartridge	Drum Cartridge x1	BK : 75K CL : 45K	MX-C30DR	10	

E.Asia, Hong Kong

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner Cartridge (Black)	Toner Cartridge (Black) x1	6k	MX-C30AT-B	10	Life: A4 5% document
Toner Cartridge (Color)	Toner Cartridge (Color) x1	6k	MX-C30AT-C/M/Y	10	Life: A4 5% document
Develop Cartridge (Black)	Develop Cartridge (Black) x1	75K	MX-C30AV-B	10	
Develop Cartridge (Color)	Develop Cartridge (Color) x1	45K	MX-C30AV-C/M/Y	10	
Drum Cartridge	Drum Cartridge x1	BK : 75K CL : 45K	MX-C30DR	10	

F.China

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner Cartridge (Black)	Toner Cartridge (Black) x1	6k	MX-C30CT-B	10	Life: A4 5% document
Toner Cartridge (Color)	Toner Cartridge (Color) x1	6k	MX-C30CT-C/M/Y	10	Life: A4 5% document
Develop Cartridge (Black)	Develop Cartridge (Black) x1	75K	MX-C30CV-B	10	
Develop Cartridge (Color)	Develop Cartridge (Color) x1	45K	MX-C30CV-C/M/Y	10	
Drum Cartridge	Drum Cartridge x1	BK : 75K CL : 45K	MX-C30DR	10	

2. Maintenance parts list

A. U.S.A/Canada/South and Central America

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing unit	MX-C30FU	Fusing unit (Heater lamp 120V) x 1	150K	4	
Fusing unit	MX-C30FU3	Fusing unit (Heater lamp 230V) x 1	150K	4	
Primary transfer unit	MX-C30U1	Primary transfer unit x 1	150K	1	
Toner collection container	MX-C30HB	Toner collection container unit x 1	8K *1	10	Each color A4 5% coverage30% color ratio

B. Europe/East Europe/Russia/Australia/New Zealand

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing unit	MX-C30FU	Fusing unit (Heater lamp 230V) x 1	150K	4	
Primary transfer unit	MX-C30U1	Primary transfer unit x 1	150K	1	
Toner collection container	MX-C30HB	Toner collection container unit x 1	8K *1	10	Each color A4 5% coverage30% color ratio

C. Asia/Middle East/Africa

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing unit	MX-C30FU	Fusing unit (Heater lamp 230V) x 1	150K	4	
Primary transfer unit	MX-C30U1	Primary transfer unit x 1	150K	1	
Toner collection container	MX-C30HB	Toner collection container unit x 1	8K *1	10	Each color A4 5% coverage30% color ratio

D. Hong Kong

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing unit	MX-C30FU	Fusing unit (Heater lamp 230V) x 1	150K	4	
Primary transfer unit	MX-C30U1	Primary transfer unit x 1	150K	1	
Toner collection container	MX-C30HB	Toner collection container unit x 1	8K *1	10	Each color A4 5% coverage30% color ratio

*1: Life of each color A4 5% coverage30% color ratio conversion value

(The ratio is a rough reference since it differs depending on print contents, paper sizes, kinds of paper, use environment, the number of continuous prints.)

3. Definition of developer/drum life end

When the developer/drum counter reaches the specified count.

When the developer/drum rpm reaches the specified count.

When either of the above reach the specified count, it is judged as life end.

In an actual case, the ratio of monochrome output and color output may differ greatly.

When data of mixed documents (monochrome and color) are output, monochrome document data may be output in the color mode in order to prevent against fall in the job efficiency. (ACS auto color selection).

In addition, 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 amount, it is judged as life end.

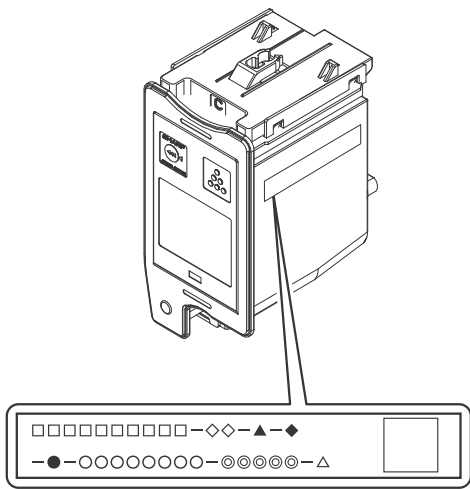
To check the developer/drum life, use SIM22-01.

	Oversea (Except China)	China
Rotations	575k	575k
Total Prints (Std)	-	75k(BK) / 45k(CL)
Total Prints (Max)	100k(BK) / 60k(CL)	-

4. Production number identification

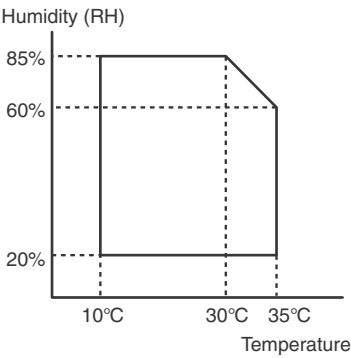
A. Toner cartridge

The label indicating the management number is attached to the bottom of the toner cartridge.



- : Unit code/Model name
- ◇: Color code (Black: BK /Cyan: CY /Magenta: MA /Yellow: YE)
- ▲: Destination
- ◆: Skating
- : Production place
- : Production date (YYYYMMDD)
- ◎: Serial number
- △: Version

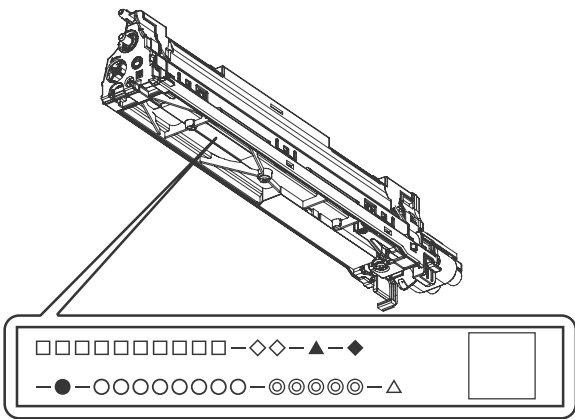
5. Environmental conditions



Standard environmental conditions	Temperature	20 - 25 degree C
	Humidity	65 +/- 5 %RH
Usage environmental conditions	Temperature	10 - 35 degree C
	Humidity	20 - 85 %RH
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	

* Unsealed state is the state that the drum is not exposed. (The drum is covered by the black paper in packing state.)

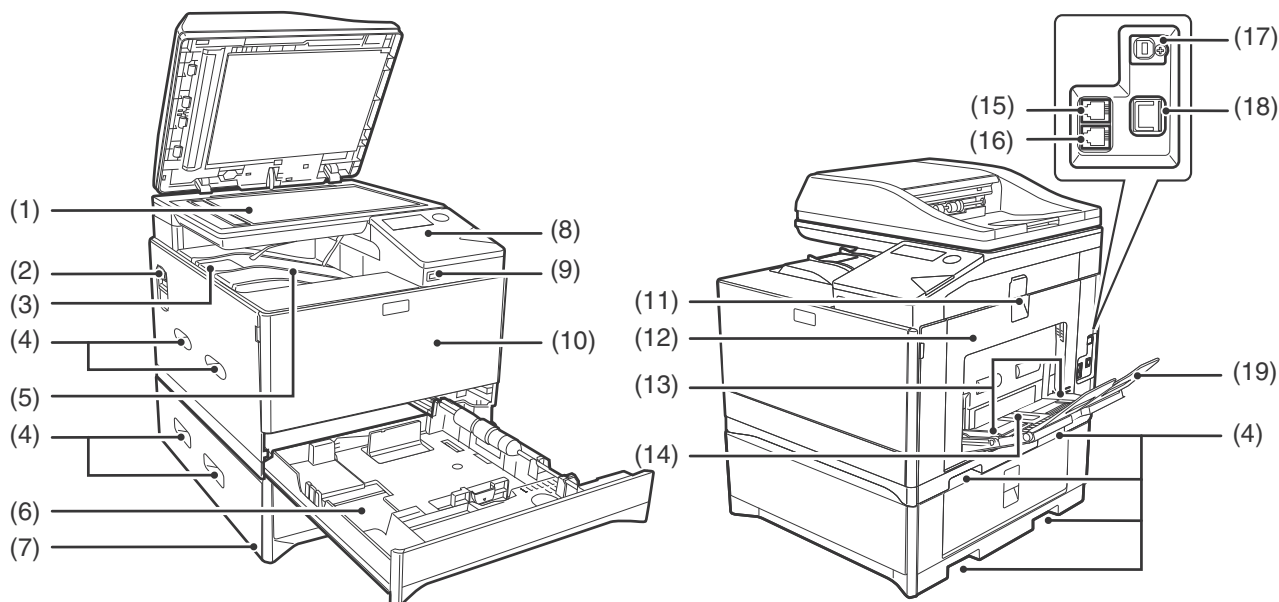
B. Developing unit



- : Unit code/Model name
- ◇: Color code (Black: BK /Cyan: CY /Magenta: MA /Yellow: YE)
- ▲: Destination
- ◆: Skating
- : Production place
- : Serial number
- ◎: Production date (YYYYMMDD)
- △: Version

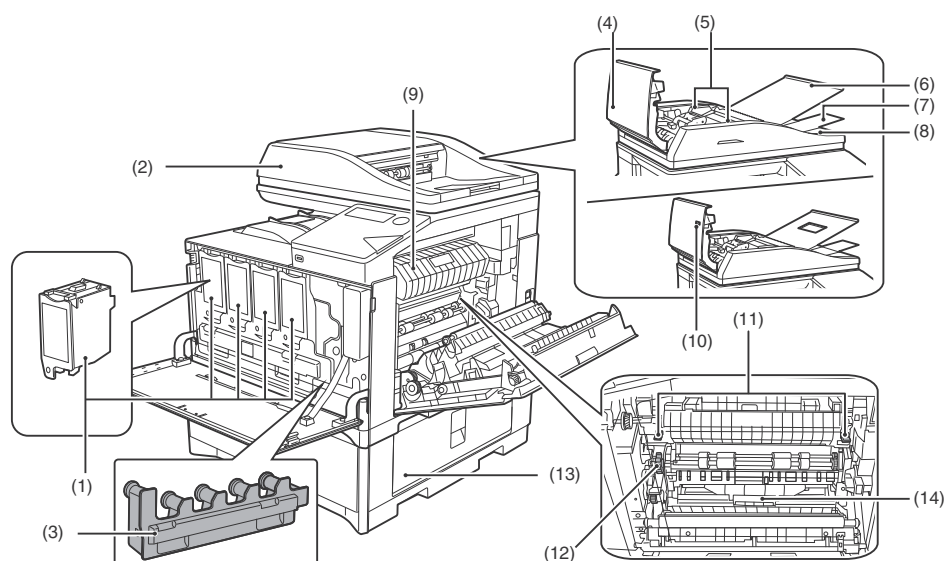
[4] EXTERNAL VIEW AND INTERNAL STRUCTURE

A.External view



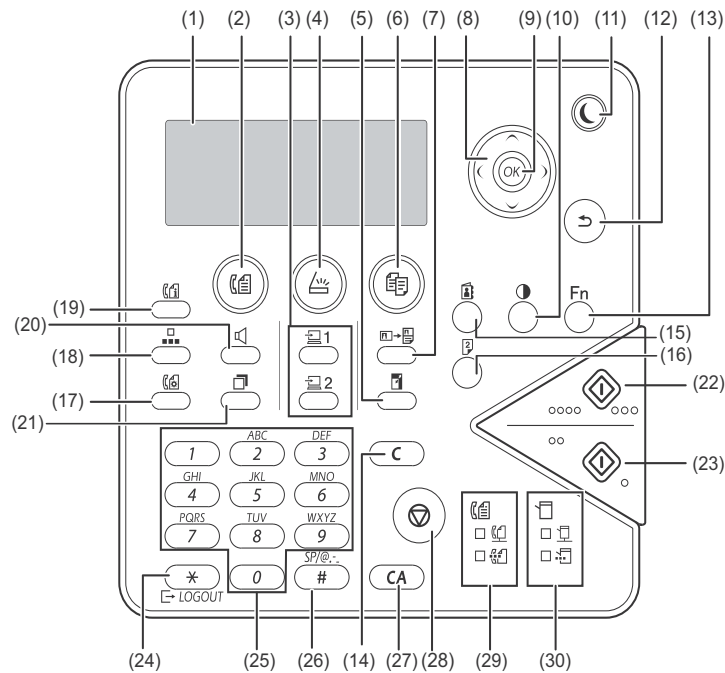
No.	Name	function/Operation
1	Document glass	Place an original that you wish to scan face down here.
2	Power switch	Press to turn the machine power on and off.
3	Centre tray extensions	Flip the extension to the left to eject paper of A4 size or greater.
4	Handles	Used to lift and move the machine. When attaching tray 2, use the handle at the bottom.
5	Centre tray	Copies and printed pages are output to this tray.
6	Tray 1	Tray 1 can hold approximately 250 sheets of copy paper (64 g/m2 (20 lbs.)). For restrictions on paper types, sizes, and weights, refer to "PAPER" (p.16).
7	Tray 2 (Option)	Tray 2 can hold approximately 550 sheets of copy paper (64 g/m2 (20 lbs.)). For restrictions on paper types, sizes, and weights, refer to "PAPER" (p.16).
8	Operation panel	Contains operation keys and indicator lights.
9	USB 2.0 port (Type A)	This is used to connect a USB device such as USB memory to the machine.
10	Front cover	Open to remove paper misfeeds or replace the toner cartridge etc.
11	Side cover handle	Pull to open the right side cover.
12	Side cover	Open to remove misfed paper.
13	Bypass tray guides	Adjust to the width of the paper when using the bypass tray.
14	Bypass tray	Special paper (heavy paper or transparency film)
15	Extension phone socket	The line from an extension phone can be connected to this socket to use the telephone function.
16	Telephone line socket	When the fax function of the machine is used, the telephone line is connected to this socket.
17	USB 2.0 port (Type B)	Connect to your computer to this port to use the printer and scanner functions.
18	LAN connector	Connect the LAN cable to this connector when the machine is used on a network.
19	Bypass tray extension	Open this tray when loading paper in the bypass tray.

B.Document feeder and document glass



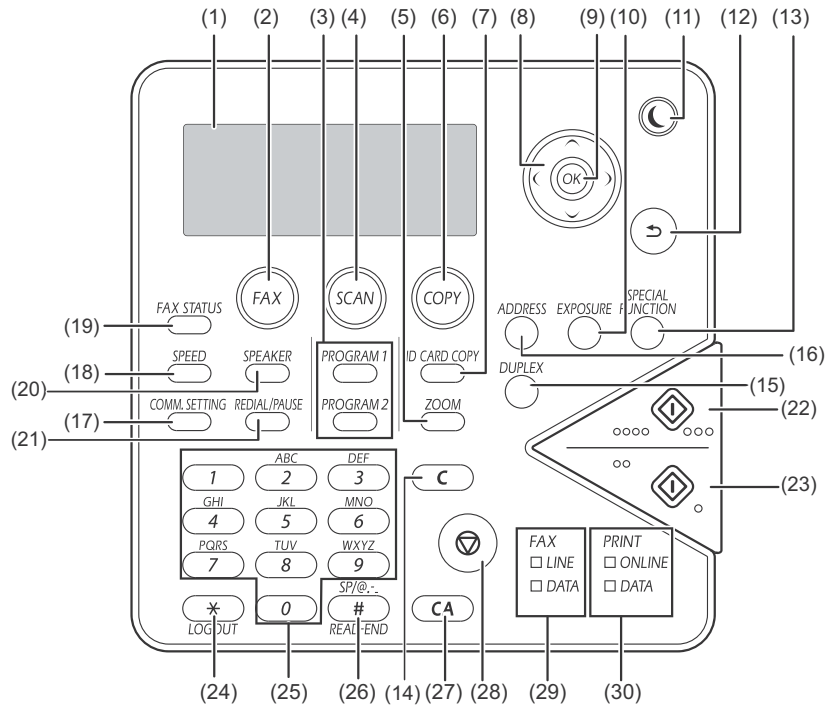
No.	Name	function/Operation
1	Toner cartridge (Y/M/C/Bk)	Contains toner. When the toner runs out in a cartridge, the cartridge of the colour that ran out must be replaced.
2	Document feeder	Place the original(s) that you wish to scan face up here. Up to 50 sheets can be placed.
3	Toner collection container	This collects excess toner that remains after printing.
4	Feeding roller cover	Open to remove misfed originals.
5	Original guides	Adjust to the size of the originals.
6	Original feed tray	Place original documents for scanning on the original feed tray.
7	Tray extension	Open this when you scan a long original.
8	Exit area	Exit Tray which stacks original scanned documents.
9	Fusing unit paper guide	Open to remove misfed paper.
10	Viewing hole	Use the viewing hole (see the illustration at right) to check the position of the original. (Models with the one-sided scanning function only)
11	Fusing unit release levers	Push down these levers to release the pressure when removing misfed paper from inside the fusing area or when feeding an envelope from the bypass tray.
12	Roller rotating knob	Rotate to remove misfed paper.
13	Paper tray right side cover	Open this to remove a paper misfeed in trays.
14	Duplex conveyor cover	Open this cover to remove a misfeed.

C.Operation panel (Europe, Asia)



No.	Name	Function/Operation
1	Display	Shows various messages.
2	[FAX] key / indicator	This key is used to select fax mode.
3	[PROGRAM 1 / PROGRAM 2] key	Press to use the program settings of the default scanner.
4	[SCAN] key / indicator	Press to select scan mode.
5	[ZOOM] key	Press to select a reduction or enlargement copy ratio.
6	[COPY] key / indicator	Press to select copy mode. The toner remaining amount is displayed by holding this key.
7	[ID CARD COPY] key	Enable ID Card Copy.
8	Arrow keys	Press to move the highlighting (which indicates that an item is selected) in the display.
9	[OK] key	Press to enter the selected setting.
10	[EXPOSURE] key	Use to select the exposure mode.
11	[ENERGY SAVE] key / indicator	Press to enter the energy save mode.
12	[BACK] key	Press to return the display to the previous screen.
13	[SPECIAL FUNCTION] key	Press to select special functions.
14	[C] key	Press to clear the set number of copies or stop a copy run.
15	[ADDRESS] key	Used to search for address, numbers and other contact information stored for auto dialling.
16	[DUPLEX] key	Select the duplex copying and the duplex scanning mode.
17	[COMM. SETTING] key	This is used to switch between memory transmission and direct transmission, and to switch between automatic reception and manual reception. It is also used to enter a space or "-" when entering characters.
18	[SPEED] key	This is used to dial by Speed dialling and to enter a symbol when entering characters.
19	[FAX STATUS] key	This is used to cancel a fax transmission or a stored fax transmission.
20	[SPEAKER] key	This is used to dial without lifting an extension phone connected to the machine and to shift between upper and lower case when entering characters.
21	[REDIAL/PAUSE] key	This is used to redial the last number dialled, and enter a pause when entering a fax number.
22	[COLOUR START] key / indicator	Press this key to copy or scan an original in colour. This key cannot be used for fax or Internet fax.
23	[BLACK & WHITE START] key / indicator	Press this key to copy or scan an original in black and white. This key is also used to send a fax in fax mode.
24	[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.
25	Numeric keys	Enter characters/numbers.
26	[READ-END] key	When copying in sort mode from the document glass, press this key when you have finished scanning the original pages and are ready to start copying.
27	[CA] key	Clears all selected settings and returns the machine to the default settings.
28	[STOP] key	Press this key to stop a copy job or scanning of an original.
29	FAX mode indicators	
	LINE indicator	Lights up when a fax is being sent or received.
	DATA indicator	Blinks when a fax cannot be printed because there is no paper or otherwise. Lights steadily when there is an unsent fax.
30	Printer mode indicators	
	ONLINE indicator	Print data cannot be received when this lamp is lit.
	DATA indicator	Blinks when print data is being received. Lights steadily during printing.

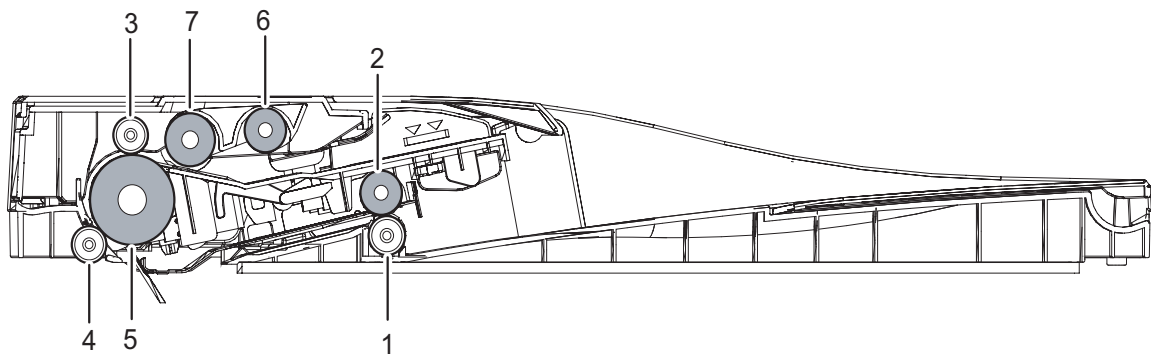
D.Operation panel (USA)



No.	Name	Function/Operation
1	Display	Shows various messages.
2	[FAX] key / indicator	This key is used to select fax mode.
3	[PROGRAM 1 / PROGRAM 2] key	Press to use the program settings of the default scanner.
4	[SCAN] key / indicator	Press to select scan mode.
5	[ZOOM] key	Press to select a reduction or enlargement copy ratio.
6	[COPY] key / indicator	Press to select copy mode. The toner remaining amount is displayed by holding this key.
7	[ID CARD COPY] key	Enable ID Card Copy.
8	Arrow keys	Press to move the highlighting (which indicates that an item is selected) in the display.
9	[OK] key	Press to enter the selected setting.
10	[EXPOSURE] key	Use to select the exposure mode.
11	[ENERGY SAVE] key / indicator	Press to enter the energy save mode.
12	[BACK] key	Press to return the display to the previous screen.
13	[SPECIAL FUNCTION] key	Press to select special functions.
14	[C] key	Press to clear the set number of copies or stop a copy run.
15	[DUPLX] key	Select the duplex copying and the duplex scanning mode.
16	[ADDRESS] key	Used to search for address, numbers and other contact information stored for auto dialling.
17	[COMM. SETTING] key	This is used to switch between memory transmission and direct transmission, and to switch between automatic reception and manual reception. It is also used to enter a space or "-" when entering characters.
18	[SPEED] key	This is used to dial by Speed dialling and to enter a symbol when entering characters.
19	[FAX STATUS] key	This is used to cancel a fax transmission or a stored fax transmission.
20	[SPEAKER] key	This is used to dial without lifting an extension phone connected to the machine and to shift between upper and lower case when entering characters.
21	[REDIAL/PAUSE] key	This is used to redial the last number dialled, and enter a pause when entering a fax number.
22	[COLOUR START] key / indicator	Press this key to copy or scan an original in colour. This key cannot be used for fax or Internet fax.
23	[BLACK & WHITE START] key / indicator	Press this key to copy or scan an original in black and white. This key is also used to send a fax in fax mode.
24	[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.
25	Numeric keys	Enter characters/numbers.
26	[READ-END] key	When copying in sort mode from the document glass, press this key when you have finished scanning the original pages and are ready to start copying.
27	[CA] key	Clears all selected settings and returns the machine to the default settings.
28	[STOP] key	Press this key to stop a copy job or scanning of an original.
29	FAX mode indicators	
	LINE indicator	Lights up when a fax is being sent or received.
30	Printer mode indicators	
	ONLINE indicator	Print data cannot be received when this lamp is lit.
30	DATA indicator	Blinks when print data is being received. Lights steadily during printing.

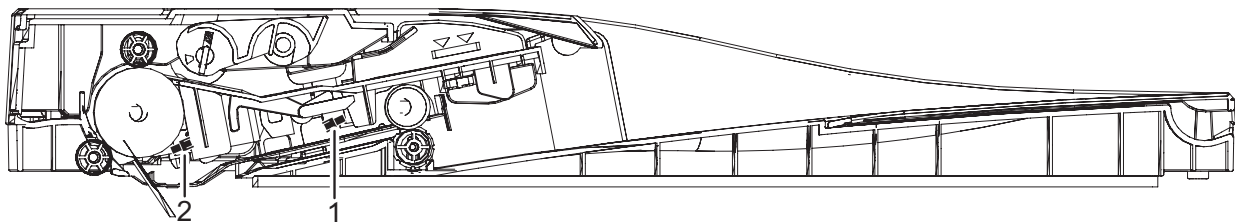
E.SPF

(1)Roller



No.	Name	Function/ Operation
1	Paper exit pressure roller	Applies pressure to a document and the paper exit drive roller to transport paper into the exit tray.
2	Paper exit roller	Exit transport drive roller.
3	Transport pressure roller	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
4	Transport pressure roller	Applies pressure to document and drive roller to transport paper.
5	Transport drive roller	Transports documents.
6	Pickup roller	Picks up an original document and transports the lead edge to the Document Feed Roller.
7	Document Feed Roller	Picks up a document and feeds it to the document feed roller.

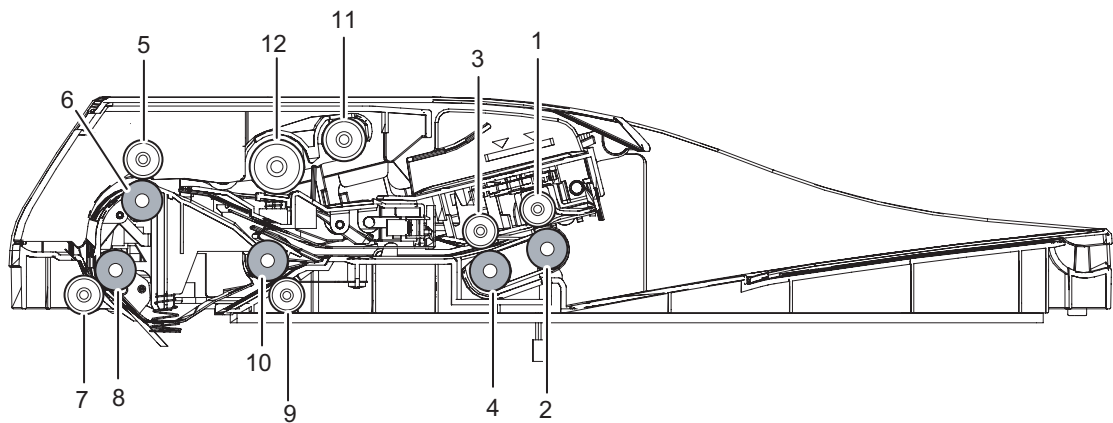
(2)Detector



No.	Signal name	Name	Type	Function/Operation
1	SPED	Document sensor	Light transmission	Detects document empty
2	SPPD1	Paper transport detector 1	Light transmission	Detects paper pass

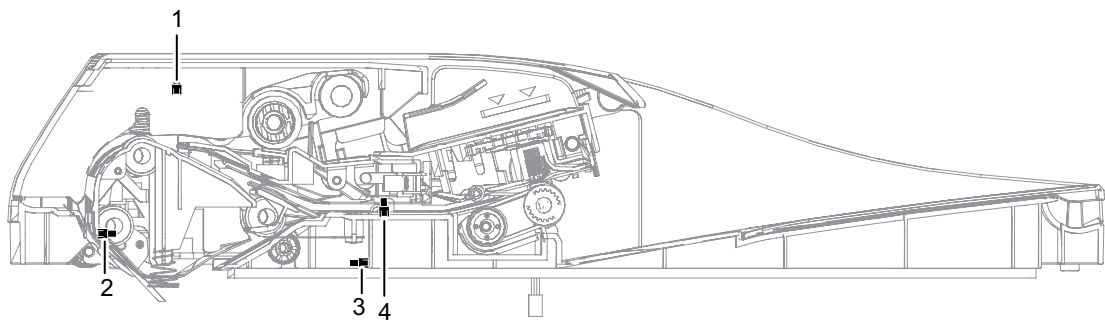
F.RSPF

(1)Roller



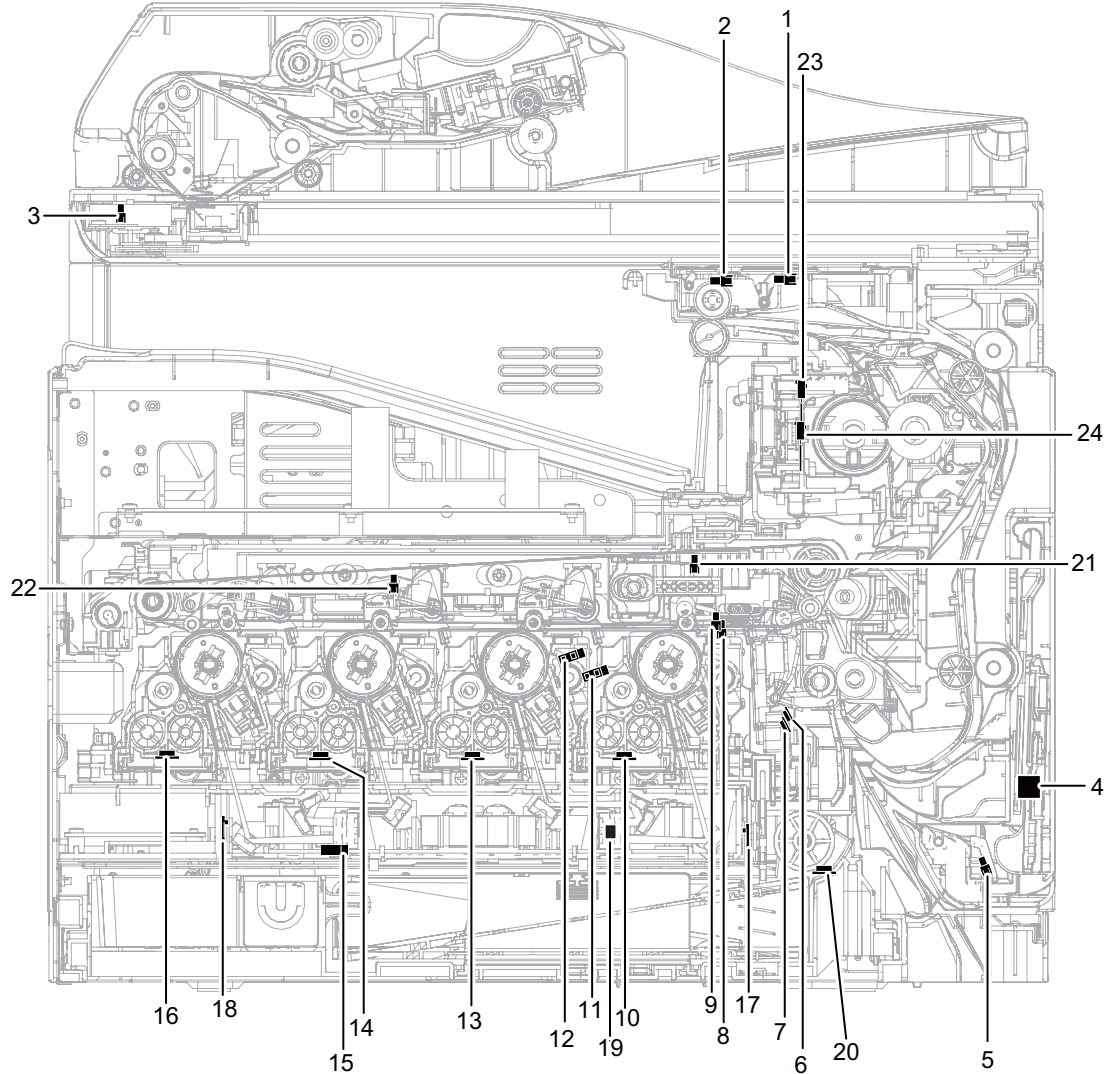
No.	Name	Function/ Operation
1	Paper exit roller (Idle)	Pressure (Idle) roller used in conjunction with the drive roller to move paper in the exit section.
2	Paper exit roller (Drive)	Paper Exit Drive Roller used to transport paper into the exit tray or move paper in reverse for duplex scanning.
3	Paper exit roller (Idle)	Pressure (Idle) roller used in conjunction with the drive roller to move paper in the exit section.
4	Paper exit roller (Drive)	Paper Exit Drive Roller used to transport paper into the exit tray or move paper in reverse for duplex scanning.
5	Upper transport roller (Idle)	Pressure Roller used to assist the Drive Roller to transport paper to the PS Roller set.
6	Upper transport roller (Drive)	Drive transport Roller used to transport paper to the PS Roller set.
7	PS roller (Idle)	Registration pressure (Idle) roller used to assist PS Drive Roller to transport paper over scanner slit glass and move paper to the Lower Transport roller set.
8	PS roller (Drive)	Registration Drive roller used to perform paper buckle timing and transport paper over the scanner slit glass to the Lower Transport Roller set.
9	Lower transport roller (Idle)	Lower paper transport pressure (idle) roller used to assist in moving paper with the Drive Roller to the the exit section of the RSPF.
10	Lower transport roller (Drive)	Lower Transport Drive Roller used to transport paper to the exit section or move paper to the upper transport rollers when performing a duplex scan.
11	Paper Pickup Roller	Picks up the top sheet of paper from the original tray and transports it to the Paper Feed Roller.
12	Paper feed roller (RSPF)	Feeds a document to the transport section.

(2)Detector



No.	Signal name	Name	Type	Function/Operation
1	SCOV	RSPF cover open/close detector	Transmission type	Detects open/close of the RSPF unit.
2	SPPD1	Document transport sensor 1	Transmission type	Detects paper pass.
3	SPPD2	Document transport sensor 2	Transmission type	Detects paper pass
4	SPED	Document sensor	Transmission type	Detects document empty in the RSPF paper feed tray.

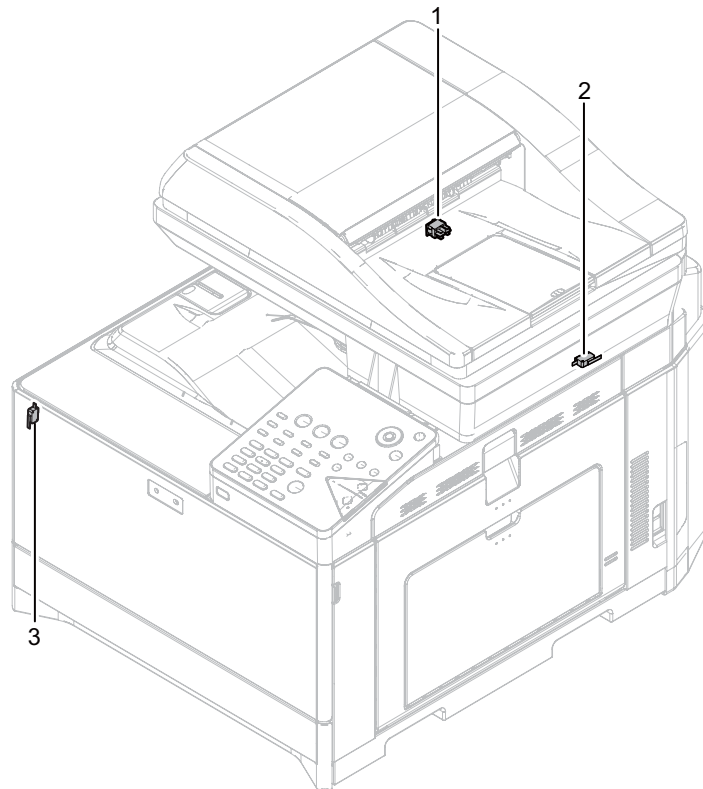
G.Sensor, Detector



No.	Signal name	Name	Type	Function/Operation
1	POD1	Fusing paper exit detector	Light transmission	Detects paper pass in the fusing section.
2	TFD2	Paper exit full detector	Light transmission	Detects paper full in the paper exit tray.
3	MHPS	Scanner home position sensor	Light transmission	Detects the scanner home position.
4	HUD_M/TH_M	Temperature/humidity sensor	Temperature/humidity sensor	Detects the temperature and the humidity. (For the process control)
5	MPED	Paper empty detector (Manual paper feed tray)	Light transmission	Detects paper empty. (Manual paper feed tray)
6	PPD2	Document transport sensor 2	Light reflection	Detects paper pass in front of the resist roller.
7	CPED1	Paper empty sensor (Paper feed tray 1)	Light transmission	Detects paper empty. (Paper feed tray 1)
8	REGS_F/PCS_F	Registration sensor F (Image density sensor)	Light reflection	Detects color shift. (F side) / Detects the CMY toner patch density.
9	REGS_R	Registration sensor R (Image density sensor)	Light reflection	Detects the K toner patch density. (R side)
10	TCS_K	Toner sensor (K)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (K).
11	DHPD_K	OPC drum rotation sensor (K)	Light transmission	Detects rotation and the phase of the OPC drum (K).
12	DHPD_CL	OPC drum rotation sensor (CL)	Light reflection	Detects rotation and the phase of the OPC drum (CL).
13	TCS_C	Toner sensor (C)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (C).
14	TCS_M	Toner sensor (M)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (M).
15	TNFD	Waste toner full detector	Light transmission	Detects when waste toner container has become full.
16	TCS_Y	Toner sensor (Y)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (Y).
17	BD_KC	Laser beam sensor (KC) (on BD PWB(BC))	Photo diode	Detects the timing of the laser beams.

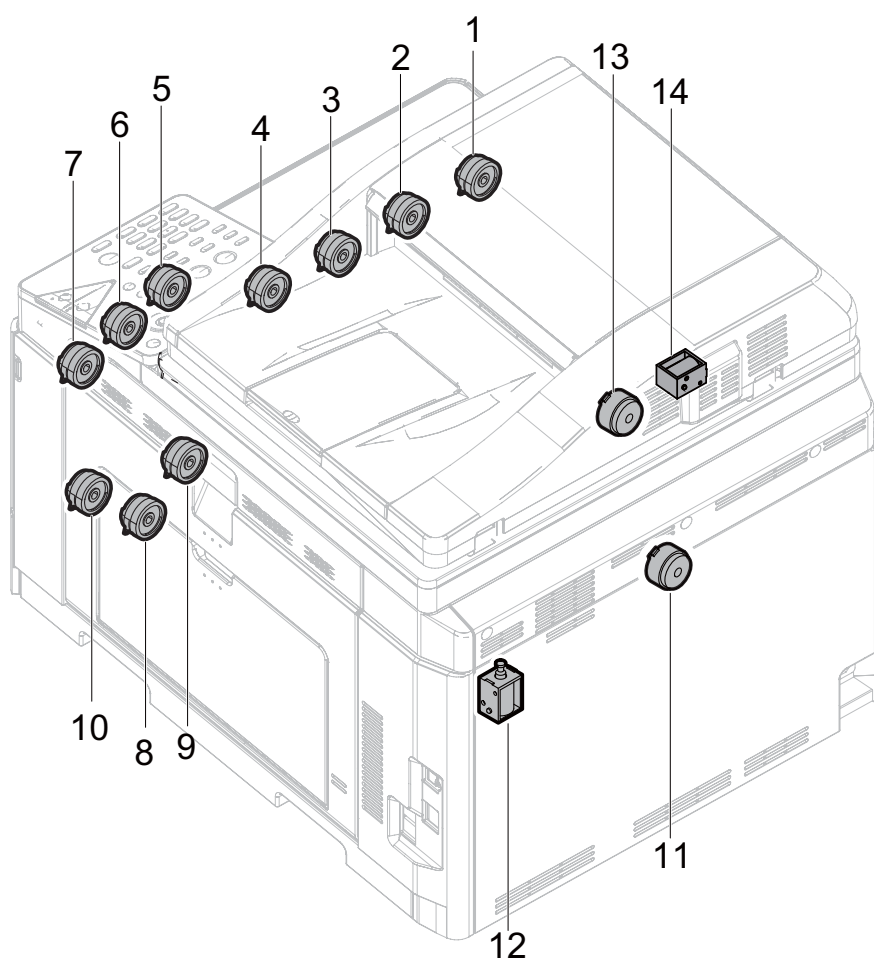
No.	Signal name	Name	Type	Function/Operation
18	BD_MY	Laser beam sensor (MY) (on BD PWB(MY))	Photo diode	Detects the timing of the laser beams.
19	TH_LSU	LSU thermistor (on LD PWB)	Thermistor	Detects the temperature in the LSU. (Used for correction of distortion.)
20	TH_P	Ozone duct thermistor	Thermistor	Detects the temperature in the Ozone duct.
21	1TUD_K	Transfer belt separation detector BK	Light transmission	Detects position of the transfer belt. Detects initialization of the transfer unit.
22	1TUD_CL	Transfer belt separation detector CL	Light transmission	Detects position of the transfer belt. Detects initialization of the transfer unit.
23	TH_UM	Fusing temperature sensor (Main)	Non-contact thermistor	Detects the surface temperature at the center section of the fusing roller.
24	TH_US	Fusing temperature sensor (Sub)	Thermistor	Detects the surface temperature at the edge section of the fusing roller.

H.Switch



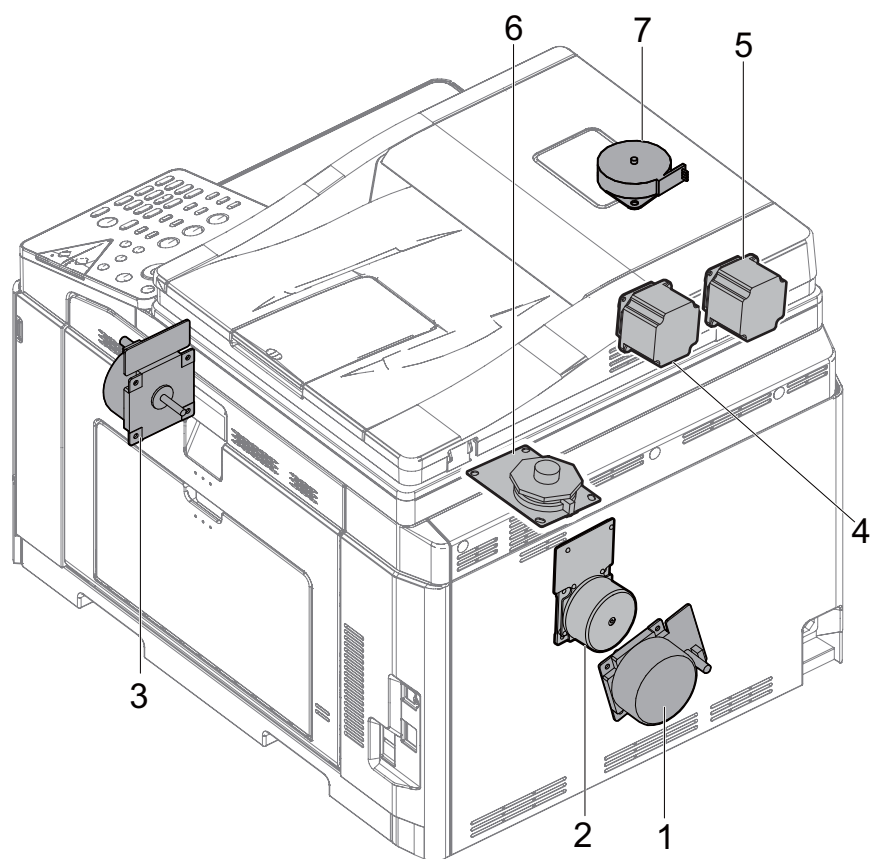
No.	Signal name	Name	Function/Operation	Note
1	MSW	Main power switch	Seesaw switch	Turns ON/OFF the main power.
2	DSW_R	Right door open/close switch	Micro switch	Detects open/close of the right door. Opens/closes the power lines of the fusing section, the motors, and the LSU laser.
3	DSW_F	Front door open/close switch	Micro switch	Detects open/close of the front door. Opens/closes the power lines of the fusing section, the motors, and the LSU laser.

I.Clutches and solenoids



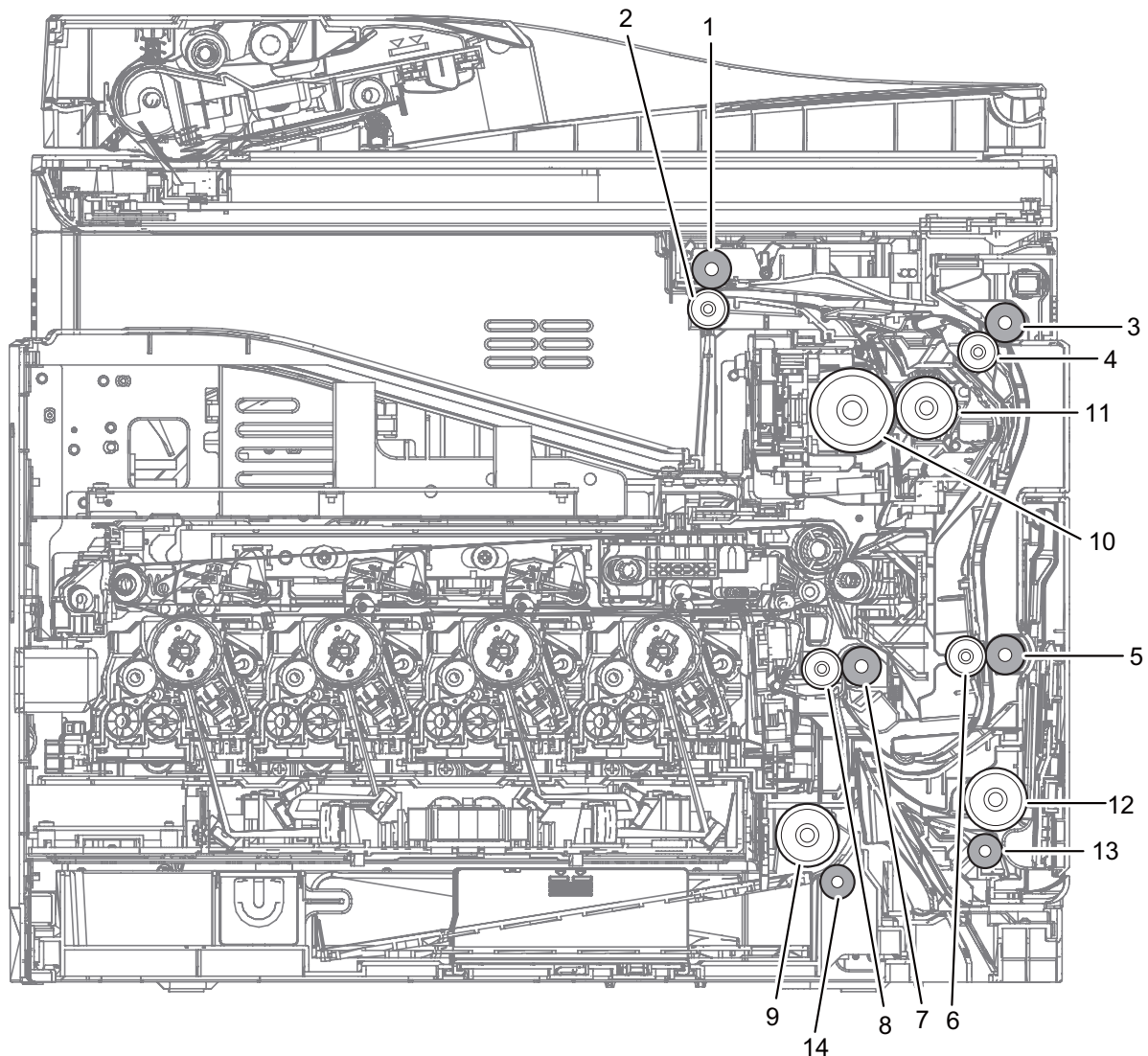
No.	Signal name	Name	Type	Function/Operation
1	TNC_Y	Toner supply clutch (Y)	Electromagnetic clutch	Controls the supply of the Y toner cartridge.
2	TNC_M	Toner supply clutch (M)	Electromagnetic clutch	Controls the supply of the M toner cartridge.
3	TNC_C	Toner supply clutch (C)	Electromagnetic clutch	Controls the supply of the C toner cartridge.
4	TNC_K	Toner supply clutch (BK)	Electromagnetic clutch	Controls the supply of the BK toner cartridge.
5	PORC	Paper exit clutch	Electromagnetic clutch	Controls the operation of the paper exit roller when the paper exit roller rotates clockwise.
6	POC	Paper exit clutch	Electromagnetic clutch	Controls the operation of the paper exit roller when the paper exit roller rotates counter clockwise.
7	ADUC	ADU transport clutch	Electromagnetic clutch	Controls ON/OFF of the roller in the ADU section.
8	CPUC1	Paper feed clutch (Paper feed tray 1)	Electromagnetic clutch	Controls ON/OFF of the roller in the paper feed tray 1 section.
9	RRC	PS clutch	Electromagnetic clutch	Controls the operation of the PS roller.
10	MFPC	Manual paper feed clutch	Electromagnetic clutch	Controls the operation of the roller of the Manual paper feed clutch.
11	ITURC	Primary transfer separation clutch 1	Electromagnetic clutch	Controls the primary transfer separation mode.
12	PCSS	Process control shutter solenoid	Solenoid	Controls Open/Close of the Process control shutter solenoid.
13	SRVC	Paper exit clutch	Electromagnetic clutch	Controls Up/Down of the paper exit roller of RSPF.
14	SPUS	Paper feed roller solenoid	Solenoid	Controls Up/Down of the paper feed roller of RSPF.

J.Motors



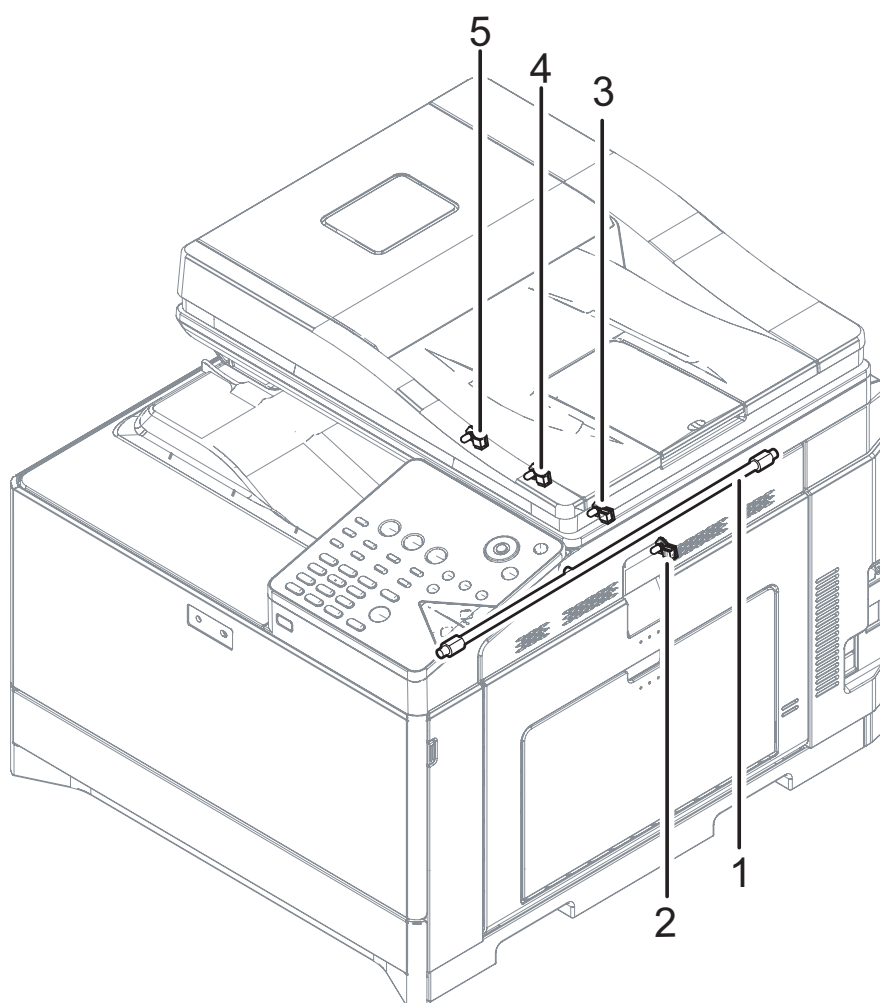
No.	Signal name	Name	Type	Function/Operation
1	DVM	Developing drive motor	DC brush-less motor	Drives the developing/OPC drum section (CL).
2	DM	Drum Motor, Transfer Belt Motor, Black OPC Drum Motor	DC brush-less motor	Drives the developing/black OPC drum (BK)/transfer section.
3	FUM	Fusing Motor and Paper Feed Motor	DC brush-less motor	Drives the fusing unit and the paper feed section.
4	SPFM	SPF transport motor	PM Stepping motor	Drives the SPF unit.
5	RSPFM	RSPF transport motor	HB Stepping motor	Drives the RSPF unit.
6	PGM	Polygon motor	DC brush-less motor	Drives the polygon mirrors to reflect the twin laser beams per color.
7	MIM	SCN motor NE	Scans the laser beams with Stepping Motor	Drives the CIS unit.

K.Rollers



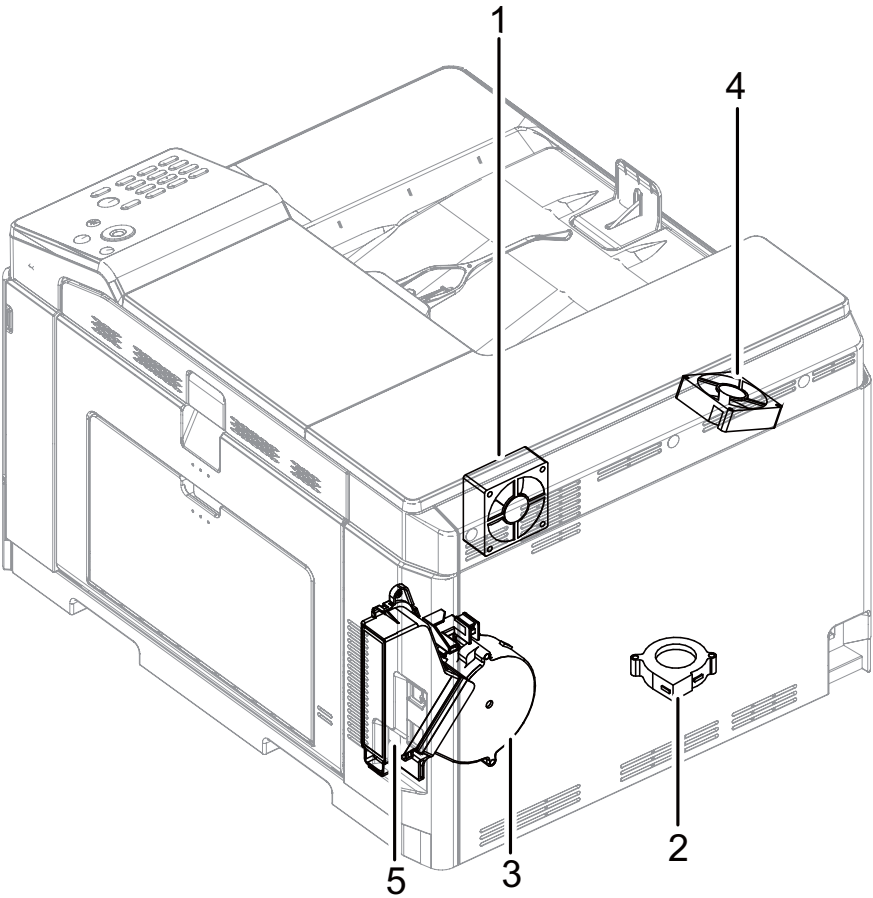
No.	Name	Function/Operation
1	Paper exit roller (Drive)	Drives the roller in the paper exit section.
2	Paper exit roller (Idle)	Apply a pressure to paper and the paper exit roller to provide the transport power of the Paper pressure (idle) roller to paper.
3	Transport roller 4 (Drive)	Transports paper from the transport roller to the transport roller 5.
4	Transport roller 4 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the Paper pressure (idle) roller to paper.
5	Transport roller 5 (Drive)	Lower duplex drive transport roller which transports paper to the registration rollers.
6	Transport roller 5 (Idle)	Transports paper to the Pressure (idle) Transport Roller. Paper is buckled between the Pressure (idle) Transport Roller and this roller to correct the paper skew and the relation between images and paper.
7	Registration roller (Drive)	Registration Drive Roller that controls the transport timing of paper and adjusts the relative position between images on the Transfer Belt and the registered paper.
8	Registration roller (Idle)	Transports paper to the transfer section. / Controls the transport timing of paper and adjusts relative relations between the image and paper.
9	Paper Feed Roller	Feeds paper from the cassette to the Registration rollers.
10	Fuser heat roller	Applies heat through the roller to the toner on the paper to fuse the toner into the paper.
11	Fusing pressure roller	Flexible silicone-rubber pressure fusing roller.
12	Paper Feed Roller	Feeds paper to the paper transport section.
13	Separation roller	Apply the pressure to the paper feed roller in reverse direction and prevents the paper from feeding it in layered condition.
14	Separation roller (Paper feed tray 1)	Apply the pressure to the paper feed roller in reverse direction and prevents the paper from feeding it in layered condition.

L.Lamps



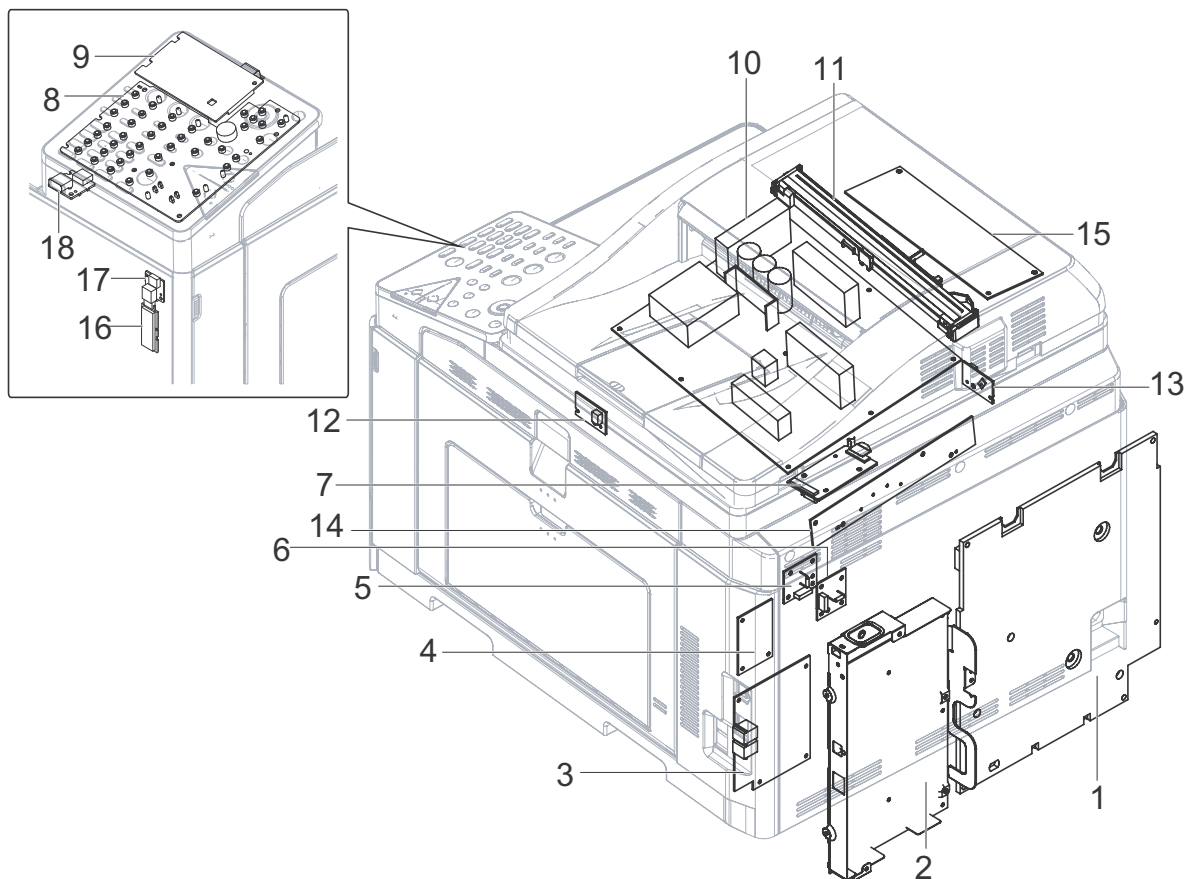
No.	Signal name	Name	Function/Operation
1	HL_UM	Heater lamp (HL_UM)	Heats the fusing roller (F).
2	DL_K	Discharge lamp(K)	Discharges electric charges on the OPC drum.(K)
3	DL_C	Discharge lamp(C)	Discharges electric charges on the OPC drum.(C)
4	DL_M	Discharge lamp(M)	Discharges electric charges on the OPC drum.(M)
5	DL_Y	Discharge lamp(Y)	Discharges electric charges on the OPC drum.(Y)

M.Fans and filters



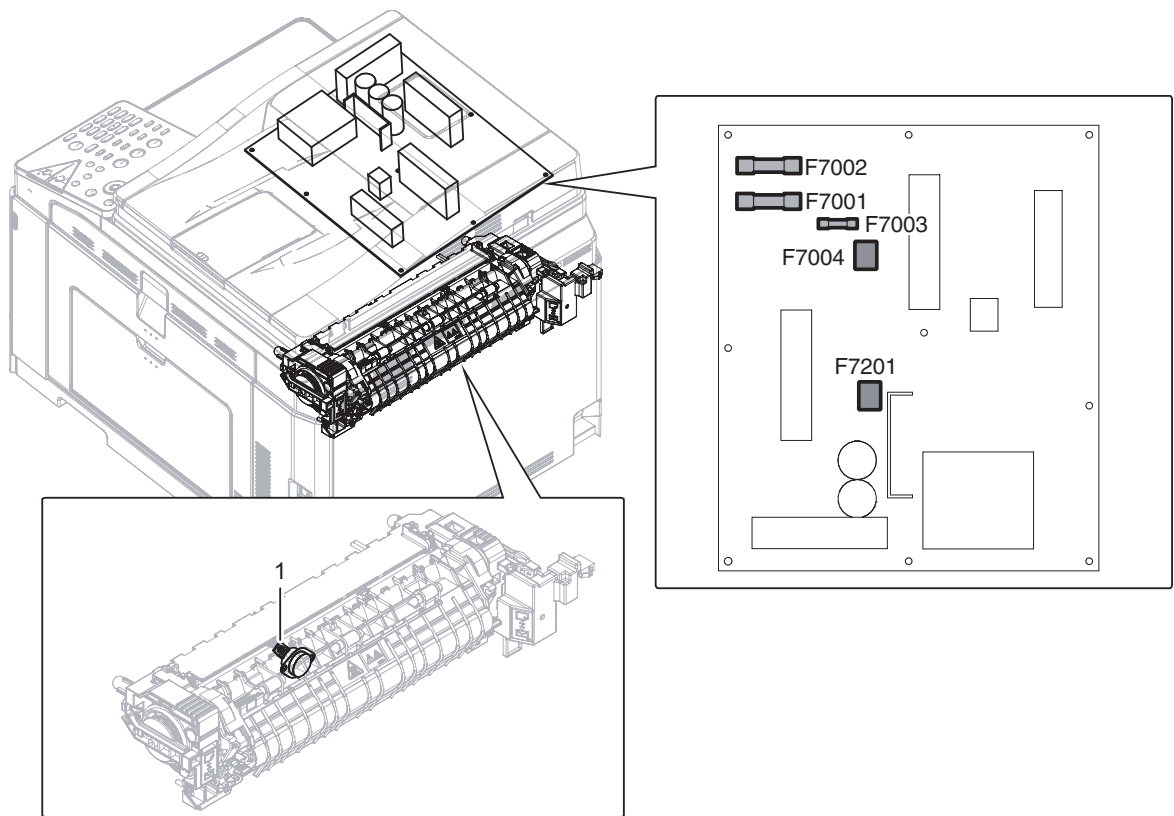
No.	Signal name	Name	Function/Operation
1	FUFM	Fusing cooling fan	Cools the fusing section.
2	LSUFM	LSU cooling fan	Cools the LSU.
3	OZFM1	Ozone fan 1	Filters the ozone generated from the image process section.
4	PSFM	Power cooling fan motor	Cools the power supply.
5	---	Ozone Filter	Absorbs ozone being discharged from the image process unit.

N.PWB



No.	Name	Function/Operation
1	HV PWB	Generates the high voltages for the following components: main charger units, primary transfer unit and DV Units.
2	MFPC PWB	Controls image data and machine functionality.
3	FAX PWB	Controls fax communication.
4	RINGER PWB	Generates the signal for calling the external telephone. (Japan only)
5	FAN I/F PWB	Controls the two-speed PSFM (Power cooling fan motor).
6	FAN I/F PWB	Controls the two-speed FUFM (Fusing cooling fan).
7	AFE PWB	Controls the CIS unit and receives the scanning image.
8	KEY-LED PWB	The LED for the machine condition, the Key for the input and the buzzer are equipped.
9	LCD PWB	Controls the LCD, the Key detection, the LED lighting and the buzzer drive.
10	AC/DC PWB	Supplies DC and AC Voltage to the machine.
11	CIS UN	Reads the original image.
12	BD PWB(KC)	Detects laser and outputs the synchronous signal. (KC)
13	BD PWB(MY)	Detects laser and outputs the synchronous signal. (MY)
14	LD PWB	Drives the laser diodes and controls the power.
15	LSUcnt PWB	Controls the LSU.
16	Wireless LAN PWB	Connects the network with the wireless connection. (Only wireless LAN model)
17	USB CN PWB	Connects Wireless LAN PWB. (Only wireless LAN model)
18	USB I/F PWB	Connects with the USB port on the front of the machine.

O.Fuses/Thermostats



No	Signal name	Name	Specifications	Section
1	TS UM	Thermostat	Fusing roller overheat protection	Fusing unit

Signal name	Name	Specifications	Section
F7001	Fuse	AC250V 20A	AC/DC power PWB
F7002	Fuse	AC250V 20A	AC/DC power PWB
F7003	Fuse	AC250V T4AH	AC/DC power PWB
F7004	Fuse	AC250V T2AL	AC/DC power PWB
F7201	Fuse	DC450V 3.15A	AC/DC power PWB

[5] ADJUSTMENTS

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	Adjusting high voltage values	1-A	Adjust the main charger grid voltage	8-2
		1-B	Adjust the developing bias voltage	8-1
		1-C	Transfer voltage adjustment	8-6
ADJ 2	Image density sensor (image registration sensor) adjustment	2-A	Color image density sensor (image registration sensor F), black image density sensor (image registration sensor R) adjustment	44-2
ADJ 3	Image skew adjustment (LSU unit)			61-4
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		9-F	Automatic monochrome (Copy) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)	46-19
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		9-J	Copy high density image density reproduction setting (Normally unnecessary to the setting change)	46-23
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Job No	Adjustment item list			Simulation
ADJ10	Printer color balance/density adjustment	10-A	Printer color balance adjustment (Manual adjustment)	67-25
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ADJ 11	Fusing paper guide position adjustment			

3. Details of adjustment

ADJ 1 Adjusting high voltage values

1-A Adjust the main charger grid voltage

This adjustment is needed in the following situations:

- * When the high voltage power PWB is replaced.
- * U2 trouble has occurred.

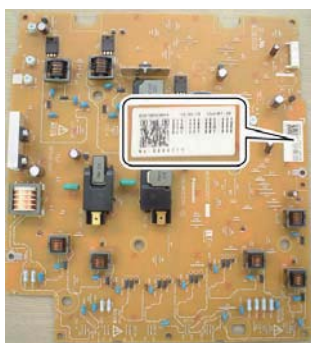
- 1) Enter the SIM 8-2 mode.

Sim08-02 MHV/GRID OUTPUT

1: MIDDLE
2: LOW

00

- 2) Enter the adjustment value (specified value) in the middle speed mode, and press [OK] key.
- 3) 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, the output is stopped. Enter the adjustment value of each mode which is specified on the label attached on the high voltage power PWB.



NOTE:

Note that the adjustment value may differ depending on the high voltage power PWB.

Since the adjustment value label is attached on the 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.

Item/Display	Content	Setting range
1 M_GB_K	K charging/grid bias set value at middle speed	150 - 850
2 M_GB_C	C charging/grid bias set value at middle speed	150 - 850
3 M_GB_M	M charging/grid bias set value at middle speed	150 - 850

Item/Display	Content	Setting range
4 M_GB_Y	Y charging/grid bias set value at middle speed	150 - 850
5 L_GB_K	K charging/grid bias set value at low speed	150 - 850
6 L_GB_C	C charging/grid bias set value at low speed	150 - 850
7 L_GB_M	M charging/grid bias set value at low speed	150 - 850
8 L_GB_Y	Y charging/grid bias set value at low speed	150 - 850

GBK:XXX GBC:XXX GBM:XXX GBY:XXX

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.

NOTE:

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.

1-B Adjust the developing bias voltage

This adjustment is needed in the following situations:

- * When the high voltage power PWB is replaced.
- * U2 trouble has occurred.

- 1) Enter the SIM 8-1 mode..

Sim08-01 MHV/GRID OUTPUT

1: MIDDLE
2: LOW

00

- 2) Enter the adjustment value (specified value) in the middle speed mode, and press [OK] key.
- 3) 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, the output is stopped. Enter the adjustment value of each mode which is specified on the label attached on the high voltage power PWB.

NOTE:

Note that the adjustment value may differ depending on the high voltage power PWB.

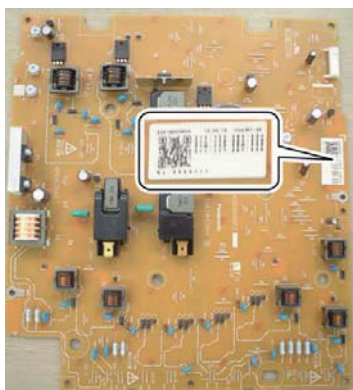
Since the adjustment value label is attached on the high voltage PWB, the PWB must be removed in order to check the adjustment value.

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

Item/Display	Content	Setting range
1 M DVB_K	K developing bias set value at middle speed	0-600
2 M DVB_C	C developing bias set value at middle speed	0-600
3 M DVB_M	M developing bias set value at middle speed	0-600
4 M DVB_Y	Y developing bias set value at middle speed	0-600
5 L DVB_K	K developing bias set value at low speed	0-600
6 L DVB_C	C developing bias set value at low speed	0-600
7 L DVB_M	M developing bias set value at low speed	0-600
8 L DVB_Y	Y developing bias set value at low speed	0-600

DVK:XXX DVC:XXX DVM:XXX DVY:XXX

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.



NOTE:

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.

1-C Transfer voltage adjustment

This adjustment is needed in the following situations:

- * When the high voltage PWB is replaced.
- * U2 trouble has occurred.

1) Enter the SIM 8-6 mode.

Sim08-06 THV OUTPUT

- 1.: TC1
- 2.: TC2
- 3.: TC2 CLEAN

01

2) Select an item to be adjusted.

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, the output is stopped.

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

Item/Display			Content				Adjustment range	Default value	
1	TC1	T1 LO CL K	Primary transfer bias adjustment value	Color mode	K	Low speed mode	0 to 255	95	
2		T1 MI CL K				Middle speed mode	0 to 255	146	
3		T1 LO CL CMY			CMY	Low speed mode	0 to 255	139	
4		T1 MI CL CMY				Middle speed mode	0 to 255	186	
5		T1 LO BW K		Black/White mode	K	Low speed mode	0 to 255	95	
6		T1 MI BW K				Middle speed mode	0 to 255	146	
1	TC2	T2 PLN CL S	Secondary transfer bias adjustment value	Color mode	Standard paper mode	Front surface mode	0 to 255	103	
2		T2 PLN CL D		Black/White mode		Back surface mode	0 to 255	96	
3		T2 PLN BW S				Front surface mode	0 to 255	90	
4		T2 PLN BW D				Back surface mode	0 to 255	83	
5		T2 HEV1 CL S		Color mode	Heavy paper mode	Front surface mode	0 to 255	83	
6		T2 HEV1 CL D		Black/White mode		Back surface mode	0 to 255	76	
7		T2 HEV1 BW S				Front surface mode	0 to 255	76	
8		T2 HEV1 BW D				Back surface mode	0 to 255	69	
9		T2 OHP CL		Color mode	OHP		0 to 255	69	
10		T2 OHP BW		Black/White mode			0 to 255	69	
11		T2 ENV CL		Color mode	Envelope		0 to 255	69	
12		T2 ENV BW		Black/White mode			0 to 255	69	
13		T2 THIN CL		Color mode	Thin paper		0 to 255	96	
14		T2 THIN BW		Black/White mode			0 to 255	90	
15		T2 GLOS CL		Color mode	Gloss paper		0 to 255	83	
16		T2 GLOS BW		Black/White mode			0 to 255	76	
1	TC2 CLEAN	T2 MNS CLEAN	Secondary transfer cleaning bias adjustment value	Cleaning mode (-)			0 to 255	59	
2		T2 PLS CLEAN		Cleaning mode (+)			0 to 255	119	
3		T2 COUNTER		Counter (+)			0 to 255	119	
4		T2 BTWN LO		Low speed print mode (+)			0 to 255	0	
5		T2 BTWN MI		Middle speed print mode (+)			0 to 255	0	

ADJ 2 Image density sensor (image registration sensor) adjustment

There are some parts variations in the image density sensor section. Therefore, the absolute detection level differs in each machine. To correct this, calibration is executed.

This adjustment is needed in the following situations:

- * When the color image density sensor (image registration sensor F) is replaced.
- * When the image registration sensor unit is replace.
- * U2 trouble has occurred.

The targets of the adjustment are the color image density sensor (image registration sensor F) and the black image density sensor (image registration sensor R). There are following adjustment methods.

- * Color image density sensor (image registration sensor F) calibration SIM44-13
- * Color image density sensor (Image registration sensor F) calibration value setting (SIM44-61)
- * Black image density sensor (image registration sensor R) calibration SIM44-2

NOTE:

The color image density sensor detects color image density and image registration on front frame side, the black image density sensor detects black image density and image registration on rear frame side. That is, two functions is assigned to each one sensor.

Before executing this adjustment, check to confirm the following items.

- * Check to confirm that the color image density sensor (image registration sensor F) and the black image density sensor (image registration sensor R) are clean.
- * Check to confirm that the image density sensor calibration plate is clean.
- * Check to confirm that the transfer belt is clean and free from scratches.

2-A Color image density sensor (image registration sensor F), black image density sensor (image registration sensor R) adjustment

NOTE:

This adjustment executes automatically at the outset of registration adjustment operation and process control operation as well as SIM44-2.

Normally, therefore, it is not required to perform this adjustment. It is performed only when the sensor is replaced or when the adjustment result is checked.

- 1) Enter SIM44-2 mode.

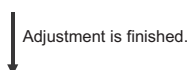
Sim44-02 PROCON GAIN ADJ

Press OK Key EXEC



Sim44-02 PROCON GAIN ADJ

EXEC



Sim44-02 PROCON GAIN ADJ 1/6

P_F_CL_ka 348
P_F_LED_ADJ 37
P_R_LED_ADJ 36
P_F_CL_DARK 8

- 2) Press [START] key.

The color image density sensor (image registration sensor F), the black image density sensor (image registration sensor R) are automatically adjusted.

After completion of the adjustment, the adjustment result is displayed and [EXECUTE] key returns to the normal display.

No	Display/Item	Content
1	P_F_CL_ka	F side image sensor adjustment value
2	P_F LED ADJ	F side image sensor light emitting quantity adjustment value
3	P_R LED ADJ	R side image sensor light emitting quantity adjustment value
4	P_F_CL_DARK	F side Dark voltage of color
5	P_F DARK	F side Dark voltage of sensor
6	P_R DARK	R side Dark voltage of sensor
7	P_F GRND	Belt base detection level when completion of Item D adjustment
8	P_F BELT MAX	Maximum value of belt base detection level
9	P_F BELT MIN	Minimum value of belt base detection level
10	P_R GRND	Belt base detection level when completion of Item F adjustment
11	P_R BELT MAX	Maximum value of belt base detection level
12	P_R BELT MIN	Minimum value of belt base detection level

13	REG_F BELT MAX	Maximum value of belt base detection level (F side)
14	REG_F BELT MIN	Minimum value of belt base detection level (F side)
15	REG_R BELT MAX	Maximum value of belt base detection level (R side)
16	REG_R BELT MIN	Minimum value of belt base detection level (R side)
17	PATCH(K)	Patch detection level F for check (K)
18	PATCH(C)	Patch detection level F for check (C)
19	PATCH(M)	Patch detection level F for check (M)
20	PATCH(Y)	Patch detection level F for check (Y)
21	PATCH(K)	Patch detection level R for check (K)
22	PATCH(C)	Patch detection level R for check (C)
23	PATCH(M)	Patch detection level R for check (M)
24	PATCH(Y)	Patch detection level R for check (Y)

If the adjustment is not completed normally, "ERROR" is displayed.

Error display	Error content
CL_SEN_ADJ_ERR	Color image sensor adjustment abnormality
BK_SEN_ADJ_ERR	Black image density sensor adjustment abnormality
P_F_CL_ka	F side image sensor adjustment abnormality
P_F_GRND	Belt base detection level when completion of Item F adjustment abnormality
P_R_GRND	Belt base detection level when completion of Item R adjustment abnormality
REG_F_LED_ADJ	Registration sensor F adjustment abnormality
REG_R_LED_ADJ	Registration sensor R adjustment abnormality
REG_F_GRND	Belt base detection level (F side) abnormality
REG_R_GRND	Belt base detection level (R side) abnormality

When an error occurs, check the following sections for any abnormality.

- Color image density sensor (image registration sensor F)
- Black image density sensor (image registration sensor R)
- MFP PWB
- Transfer belt (dirt, scratch)
- Transfer belt cleaner
- Color image sensor calibration plate

If any abnormality is found, repair and adjust again.

If an error occurs, the adjustment result is not revised.

ADJ 3 Image skew adjustment (LSU unit)

This adjustment is needed in the following situations:

- * When the color shift occurs.
- * When the LSU unit is replaced.
- * When the LSU unit is removed from the main unit.
- * When a color image registration mistake occurs.
- * When the unit is installed or when the installing site is changed. (Required depending on the cases.)
- * When there is an uneven density area or a difference in color balance in the main scanning direction (back and forth).
- * When the color phase is not matched by the color balance adjustment.
- * When the OPC drum drive unit is replaced.
- * When the primary transfer unit is replaced.

The image skew adjustment (LSU unit) is performed by changing the parallelism of the LSU unit scan laser beams for the OPC drum.

NOTE:

Before execution of the this adjustment, perform the following procedures in advance for better efficiency of the adjustment.

The black (K) image skew, however, must be properly adjusted for that.

- 1) In the SIM50-22 mode, select ALL mode to perform the automatic image registration adjustment.
- 2) The current skew level is displayed on the SKEW display menu.
- 3) Put down the displayed skew level value.

(Meaning of the skew level value)

* When nothing is displayed in front of "SKEW_**", turn the skew adjustment screw (LSU) clockwise by the value (angle).

* When "-" is displayed in front of "SKEW_**", turn the skew adjustment screw (LSU) counterclockwise by the value (angle).

NOTE:

The K (Black) image skew level cannot be checked with SIM50-22.

Procedure 1

(1)Copy color balance, density and skew check

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

[Check with the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11)]

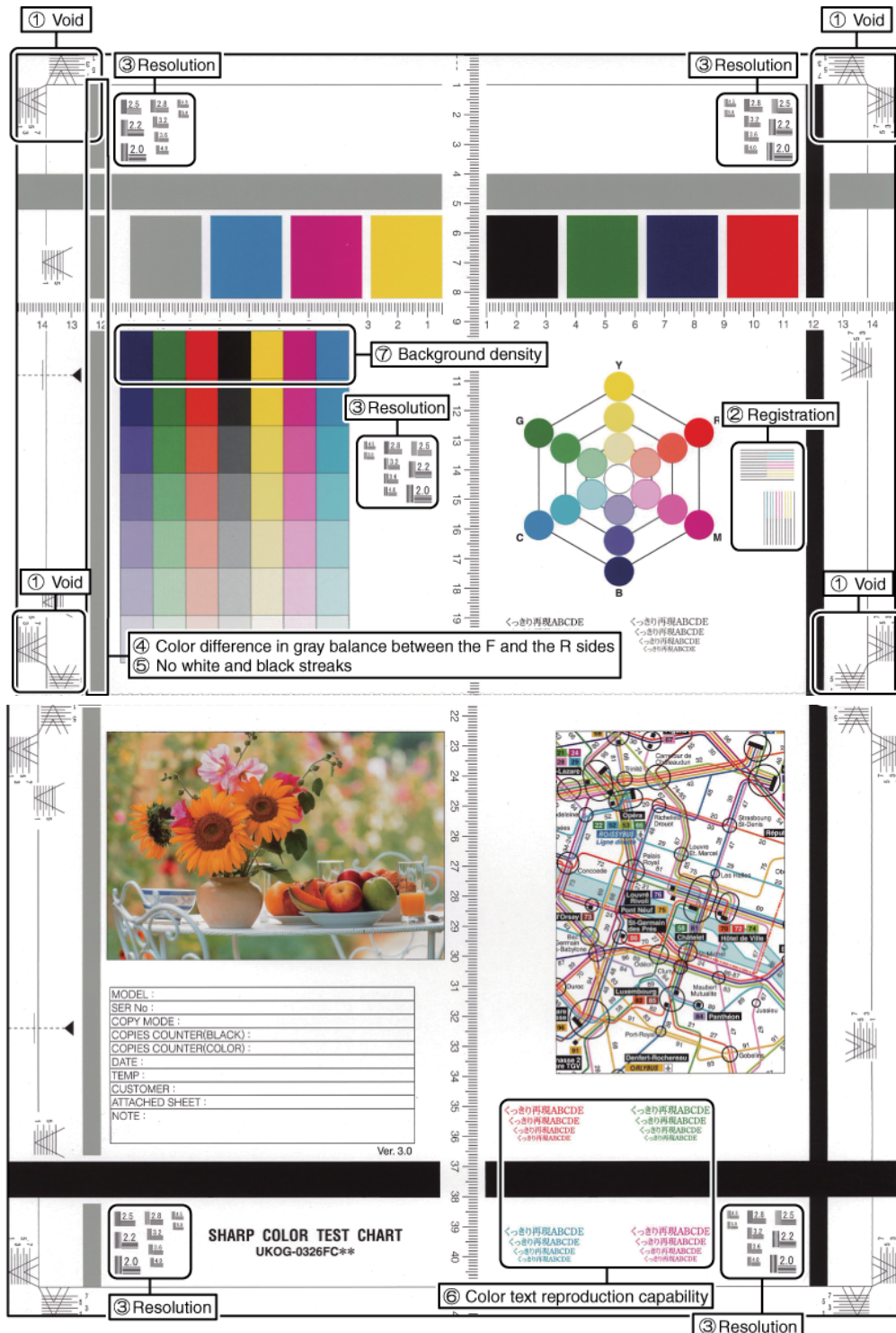
In the copy color balance check with the servicing color test chart, check to insure the following conditions.

a. Color copy check items (Check to confirm the following:)

When using the servicing color test chart, fold or separate the chart.

- a) There are 8 void areas.
- b) Registrations (one point for the main scanning, and one point for the sub scanning) are not shifted.
- c) The resolution of 5.0 can be seen.

- d) The color difference in gray balance between the F and the R sides is not so great.
- e) There are no white and black streaks.
- f) Color texts are clearly reproduced.
- g) The background density is not so light.



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

When using the servicing color test chart, fold or separate the chart.

a) There are 8 void areas.

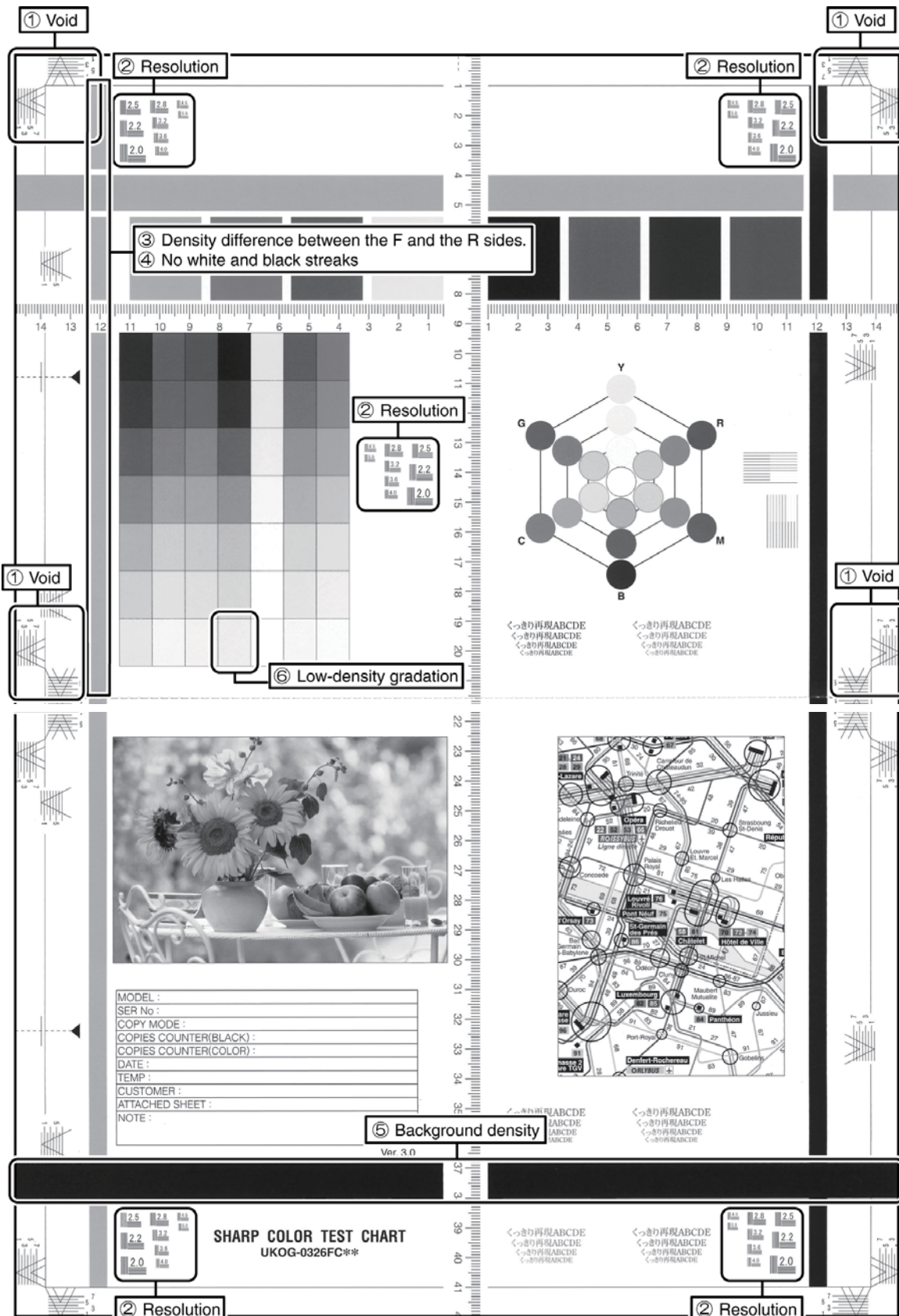
b) The resolution of 4.0 can be seen.

c) The density difference between the F and the R sides is not so great.

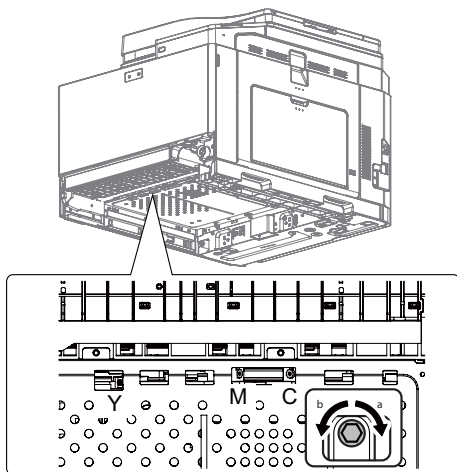
d) There are no white and black streaks.

e) The background density is not so light.

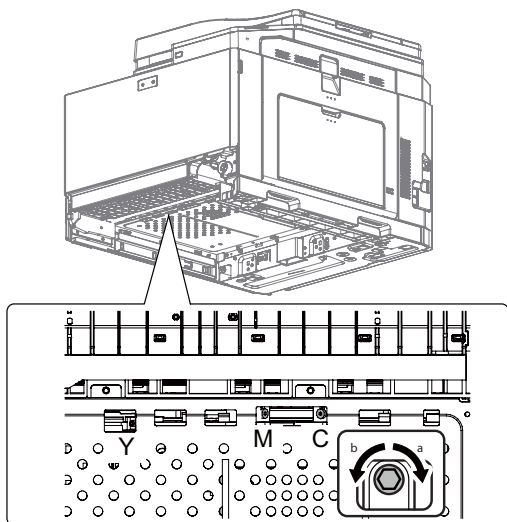
f) The black low-density gradation is copied slightly.



- 4) If the printing result has no skew part, this is the end of the procedure. Skew adjustment does not need to be done. If the printing result has skew areas, proceed to the next step.
- 5) Remove the paper tray.
- 6) If there are several skewed areas on the test printing result, turn all the LSU skew adjustment screws shown in the figure * To make "SKEW_*" values in the following ranges, turn the LSU skew adjustment screws clockwise direction (a) or counterclockwise direction (b).
SKEW_C : +/-30, SKEW_M : +/-40, SKEW_C : +/-20



- 7) Fix the paper tray.
- 8) Repeat the procedures 2) to 4) again, and check to confirm that C, M, and Y (SKEW) result in "OK" being displayed on the operation panel.
If any of them is NG, turn the LSU skew adjustment screw of the corresponding color to adjust.



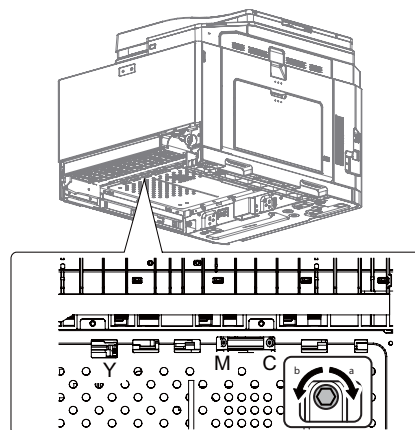
Procedure 2

- 1) Enter SIM61-4 mode.

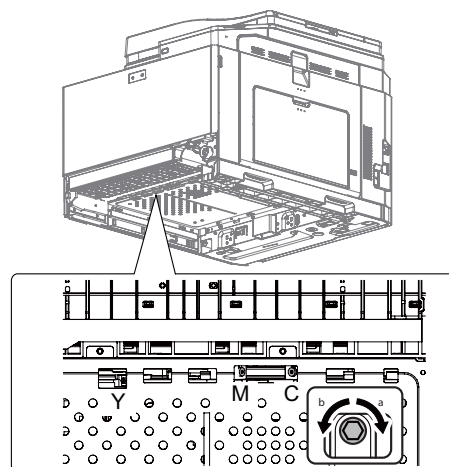
Sim61-04 LSU POSITION ADJ	
1: MULTI COUNT	1
2: PAPER	2
[1 - 999]	1

- 2) Select the tray with A4 (11" x 8.5") paper in it.
- 3) Press [EXECUTE] key.
The check pattern is printed out.

- 4) Remove the paper tray.
- 5) If there are several skewed areas on the test printing result, turn all the LSU skew adjustment screws shown in the figure * To make "SKEW_*" values in the following ranges, turn the LSU skew adjustment screws clockwise direction (a) or counterclockwise direction (b).
SKEW_C : +/-30, SKEW_M : +/-40, SKEW_C : +/-20



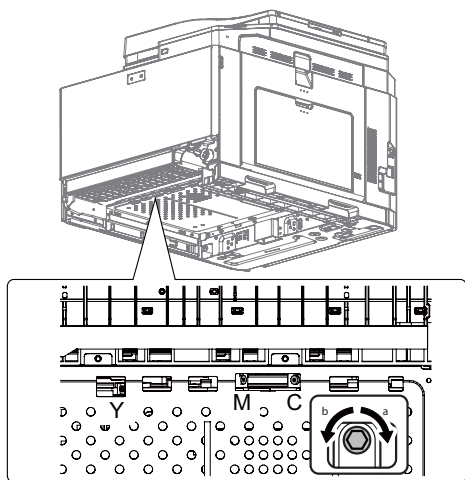
- 6) Fix the paper tray.
- 7) Repeat the procedures 2) to 4) again, and check to confirm that C, M, and Y (SKEW) result in "OK" being displayed on the operation panel.
If any of them is NG, turn the LSU skew adjustment screw of the corresponding color to adjust.



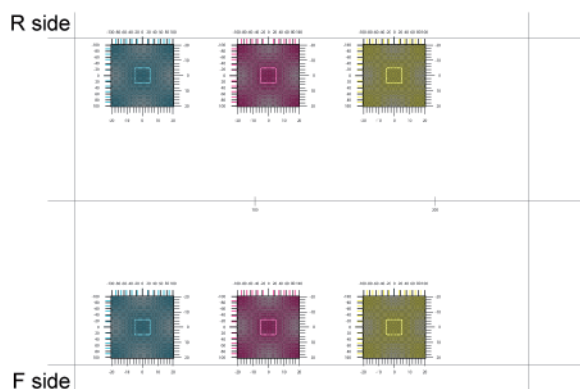
- 8) When the adjustment is made by turning the LSU skew adjustment screw of K, the states of C, M and Y (SKEW) are changed. Execute SIM50-22 to check to confirm that C, M, and Y (SKEW) result in "OK" being displayed on the operation panel.
Image registration adjustment is done automatically and SKEW_C, M, Y value is displayed.

9) If there are several skewed areas on the test printing result, turn all the LSU skew adjustment screws shown in the figure * To make "SKEW_**" values in the following ranges, turn the LSU skew adjustment screws clockwise direction (a) or counterclockwise direction (b).

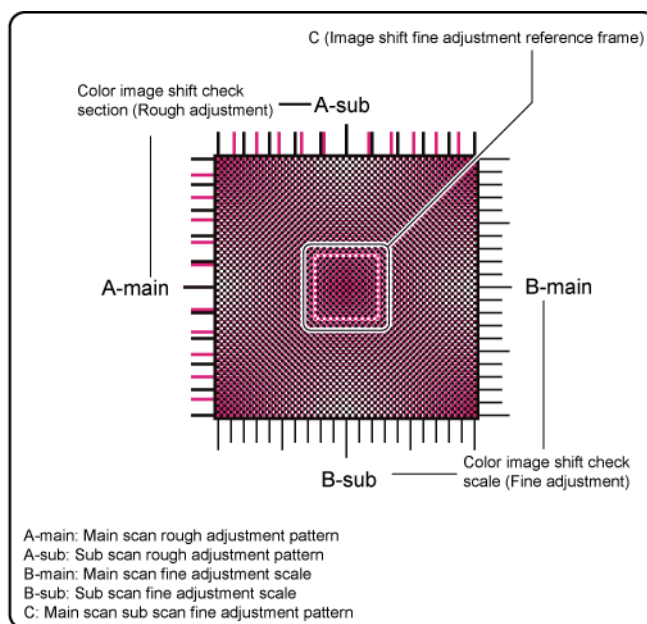
SKEW_C : +/-30, SKEW_M : +/-40, SKEW_C : +/-20



10) Enter the SIM61-4 mode and perform the procedures of 2) - 3). Check the printed color image skew pattern.



The sub scan rough adjustment color image shifts on the R side and the F side are in the same balance both in the rough adjustment check section and the fine adjustment check section



In each Y/M/C color print pattern printed separately in the F side and in the R side, note the same print color pattern and check to confirm that the front frame side and the rear frame side are in the same condition.

Rough adjustment pattern check:

Check the sub scan rough adjustment color image shift check section on the R side and the F side of each color, use the black scale of "0" as the center reference, and check the balance in shifts of the color image line positions in the positive and the negative directions. The balance in the R side must be the same as that in the F side.

Fine adjustment pattern check:

Check the square frames on the R side and the F side of each color. (Normally five sections of high density can be seen.) Check the sub scanning direction position of the center area of high density (one of the above five sections). These must be on the same position on the R side and the F side.

In this case, use the sub scan direction color image shift check scale (fine adjustment) as the reference.

Visually check the color density and make the darkest section as the center, and use it as the read value of the shift amount.

Check that the difference in the center position of the dark density section is within +/- 2 step.

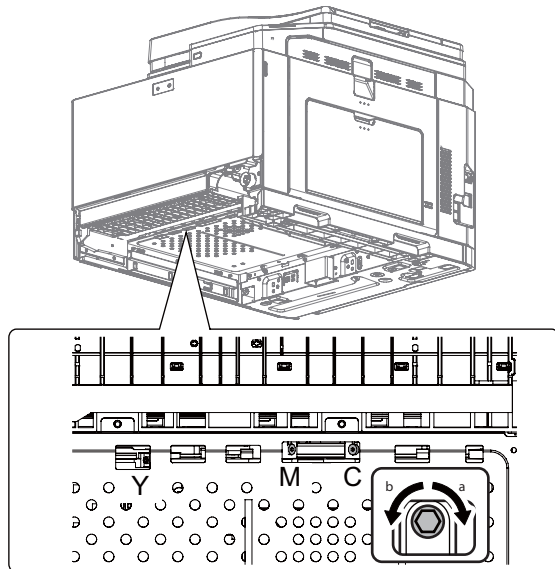
The positional relations of the front and the rear frame of the print color patterns of a same color are compared. There is no need that all the colors are in the same state. Compare only the positional relations of color patterns of a same color.

If the above condition is not met, do the following:

- 11) Turn the image skew adjustment screw of the target color to adjust.

Relationship between the adjustment screw rotating angle and the change in the adjustment image position:

Adjustment screw rotating angle (degree) = Image shift amount (Adjustment scale) x10



Repeat procedures 10) - 11) until a satisfactory result is obtained.

ADJ 4 Print image position, image magnification ratio, void area, off-center adjustment (Print engine) (Manual adjustment)

Note

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

4-A Print image magnification ratio adjustment (main scanning direction) (Print engine) (Manual adjustment)

This adjustment must be performed in the following cases:

- * When the LSU (writing) unit is replaced.
- * When each unit is replaced or fixed.
- * When the void amount is changed by the maintenance

- * When MFP PWB is replaced.
 - * U2 trouble has occurred.
- 1) Enter the SIM 50-10 mode.

Sim50-10 PAPER OFFSET

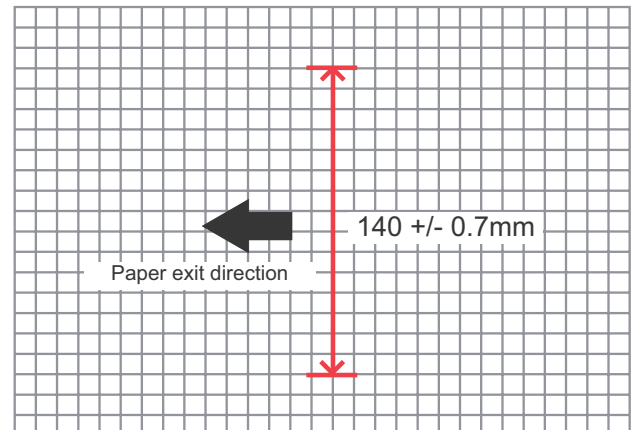
1 : BK-MAG	100
2 : MAIN-MFT	50
3 : MAIN-CS2	50
1 / 3 [60/ 140]	



Sim50-10 PAPER OFFSET

1 : BK-MAG	101
2 : MAIN-MFT	50
3 : MAIN-CS2	50
1 / 3 [60/ 140]	

- 2) Set A4 (11" x 8.5") paper in the paper feed tray.
- 3) Select the paper feed tray set in procedure 2) with [UP] or [DOWN] keys.
- 4) Press [EXECUTE] key.
The check pattern is printed out.
- 5) Measure the length of 14 squares around the center part of the test print and check whether the length is 140 +/- 0.7mm.



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

- 6) Change the set value of set item A.
When the set value is changed by 1, the dimension is changed by 0.1mm.
When the set value is increased, the BK image magnification ratio in the main scanning direction is increased. When the set value is decreased, the BK image magnification ratio in the main scanning direction is decreased.

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

* After performing this adjustment, perform SIM50-22 image registration adjustment.

4-B 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.
- * When the MFP PWB is replaced.
- * U2 trouble has occurred.

Note

Before execution of this adjustment, be sure to execute the print image magnification ratio adjustment (ADJ 4A) (main scanning direction) (print engine) (manual adjustment).

- 1) Enter the SIM 50-10 mode.

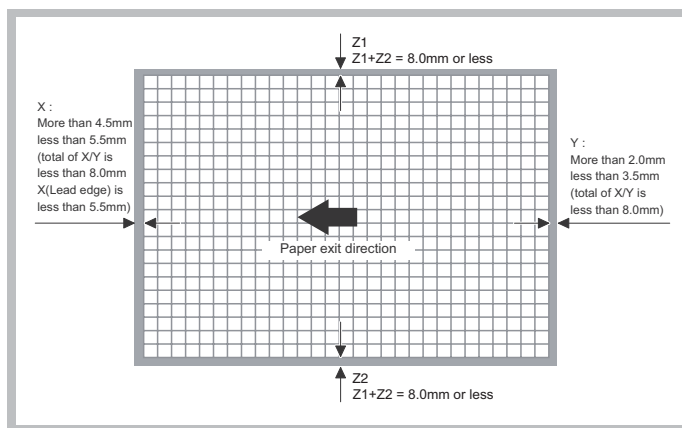
Sim50-10 PAPER OFFSET	
1 : BK-MAG	100
2 : MAIN-MFT	50
3 : MAIN-CS2	50
1 / 3 [60/ 140]	



Sim50-10 PAPER OFFSET	
1 : BK-MAG	101
2 : MAIN-MFT	50
3 : MAIN-CS2	50
1 / 3 [60/ 140]	

- 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 B - N and enter the adjustment value. Then select item "10" to select the paper feed tray which is to be used for executing test printing.
- 3) Press [PRINT] 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	More than 4.5mm less than 5.5mm (total of X/Y is less than 8.0mm X(Lead edge) is less than 5.5mm)
Y	Rear edge void area	More than 2.0mm less than 3.5mm (total of X/Y is less than 8.0mm)
Z1/ Z2	FRONT/REAR void area	total of less than +/- 8.0mm



If the above condition is not satisfied, or if it is set to a desired condition, execute the simulation 50-10.

Note

Feed paper from all the paper feed trays to confirm.

- 5) Enter the SIM 50-10 mode.

Sim50-10 PAPER OFFSET	
1 : BK-MAG	100
2 : MAIN-MFT	50
3 : MAIN-CS2	50
1 / 3 [60/ 140]	



Sim50-10 PAPER OFFSET	
1 : BK-MAG	101
2 : MAIN-MFT	50
3 : MAIN-CS2	50
1 / 3 [60/ 140]	

- 6) Select an adjustment item with the [UP] and [DOWN] key, enter the adjustment value, and press [OK] key.

Item/Display	Content	Setting range	Default value
1 BK-MAG	Main scanning printing scale	60-140	100
2 MAIN-MFT	Printing off center adjustment value (MFT)	1 - 99	65
3 MAIN-CS1	Printing off center adjustment value (CS1)	1 - 99	65
4 MAIN-CS2	Printing off center adjustment value (CS2)	1 - 99	50
5 MAIN-ADU	Printing off center adjustment value (ADU)	1 - 99	50

Item/Display		Content		Setting range	Default value
6	SUB-MFT	Registration motion timing adjustment	MFT	1 - 99	60
7	SUB-CS1		CS1	1 - 99	60
8	SUB-DSK		DSK	1 - 99	50
9	SUB-ADU		ADU	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

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.

Note

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

Adjustment value/10 = shift amount

Repeat the above procedures until a satisfactory result is obtained.

4-C Print image position adjustment (Off-center direction, Paper transport direction 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 ADJ 2 Print engine image magnification ratio adjustment (Main scanning direction) is performed.
- * 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.
- * When the MFP PWB is replaced.
- * U2 trouble has occurred.

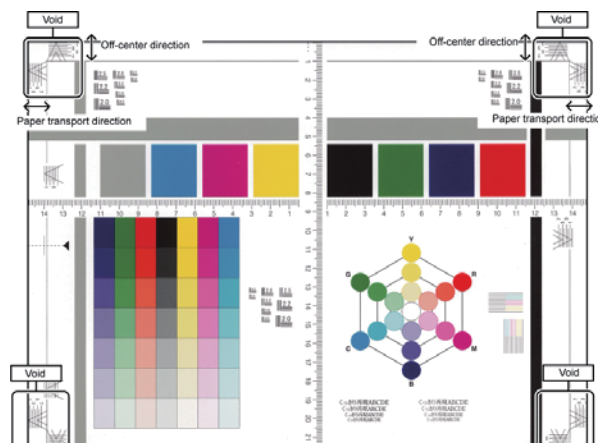
Note

Before execution of this adjustment, check to insure the following item.

- * The print image magnification ration adjustment (ADJ 5A) (main scanning direction) (Print engine) (Manual adjustment) has been properly adjusted.

- 1) Set A4 (11" x 8.5") paper in the paper feed tray selected .
- 2) Put the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) on the document glass. Then, press [EXECUTE] key. The adjustment pattern is printed.
- 3) Check that the adjustment pattern image is printed in the correct position.

Measure the dimension of the void area shown in the figure in the off-center and the paper transport direction of the adjustment pattern, and check that all the following conditions are satisfied.



Off-center direction + Paper transport direction +/- 4.0mm

Off-center direction = 2.0 +/- 2.0mm

Paper transport direction = 2.0 +/- 2.0mm

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

- 4) Enter SIM 50-10 mode.

Sim50-10 PAPER OFFSET

1: BK-MAG	100
2: MAIN-MFT	50
3: MAIN-CS2	50
1 / 3 [60/ 140]	100



Sim50-10 PAPER OFFSET

1: BK-MAG	101
2: MAIN-MFT	50
3: MAIN-CS2	50
1 / 3 [60/ 140]	101

- 5) Select the target paper feed tray (MAIN-XX) with the [UP] and [DOWN] keys.

Display/Item	Content	Setting range
NO	Not select	1

- 6) Change the adjustment value.

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

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

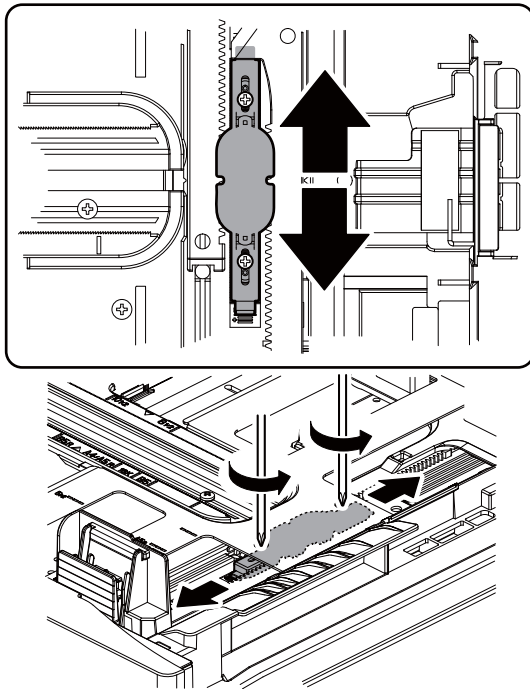
When the adjustment value is increased, the adjustment pattern is shifted to the front frame side. When it is decreased, the adjustment pattern is shifted to the rear frame side.

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

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

ADJ 5 Print engine image distortion adjustment / OPC drum phase adjustment / Color registration adjustment (Print engine section)

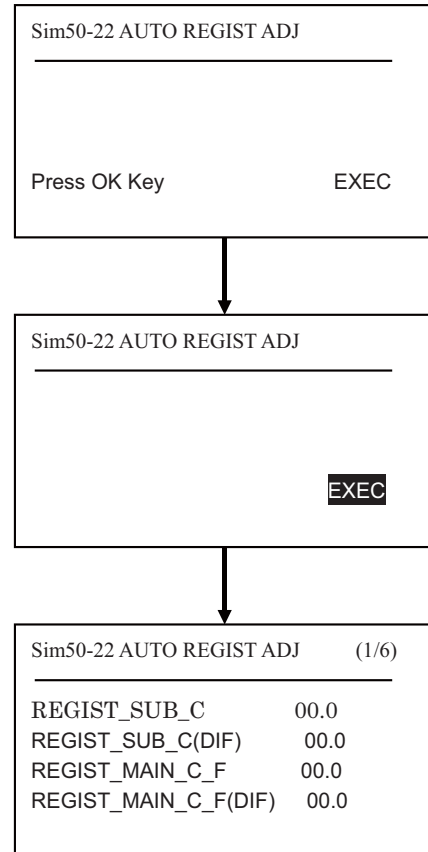
This adjustment must be performed in the following cases:

- * When the color shift occurs.
- * When the LSU is replaced.
- * When the LSU is removed from the main unit.
- * When the unit is installed or when the installing place is changed.
- * When maintenance work is performed. (Replacement of the OPC drum, the OPC cartridge, the transfer unit, the transfer belt, etc.)
- * When [ADJ 6A] Print engine image magnification ratio adjustment (BK) (main scanning direction) is performed.
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.
- * When the color phase is not proper even after execution of the color balance adjustment.
- * When the OPC drum drive section is disassembled.
- * When the primary transfer unit is replaced. (when it is removed from the machine)
- * When the developing unit or the OPC drum unit is removed from the machine.

5-A Print engine image distortion adjustment (Manual adjustment) / OPC drum phase adjustment (Automatic adjustment) / Color registration adjustment (Automatic adjustment)

This adjustment performs the print engine image distortion adjustment, the OPC drum phase adjustment, and the color registration adjustment simultaneously.

- 1) Enter SIM50-22 mode.



- 2) Press [OK] key.
[EXECUTE] is highlighted and the image registration automatic adjustment is started. (It takes about 15 sec to complete the adjustment.)
- 3) When the adjustment is completed, [EXECUTE] returns to the normal display, and the value of the adjustment result is displayed.
The current skew level for each color is displayed on the SKEW display section.

Sim50-22 AUTO REGIST ADJ (1/7)	
SKEW_K	00.0
SKEW_C	00.0
SKEW_C(DIF)	00.0
SKEW_M	00.0

Sim50-22 AUTO REGIST ADJ (7/7)	
REGIST_MAIN_Y_R(DIF)	00.0
PHASE	00.0
PHASE before	00.0

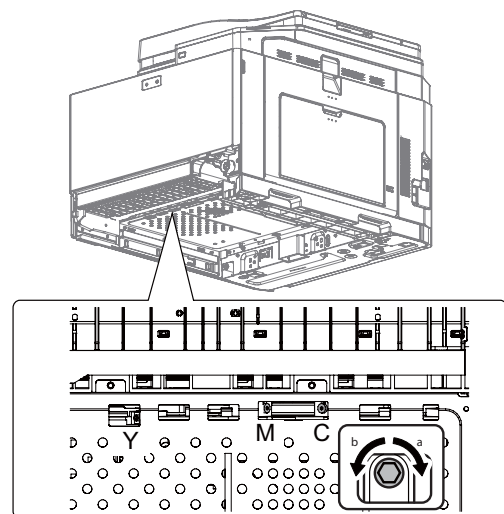
Display/Item	Content	Display
SKEW_K	Print skew amount calculation result (Cyan)	-99.9 - 99.9
SKEW_C	Print skew amount calculation result (Cyan)	-999 - 999
SKEW_C(DIF)	Print skew amount calculation result (Cyan) (Difference from the previous adjustment value)	-1999 - 1999

Display/Item	Content	Display
SKEW_M	Print skew amount calculation result (Magenta)	-999 - 999
SKEW_M(DIF)	Print skew amount calculation result (Magenta) (Difference from the previous adjustment value)	-1999 - 1999
SKEW_Y	Print skew amount calculation result (Yellow)	-999 - 999
SKEW_Y(DIF)	Print skew amount calculation result (Yellow) (Difference from the previous adjustment value)	-1999 - 1999
REGIST_SUB_C	Registration adjustment value sub scanning direction (Cyan drum -> Black drum)	1.0 - 199.0
REGIST_SUB_C(DIF)	Registration adjustment value sub scanning direction (Difference from the previous adjustment value) (Cyan drum to Black drum)	-199.9 - 199.9
REGISTMAIN_C_F	Registration adjustment value main scanning direction (Cyan laser writing position F side)	1.0 - 199.0
REGISTMAIN_C_F(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Cyan laser writing position F side)	-199.9 - 199.9
REGISTMAIN_C_R	Registration adjustment value main scanning direction (Cyan laser writing position R side)	10 - 1990
REGISTMAIN_C_R(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Cyan laser writing position R side)	-1999 - 1999
REGIST_SUB_M	Registration adjustment value sub scanning direction (Magenta drum -> Black drum)	1.0 - 199.0
REGIST_SUB_M(DIF)	Registration adjustment value sub scanning direction (Difference from the previous adjustment value) (Magenta drum to Black drum)	-199.9 - 199.9
REGIST_MAIN_M_F	Registration adjustment value main scanning direction (Magenta laser writing position F side)	1.0 - 199.0
REGIST_MAIN_M_F(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Magenta laser writing position F side)	-199.9 - 199.9
REGIST_MAIN_M_R	Registration adjustment value main scanning direction (Magenta laser writing position R side)	10 - 1990
REGIST_MAIN_M_R(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Magenta laser writing position R side)	-1999 - 1999
REGIST_SUB_Y	Registration adjustment value sub scanning direction (Yellow drum -> Black drum)	1.0 - 199.0
REGIST_SUB_Y(DIF)	Registration adjustment value sub scanning direction (Difference from the previous adjustment value) (Yellow drum -> Black drum)	-199.9 - 199.9
REGIST_MAIN_Y_F	Registration adjustment value main scanning direction (Yellow laser writing position F side)	1.0 - 199.0
REGIST_MAIN_Y_F(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Yellow laser writing position F side)	-199.9 - 199.9
REGIST_MAIN_Y_R	Registration adjustment value main scanning direction (Yellow laser writing position R side)	1.0 - 199.0
REGIST_MAIN_Y_R(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Yellow laser writing position R side)	-1999 - 1999
PHASE	OPC drum phase adjustment value (BK to CL)	0 - 359
PHASE before	OPC drum phase adjustment value (BK to CL)	0 - 359

- 4) Write down the displayed skew level.
When "SKEW_**" values are in the following ranges, the adjustment needs not to be done.
* To make "SKEW_**" values in the following ranges, turn the LSU skew adjustment screws clockwise direction (a) or counterclockwise direction (b).
SKEW_C : +/-30, SKEW_M : +/-40, SKEW_Y : +/-20
- 5) If there are several skewed areas on the test printing result, turn all the LSU skew adjustment screws shown in the figure to adjust, and perform the procedures 2) to 4).
Repeat the procedures 2) to 5) until the printing result has no skew area.

If the printing result has no skew area, the adjustment is finished.

For the adjustment, remove the paper tray, and turn the skew adjustment screw from the bottom of the main unit.



Important

When the adjustment is made by turning the LSU skew adjustment screw of K, the states of C, M and Y (SKEW) are changed. Execute SIM50-22 to check to confirm that C, M, and Y (SKEW) are OK.

The adjustment result can be checked by the following manual adjustment mode.

* ADJ 5B

Image skew adjustment (Manual adjustment) (SIM50-20)

* ADJ 5C

Color registration offset adjustment (SIM50-20)

Note

When the color registration is greatly shifted due to replacement of the LSU, etc, if SIM50-22 is used to perform the color registration automatic adjustment, an error may occur.

In this case, the adjustment may be properly executed by setting the adjustment items A - I of SIM50-20 to "100" and executing the automatic adjustment again.

If color shift in an actual print image differs in the center, the front side, and the rear side, the color shift offset adjustment can improve it. (Refer to ADJ 5C.)

Normally there is a difference in color shift in several dots. Perform the adjustment only when the adjustment is required.

5-B Print engine image skew (LSU skew) adjustment (Manual adjustment) (No need to adjust normally)

If a more accurate adjustment than the automatic adjustment ADJ 5A is required, use this method of adjustment.

This adjustment is made by changing the parallelism of the LSU unit scan laser beams for the OPC drum.

- 1) Enter the SIM 50-20 or 64-01 mode.
- 2) Select the paper feed tray with A4(11"x8.5") paper in it, and press [START] key.
- 3) The image skew (image registration) adjustment pattern is printed.
- 4) Check the printed black image for any skew.

Use the four cross points printed in black to measure the squareness.

There are following two methods of checking the black image for any skew (right angle).

Method 1

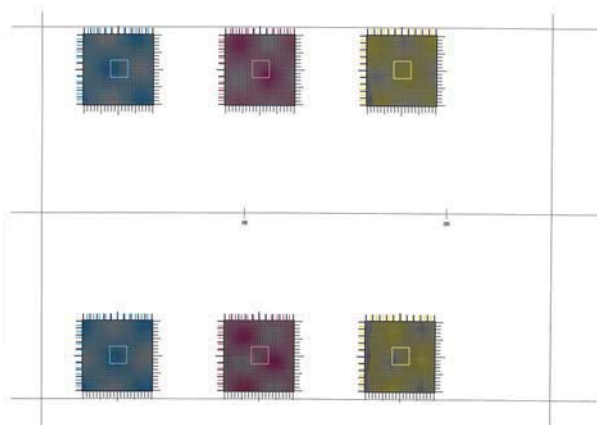
Measure the distances between opposing corners of the rectangle print pattern, and compare the two distances to check the squareness.

Method 2

Check the squareness of the vertical and horizontal sides of the rectangle print pattern by using A4(11"x8.5") paper sides.

Important

In the case of Method 2, the right angle of paper to be used may not be exact. Be sure to check the right angle of paper to be used in advance.



Method 1

Measure the length of the diagonal lines of the rectangle print pattern.

Calculate the difference between the measured lengths C and D of the diagonal lines.

Check to insure that the difference between C and D is in the following range.

$$C - D = 0.8\text{mm}$$

If the difference between C and D is in the above range, there is no need to adjust.

Method 2

Fit the side of A4(11"x8.5") paper to the long side of the rectangle print pattern.

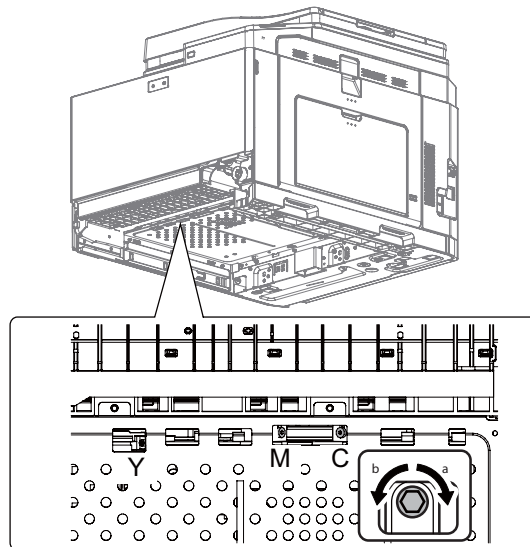
Measure the slant (skew) of the vertical side for the horizontal side of paper as shown in the figure.

If the above distance is 0.5mm or less, there is no need to adjust.

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

- 5) Open the front cover, remove the waste toner box, and turn the four LSU image skew adjustment screws in the same direction by the same amount.

For the adjustment, remove the front cover and the waste toner box, and turn the skew adjustment screw.



(Skew adjustment screw rotation direction)

When C is greater than D in the method 1 or there is some skew in the direction A in the method 2, turn the screw clockwise.

When C is smaller than D in the method 1 or there is some skew in the direction B in the method 2, turn the screw counterclockwise.

(Reference of the rotation amount of the skew adjustment screw)

In case of the method 1, 0.8mm/about 1.5 rotations

In case of the method 2, 0.5mm/about 1.5 rotations

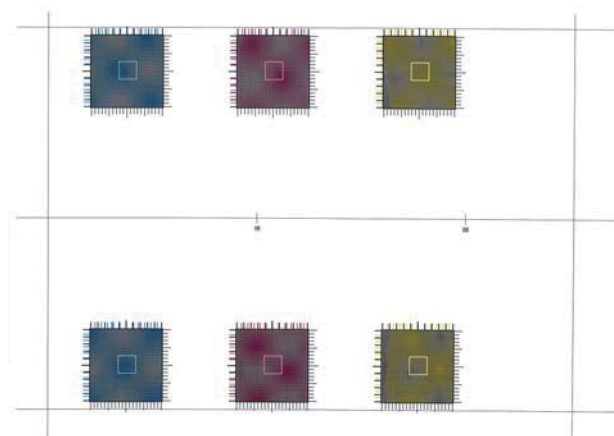
Repeat the procedures 2) to 6).

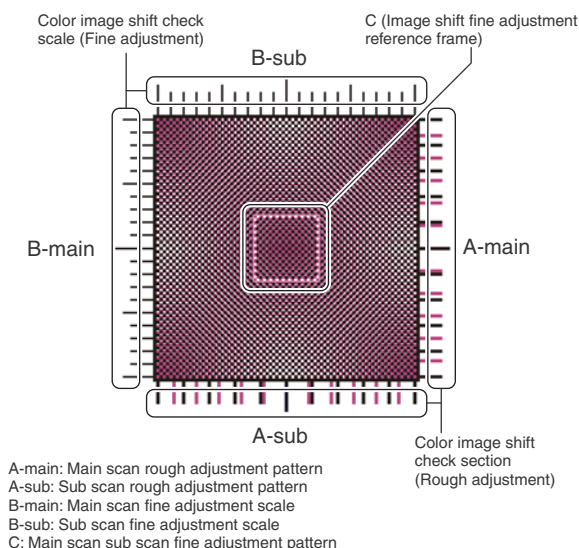
After completion of the black image skew adjustment, go to the procedure 7).

- 6) Perform the same procedures as 1) and 2).
- 7) Check the printed color image for any skew.

If the difference between the shift amounts on the F and R sides is within +/- 1 scale of the fine adjustment check scale, there is no need to perform the adjustment.

Measure the skew amount from the print patterns on the front and rear sides of each color.





In each Y/M/C color print pattern printed separately in the F side and in the R side, note the same print color pattern and check to confirm that the F side and the R side look identical.

Rough adjustment pattern check:

Check the sub scan rough adjustment color image shift check section on the R side and the F side of each color, use the center position of the black scale as the reference, and check the balance in shifts of the color image line positions in the positive and the negative directions. The balance in the R side must be the same as that in the F side.

Fine adjustment pattern check:

Check the square frames on the R side and the F side of each color. (Normally five sections of high density can be seen.) Check the sub scanning direction position of the center area of high density (one of the above five sections). These must be on the same position on the R side and the F side.

In this case, use the sub scan direction color image shift check scale (fine adjustment) as the reference.

Visually check the color density and make the darkest section as the center, and use it as the read value of the shift amount.

Check that the difference in the center position of the dark density section is within ± 1 step.

The positional relations of the front and the rear frame of the print color patterns of a same color are compared. There is no need that all the colors are in the same state. Compare only the positional relations of color patterns of a same color.

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

- 8) Turn the LSU skew adjustment screw of the adjustment target color to adjust.

(Skew adjustment screw rotation direction)

When the F side is skewed to the right side for R side: Turn the screw clockwise.

When the F side is skewed to the left side for the R side: Turn the screw counterclockwise.

(Reference of the rotation amount of the skew adjustment screw)

Skew of difference by one step between F and R sides (Difference by one scale of the fine adjustment check scale) / Turn for about 2 clicks.

Repeat the procedures 7) to 8) until a satisfactory result is obtained.

5-C Color registration offset adjustment (No need to adjust normally)

This adjustment is used to set the offset value for the automatic color registration adjustment (ADJ 5A).

If there is any difference in color phase at the center and the four corners of an actual print image, this adjustment may improve it. Especially when there is any color shift at the center area, this adjustment may improve it effectively.

This adjustment cannot eliminate color shifts in all the areas, but average the overall color shifts.

After the automatic adjustment, use this color registration offset adjustment to correct color shift partially, performing the adjustment efficiently.

Note

Before execution of this adjustment, check to confirm that the following adjustment has been properly made.

* ADJ 5A or ADJ 5B image skew adjustment (LSU unit)

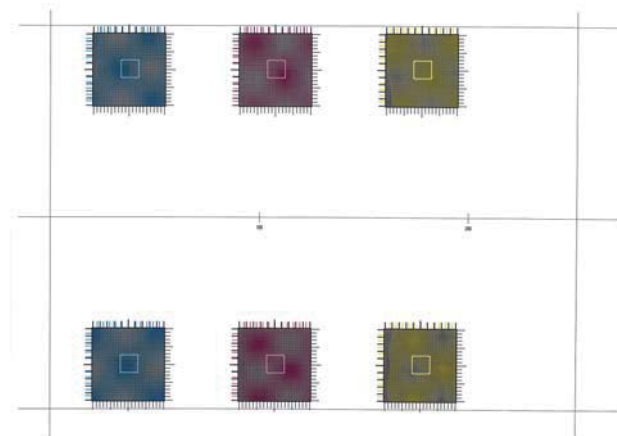
[Kinds of adjustment values]

There are following two kinds of registration adjustment values.

- Base registration adjustment value: XXX(FRONT)/XXX(REAR)
They are manual adjustment values and automatic adjustment values, and reflected when the automatic registration adjustment is executed. It varies for every operation of the automatic registration adjustment.
- Offset adjustment values: OFFSETXXF/OFFSETXXR
They are the offset adjustment values added to the above base registration adjustment values, and are not changed unless SIM50-20 is executed to change.

- 1) Enter SIM50-20 mode.
- 2) Select the paper feed tray with A4(11"x8.5") paper in it.
- 3) Press [OK] key.

The color image registration check pattern is printed.



- 4) Check the color image registration.

There are 6 color image registration patterns in total; two on each of the F side, the R side, and the center. Check all the patterns to confirm that they are within the specified range. Also check to confirm that there is not much shift in each color image registration check pattern.

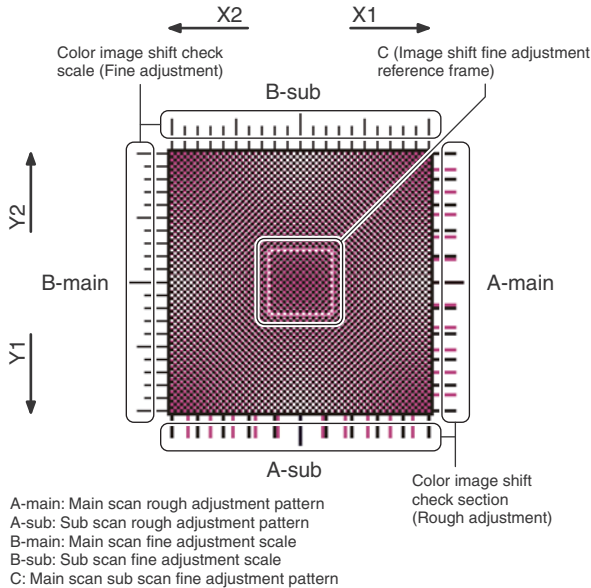
Note

There are two kinds of adjustment: one in the main scanning direction and the other in the sub scanning direction. The vertical direction in the above figure is that in the main scanning direction, and the horizontal direction is that in the sub scanning direction.

There are also two kinds of adjustments: the rough adjustment and the fine adjustment. Perform the rough adjustment then perform the fine adjustment.

For the main scan direction image registration, the offset on the F side, the R side, and at the center is independently adjusted.

If there is a difference in the sub scanning direction image registration between the F and R sides, perform the skew adjustment (ADJ 5A).



Check the print patterns of the rough adjustment and the fine adjustment of 18 check patterns.

How to check the rough adjustment pattern and input of the adjustment value:

Visually check the color image registration check section, use the center position of the black scale as the reference, and check the shift balance in the positive and negative directions at the color image line position.

Use the center position of the black scale as the reference, and check that the color image line is symmetrical in the positive side and the negative side.

If shift is in the arrow mark X1 and Y1, increase the adjustment value. If shift is in the arrow mark X2 and Y2, decrease the adjustment value.

The reference arrow on the check pattern faces the positive direction.

(Reference adjustment value)

1 scale/10 (When the set value is changed by 10, shift is made by 1 scale.)

How to check the fine adjustment pattern and input of the adjustment value:

Check to confirm that the darkest spot (one of 5 spots seen normally) is within the center area of the image registration adjustment reference frame in the square frame.

At that time, use the color image registration check scale (fine adjustment) as the reference.

Visually check and consider the darkest section of color density as the center, and measure the shift from it.

Check to confirm that the center of the dark density section is within +/- 1 step.

(If the fine adjustment print pattern is in the range of 0 +/- 1 for the fine adjustment reference pattern scale, there is no need to adjust.)

If shift is in the arrow mark X1 and Y1, increase the adjustment value. If shift is in the arrow mark X2 and Y2, decrease the adjustment value.

(Reference adjustment value)

1 scale/1 (When the set value is changed by 1, shift is made by 1 scale.)

If there is a considerable difference in color shift in the square and at the center area, perform the adjustment.

Select an adjustment item (OFF SET X F / OFF SET X R / OFF SET X S), and change the adjustment value to adjust.

OFF SET X F: F side main scanning direction registration offset set value (The color shift on the F side and at the center area is changed.)

OFF SET X D: R side main scanning direction registration offset set value (The color shift on the R side and at the center area is changed.)

OFF SET X S: Sub scanning direction registration offset set value (Color is shifted to the sub scanning direction overall.)

Important

When the adjustment value of OFF SET X F and OFF SET X R are changed, the color at the center area will be affected. Consider this when executing the adjustment.

(Adjustment conditions and method)

To adjust evenly overall, adjust so that the color shifts on the F side, the R side and at the center are of the same level.

To adjust with the center area most focused, adjust so that the color shift at the center becomes smaller than that on the F side and the R side.

When the offset adjustment value is 0, if the color registration adjustment (automatic adjustment) is performed, the color shift on the F side and that on the R side are automatically adjusted to be smaller than that on the center area.

Display/Item	Content	Display
SKEW_K	Print skew amount calculation result (Cyan)	-99.9 - 99.9
SKEW_C	Print skew amount calculation result (Cyan)	-999 - 999
SKEW_C(DIF)	Print skew amount calculation result (Cyan) (Difference from the previous adjustment value)	-1999 - 1999
SKEW_M	Print skew amount calculation result (Magenta)	-999 - 999
SKEW_M(DIF)	Print skew amount calculation result (Magenta) (Difference from the previous adjustment value)	-1999 - 1999
SKEW_Y	Print skew amount calculation result (Yellow)	-999 - 999
SKEW_Y(DIF)	Print skew amount calculation result (Yellow) (Difference from the previous adjustment value)	-1999 - 1999
REGIST_SUB_C	Registration adjustment value sub scanning direction (Cyan drum -> Black drum)	1.0 - 199.0
REGIST_SUB_C(DIF)	Registration adjustment value sub scanning direction (Difference from the previous adjustment value) (Cyan drum to Black drum)	-199.9 - 199.9
REGISTMAIN_C_F	Registration adjustment value main scanning direction (Cyan laser writing position F side)	1.0 - 199.0
REGISTMAIN_C_F(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Cyan laser writing position F side)	-199.9 - 199.9
REGISTMAIN_C_R	Registration adjustment value main scanning direction (Cyan laser writing position R side)	10 - 1990
REGISTMAIN_C_R(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Cyan laser writing position R side)	-1999 - 1999
REGIST_SUB_M	Registration adjustment value sub scanning direction (Magenta drum -> Black drum)	1.0 - 199.0

Display/Item	Content	Display
REGIST_SUB_M(DIF)	Registration adjustment value sub scanning direction (Difference from the previous adjustment value) (Magenta drum to Black drum)	-199.9 - 199.9
REGIST_MAIN_M_F	Registration adjustment value main scanning direction (Magenta laser writing position F side)	1.0 - 199.0
REGIST_MAIN_M_F(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Magenta laser writing position F side)	-199.9 - 199.9
REGIST_MAIN_M_R	Registration adjustment value main scanning direction (Magenta laser writing position R side)	10 - 1990
REGIST_MAIN_M_R(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Magenta laser writing position R side)	-1999 - 1999
REGIST_SUB_Y	Registration adjustment value sub scanning direction (Yellow drum -> Black drum)	1.0 - 199.0
REGIST_SUB_Y(DIF)	Registration adjustment value sub scanning direction (Difference from the previous adjustment value) (Yellow drum -> Black drum)	-199.9 - 199.9
REGIST_MAIN_Y_F	Registration adjustment value main scanning direction (Yellow laser writing position F side)	1.0 - 199.0
REGIST_MAIN_Y_F(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Yellow laser writing position F side)	-199.9 - 199.9
REGIST_MAIN_Y_R	Registration adjustment value main scanning direction (Yellow laser writing position R side)	1.0 - 199.0
REGIST_MAIN_Y_R(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Yellow laser writing position R side)	-1999 - 1999
PHASE	OPC drum phase adjustment value (BK to CL)	0 - 359
PHASE before	OPC drum phase adjustment value (BK to CL)	0 - 359

ADJ 6 Scan image magnification ratio adjustment (Manual adjustment)

Note

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 4).

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

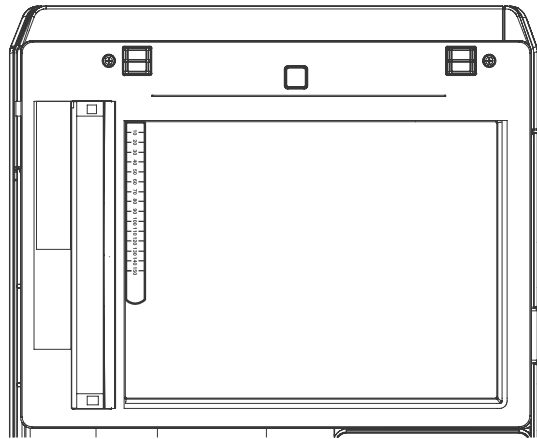
Important

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.

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.

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



- 2) Enter the SIM 48-1 mode.

Sim48-01 MAGNIFICATION ADJ

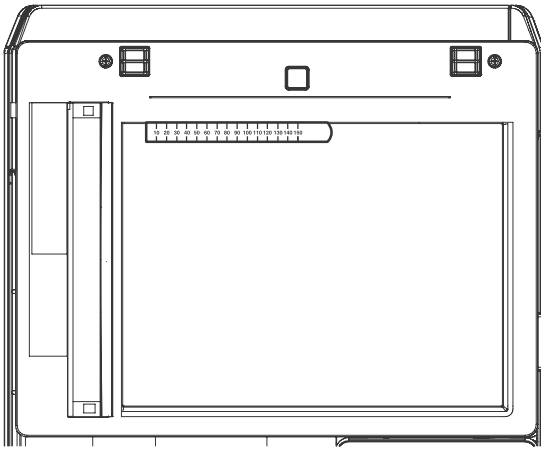
1: CCD (MAIN)	50
2: CCD (SUB)	30
3: SPF (MAIN)	20
1 / 3 [1/ 99]	50

- 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 +/- 1.0%).
If the copy magnification ratio is within the specified range (100 +/- 1.0%), the adjustment is completed. If the copy magnification ratio is not within the specified range, perform the following procedure.
- 5) Change the CIS (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 +/- 1.0%).

6-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 MFP PWB is replaced.
 - * When the EEPROM on the MFP PWB is replaced.
- 1) Place a scale on the document table as shown in the figure below.

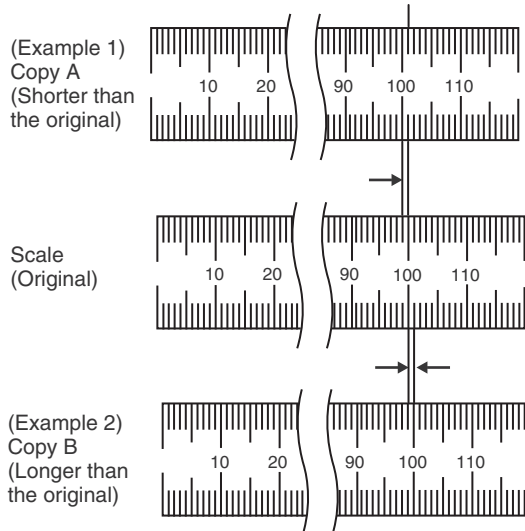


- 2) Enter the SIM 48-1 mode.

Sim48-01 MAGNIFICATION ADJ	
1: CCD (MAIN)	50
2: CCD (SUB)	30
3: SPF (MAIN)	20
1 / 3 [1 / 99]	50

- 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 +/- 1.0%).
If the copy magnification ratio is within the specified range (100 +/- 1.0%), the adjustment is completed. If the copy magnification ratio is not within the specified range, perform the following procedure.
- 5) Change the CIS (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 +/- 1.0%).

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

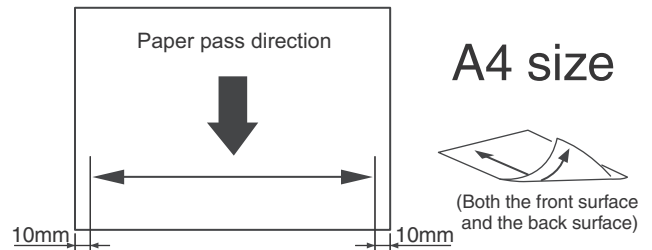
This adjustment must be performed in the following cases:

- * When the MFP PWB is replaced.
- * When the EEPROM on the MFP 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.

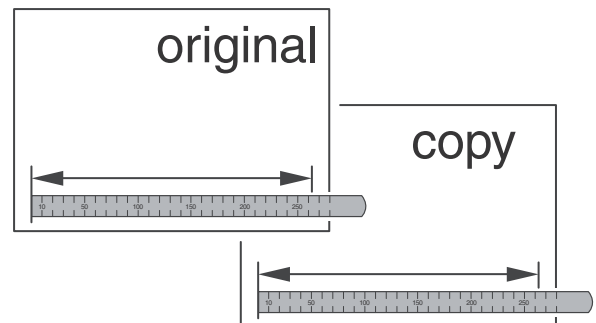
a. Adjustment procedures

- 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:
Image magnification ratio = Original size / Original size x 100 (%)
Image magnification ratio = 99 / 100 x 100 = 99 (%)
If the image magnification ratio is within the specified range (100 +/- 1.0%), 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.

Sim48-01 MAGNIFICATION ADJ

1: CCD (MAIN)	50
2: CCD (SUB)	30
3: SPF (MAIN)	20
1 / 3 [1 / 99]	50

RSPF

Item	Display	Content	Setting range	Default value
1	CIS(MAIN)	SCAN main scanning magnification ratio adjustment (CIS)	1 - 99	50
2	CIS(SUB)	SCAN sub scanning magnification ratio adjustment (CIS)	1 - 99	50
3	SPF(MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
4	SPF(SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
5	SPFB(MAIN)	RSPF document back surface magnification ratio adjustment (Main scan)	1 - 99	50
6	SPFB(SUB)	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

SPF

Item	Display	Content	Setting range	Default value
1	CIS(MAIN)	SCAN main scanning magnification ratio adjustment (CIS)	1 - 99	50
2	CIS(SUB)	SCAN sub scanning magnification ratio adjustment (CIS)	1 - 99	50
3	SPF(MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
4	SPF(SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50

- 6) Select an adjustment item of SPF (MAIN)/SPFB (MAIN) with [UP] or [DOWN] keys.

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.

6-D Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (RSPF mode)

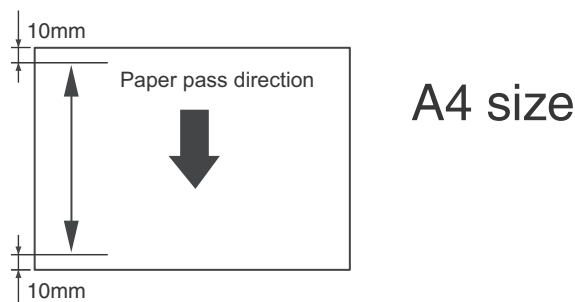
This adjustment must be performed in the following cases:

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

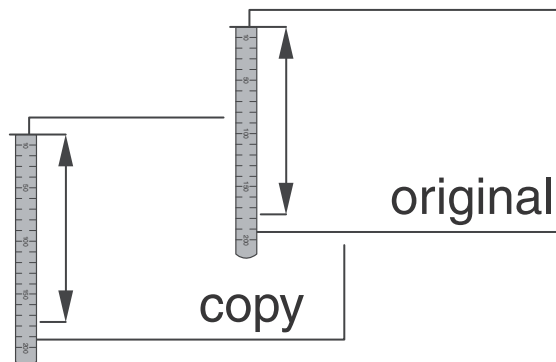
* When the RSPF is disassembled.

- 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.



- 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:

Image magnification ratio = Original size / Original size x 100 (%)

Image magnification ratio = 99 / 100 x 100 = 99 (%)

If the image magnification ratio is within the specified range (100 ± 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.

Sim48-01 MAGNIFICATION ADJ

1: CCD (MAIN)	50
2: CCD (SUB)	30
3: SPF (MAIN)	20
1 / 3 [1 / 99]	50

Item	Display	Content	Setting range	Default value
1	CIS(MAIN)	SCAN main scanning magnification ratio adjustment (CIS)	1 - 99	50
2	CIS(SUB)	SCAN sub scanning magnification ratio adjustment (CIS)	1 - 99	50

Item	Display	Content	Setting range	Default value
3	SPF(MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
4	SPF(SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
5	SPFB(MAIN)	RSPF document back surface magnification ratio adjustment (Main scan)	1 - 99	50
6	SPFB(SUB)	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

SPF

Item	Display	Content	Setting range	Default value
1	CIS(MAIN)	SCAN main scanning magnification ratio adjustment (CIS)	1 - 99	50
2	CIS(SUB)	SCAN sub scanning magnification ratio adjustment (CIS)	1 - 99	50
3	SPF(MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
4	SPF(SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50

6) Select an adjustment item with [UP] or [DOWN] keys.

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 7 Scan image off-center adjustment (Manual adjustment)

Note

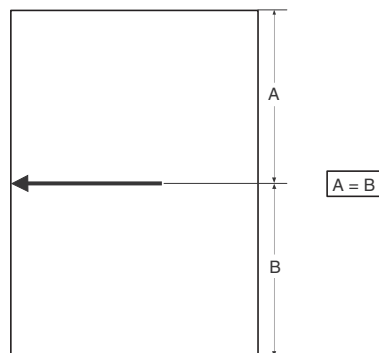
Only when the manual adjustment is required, execute this adjustment.

7-A Scan image off-center adjustment (Manual adjustment) (Document table mode)

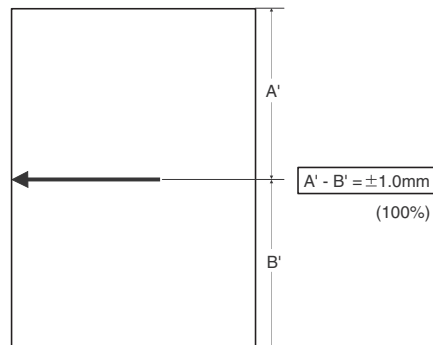
This adjustment must be performed in the following cases:

- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) unit is replaced.
- * When a U2 trouble occurs.
- * MFP 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.

Sim50-12 ORG. OFFSET	
1: OC	50
2: SPF(SIDE1)	50
[1- 99]	50

- 4) Select the adjustment mode OC with [UP] or [DOWN] keys.

- 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.

7-B Scan image off-center adjustment (Manual adjustment) (RSPF mode)

This adjustment must be performed in the following cases:

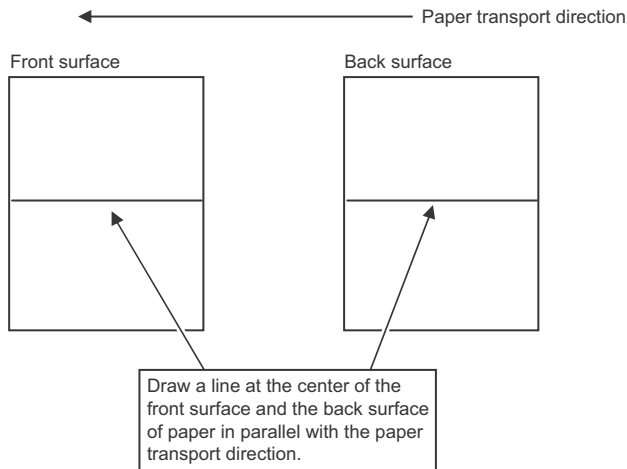
- * When the MFP PWB is replaced.
- * When the EEPROM on the MFP PWB is replaced.
- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) section is replaced.
- * When U2 trouble occurs.
- * When the RSPF section is disassembled.
- * When the RSPF unit is replaced.

Important

To execute this adjustment, it is required that the ADJ 17A Scan image off-center adjustment (Document table mode) must have been properly adjusted.

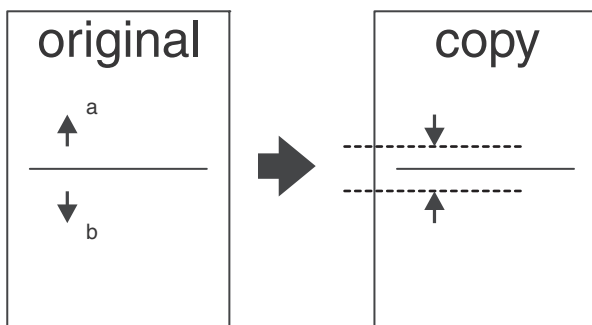
1) Prepare the adjustment chart.

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 +/- 2.7mm there is no need to perform the adjustment.

If the adjustment is required, perform the following procedures.

4) Enter the SIM 50-12 mode.

Sim50-12 ORG. OFFSET		
1: OC		50
2: SPF(SIDE1)		50
[1- 99]		50

SIM50-12

Item	Display	Content	Setting range	Default value
1	OC	Document table image off-center adjustment	1 - 99	50
2	SPF(FRONT)	SPF front surface image off-center adjustment	1 - 99	50
3	SPF(REAR)	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

SPF

Item/Display		Content	Setting range	Default value
1	SIDE1	Front surface document scan position adjustment (CIS)	1 - 99	50
2	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1)	0 - 99	20
3		FRONT_REAR (SIDE1)	0 - 99	20
4		TRAIL_EDGE (SIDE1)	0 - 99	30

* 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) 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 8 Copy image position and image loss adjustment (Manual adjustment)

Note

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

8-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 MFP PWB has been replaced.
- * When the EEPROM on the MFP PWB is replaced.

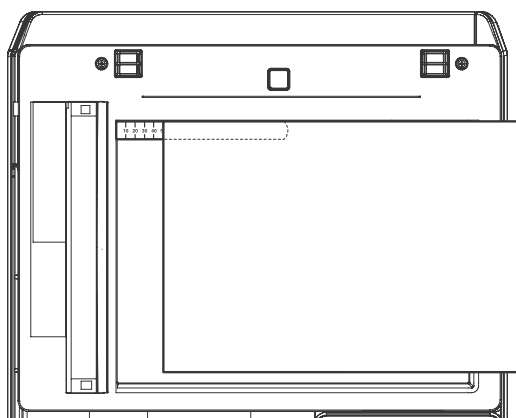
Note

Before executing this adjustment, be sure to confirm that the ADJ 4/ADJ 5 Print engine image skew, image position, image magnification ratio, void area adjustments has 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.

Sim50-01 LEAD EDGE ADJ		
1: RRCA		50
2: RRCB-CS1		50
3: RRCB-DSK		50
1 / 6 [1 / 99]		50



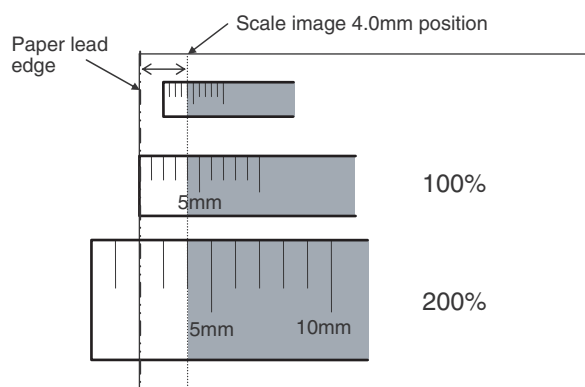
Sim50-01 LEAD EDGE ADJ		
1: RRCA		51
2: RRCB-CS1		50
3: RRCB-DSK		50
1 / 6 [1 / 99]		51

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

Item/Display			Content		Setting range	Default value
1	Lead edge adjustment value	RRCA	Document lead edge reference position (OC)		0 to 99	50
2		RRCB-CS1	Registration motor ON timing adjustment	Standard Tray	1 to 99	40
3		RRCB-DSK		Desk	1 to 99	50
4		RRCB-MFT		Manual paper feed	1 to 99	50
5		RRCB-ADU		ADU	1 to 99	50
6	Image loss area setting value	LEAD	Lead edge image loss area setting		0 to 99	10
7		SIDE	Side image loss area adjustment		0 to 99	10
8	Void area adjustment	DENA	Lead edge void area adjustment		1 to 99	40
9		DENB	Rear edge void area adjustment		1 to 99	35
10		FRONT/ REAR	FRONT/REAR void area adjustment		1 to 99	35
11	Off-center adjustment	OFFSET_OC	OC document off-center adjustment		1 to 99	50

Item/Display			Content	Setting range	Default value
12	Magnification ratio correction	SCAN_SPEED_OC	SCAN sub scanning magnification ratio adjustment (CIS)	1 to 99	50
13	Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value	1 to 99	50
14		DENB-CS1	Tray 1 correction value	1 to 99	50
15		DENB-CS2	Tray 2 correction value	1 to 99	50
16	Sub scanning direction print area correction value	DENB-ADU	ADU correction value	1 to 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.

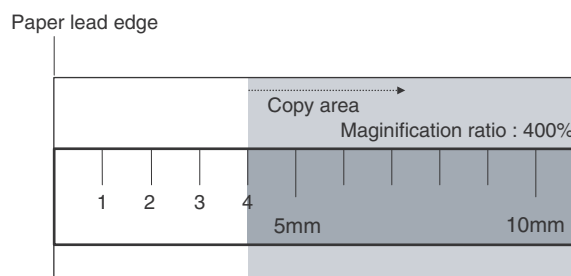


Image loss: 4.0mm

Item/Display	Content		Adjustment range	Default value	Standard adjustment value
LEAD	Image loss adjustment	Lead edge image loss adjustment	0 - 99	10	4.0 +/- 1.0mm
SIDE		Side image loss adjustment	0 - 99	10	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.

8-B Copy image position, image loss, void area adjustment (Manual adjustment) (RSPF mode)

This adjustment must be performed in the following cases:

- * When the MFP PWB is replaced.
- * When the EEPROM on the MFP 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.

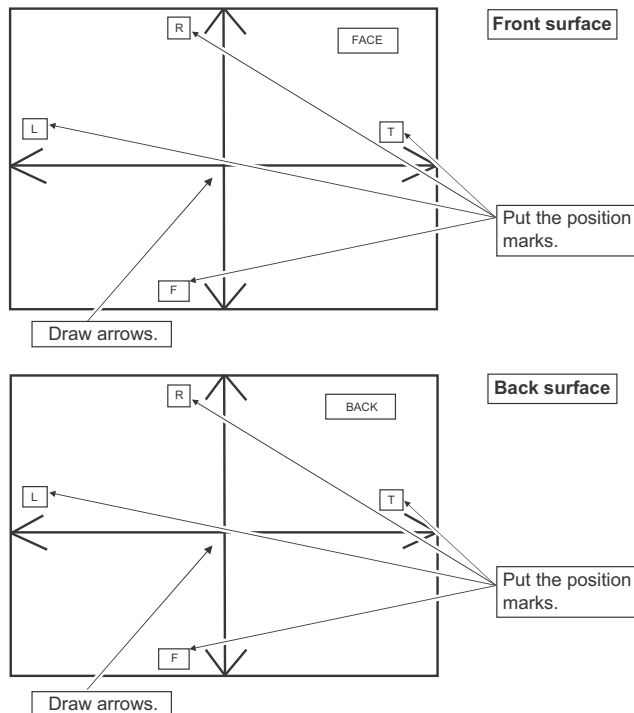
a. Adjustment procedures

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.

Sim50-06 SPF EDGE ADJ

1: SIDE1	50
2: SIDE2	50
3: SIDE1 LEAD EDGE	20
1 / 3 [1/ 99]	50

RSPF

Item/Display		Content	Setting range	Default value
1	SIDE1	Front surface document scan position adjustment (CIS)	1 - 99	50
2	SIDE2	Back surface document scan position adjustment (CIS)	1 - 99	50
3	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1)	0 - 99	10
4		FRONT_REAR (SIDE1)	0 - 99	10
5		TRAIL_EDGE (SIDE1)	0 - 99	35
6	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2)	0 - 99	10
7		FRONT_REAR (SIDE2)	0 - 99	10
8		TRAIL_EDGE (SIDE2)	0 - 99	35

SPF

Item/Display		Content	Setting range	Default value
1	SIDE1	Front surface document scan position adjustment (CIS)	1 - 99	50
2	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1)	0 - 99	20
3		FRONT_REAR (SIDE1)	0 - 99	20
4		TRAIL_EDGE (SIDE1)	0 - 99	30

- * 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)

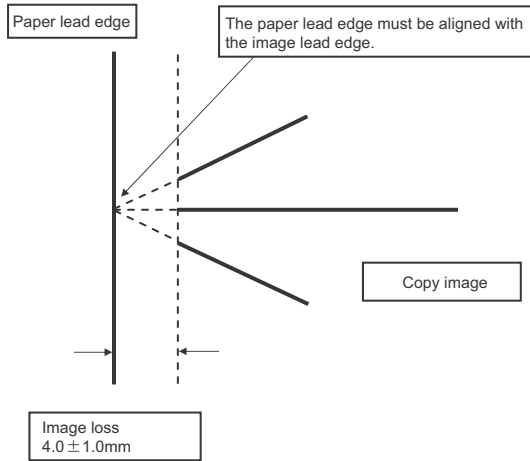
TRAIL EDGE (SIDE 2):

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

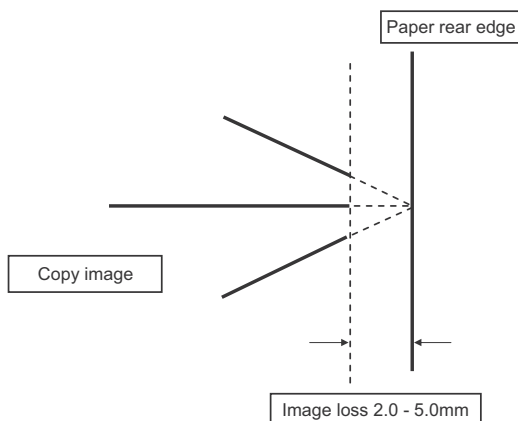
(When the adjustment value is increased, the print image position is shifted to the delaying direction for the paper.)

(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)

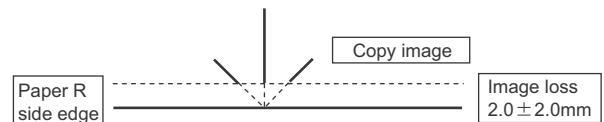
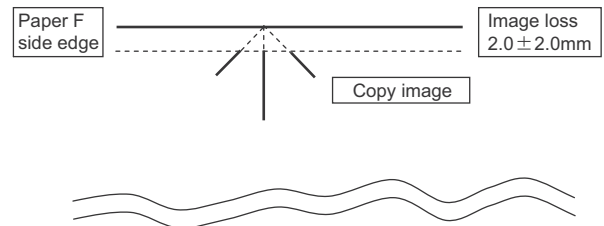
(When the adjustment value is increased, the rear edge image loss is increased.)

(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 9 Color balance/density adjustment

(1) Note before execution of the color balance/density adjustment

* Requisite conditions before execution of the color balance/density adjustment

Before execution of the color balance/density adjustment, check to insure that the adjustments which affect the color balance/density have been completed properly.

The importance levels of them are shown below.

(Since the following items affect the color balance/density directly, they must be adjusted or set before execution of the image quality adjustments.)

- 1) The following adjustment items must be adjusted properly.

Job No	Adjustment item	Simulation
AD J 5	Print engine image distortion adjustment / OPC drum phase adjustment / Color registration adjustment (Print engine section)	50-22/20

(Though the following items affect the color balance/density, there is no need to adjust them frequently. When, however, a trouble occurs, they must be checked and adjusted.)

- 1) The following items must be adjusted properly.

Job No	Adjustment item		Simulation
ADJ 1	Adjusting high voltage values	ADJ 1A Adjust the main charger grid voltage	8-2
		ADJ 1B Adjust the developing bias voltage	8-1
		ADJ 1C Transfer current and voltage adjustment	8-6
ADJ 6	Scan image focus adjustment		48-1

Note for the color balance/density check and adjustments

- For the color balance adjustments, be sure to use the paper specified for color (recommended paper).

Note that, if another kind of paper is used for the color balance adjustment, proper image qualities (color balance, density) may not be obtained.

- When setting the adjustment pattern on the document table in the automatic color balance adjustment procedures, place 5 sheets of white paper on the adjustment pattern in order to prevent back copying and adverse effects of paper wrinkles as far as possible.

(2) Relationship between the servicing job contents and the color balance/density check and adjustment

Note that the jobs before and after execution of the color balance/density check and adjustment depend on the machine status and the servicing conditions.

Follow the flowchart of the color balance/density adjustment procedures depending on the actual conditions.

There are following four, major cases.

- 1) When installing
- 2) When a periodic maintenance is performed.
- 3) When a repair, an inspection, or a maintenance is performed. (When a consumable part is replaced.)
- 4) When an installation, a repair, or inspection is performed. (Without replacement of a consumable part)

(3) Copy color balance and density check

Important

Before checking the copy color balance and density, be sure to execute the following jobs.

- * Execute the high density image correction (Process correction) forcibly. (SIM 44-6)
- * Execute the half-tone image correction forcibly. (SIM 44-26)

Method 1

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.

a. Note for execution of the color balance and density check in the color copy mode

To check the copy color balance and density, use the gray test chart (UKOG-0162FCZZ) and the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11). Set the copy density level to "3" in the Text/Printed Photo mode (Manual), and make a copy.

At that time, all the color balance adjustments in the user adjustment mode must be set to the default (center).

In addition, be sure to use the specified paper for color.

b. 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).

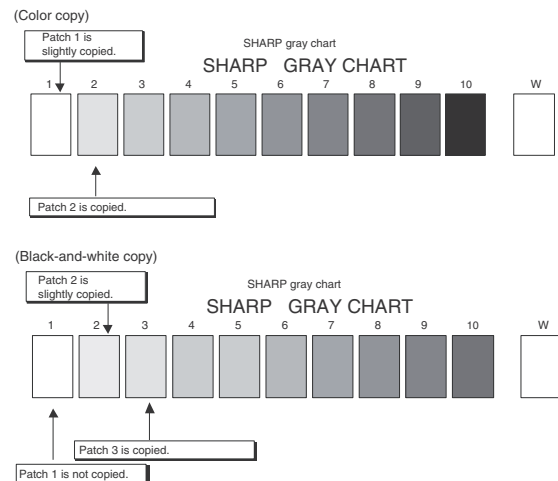
In addition, all the color balance adjustments in the user adjustment mode must be set to the default (center).

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

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

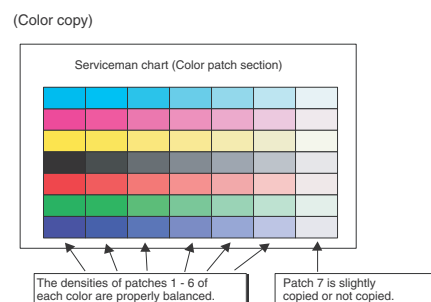
Important

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



Check with the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11)

In the copy color balance check with the servicing color test chart, check to insure the following conditions.

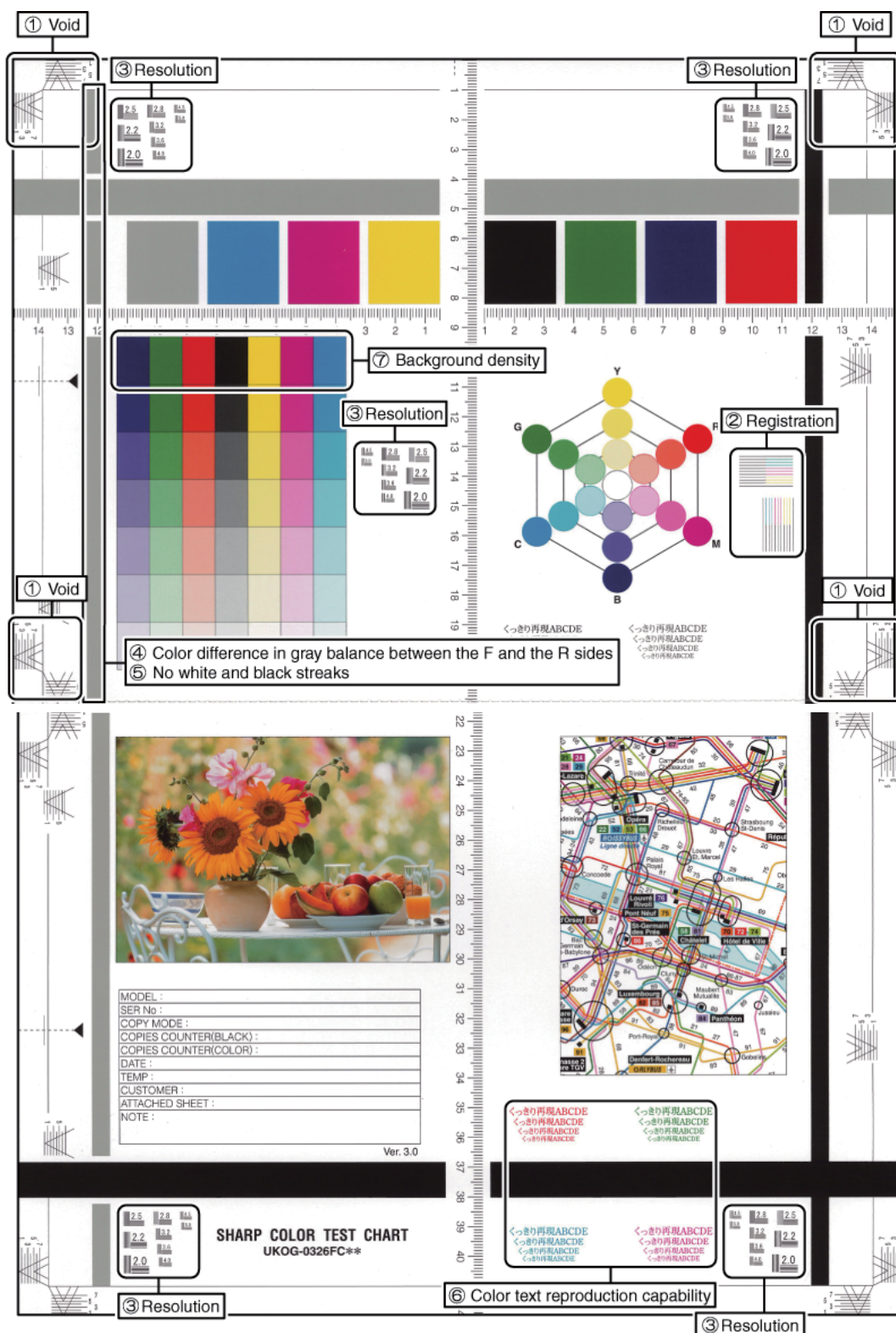


a. Color copy check items (Check to confirm the following:)

When using the servicing color test chart, fold or separate the chart.

- 1) There are 8 void areas.
- 2) Registrations (one point for the main scanning, and one point for the sub scanning) are not shifted.

- 3) The resolution of 5.0 can be seen.
- 4) The color difference in gray balance between the F and the R sides is not so great.
- 5) There are no white and black streaks.
- 6) Color texts are clearly reproduced.
- 7) The background density is not so light.



When using the servicing color test chart, fold or separate the chart.

- 2) The resolution of 4.0 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.



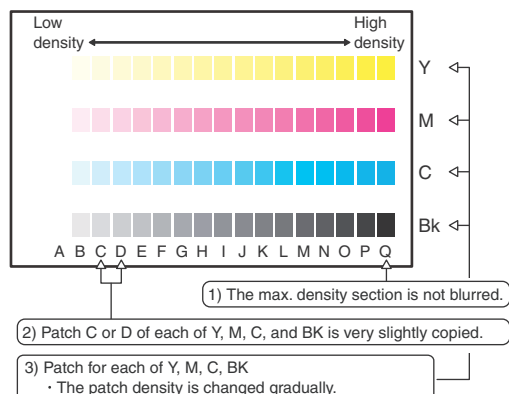
MODEL : _____
SER No : _____
COPY MODE : _____
COPIES COUNTER(BLACK) : _____
COPIES COUNTER(COLOR) : _____
DATE : _____
TEMP : _____
CUSTOMER : _____
ATTACHED SHEET : _____
NOTE : _____

Ver. 3.0

SHARP COLOR TEST CHART
UKOG-0326FC**

(Method 2)

Use SIM46-21 to print the color balance adjustment sheet, and check following image to confirm that the color balance adjustment is proper.



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Important

Before checking the copy color balance and the density, be sure to execute the following procedures in advance.

- * Execute the high density image correction (Process correction) forcibly. (SIM 44-6)
- * The half-tone image correction is forcibly executed. (SIM 44-26)

Execute SIM 64-5 to print the print test pattern.

Important

Set each set value to the default and press [EXECUTE] key. The print test pattern is printed.



The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed. The density level of each color must be almost at the same level.

The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.

The density level of each color must be almost at the same level.

Patch B may not be copied.

Patch A must not be copied.

If the color balance of each patch of the process black (CMY mixed color) is slightly shifted to Magenta, it means that the adjustment is proper. In an actual print mode, it is converted into the natural gray color balance by the color table. (When the color balance target is DEF 1.)

9-A Scanner calibration (CIS calibration)

This adjustment must be performed in the following cases:

- * When the CIS unit is replaced.
- * When a U2 trouble is occurred.
- * When the MFP PWB is replaced.
- * When the EEPROM on the MFPC PWB is replaced.

(1) Note before adjustment

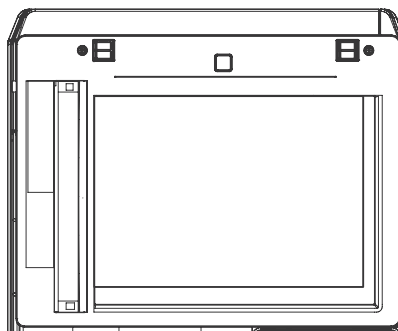
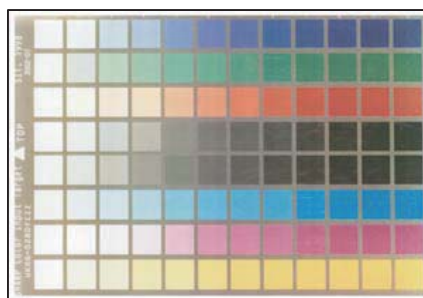
- Check that the table glass and the lens surface are free from dirt and dust.
(If there is some dust and dirt, wipe and clean. A lens should never be cleaned with alcohol as the alcohol may damage the (yellow) coatings on the lens. Table glass should be cleaned with glass cleaner that has no ammonia in it. It is also preferable to use a glass cleaner with an anti-static additive in it.)
- 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 the patches are dirty, clean the chart surface area with a soft dry rag.

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 CIS gamma to the default. In this case, however, the adjustment accuracy is lower when compared with the adjustment method using the SIT chart.

Important

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, [OK] is highlighted. After completion of the adjustment, [OK] returns to the normal display.

Sim63-03 SCAN CL BLNC ADJ

Press OK Key
EXEC

Note

Since the SIT chart (UKOG-0280FCZZ or UKOG-0280FC Z1) 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.

9-B Copy/Printer color balance and density adjustment (Automatic adjustment) (Basic adjustment)

This adjustment must be performed in the following cases:

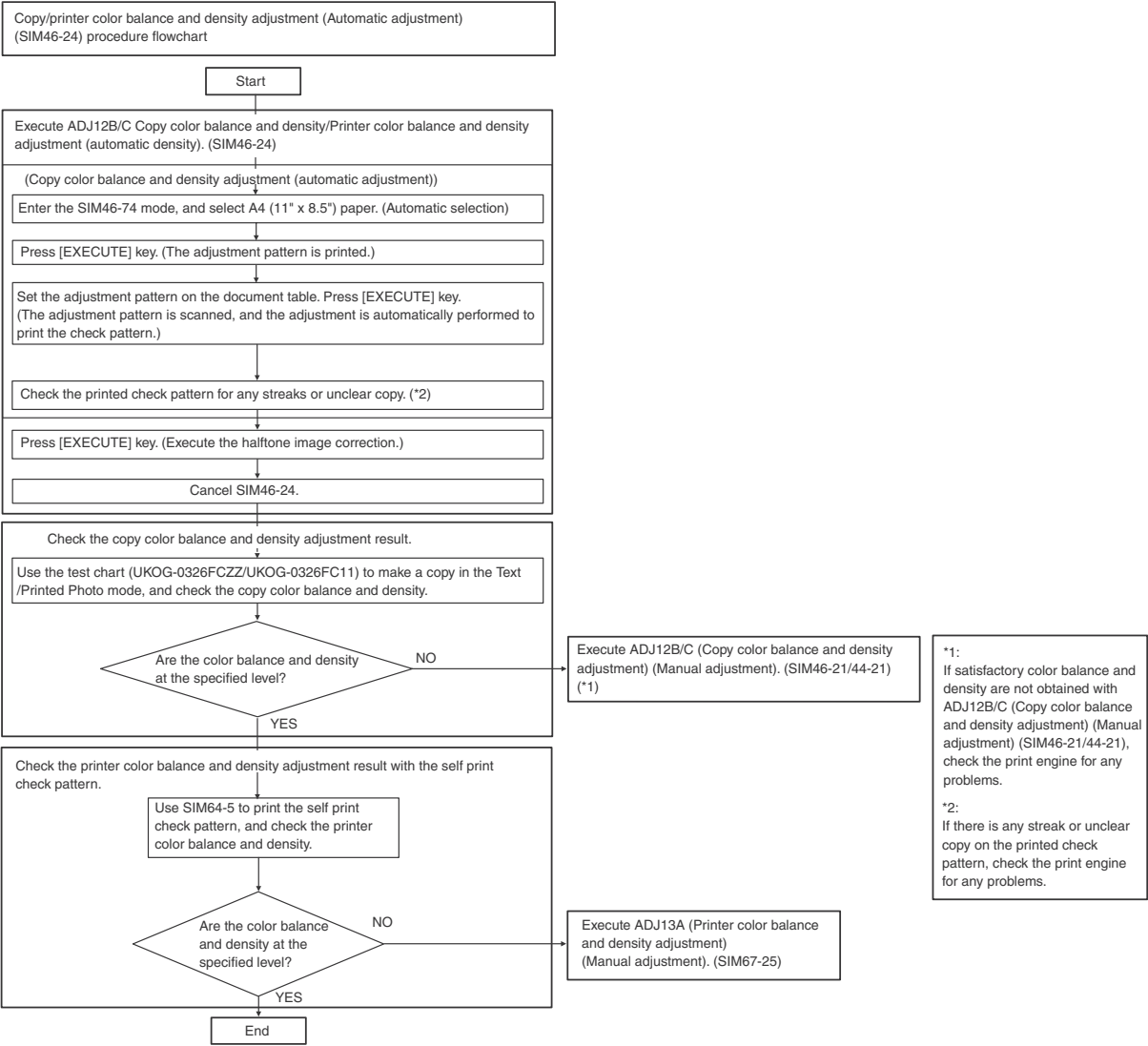
- * When a consumable part (developer, OPC drum, transfer belt) is replaced.
- * When the CIS unit is replaced.
- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) unit is replaced.
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.

a. General

The color balance adjustment (automatic adjustment) is used to adjust the copy/printer density of each of Cyan, Magenta, Yellow, and Black automatically.

When this adjustment is executed, the color balance adjustments of all the copy/printer modes are revised.

b. Adjustment procedures



1) Enter the SIM46-24 mode.

Sim46-24 ENG HT AUTO ADJ

Press OK KeyEXEC

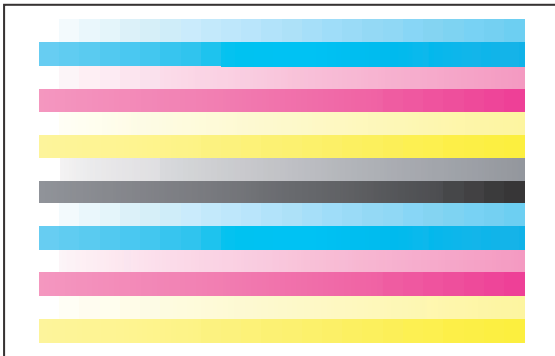
2) Press [START] key.

The high density process control is performed, and the color patch image (adjustment pattern) is printed out.
(A4/11" x 8.5" paper is automatically selected.)

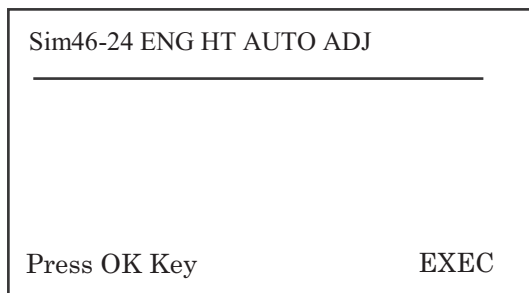
Sim46-24 ENG HT AUTO ADJ

Press OK KeyEXEC

- 3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.
Place the color patch image so that the tint colors are on the left side. At that time, place 5 sheets of white paper on the printed color patch image (adjustment pattern).

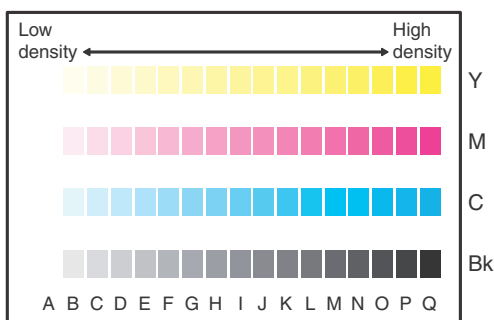


- 4) Press [OK] key.



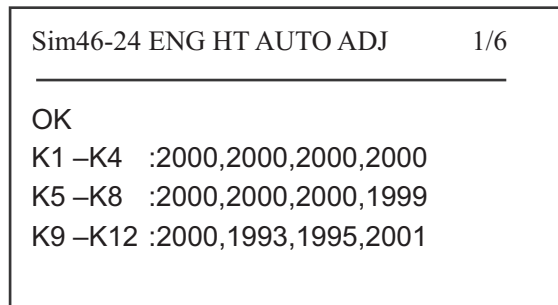
The color balance adjustment is automatically executed and prints the color balance check patch image.

If there is any streak or unclear print on the printed check pattern, check the print engine for any problems.



- 5) Press [START] key.
The initial setting of the halftone image correction is performed.
The halftone image correction is performed.

- 6) When "OK" is displayed, the adjustment operation is completed.
Cancel SIM46-24.



- 7) Check the copy color balance and density.
(Refer to the item of the copy color balance and density check.)
Also when the is automatic adjustment execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment (ADJ 9C).
- 8) Check the printer color balance and density.
(Refer to the item of the printer color balance and density check.)
If a satisfactory result on the color balance and the density is not obtained with the automatic adjustment, execute the manual adjustment (SIM 67-25) (ADJ 10C)).
- If the color balance or density is not in the satisfactory level even after execution of the automatic and manual adjustments, there may be another cause.
Troubleshoot the cause, repair or perform necessary works, and repeat the adjustment from the beginning.

*

9-C Copy color balance and density adjustment (Manual adjustment)

This adjustment must be performed in the following cases:

- * When an acceptable result is not obtained after performing the auto copy color balance adjustment.
- * When the client is not satisfied with the balance and density, though the auto adjustment was performed properly. Also, if copy color is not improved after performing the RGB copy adjustment.

a. General

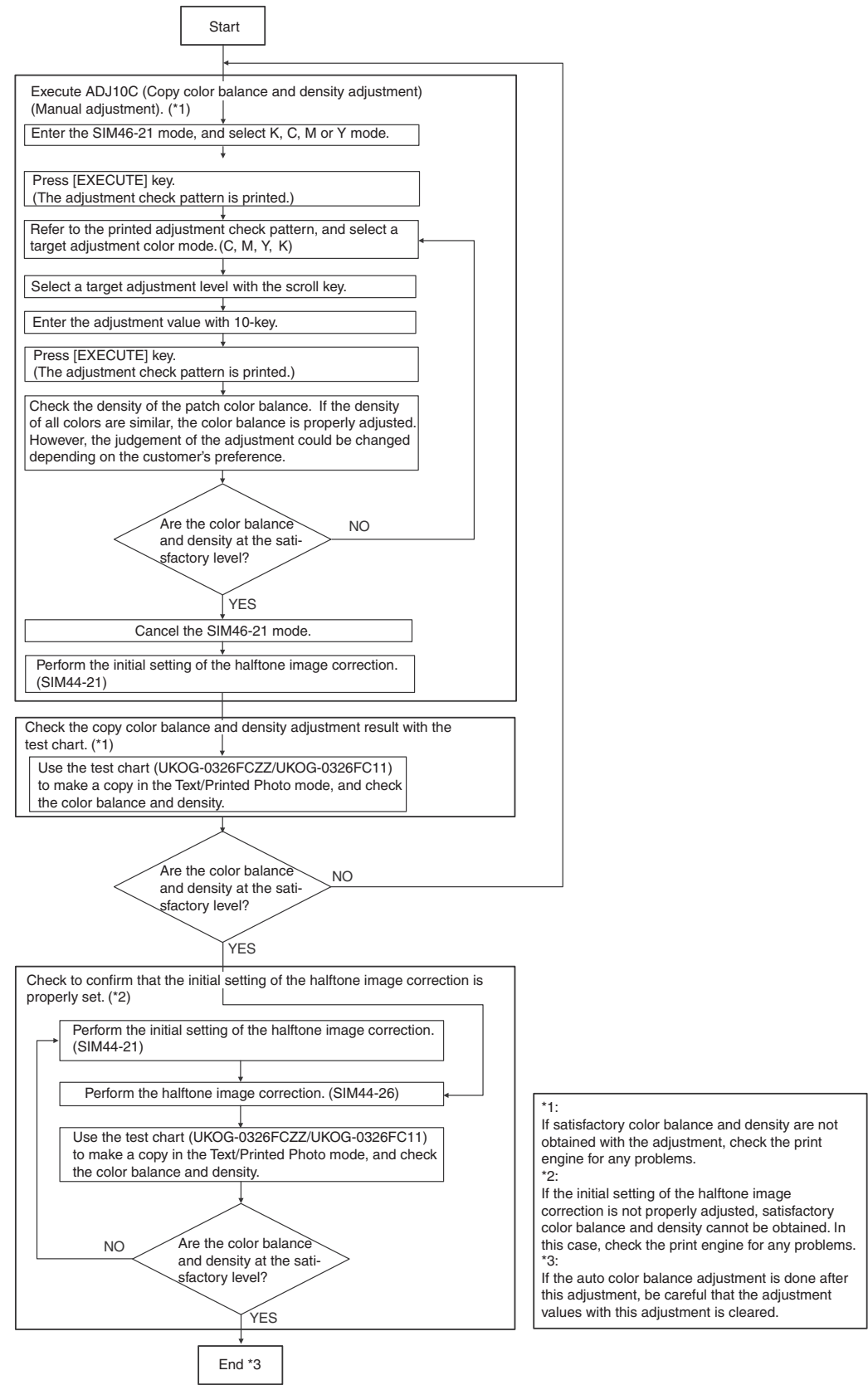
The color balance adjustment (Manual adjustment) is used to adjust the copy density of CMYK. This is used at the following situation. When the result of auto adjustment described above is not existing within the range of reference. When a fine adjustment is required. When there is request from the user for changing (customizing) the color balance.

This manual adjustment is executed only for the color patch which could not adjusted properly in the automatic adjustment.

If the color balance is improper, execute the automatic color balance adjustment in advance, and execute this adjustment for better efficiency.

b. Adjustment procedure

Copy color balance and density adjustment (Manual adjustment) procedure flowchart (SIM46-21)



- 1) Enter the SIM46-21 mode.

Sim46-21 CL BLNC MAN CL:PG

1: K

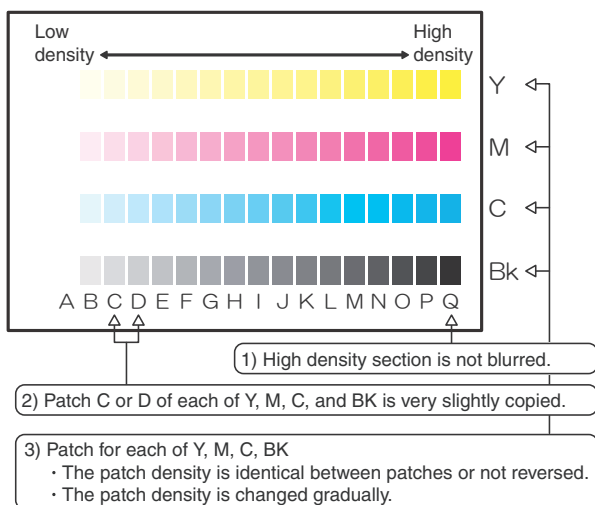
2: C

3: M

1/2

3

- 2) Select the K, C,M or Y mode and press [EXECUTE] key. (A4/ 11" x 8.5" paper is automatically selected.)
The color balance adjustment pattern is printed.
- 3) Check that the following specification is satisfied or the color balance is satisfactory.
If not, execute the following procedures.



The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.

The density level of each color must be almost at the same level.

Patch B may not be copied.

Patch A must not be copied.

When, however, the color balance is adjusted according to a request from the user, there is no need to set to the standard color balance stated above.

- 4) Select the K, C,M or Y mode to be adjusted, and select the adjustment point with the [UP] or [Down] key.
- 5) Enter the adjustment value with 10-key and press [OK] key.
The adjustment value is set in the range of (1 - 255). When SIM 46-24 is used to adjust the automatic color balance and density, all the set values of this simulation are set to 128.
To increase the density, increase the adjustment value. To decrease the density, decrease the adjustment value.
Repeat procedures of 2) - 5) until the condition of 3) is satisfied.
- 6) Make a copy of the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) and a user's document according to necessity in the normal copy mode, the text/Printed Photo mode (Manual) to check the adjustment result.
(Refer to the item of the copy color balance/density check.)

- 7) Execute SIM 44-21. (Execute the initial setting of the halftone image correction.)

Sim44-21 PROCON VALUE

PRESS[EXEC] TO START

ARE YOU SURE?

EXEC

It takes several minutes to complete the operation. After completion of the operation, "COMPLETE" is displayed.
(Normal end (Auto transition))

Sim44-21 PROCON VALUE [1/5]

K1-K4 nnnn,nnnn,nnnn,nnnn

K5-K8 nnnn,nnnn,nnnn,nnnn

K9-K12 nnnn,nnnn,nnnn,nnnn

K13-K16 nnnn,nnnn,nnnn,nnnn

(Abnormal end (Auto transition))

Sim44-21 PROCON VALUE

ERROR

BK_SEN_ADJ_ERR

After completion of the operation, the simulation is canceled.

Note

This procedure is to save the copy color balance adjustment data as the reference data for the halftone correction.

Immediately after execution of ADJ 12C(Color balance adjustment, Manual) with SIM 46-21, be sure to execute this procedure.

- 8) Use SIM 44-26 to execute the halftone image correction.
(Forcible execution)
Enter the SIM 44-26 mode and press [PRINT] key.
[EXECUTE] key is highlighted and the operation is started.

Sim44-26 DENSITY CORRECT

Press OK Key EXEC

It takes several minutes to complete the operation. After completion of the operation, "COMPLETE" is displayed.
(Normal end (Auto transition))

Sim44-26 DENSITY CORRECT[1/2]

OK

K1-K4 nnnn,nnnn,nnnn,nnnn

K5-K8 nnnn,nnnn,nnnn,nnnn

K9-K12 nnnn,nnnn,nnnn,nnnn

(Abnormal end (Auto transition))

Sim44-26 DENSITY CORRECT

ERROR

BK_SEN_ADJ_ERR

After completion of the operation, the simulation is canceled.

- 9) Make a copy of the servicing color test chart (UKOG-0317FCZZ/UKOG-0317FC11) and a user's document according to necessity in the Text/Printed Photo mode (Manual) and check the adjustment result again. (Refer to the item of the copy color balance/density check.)
If the copy color balance and density are not adjusted to the specified level, there may be another cause.
Troubleshoot the cause, and repair or perform proper treatments, and try all the procedures of the print image adjustment from the beginning.

9-D Copy / Image send / FAX image quality adjustment (Individual adjustment)

a. General

This adjustment is used to execute the fine adjustment in each mode only when a satisfactory image quality is not obtained by the basic adjustments ADJ 10B and ADJ 10C or there is a request from the user. Normally there is no need to execute this adjustment.

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				FAXPrinter	
		Color mode		Monochrome mode		Color mode		Monochrome mode			
		Auto	Manual	Auto	Manual	Auto	Manual	Auto	Manual		
46-01	Color copy density adjustment (for each color copy mode) (separately for the low-density area and the high-density area) (No need to adjust normally)	O	O	-	-	-	-	-	-	-	-
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)	-	-	O	O	-	-	-	-	-	-
46-04	Color image send mode image density adjustment (for each mode) (No need to adjust normally)	-	-	-	-	O	O	-	-	-	-
46-05	Monochrome image send mode image density adjustment (for each mode) (No need to adjust normally)	-	-	-	-	-	-	O	O	-	-
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)	-	-	-	-	O	O	-	-	-	-
46-09	RSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)	O	O	O	O	O	O	O	O	O	-
46-19	Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)	-	-	O	-	-	-	O	-	O	-
46-21	Copy color balance and density adjustment (Manual adjustment)	O	O	-	-	-	-	-	-	-	-
46-23	Copy high density image density reproduction setting (Normally unnecessary to the setting change)	O	O	O	O	-	-	-	-	-	O(*1)
46-24	Copy color balance and density adjustment (Automatic adjustment)	O	O	O	O	-	-	-	-	-	O(*1)
46-27	Color copy, text, line image reproduction adjustment (edge gamma, density adjustment) (Text, Map mode) (No need to adjust normally)	O	O	-	-	-	-	-	-	-	-
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)	-	-	O	-	-	-	O	O	O	-
46-37	Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)	-	-	-	-	-	-	O(Gray mde)	O(Gray mde)	-	-
46-39	FAX send image sharpness adjustment	-	-	-	-	-	-	-	-	O	-
46-40	FAX send image density adjustment (Collective adjustment of all the modes)	-	-	-	-	-	-	-	-	O	-
46-41	FAX send image density adjustment (Normal text mode)	-	-	-	-	-	-	-	-	O	-
46-42	FAX send image density adjustment (Fine text mode)	-	-	-	-	-	-	-	-	O	-
46-43	FAX send image density adjustment (Super fine mode)	-	-	-	-	-	-	-	-	O	-
46-51	Gamma manual adjustment for the copy mode heavy paper and the image process mode (dither) (No need to adjust normally)	O	O	O	O	-	-	-	-	-	-
46-52	Gamma default setting for the copy mode heavy paper and the image process mode (dither)	O	O	O	O	-	-	-	-	-	-
46-54	Used to reset the copy color balance adjustment (auto adjustment for each dither)	O	O	O	O	-	-	-	-	-	-

*1: Only the changed scanner target value is related.

9-D Color copy density adjustment (for each color 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 46-1 mode.

Sim46-1 EXP. ADJ (CL COPY)

1: LOW 0

2: HIGH 0

00

- 2) Select the copy mode to be adjusted with [UP] or [DOWN] keys.

	Display/Item		Setting range	Default
1	LOW	Text	1 - 99	50
2	LOW	Text/Printed Photo	1 - 99	50
3	LOW	Photograph	1 - 99	50
4	HIGH	Text	1 - 99	50
5	HIGH	Text/Printed Photo	1 - 99	50
6	HIGH	Photograph	1 - 99	50

- 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 normal copy mode alternately, and adjust and check the adjustment result.

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

9-E 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.

Sim46-2 EXP. ADJ (BW COPY)

1: LOW

2: HIGH

00

- 2) Select the copy mode to be adjusted with [UP] or [DOWN] keys.

	Display/Item		Setting range	Default
1	LOW	Text	1 - 99	50
2	LOW	Text/Printed Photo	1 - 99	50
3	LOW	Photograph	1 - 99	50
4	HIGH	Text	1 - 99	50
5	HIGH	Text/Printed Photo	1 - 99	50
6	HIGH	Photograph	1 - 99	50

- 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 normal copy mode alternately, and adjust and check the adjustment result.

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

9-F Automatic monochrome (Copy) 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.

Sim46-19 EXP. ADJ (B/W AE)

1: AE MODE 0

2: DESTINATION MODE 1

[0- 1] 0

- 2) Set "MODE" or "STOP" to adjustment items. For contents of each setting item, refer to below. Change the setting value of "MODE" or "STOP" in some cases.

Item	Display	Content	Set value	Default
1	AE_MODE	Destination mode (1: Japan 2: Overseas)	0-1	1
2	DESTINATION MODE	Automatic monochrome mode (0: Real time 1: Leading edge stop)	1-2	1

Note

MODE1: High gamma (Improves the image contrast)

MODE2: Normal gamma

LAEADING EDGE 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 not be constant through the whole document.)

Operation in monochrome auto copy mode:

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

9-G Document low density image density reproduction adjustment in the automatic (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 auto 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.

Sim46-32 AE REACTION SET

1: AE CONTROL : CL COPY

2: AE CONTROL : BW COPY

3: AE CONTROL : FAX

1/2 [0- 255]

- 2) Select the adjustment mode with [UP] or [DOWN] keys.
- 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
1	COLOR COPY	AE reactive control (COLOR COPY)	0 - 250
2	MONO COPY	AE reactive control (MONO COPY)	0 - 250
3	FAX	AE reactive control (FAX)	0 - 250

Display/Item	Content	Set value	Default
4	COLOR PUSH	AE reactive control (COLOR PUSH)	0 - 250
5	MONO PUSH	AE reactive control (MONO PUSH)	0 - 250

9-H Color copy simple density adjustment

Adjustment 1

The gamma and the density of Text, Text/Printed Photo, Text/Photograph mode is to be changed. With this adjustment, the total density and the contrast can be varied.

This adjustment is required in the following cases.

- * When the reproducibility is to be changed.
- * When there is request from the user.

- 1) Enter the SIM 46-27 mode.

Sim46-27 COEF OF GAMMA SETUP

1: TEXT

2: TEXT PRT

3: PHOTO

00

- 2) Select the mode to be adjusted with [UP] or [DOWN] keys.

	Display/Item (Copy mode)	Content	Adjustment range	Minimum	Maximum
TEXT	TEXT (SLOPE)	Character mode engine	Slope	1	99
	TEXT (INTERCEPT)	Gamma curve calculation coefficient	Intercept	1	99
TEXT PRT	TEXT PRT (SLOPE)	Character/Photo printing mode engine	Slope	1	99
	TEXT PRT (INTERCEPT)	Gamma curve calculation coefficient	Intercept	1	99
PHOTO	PHOTO (SLOPE)	Image printing mode engine	Slope	1	99
	PHOTO (INTERCEPT)	Gamma curve calculation coefficient	Intercept	1	99

- 3) Enter the adjustment value with 10-key.
When the adjustment values of item A, C and E are changed, the gamma at the total image is changed.
When the adjustment value is increased, the image contrast of the total image is increased. When the adjustment value is decreased, the image contrast of the total image is decreased.
When the adjustment value of the adjustment item B, D and F are increased, the image density at the total image is increased, and vice versa.
- 4) Press [OK] key.
- 5) Check the copy.
If a satisfactory result is not obtained, return to the SIM 46-27 mode and change the adjustment value.
Repeat the above procedures until a satisfactory result is obtained.

9-I 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 63-12 mode.

Sim63-12 BW IMG CREATE 1PL	
1: R-ratio	20
2: G-ratio	70
3: B-ratio	10
[0- 100]	0

- 2) Select the mode to be adjusted with [UP] or [DOWN] keys.

Display/Item (Copy mode)	Content	Adjustment range	Default
1	R-ratio	Gray making setting (R)	0 - 100
2	G-ratio	Gray making setting (G)	0 - 100
3	B-ratio	Gray making setting (B)	0 - 100

When the adjustment value of adjustment item 1 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 3 is decreased, copy density of yellow image is increased. When the adjustment value is increased, copy density of yellow image is decreased.

When the adjustment value of adjustment item 2 is decreased, copy density of yellow image is increased. However, the effect of the increased amount of changing the item 3 is bigger than the one of the item 2.

- 3) Enter the adjustment value with 10-key.
- 4) Press [OK] key.

9-J Copy high density image density reproduction setting (Normally unnecessary to the setting change)

If a tone gap occurs on part of high density in copy mode, or if there is necessity to increase the density of the part of high density, change the setting.

This setting is normally not required. When, however, there are case of following, change the setting.

- * When a tone gap occurs on part of high density.
- * When there is a necessity to increase the density of the part of high density.
- * When there is request from the user.

a. Adjustment procedure

- 1) Enter the SIM 46-23 mode.

Sim46-23 MAX DENSITY ADJ

1: CMY	0
2: K	0
3: CYAN MAX TARGET	0
1/2 [0- 1]	0

- 2) Select the item A, B with [UP] or [DOWN] keys.

Display/Item		Content		Setting range	Default
1	CMY (0:ENABLE 1:DISABLE)	0	CMY engine maximum density correction mode Enable	0 - 1	0
		1	CMY engine maximum density correction mode Disable		
2	K (0: ENABLE 1: DISABLE)	0	K engine maximum density correction mode Enable	0 - 1	1
		1	K engine maximum density correction mode Disable		
3	CYAN MAX TARGET	Scanner target value for CYAN maximum density correction		0 - 999	500
4	MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction		0 - 999	500
5	YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction		0 - 999	500
6	BLACK MAX TARGET	Scanner target value for BLACK maximum density correction		0 - 999	500

- * If a tone gap occurs on part of high density, set 0 to item 1 and 2. The density of high density part decreases. However, the tone gap is better.

- * In case of more increase of the density on high density part, set 1 to item 1 and 2.

The tone gap may occur in high density part.

Important

Do not change the setting values of item 3, 4, 5 and 6. If these values are changed, density of the high density part is changed.

If these values are changed, be sure to execute the copy color balance density adjustment. (Auto adjustment)

9-K 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 CIS unit has been replaced.
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.

a. Adjustment procedure

- 1) Enter the SIM 46-9 mode.

Sim46-9 EXP. ADJ (SFP)

1: LOW
2: HIGH

00

- 2) Select the mode to be adjusted with [UP] or [DOWN] keys.
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
1	LOW	COPY	SPF copy mode exposure adjustment (Low density side)	1 - 99	48
2		SCAN	SPF scanner mode exposure adjustment (Low density side)	1 - 99	48
3		FAX	SPF FAX mode exposure adjustment (Low density side)	1 - 99	48
1	HIGH	COPY	SPF copy mode exposure adjustment (High density side)	1 - 99	53
2		SCAN	SPF scanner mode exposure adjustment (Low density side)	1 - 99	53
3		FAX	SPF 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.

9-L Automatic color balance adjustment by the user (Color balance automatic adjustment ENABLE setting and adjustment)

a. General

In the user program mode, the user can execute the auto color calibration (auto adjustment of the copy color balance and density). This adjustment is to set Enable/Disable of the above user operation with SIM 26-53.

Important

This setting must be set to ENABLE only when the user's understanding on the automatic adjustment of the copy color balance and density and the user's operational ability are judged adequate enough to execute the adjustment.

When set to enable, operation procedures must be fully explained to the user.

b. Setting procedure

- 1) Enter the SIM 26-53 mode.

Sim26-53 AUTO COLOR CALIB

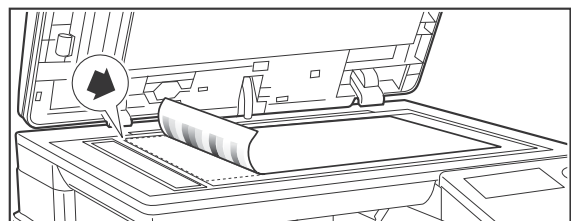
1: AUTO COLOR CALIBRATION 0

[0- 1] 0

- 2) Select ENABLE or DISABLE with [UP] and [DOWN] key.
When disabling, set to "0" (NO). When enabling, set to "1" (Yes).
- 3) Press [OK] key.
When set to DISABLE, the menu of the user auto color calibration is not displayed in the user program mode.

(Auto color calibration by the user (Auto color balance adjustment))

- 1) Enter the system setting mode.
- 2) Press the auto color calibration key.
- 3) Press [OK] key.
The color patch image (adjustment pattern) is printed out.
- 4) Set the color patch image (adjustment pattern) printed in procedure 4) on the document table.
Set the patch image so that the tint color is on the left side as shown in the figure.
At that time, place 5 sheets of white paper on the above color patch image (adjustment pattern).



- 5) Press [OK] key.
Then, the color balance adjustment is executed automatically. After completion of the adjustment, the display returns to the original operation screen.

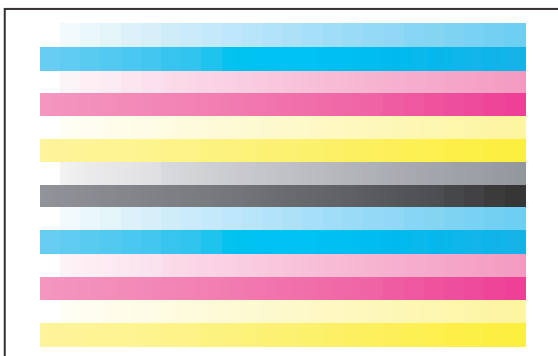
9-M Copy gamma, color balance adjustment for each dither (Automatic adjustment) (No need to adjust normally)

a. General

This simulation is used to improve the image quality in a certain mode. (Refer to the list in procedure 6.)

b. Adjustment procedures

- 1) Enter the SIM46-54 mode.
- 2) Press [OK] key.
A4/11" x 8.5" paper is automatically selected. The color patch image (adjustment pattern) is printed.
- 3) Set the patch image (adjustment pattern) printed in the procedure 2) on the document table so that the tint color on the printed patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed patch image (adjustment pattern).

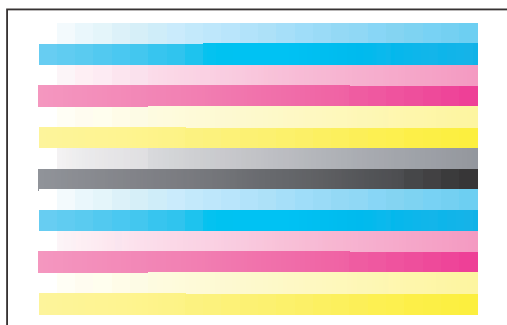


- 4) Press [START] key.
The color balance and the density are automatically adjusted.
The adjustment pattern is printed out. Check it for any abnormality.
- 5) Press [OK] key.
The list of the adjustment items (for each dither) is displayed.
- 6) Select an adjustment item (for each dither).

Select item (Mode/Image)	Content
Heavy Paper*1	Adjustment item to improve the color balance in the heavy paper mode
Color ED	Adjustment item to improve the density and gradation in the color text mode and the text/photo printing mode.
B/W ED	Adjustment item to improve the density and gradation in the monochrome text mode and the text/photo printing mode.
B/W 600dpi	Adjustment item to improve the density and gradation in the monochrome text mode and the text/photo printing mode.

*1: When performing adjustments in the heavy paper mode, load paper in the manual paper feed tray.

- 7) Press [START] key.
A4/11" x 8.5" paper is automatically selected.
The patch image (adjustment pattern) is printed out.
In the monochrome mode, only the monochrome pattern is printed.
- 8) Set the patch image (adjustment pattern) printed in the procedure 7) on the document table so that the tint color on the printed patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed patch image (adjustment pattern).



- 9) Press [START] key.
The color balance and the density are automatically adjusted, and the machine goes to the state of procedure 6).
To complete the adjustment and enable the adjustment result, press [OK] key.
- 10) Make a copy, and check the copy image quality.

Note

Use SIM46-52 to reset the adjustment values to the default values.

ADJ 10 Printer color balance/density adjustment (No need to adjust normally)

10-A Printer color balance adjustment (Manual adjustment) (No need to adjust normally)

This adjustment is needed in the following situations:

- * Even if the automatic adjustment is done, copy color balance adjustment is not proper result.
- * Even if the auto adjustment is done properly, the customer asks you to adjust the copy color. And more, even if RGB adjustment of copy function is done, the copy color is not improved.

a. General

The color balance adjustment (Manual adjustment) is used to adjust the copy density of CMYK. This is used at the following situation. When the result of auto adjustment described above is not existing within the range of reference. When a fine adjustment is required. When there is request from the user for changing (customizing) the color balance.

This manual adjustment is executed only for which could not adjusted properly in the automatic adjustment.

If the color balance is improper, execute the automatic color balance adjustment in advance, and execute this adjustment for better efficiency.

b. Note for the color balance adjustment (Manual adjustment)

- 1) After execution of the copy color balance/density adjustment.
- 2) For the color balance adjustment, use the recommended color paper. (For the recommended paper, refer to [2].)

If the other kind of paper is used for the color balance adjustment, the proper image quality (color balance, density) may not be obtained.

c. Adjustment procedure

- 1) Enter the 67-25 mode.

Sim67-25 PRT CL BLNC MAN

1: K
2: C
3: M
1 / 2 00

[OK]

Sim67-25 PRT CL BLNC MAN

1: POINT01 128
2: POINT02 128
3: POINT03 128
1 / 6 [1 - 999] 128

- 2) Select the adjustment point with [UP] or [DOWN] keys.
- 3) Input the adjustment value with 10 keys and press [OK] key.
Adjustment value can be set in the range of 1 to 255. When the auto color balance adjustment is done by SIM 46-24, The adjustment value in this mode becomes 128.

To increase the density, increase the adjustment value. To decrease the density, decrease the adjustment value. Repeat the procedure 2) to 3) until a satisfactory result is obtained.

10-B Printer density adjustment (low density part density adjustment) (Normally unnecessary to adjust)

This procedure is to adjust image density of low density area in printer mode.

Adjust to reproduction (not reproduction) setting of the low density image.

This adjustment is required in the following cases.

- * When reproduction of low density image is required. When reproduction of low density image is not required, conversely.
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.
- * When there is request from the user.

1) Enter the SIM 67-36 mode.

Sim67-36 HIGH LIGHT DENSITY ADJ

1: A PATCH INPUT 0

[0- 13] 0

2) Enter the adjustment value and press the [OK] key.

In case of increase of the image density on low density part, increase the adjustment value. In case of decrease of the image density on low density part, decrease the adjustment value. For diluting the image density on low density part, decrease the adjustment value.

10-C Printer high density part density correction setting (high density part tone gap countermeasure) (Normally unnecessary to the setting change)

This procedure is to adjust image density of low density area in printer mode.

This setting normally not required. When, however, there are case of following, change the setting.

- * When a tone gap occurs on part of high density.
- * When there is necessity to increase the density of the part of high density.
- * The CIS unit has been replaced.
- * U2 trouble has occurred.
- * When the MFPC PWB is replaced.

a. Adjustment procedure

1) Enter the SIM 67-34 mode.

Sim67-34 PRT MAX DENSITY

1: CMY PROHIBIT 0

2: K PROHIBIT 0

[0- 1] 0

2) Enter the adjustment value and press the [OK] key.

Display/Item	Content	Setting range	Default
1	CMY PROHIBIT 0	0 - 1	0
	CMY engine maximum density correction mode Enable		
2	CMY PROHIBIT 1	0 - 1	1
	CMY engine maximum density correction mode Disable		
2	K PROHIBIT 0	0 - 1	1
	K engine maximum density correction mode Enable		
2	K PROHIBIT 1	0 - 1	1
	K engine maximum density correction mode Disable		

* If a tone gap occurs on part of high density, set 0 to item A and B. The density of high density part decreases. However, the tone gap is better.

* In case of more increase of the density on high density part, set 1 to item A and B.

The tone gap may occur in high density part.

(NOTE) If the setting values of item 1 or 2 are changed, density of the high density part is changed.

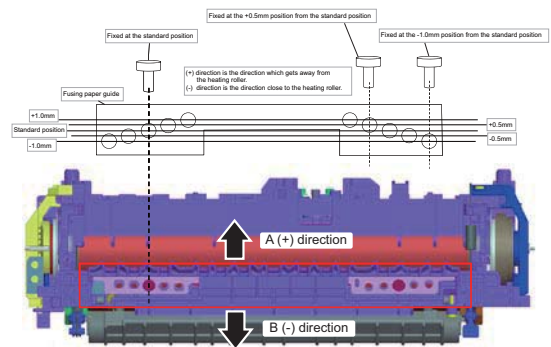
ADJ 11 Fusing paper guide position adjustment

Normally there is no need to perform this adjustment. In the following cases, perform this adjustment.

- * When a paper jam occurs in the fusing section.
- * When wrinkles are made on paper in the fusing section.
- * When an image deflection or an image blur is generated in the paper rear edge section.

1) Change the screw position of the fusing paper guide by referring the figure.

2)



The standard fixing position is the center part of the screw holes. Change the position according to the situation.

* When wrinkles are generated on paper, change the position in the arrow direction B.

* When an image deflection or an image blur is generated in the paper rear edge section, change the position in the arrow direction A.

Normally, the hole on the fusing paper guide standard fixing position is used to fix the fusing paper guide.

[6] SIMULATION

1. General (Including basic operations)

The simulation mode has the following functions, to display the machine operating status, identify the trouble position and causes in an earlier stage, and make various setups and adjustments speedily for improving the serviceability of the machine.

- 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.

A. Starting the simulation

Entering the simulation mode

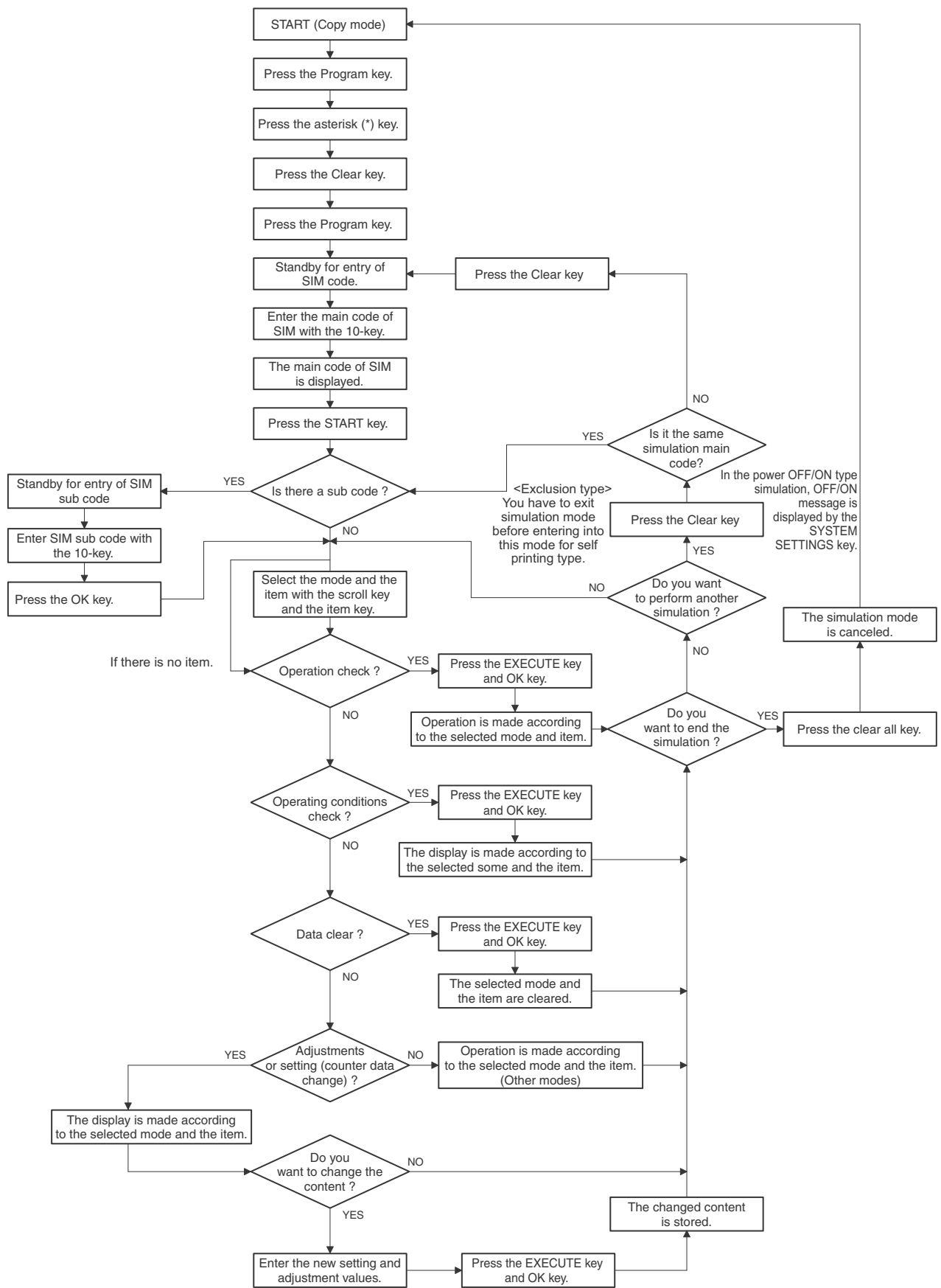
- 1) Machine in Copy mode: Select Program key → Asterisk (*) key → Clear key → Asterisk (*) key → Ready for input of main code of simulation.
- 2) Entering a main code with the 10-key → START key ON.
Or select a main code with the SIM key on the touch panel.
- 3) Entering a sub code with the 10-key → 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 result. In this case, turn OFF/ON the main power source.



2. 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)
2	1	Used to check the operations of the auto document feed unit and the control circuit.	SPF
	2	Used to check the operations of the sensors and the detectors in the document feed unit section and the control circuits.	SPF
	3	Used to check the operations of the loads in the auto document feed unit and the control circuit.	SPF
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)
	4	Used to check the operation of the discharge lamp and the control circuit.	Process
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
	3	Used to check the operations of the primary transfer unit and the control circuit.	Process (Transfer)
	90	Used to set the machine to the factory default settings.	
7	1	Used to set the operating conditions of aging.	Others
	6	Used to set the operating intermittent aging cycle.	
	9	Color setting in the color copy test mode (Used to check the copy operation and the image quality for each color).	
	12	The document reading number of sheets setting (for aging operation)	SPF/RSPF
8	1	Used to check and adjust the operations of the developing voltage in each print mode and the control circuit. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.	Process (Developing)
	2	Used to check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.	Process (Charging)
	6	Used to check and adjust the operation of the transfer voltage and the control circuit.	Process (Transport)
10	1	Used to check the operations of the toner supply mechanism (toner motor) and the related circuit.	Process (Developing)
14	-	Used to cancel the self-diag H3, H4, H5, U1 troubles.	
16	-	Used to cancel the self-diag "U2" trouble.	MFP PWB / PCU PWB / SCU PWB
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 numbers 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 various adjustment/setting data (simulations, FAX soft switch counter), the firmware version, the counter list and the process control data.	
	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.)	SPF/RSPF
	13	Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge).	Process
	14	Used to display the use status of the toner cartridge.	Process
24	18	Used to display the history of clear data.	
	19	Used to check the values of the counters related to the scan - image send.	
	23	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.)	
	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, SPF/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 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)	
	15	Used to clear the counters related to the scan mode and the image send.	
	35	Used to clear the usage number of toner cartridge	
25	1	Used to check the operations of the developing section.	Process (Developing section)
	2	Display the value of the selected sensor and register the toner density control value, toner density control voltage, developer adjustment area and sensitivity adjustment value by driving the all drum motors. (Automatic adjustment)	Image process (Photoconductor/Developing/Transfer/Cleaning)
	4	Used to display the operation data of the toner supply quantity. (Not used in the market.)	Process
	5	Used to display the toner density correction data. (Not used in the market.)	Process

Main	Sub	Functions	Section
26	6	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.	
	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)	
	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.	
	53	User auto color calibration (color balance adjustment) Inhibit/Allow setting	
	69	Used to set the operating conditions for toner near end.	
	73	Used to set Toner save setting.	
27	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)	
	7	Used to set of the enable, alert callout. (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.	
30	1	Used to check the operations of the sensors and the detectors in other than the paper feed section and the control circuits.	
43	1	Used to set the fusing reference temperature of each operation mode.	
	4	Used to set the fusing temperature 2 in each mode. (Continued from SIM 43-1.)	
	20	Used to set the environmental correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-1) in each paper mode.	
	21	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-1) in each paper mode.	
	22	Used to set the environment correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-4) in each paper mode.	
	23	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-4) in each paper mode.	
	24	Used to set the correction of the temperature adjustment value of SIM 43-1 and 43-4.	
44	1	Used to set each correction operation function in the image forming (process) section.	Image process (Photoconductor/Developing/Transfer/Cleaning)
	2	Used to adjust the sensitivity of the image density sensor (registration sensor).	Process
	4	Used to set the conditions of the high density process control operation.	Process
	6	Used to execute the high density process control forcibly.	Process
	9	Used to display the result data of the high density process control operation.	Image process (Photoconductor/Developing/Transfer/Cleaning)
	12	Used to display the operation data of the high density process control and the image density sensor (registration sensor).	Image process (Photoconductor/Developing)
	14	Used to display the output level of the temperature and humidity sensor.	Process (OPC drum, development)/Fusing/LSU
	15	Used to set the OPC drum idle rotation.	
	21	Used to set the half tone process control target.	Process
	22	Used to display the toner patch density level in the half tone process control operation.	Process
	24	Used to display the correction target and the correction level in the half tone process control operation.	Process
	25	Used to set the calculating conditions of the correction value for the half tone process control.	Process
	26	Used to execute the half tone process control compulsorily.	Process
	27	Used to clear the correction data of the half tone process control.	Process
	28	Used to set the process control execution conditions.	Process
	29	Used to set the operating conditions of the process control during a job.	Process
	31	Used to adjust the OPC drum phase. (Manual adjustment)	Process
	37	Used to set the development bias correction level in the continuous printing operation.	
	43	Used to display the identification information of the developing unit.	Developing system
	62	Used to set the calibration data of the color image sensor (image registration sensor F).	

Main	Sub	Functions	Section
46	1	Used to adjust the copy density in the color copy mode.	
	2	Used to adjust the copy density in the monochrome copy mode.	
	4	Used to adjust the density in the color image send mode.	
	5	Used to adjust the density in the monochrome image send mode.	
	9	Used to adjust the scan image density.	
	10	Used to adjust the copy color balance and the gamma (for each color copy mode).	
	16	Used to adjust the monochrome copy density and the gamma (for each monochrome copy mode).	
	19	Used to set the operating conditions for the density scanning (exposure) of monochrome auto copy mode documents.	
	21	Copy color balance adjustment (Manual adjustment)	
	23	Used to set the density correction of copy high density section (High density tone gap supported).	
	24	Color balance adjustment (Auto adjustment)	
	25	Used to adjust the copy color balance. (Single color copy mode)	
	26	Used to reset the single color mode color balance set value to the default.	
	27	Used to adjust the gamma/density of copy images, texts, and line image edges.	
	30	Used to adjust the resolution in the sub scanning direction in the copy mode.	
	32	Used to set the AE reactivity control.	
	36	Used to adjust the colors in the 2-color copy mode.	
	37	Used to adjust the color document reproducibility in the monochrome copy mode.	
	38	Used to adjust the black component amount in the color copy mode.	
	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).	
	51	Used to adjust the gamma for the copy mode heavy paper mode and the image process mode. (Manual adjustment)	
	52	Used to reset the copy color balance adjustment (adjustment for each dither) to the default value. (The set values of SIM46-51 and SIM46-54 are set to the default values.)	
	54	Used to reset the copy color balance adjustment (auto adjustment for each dither).	
	58	Used to set the copy mode pseudo resolution. (Smoothing process)	
	59	Used to perform the copy mode pseudo resolution image process adjustment.	
	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.	
	65	Used to set the color correction table.	
	74	Copy color balance adjustment (Auto adjustment)/Printer color balance adjustment (Auto adjustment)	
48	1	Used to adjust the scan image magnification ratio (in the main scanning direction and the sub scanning direction).	
	6	Used to adjust the rotation speed of each motor.	
49	1	Used to perform the firmware update.	
	2	Used to perform the FPGA update.	
50	1	Copy image position, image loss adjustment	
	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
	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.)	
	20	Image registration adjustment (Manual adjustment)	
51	22	Used to adjust the image registration. (Main scan direction, sub scan direction) (Auto adjustment)/OPC drum phase adjustment (Auto adjustment)	
	1	Used to adjust the ON/OFF timing of the secondary transport voltage.	
	2	Used to adjust the contact pressure (deflection amount) on paper by the main unit and the RSPF resist 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.)	
53	8	Used to adjust the document lead edge reference and the SPF mode document scan position.	
	9	Used to detect the dirt of the SPF	
	10	Used to set the display of the dirt detection position of the SPF	
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)	
56	2	Used to backup the data in the EEPROM and Flash memory (including user authentication data) to the USB memory. (Corresponding to the device cloning and the storage backup.)	
	5	Used to print out the each data and simulation list	
60	1	Used to check the operations (read/write) of the MFP PWB memory.	

Main	Sub	Functions	Section
61	1	Used to check the LSU polygon motor rotation and laser detection.	LSU
	3	Used to set the laser power	
	4	Used to print the print image skew adjustment pattern. (LSU unit)	
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.	
	6	Used to display the scan level and the density level of the copy color balance adjustment patch.	
	7	Used to register the service target of the copy mode auto color balance adjustment.	
	8	Used to set the default of the service target of the copy mode auto color balance adjustment.	
	11	Used to set the target color balance of the copy mode auto color balance adjustment.	
64	1	Test print. (Self print) (Color mode)	
	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	10	Used to set the display of key standby time.	
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
	4	Used to send the selected signals to the line and the main unit speaker.	FAX
	7	Used to output all image data saved in the image memory of FAX part.	FAX
	8	Used to send the selected sound messages to the line and the speaker.	FAX
	10	Used to clear the FAX image data.	FAX
	11	Used to send the selected signal at 300bps to the line and the speaker.	FAX
	13	Used to execute the dial send test.	FAX
	17	Used to send the DTMF signal to the line and the speaker.	FAX
	21	Used to print the selected items (FAX setting list, software SW list, protocol monitor).	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
	34	Used to execute the send test and display the time for sending (receiving) the image data during sending the test data on LCD.	FAX
67	25	Printer color balance adjustment (Manual adjustment)	Printer
	31	Used to clear the calibration value.	Printer
	33	Used to change the gamma of the printer screen.	Printer
	34	Used to set the density correction in the printer high density section. (Support for the high density section tone gap)	Printer
	36	Used to adjust the density in the low density section.	Printer
	52	Used to reset the printer color balance adjustment (adjustment for each dither) to the default value. (The set values of SIM67-33 are set to the default values.)	

3. 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 10 keys.	
2) Press [[OK]/[START] key. Scanning is once performed at the speed corresponding to the scan resolution (operation speed).	

Item	No.	Display	Operation mode	Default value
OC SCAN	1	MONO300	300DPI(112.0mm/s)	
	2	MONO400	400DPI(84.0mm/s)	
	3	MONO600	600DPI(56.0mm/s)	
	4	COLOR300	300DPI(56.0mm/s)	
	5	COLOR400	400DPI(42.0mm/s)	
	6	COLOR600	600DPI(28.0mm/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.	

2

2-1

Purpose :	Operation test/check
Function (Purpose)	Used to check the operations of the auto document feed unit and the control circuit.
Section	RSPF
Operation/Procedure	
1) Select the operation mode and the speed with 10keys. .	
2) Press [OK]/[START] key. The RSPF repeats paper feeding, transport, and paper exit operations at the speed corresponding to the scan resolution (operation speed). When [STOP] key is pressed, the operation is terminated.	

Item	No.	Display	Operation mode	Default value
SSPF	1	MONO300S	Monochrome 300DPI Single	
	2	MONO600S	Monochrome 600DPI Single	
	3	COLOR300S	Color 300DPI Single	
	4	COLOR600S	Color 600DPI Single	
RSPF	1	MONO300S	Monochrome 300DPI Single	
	2	MONO600S	Monochrome 600DPI Single	
	3	COLOR300S	Color 300DPI Single	
	4	COLOR600S	Color 600DPI Single	
	5	MONO300D	Monochrome 300DPI duplex	
	6	MONO600D	Monochrome 600DPI duplex	
	7	COLOR300D	Color 300DPI duplex	
	8	COLOR600D	Color 600DPI duplex	

2-2

Purpose :	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in the document feed unit section and the control circuits.
Section	SSPF/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.	
SSPF	

Sensor name	Contents
SPPD1	SPF transport detector 1
SPED	SPF document empty detector

RSPF

Sensor name	Contents
SPPD1	SPF transport detector 1
SPPD2	SPF transport detector 2
SPED	SPF document empty detector
SCOV	SPF cover open/close detector

2-3

Purpose :	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the auto document feed unit and the control circuit.
Section	RSPF
Operation/Procedure	
1) Select a target item of the operation check with 10 keys.	
2) Press [OK]/[START] key. The selected load performs the operation. When [STOP] key is pressed, the operation is terminated.	
SSPF	

SPFM	SPF transport motor
------	---------------------

RSPF

SPFM_F	SPF transport motor (normal rotation)
SPFM_R	SPF transport motor (reverse rotation)
SPUS	SPF paper feed roller solenoid
SRVC	Reverse clutch

5

5-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the display, LCD in the operation panel, and control circuit
Section	Operation panel

Operation/Procedure

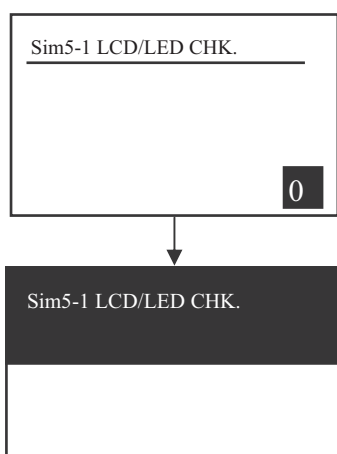
The LCD is changed as shown below.

During this period, each LED is lighted.

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

When [OK]/[START] KEY is pressed during the operation, it will be switched to [Key input check] mode.

NOTE: [Key input check] mode is to check if the keys on the operation panel can be detected physically.



5-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the heater lamp and the control circuit.
Section	Fusing

Operation/Procedure

- 1) Press [OK]/[START] key.
The heater lamp operates ON/OFF.
When [CA] key is pressed, the operation is terminated.

5-3

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the copy lamp and the control circuit.
Section	Scanner (reading)

Operation/Procedure

- 1) Select the item to be operation checked with .
- 2) Press [OK]/[START] key.
The copy lamp lights up for 10 sec.
When [STOP] key is pressed, the operation is terminated.

Item	Contents	Note
MONO	Turn on the lamp for mono-chrome	Turn on G color lighting
COLOR	Turn on the lamp for color	Turn on RGB color lighting in order.

5-4

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the discharge lamp and the control circuit.
Section	Process

Operation/Procedure

- 1) Select the item to be operation checked with .
- 2) Press [OK]/[START] key.
The discharge lamp lights up for 30 sec.
When [STOP] key is pressed, the operation is terminated.

DL_K	Discharge lamp for K
DL_C	Discharge lamp for C
DL_M	Discharge lamp for M
DL_Y	Discharge lamp for Y

6

6-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the load in the paper transport system (clutches and solenoids) and the control circuits.
Section	Paper transport/Paper exit section

Operation/Procedure

- 1) Select the item to be operation checked with 10 keys.
- 2) Press [OK]/[START] key.
The selected load performs the operation.
When [STOP] 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.

Item/Display	Name	Content
FUM	Fusing motor	Fusing motor middle speed drive ON/OFF
CPUC	Paper feed tray 1 paper feed clutch	CPUC1 Signal ON/OFF
RRC	PS clutch	RRC Signal ON/OFF
MPFC	Manual paper feed clutch	MPUC1 Signal ON/OFF
POC	Paper delivery clutch	POC Signal ON/OFF
PORC	Paper delivery / switch back clutch	PORC Signal ON/OFF
ADUC	ADU transport clutch 1	ADUC1 Signal ON/OFF
PCSS	Process control shutter solenoid	PCSS Signal ON/OFF
C2MM	Paper feed tray 2 paper feed motor	C2MM Paper feed speed drive ON/OFF
C2LUM	Paper feed tray 2 lift up motor	C2LUM Signal ON/OFF
C2PFC	Paper feed tray 2 paper feed clutch	C2PFC Signal ON/OFF
C2TRC	Paper feed tray 2 paper transport clutch	C2TRC Signal ON/OFF

6-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of each fan motor and its control circuit.
Section	Others

Operation/Procedure

- 1) Select the item to be operation checked with 10 keys..
- 2) Press [OK]/[START] key.

The selected load performs the operation.

When [STOP] 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.

Item/Display	Content
POFM	Paper exit cooling fan motor
PSFM	Power PWB cooling fan motor
LSUFM	LSU cooling fan motor
OZFM1	Ozone fan motor 1

6-3

Purpose : Operation test/check

Function (Purpose) Used to check the operations of the primary transfer unit and the control circuit.

Section Process (Transfer)

Operation/Procedure

1) Press [OK]/[START] key, and the transfer unit repeats operations in the mode selected in procedure 1.

During this operation, the transfer unit status (the operation mode position) is displayed.

Mode select key	Display	Transfer mode	Operation
TC1	BLACK	Black mode position	The switching operations are repeated as follows: Drum separation position - Black mode position - Color mode position
	COLOR	Color mode position	
	FREE	Drum separation position	

6-90

Purpose : Setting

Function (Purpose) Used to set the machine to the factory settings.

Section Scanner

Operation/Procedure

1) Press [OK]/[START] key. The scanner is moved to the position where it can be locked.

7

7-1

Purpose Setting

Function (Purpose) Used to set the operating conditions of aging.

Section Others

Operation/Procedure

1) Select the target to be set with 10 keys...

2) Press [OK]/[START] 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.

No.	Item/Display	Content	Setting range	Setting value
1	AGING	Aging operation setup	0-1	0
2	INTERVAL	Intermittent setup	0-1	0
3	MISFEED DISABLE	JAM detection enable/disable setup	0-1	0
4	FUSING DIS-ABLE	Fusing operation enable/disable setup	0-1	0

5	WARMUP DISABLE	Warm-up skip setup	0-1	0
6	DV CHECK DISABLE	DV unit detection enable/disable setup	0-1	0
7	SHADING DISABLE	Shading disable setup	0-1	0
8	CCD GAIN FREE	No setting of the CCD gain adjustment	0-1	0

7-6

Purpose : Setting

Function (Purpose) 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]/[START] 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.

7-9

Purpose : Operation test/check

Function (Purpose) Color setting in the color copy test mode (Used to check the copy operation and the image quality for each color).

Section

Operation/Procedure

1) Select the copy color with 10 keys.

(Two or more colors can be selected.)

The key of the selected color is highlighted.

2) Press [OK]/[START] key.

Copying is performed with the selected color.

When [BACK] key is pressed, the display goes into the copy operation menu in the simulation mode.

No.	Item/Display	Content	Setting range	Setting value
1	K	Setup/cancel of black	0-1	0
2	C	Setup/cancel of cyan	0-1	0
3	M	Setup/cancel of magenta	0-1	0
4	Y	Setup/cancel of yellow	0-1	0

7-12

Purpose : Operation test/check

Function (Purpose) The document reading number of sheets setting (for aging operation)

Section RSPF

Operation/Procedure

1) Set document reading quantity with 10 key.

(Setting range:0 - 255)

2) Press [OK]/[START] 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. * When the middle speed is adjusted, the low speed is also adjusted simultaneously.
Section	Process (Developing)

Operation/Procedure

- 1) Select the process speed with 10 keys.
- 2) Select a target item to be adjusted with Arrow keys.
- 3) Enter the setting value with 10 keys. (The value specified on the label of the high voltage PWB must be entered.)
* When the Arrow key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [OK]/[START] key.
When [EXECUTE] key is pressed, the voltage inputted in procedure 3 is outputted for 30sec and the set value is saved.
When [EXECUTE] key is pressed, the output is terminated.

No.	Item/Display	Content	Setting range	Voltage
1	M DVB_K	K developing bias set value at middle speed	0-600	450
2	M DVB_C	C developing bias set value at middle speed	0-600	450
3	M DVB_M	M developing bias set value at middle speed	0-600	450
4	M DVB_Y	Y developing bias set value at middle speed	0-600	450
5	L DVB_K	K developing bias set value at low speed	0-600	450
6	L DVB_C	C developing bias set value at low speed	0-600	450
7	L DVB_M	M developing bias set value at low speed	0-600	450
8	L DVB_Y	Y developing bias set value at low speed	0-600	450

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. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.
Section	Process (Charging)

Operation/Procedure

- 1) Select the process speed.
- 2) Select a target item to be adjusted with Arrow keys.
- 3) Enter the adjustment value with 10 keys. (The value specified on the label of the high voltage PWB must be entered.)
* When the Arrow key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [OK]/[START] key.
When [EXECUTE] key is pressed, the voltage inputted in procedure 3 is outputted for 30sec and the set value is saved.
When [EXECUTE] key is pressed, the output is terminated.

No.	Item/Display	Content	Setting range	Default setting
1	M GB_K	K grid bias set value at middle speed	150-850	630
2	M GB_C	C grid bias set value at middle speed	150-850	630

No.	Item/Display	Content	Setting range	Default setting
3	M GB_M	M grid bias set value at middle speed	150-850	630
4	M GB_Y	Y grid bias set value at middle speed	150-850	630
5	L GB_K	K grid bias set value at low speed	150-850	615
6	L GB_C	C grid bias set value at low speed	150-850	595
7	L GB_M	M grid bias set value at low speed	150-850	595
8	L GB_Y	Y grid bias set value at low speed	150-850	595

8-6	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operation of the transfer voltage and the control circuit.
Section	Process (Transport)

Operation/Procedure

- 1) Select a target item to be adjusted with Arrow keys.
- 2) Enter the set value with 10 keys.
Enter the default value specified on the following list.
- 3) When [OK]/[START] key is pressed, the set value is saved.
When [EXECUTE] key is pressed again, the set voltage is outputted.

Item/Display		Content				Adjust- ment range	Default value
1	T1 LO CL K	Primary transfer bias adjustment value	Color mode	K	Low speed mode	0 - 255	95
2	T1 LO MI K				Middle speed mode	0 - 255	146
3	T1 LO CL CMY			CMY	Low speed mode	0 - 255	139
4	T1 LO MI CMY				Middle speed mode	0 - 255	186
5	T1 LO BW K		Black/White mode	K	Low speed mode	0 - 255	95
6	T1 LO BW K				Middle speed mode	0 - 255	146
1	TC2 PLN CL S	Secondary transfer bias adjustment value	Color mode	Standard Paper mode	Front surface mode	0 - 255	103
2	TC2 PLN CL D				Back surface mode	0 - 255	96
3	TC2 PLN BW S		Black/White mode		Front surface mode	0 - 255	90
4	TC2 PLN BW D				Back surface mode	0 - 255	83
5	TC2 HEV1 CL S		Color mode	Heavy paper mode	Front surface mode	0 - 255	83
6	TC2 HEV1 CL D				Back surface mode	0 - 255	76
7	TC2 HEV1 BW S		Black/White mode		Front surface mode	0 - 255	76
8	TC2 HEV1 BW D				Back surface mode	0 - 255	69
9	T2 OHP CL		Color mode	OHP		0 - 255	69
10	T2 OHP BW		Black/White mode			0 - 255	69
11	T2 ENV CL		Color mode	Envelope		0 - 255	69
12	T2 ENV BW		Black/White mode			0 - 255	69
13	T2 THIN CL		Color mode	Thin		0 - 255	96
14	T2 THIN BW		Black/White mode			0 - 255	90
15	T2 GLOS CL		Color mode	Glossy		0 - 255	83
16	T2 GLOS BW		Black/White mode			0 - 255	76
1	T2 MNS CLEAN	Secondary transfer clean- ing bias adjustment value	Negative cleaning (- Pole)			0 - 255	59
2	T2 PLS CLEAN		Positive cleaning (+ Pole)			0 - 255	119
3	T2 COUNTER		Counter (+ Pole)			0 - 255	119
4	T2 BTWN LO		Between paper Low speed (+ Pole)			0 - 255	0
5	T2 BTWN MI		Between paper Mid speed (+ Pole)			0 - 255	0

10

10-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the toner supply mechanism (toner supply clutch) and the related circuit.
Section	Process (Developing)

Operation/Procedure

- 1) Select a target of the operation check with 10 keys.
- 2) Press [OK]/[START] key.
When [STOP] key is pressed, the operation is terminated.

NOTE:

This simulation must be executed without installing the toner cartridges.

If this simulation is executed with the toner cartridges installed, toner will be forcibly supplied to the developing unit, resulting in overtoner.

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 single color copy mode of the target color.

TNM_K	Toner motor K
TNM_C	Toner motor C
TNM_M	Toner motor M
TNM_Y	Toner motor Y
ALL	Toner motor KCMY

14

14--	
Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag H3, H4, H5, U1 troubles.
Section	

Operation/Procedure

- 1) Press [OK]/[START] key to execute cancellation of the trouble..

16

16--	
Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U2" trouble.
Section	MFPC PWB

Operation/Procedure

- 1) Press [OK]/[START] key to execute cancellation of the trouble.

21

21-1

Purpose : Setting

Function (Purpose) Used to set the maintenance cycle.

Section

Operation/Procedure

* 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.

- 1) Select a target item of setting with 10 keys.
- 2) Press [OK]/[START] key. (The set value is saved.)

Item/Display	Content	Setting range	Default value
1 MAINTENANCE COUNTER (TOTAL)	Maintenance counter (Total)	0 : Default 1 - 300 : 1K - 300K 999 : Free	75K
2 MAINTENANCE COUNTER (COLOR)	Maintenance counter (Color)	0 : Default 1 - 300 : 1K - 300K 999 : Free	45K

22

22-1

Purpose : Adjustment/Setting/Operation data output/Check

Function (Purpose) 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 Arrow keys.

Item	Display (Counter)	Content	NOTE
Total output quantity	TOTAL OUT (BW)	Total output quantity of black and white	All prints including jams
	TOTAL OUT (COL)	Total output quantity of color	All prints including jams
Total use quantity	TOTAL (BW)	Total use quantity of black and white	Effective paper (including self print, excluding jams)
	TOTAL (COL)	Total use quantity of full color	Effective paper (including self print, excluding jams)
Copy	COPY (BW)	Black and white copy counter	Billing target (excluding self print)
	COPY (COL)	Full color copy counter	Billing target (excluding self print)
Print	PRINT (BW)	Black and white print counter	Billing target (excluding self print)
	PRINT (COL)	Full color print counter	Billing target (excluding self print)
Other	OTHER (BW)	Black and white other counter	Self print quantity
	OTHER (COL)	Color other counter	Self print quantity

22-2

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) Used to check the total numbers 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.

Display/Item	Content
MACHINE JAM	Machine JAM counter
(R)SPF JAM	(R)SPF JAM counter
TROUBLE	Trouble counter

22-3

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) 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

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) 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.)

* For the list of the trouble codes: Refer to "[6] SELF DIAG AND TROUBLE CODE".

22-5

Purpose : Others

Function (Purpose) Used to check the ROM version of each unit (section).

Section Firmware

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.
MCU BOT	MCU (Boot section)
MCU PRG	MCU (Program section)
MCU PRP	MCU (Property)
PNL BOT	PNL (Boot section)
PNL PRG	PNL (Program section)
PNL COM	PNL (Common Data)
PNL CPY	PNL (Copy Data)
PNL FAX	PNL (FAX Data)

22-6

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) Used to output various adjustment/setting data (simulations, FAX soft switch counter), the firmware version, the counter list and the process control data.

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 keys. .

Print list mode	Print content
1	Firmware version, counter data, etc.
2	List (Parts related with the registration part)
3	Data related to the process control
4	Duplex print

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

22-8

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) Used to check the number of operations (counter value) of the finisher, the RSPF, and the scan (reading) unit.

Section**Operation/Procedure**

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

SPF	Document feed quantity
SCAN	Number of times of scan
HP_ON	Number of scanner HP detection
OC LAMP TIME	Total lighting time of the scanner lamp (* hour * minutes)

22-9

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) Used to check the number of use (print quantity) of each paper feed section.

Section Paper feed, ADU

Operation/Procedure

The counter values related to paper feed are displayed.

TRAY1	Tray 1 paper feed counter
TRAY2	Tray 2 paper feed counter
ADU	ADU paper feed counter (Paper reverse section)
MFT	Manual paper feed counter

22-10

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) Used to check the system configuration (option, internal hardware).

Section**Operation/Procedure**

The system configuration is displayed.

(The model names of the installed devices and options are displayed.)

MACHINE	MX-C250	Main unit
	MX-C250E	
	MX-C250F	
	MX-C250FE	
	MX-C250FR	
	MX-C300	
	MX-C300E	
	MX-C300F	
	MX-C300W	
	MX-C300WE	
	MX-C300A	
	MX-C300WR	

SPF	STANDARD	Reversing single pass feeder
FAX	NONE/STANDARD	
PS	STANDARD	
DESK	NONE/MX-CS11	Paper feed unit
NIC	STANDARD	NIC
WLAN	NONE/STANDARD	WLAN module

22-11

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) Used to check the use frequency (send/receive) of FAX.

Section FAX

Operation/Procedure

The values of the FAX send counter and the FAX receive counter are displayed.

Display		Contents
COMM PAGE	SND	FAX send counter
	RCV	FAX receive counter
COMM TIME	SND	FAX send time
	RCV	FAX receive time
PRINT PAGE		Number of print quantity

22-12

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) 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.)

Section RSPF

Operation/Procedure

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

22-13

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge).

Section Process

Operation/Procedure

The rotating time and the print quantity of the process section are displayed.

	Display	Contents
1	MAINT	MAINT ALL CNT Maintenance(Total) counter
2		MAINT ALL DAY Number of day that used Maintenance(Total)
3		MAINT ALL LIFE Maintenance(Total) life meter
4		MAINT ALL REMAINDER Maintenance(Total) remaining day
5		MAINT COL CNT Maintenance(Color) counter
6		MAINT COL DAY Number of day that used Maintenance(Color)
7		MAINT COL LIFE Maintenance(Color) life meter
8		MAINT COL REMAINDER Maintenance(Color) remaining day
1	FUS	FUS UNIT CNT Fusing unit counter
2		FUS UNIT TURN Fusing unit rotation number
3		FUS UNIT DAY Number of day that used Fusing unit
4		FUS UNIT LIFE Fusing unit life meter
5		FUS UNIT REMAINDER Fusing unit remaining day

1	TC1 T	TC1 UNIT CNT	1st transfer unit counter
2		TC1 UNIT TURN	1st transfer unit rotation number
3		TC1 UNIT DAY	Number of day that used 1st transfer unit
4		TC1 UNIT LIFE	1st transfer unit life meter
5		TC1 UNIT REMAINDER	1st transfer unit remaining day
6		TC1 BELT CNT	1st transfer belt counter
7		TC1 BELT TURN	1st transfer belt rotation number
8		TC1 BELT DAY	Number of day that used 1st transfer belt
9		TC1 BELT LIFE	1st transfer belt life meter
10		TC1 BELT REMAINDER	1st transfer belt remaining day
11		TC1 BLADE CNT	1st transfer blade counter
12		TC1 BLADE TURN	1st transfer blade rotation number
13		TC1 BLADE DAY	Number of day that used 1st transfer blade
14		TC1 BLADE LIFE	1st transfer blade life meter
15		TC1 BLADE REMAINDER	1st transfer blade remaining day
1	TC2	TC2 UNIT CNT	2nd transfer unit counter
2		TC2 UNIT TURN	2nd transfer unit rotation number
3		TC2 UNIT DAY	Number of day that used 2st transfer unit
4		TC2 UNIT LIFE	2st transfer unit life meter
5		TC2 UNIT REMAINDER	2st transfer unit remaining day
6		TC2 CLNROLL CNT	2st cleaning roller counter
7		TC2 CLNROLL TURN	2st cleaning roller rotation number
8		TC2 CLNROLL DAY	Number of day that used 2st cleaning roller
9		TC2 CLNROLL LIFE	2st cleaning roller life meter
10		TC2 CLNROLL REMAINDER	2st cleaning roller remaining day
1	DV (K)	DV CTRG(K) CNT	Developer cartridge print counter (K)
2		DV CTRG(K) TURN	Developer cartridge rotation number(K)
3		DV CTRG(K) DAY	Number of day that used DV cartridge (K)
4		DV CTRG(K) LIFE	Developer cartridge life meter (K)
5		DV CTRG(K) REMAINDER	Developer cartridge remaining day(K)
1	DV (C)	DV CTRG(C) CNT	Developer cartridge print counter (C)
2		DV CTRG(C) TURN	Developer cartridge rotation number(C)
3		DV CTRG(C) DAY	Number of day that used DV cartridge (C)
4		DV CTRG(C) LIFE	Developer cartridge life meter (C)
5		DV CTRG(C) REMAINDER	Developer cartridge remaining day(C)
1	DV (M)	DV CTRG(M) CNT	Developer cartridge print counter (M)
2		DV CTRG(M) TURN	Developer cartridge rotation number(M)
3		DV CTRG(M) DAY	Number of day that used DV cartridge (M)
4		DV CTRG(M) LIFE	Developer cartridge life meter (M)
5		DV CTRG(M) REMAINDER	Developer cartridge remaining day(M)
1	DV (Y)	DV CTRG(Y) CNT	Developer cartridge print counter (Y)
2		DV CTRG(Y) TURN	Developer cartridge rotation number(Y)
3		DV CTRG(Y) DAY	Number of day that used DV cartridge (Y)
4		DV CTRG(Y) LIFE	Developer cartridge life meter (Y)
5		DV CTRG(Y) REMAINDER	Developer cartridge remaining day(Y)

1	DRUM (K)	DRUM CTRG(K) CNT	Drum cartridge print counter (K)
2		DRUM CTRG(K) TURN	Drum cartridge rotation number(K)
3		DRUM CTRG(K) DAY	Number of day that used Drum cartridge (K)
4		DRUM CTRG(K) LIFE	Drum cartridge life meter (K)
5		DRUM CTRG(K) REMAINDER	Drum cartridge remaining day(K)
1	DRUM (C)	DRUM CTRG(C) CNT	Drum cartridge print counter (C)
2		DRUM CTRG(C) TURN	Drum cartridge rotation number(C)
3		DRUM CTRG(C) DAY	Number of day that used Drum cartridge(C)
4		DRUM CTRG(C) LIFE	Drum cartridge life meter (C)
5		DRUM CTRG(C) REMAINDER	Drum cartridge remaining day(C)
1	DRUM (M)	DRUM CTRG(M) CNT	Drum cartridge print counter (M)
2		DRUM CTRG(M) TURN	Drum cartridge rotation number(M)
3		DRUM CTRG(M) DAY	Number of day that used Drum cartridge (M)
4		DRUM CTRG(M) LIFE	Drum cartridge life meter (M)
5		DRUM CTRG(M) REMAINDER	Drum cartridge remaining day(M)
1	DRUM (Y)	DRUM CTRG(Y) CNT	Drum cartridge print counter (Y)
2		DRUM CTRG(Y) TURN	Drum cartridge rotation number(Y)
3		DRUM CTRG(Y) DAY	Number of day that used Drumcartridge (Y)
4		DRUM CTRG(Y) LIFE	Drum cartridge life meter (Y)
5		DRUM CTRG(Y) REMAINDER	Drum cartridge remaining day(Y)
1	TN (K)	TN CTRG(K) CNT	Toner cartridge print counter (K)
2		TN CTRG(K) TURN	Toner cartridge rotation number(K)
3		TN CTRG(K) DAY	Number of day that used Toner cartridge (K)
4		TN CTRG(K) LIFE	Toner cartridge life meter (K)
5		TN CTRG(K) REMAINDER	Toner cartridge remaining day(K)
1	TN (C)	TN CTRG(C) CNT	Toner cartridge print counter (C)
2		TN CTRG(C) TURN	Toner cartridge rotation number(C)
3		TN CTRG(C) DAY	Number of day that used Toner cartridge (C)
4		TN CTRG(C) LIFE	Toner cartridge life meter (C)
5		TN CTRG(C) REMAINDER	Toner cartridge remaining day(C)
1	TN (M)	TN CTRG(M) CNT	Toner cartridge print counter (M)
2		TN CTRG(M) TURN	Toner cartridge rotation number(M)
3		TN CTRG(M) DAY	Number of day that used Toner cartridge (M)
4		TN CTRG(M) LIFE	Toner cartridge life meter (M)
5		TN CTRG(M) REMAINDER	Toner cartridge remaining day(M)
1	TN (Y)	TN CTRG(Y) CNT	Toner cartridge print counter (Y)
2		TN CTRG(Y) TURN	Toner cartridge rotation number(Y)
3		TN CTRG(Y) DAY	Number of day that used Toner cartridge (Y)
4		TN CTRG(Y) LIFE	Toner cartridge life meter (Y)
5		TN CTRG(Y) REMAINDER	Toner cartridge remaining day(Y)
1	OZONE FILTER	OZONE FILTER CNT	Ozone filter counter
2		OZONE FILTER DAY	Number of day that used Toner cartridge
3		OZONE FILTER LIFE	Ozone filter life meter
4		OZONE FILTER REMAINDER	Toner cartridge remaining day

22-14

Purpose :	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the usage number of toner cartridge
Section	Process

Operation/Procedure

Used to check the usage number of toner cartridge.

Items / Display		Contents
1	K	INSTALL Accumulated toner cartridge installation number
		NN END Accumulated near end number
		END Accumulated end number
		RESIDUAL Remaining amount (%)
2	C	INSTALL Accumulated toner cartridge installation number
		NN END Accumulated near end number
		END Accumulated end number
		RESIDUAL Remaining amount (%)
3	M	INSTALL Accumulated toner cartridge installation number
		NN END Accumulated near end number
		END Accumulated end number
		RESIDUAL Remaining amount (%)
4	Y	INSTALL Accumulated toner cartridge installation number
		NN END Accumulated near end number
		END Accumulated end number
		RESIDUAL Remaining amount (%)

22-19

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	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 up/down key.

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)

23**23-2**

Purpose :	Adjustment/Setting/Operation data check
Function (Purpose)	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 [OK]/[START] key to execute print.

The trouble history of paper jams and misfeed is printed.

24**24-1**

Purpose :	Data clear
Function (Purpose)	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 10 keys.
- 2) Press [OK]/[START] key.
- 3) Press [OK]/[START] key.
The target counter is cleared.

MACHINE	Main unit JAM counter
SPF	RSPF JAM counter
TROUBLE	ADU paper feed counter (Paper reverse section)

24-2

Purpose :	Data clear
Function (Purpose)	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 10 keys.
- 2) Press [OK]/[START] key.
- 3) Press [OK]/[START] key.
The target counter is cleared.

Tray 1	Machine JAM counter
Tray 2	Machine JAM counter
ADU	(R)SPF JAM counter
MFT	Trouble counter

24-3

Purpose	Data clear
Function (Purpose)	Used to clear the finisher, SPF/RSPF, and the scan (reading) unit counter.

Section**Operation/Procedure**

- 1) Select the item to be cleared with the 10 key.
- 2) Press [OK]/[START] key.
The target counter is cleared.

SPF	SPF document feed counter (No. of discharged sheets)
SCAN	Scan counter
HP_ON	Number of scanner HP detection
OC LAMP	Total lighting time of the scanner lamp

24-4

Purpose :	Data clear
Function (Purpose)	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 10 keys.
- 2) Press [OK]/[START] key.

- 3) Press [OK]/[START] key.
The target counter is cleared.

MAINT E ALL	Maintenance Total (Counter)
	Number of day that used Maintenance Total
MAINT E COL	Maintenance Color (Counter)
	Number of day that used Maintenance Color
FUS	Fusing unit Counter
	Number of day that used Fusing unit
	Fusing unit accumulated traveling distance
TC1	Primary transport unit counter
	Number of day that used Primary transport unit
	Primary transport unit accumulated traveling distance
TC1 BELT	Primary transport belt counter
	Number of day that used Primary transport belt
	Primary transport belt accumulated traveling distance
TC1 BLADE	Primary transport blade counter
	Number of day that used Primary transport blade
	Primary transport blade accumulated traveling distance
TC2	Secondary transport unit counter
	Number of day that used Secondary transport unit
	Secondary transport unit accumulated traveling distance
TC2 CLN	Secondary transport cleaning roller counter
	Number of day that used Secondary transport cleaning roller
	Secondary transport cleaning roller accumulated traveling distance
DV_K	DV unit counter (K)
	Number of day that used DV unit (K)
	DV unit accumulated traveling distance (K)
DV_C	DV unit counter (C)
	Number of day that used DV unit (C)
	DV unit accumulated traveling distance (C)
DV_M	DV unit counter (M)
	Number of day that used DV unit (M)
	DV unit accumulated traveling distance (M)
DV_Y	DV unit counter (Y)
	Number of day that used DV unit (Y)
	DV unit accumulated traveling distance (Y)
DRUM_K	Drum unit counter (K)
	Number of day that used Drum unit (K)
	Drum unit accumulated traveling distance (K)
DRUM_C	Drum unit counter (C)
	Number of day that used Drum unit (C)
	Drum unit accumulated traveling distance (C)
DRUM_M	Drum unit counter (M)
	Number of day that used Drum unit (M)
	Drum unit accumulated traveling distance (M)
DRUM_Y	Drum unit counter (Y)
	Number of day that used Drum unit (Y)
	Drum unit accumulated traveling distance (Y)
OZONE FILTER	Ozone filter counter
	Ozone filter life meter
	Ozone filter remaining day
	Number of day that used Ozone filter

24-5	
Purpose :	Data clear
Function (Purpose)	Used to clear the developer counter. (After replacement of developer, clear the counter.)
Section	

Operation/Procedure

- 1) Select the item to be cleared with 10 keys.
- 2) Press [OK]/[START] key.
- 3) Press [OK]/[START] key.
The target counter is cleared.

NOTE: When SIM22-1 is executed, this counter is also cleared automatically.

DV_K	Developer cartridge print counter (K)
	Developer cartridge accumulated traveling distance (cm) (K)
	Number of day that used developer (Day) K
DV_C	Developer cartridge print counter (C)
	Developer cartridge accumulated traveling distance (cm) (C)
	Number of day that used developer (Day) C
DV_M	Developer cartridge print counter (M)
	Developer cartridge accumulated traveling distance (cm) (M)
	Number of day that used developer (Day) M
DV_Y	Developer cartridge print counter (Y)
	Developer cartridge accumulated traveling distance (cm) (Y)
	Number of day that used developer (Day) Y

24-6	
Purpose :	Data clear
Function (Purpose)	Used to clear the copy counter.
Section	

Operation/Procedure

- 1) Select the item to be cleared with 10 keys.
- 2) Press [OK]/[START] key.
- 3) Press [OK]/[START] key.
The target counter is cleared.

COPY BW	Copy counter (B/W)
COPY COL	Copy counter (COLOR)

24-9	
Purpose :	Data clear
Function (Purpose)	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 10 keys.
- 2) Press [OK]/[START] key.
- 3) Press [OK]/[START] key.
The target counter is cleared.

PRINT BW	Print counter (B/W)
PRINT COL	Print counter (COLOR)
OTHER BW	Other counter (B/W)
OTHER COL	Other counter (COLOR)

24-10	
Purpose :	Data clear
Function (Purpose)	Used to clear the FAX counter.
Section	

Operation/Procedure

- 1) Select the item to be cleared with 10 keys.
- 2) Press [OK]/[START] key.
- 3) Press [OK]/[START] key.
The target counter is cleared.

Items		FAX SEND
SEND	SND PAGE	FAX send counter
	SND TIME	FAX send time
RECEIVE	RCV PAGE	FAX receive counter
	RCV TIME	FAX receive time
PRINT		FAX Print quantity counter

24-15

Purpose	Data clear
Function (Purpose)	Used to clear the counters related to the scan mode and the image send.

Section**Operation/Procedure**

- 1) Select the item to be cleared with 10 keys.
- 2) Press [OK]/[START] key.

No.	Item/Display	Content
1	NET SCN ORG B/W	Network scanner document read quantity counter (B/W scan job)
2	NET SCN ORG CL	Network scanner document read quantity counter (COLOR scan job)

24-35

Purpose	Data clear
Function (Purpose)	Used to clear the usage number of toner cartridge.

Section**Operation/Procedure**

- 1) Select the item to be cleared with 10 keys.
- 2) Press [OK]/[START] key.
- 3) Press [OK]/[START] key.
The target counter is cleared.

Item
TN END CNT CLR

25

25-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the developing section.

Section Process (Developing section)**Operation/Procedure**

- 1) Select the process speed with 10 keys.
- 2) Press [OK]/[START] key.
The developing motor and the OPC drum motor rotate for 3 minutes and the output level of the toner density sensor is displayed.

Process speed	Sensor Name	Contents
MIDDLE	ADJ_M	Toner density sensor (K,C,M,Y in turn)
	VO_M	Toner density sensor control voltage level (K,C,M,Y in turn)
LOW	ADJ_L	Toner density sensor (K,C,M,Y in turn)
	VO_L	Toner density sensor control voltage level (K,C,M,Y in turn)

No	Item/Display	Contents
1	MIDDLE	Process speed : Middle
2	LOW	Process speed : Low

25-2

Purpose	Setting
Function (Purpose)	Display the value of the selected sensor and register the toner density control value, toner density control voltage, developer adjustment area and sensitivity adjustment value by driving the all drum motors.(Automatic adjustment)

Section

Image process (Photoconductor/Developing/Transfer/Cleaning)

Operation/Procedure

- 1) Select the item with 10 keys.
- 2) Press [OK]/[START] key.
The developing motor rotates for 1 minutes and 30 seconds, and the toner density sensor makes sampling of the toner density. The detected level is displayed.

After stopping the developing motor, the average value of the toner density sampling results is set as the reference toner density control level.

NOTE: When the above operation is interrupted on the way, the reference toner concentration level is not set. Also when error code of EE-EC, EE-EL or EE-EU is displayed, the reference toner density level is not set normally.

Do not execute this simulation except when new developer is supplied. If it is executed in other cases, undertone or overtone may occur, causing a trouble.

Display during operation

TCS_K	Toner density sensor control voltage level K
TCS_C	Toner density sensor control voltage level C
TCS_M	Toner density sensor control voltage level M
TCS_Y	Toner density sensor control voltage level Y
TSG_K	Toner density sensor control level K
TSG_C	Toner density sensor control level C
TSG_M	Toner density sensor control level M
TSG_Y	Toner density sensor control level Y

Display after completion of the adjustment

Display	Mode	Range
ADJ_L_K	Toner density control adjustment value in the low speed process mode	1 - 255
ADJ_L_C		1 - 255
ADJ_L_M		1 - 255
ADJ_L_Y		1 - 255
ADJ_M_K	Toner density control adjustment value in the medium speed process mode	1 - 255
ADJ_M_C		1 - 255
ADJ_M_M		1 - 255
ADJ_M_Y		1 - 255
VO_L_K	Toner density sensor control voltage level in the low speed process mode	1 - 255
VO_L_C		1 - 255
VO_L_M		1 - 255
VO_L_Y		1 - 255
VO_M_K	Toner density sensor control voltage level in the medium speed process mode	1 - 255
VO_M_C		1 - 255
VO_M_M		1 - 255
VO_M_Y		1 - 255

Display and condition in case of an error

Error display	Error name	Error details
EE-EL	EL error	The sensor output level is lower than 77, or the control voltage level is higher than 207.
EE-EU	EU error	The sensor output level is higher than 177, or the control voltage level is lower than 52.
EE-EC	EC error	The sensor output level is out of 128+/- 10.

25-4

Purpose :	Operation test/check
Function (Purpose)	Used to display the toner control correction value.
Section	Process (Developing section)

Operation/Procedure

- 1) Select the color with 10 keys.
- 2) Press [OK]/[START] key.

Color	displayed items	Contents	Min-imum	Max
K	YLD_CNT_FB	Toner supply FB ratio by yield count	50	200
	DELTA_DVB	ΔDVB(Process control DVB-ideal DVB)	-500	500
	IDL_DVB	Ideal DVB	100	600
	PROCON_DVB	Process control DVB	0	600
	DV_LIFE	Developer life area	1	32
	COVERAGE_AREA	Average coverage area	1	29
	ENV_AREA	Environmental area	1	16
	MULTI_TIME	Accumulated driving time area	1	8
	PRO_FB_CNT	Process control feed-back toner supply remaining number of times	0	655 35
	PRO_FB_INT	Process control feed-back toner supply interval	0	655 35
C	PRO_FB_RATIO	Process control feed-back toner supply ratio	-127	127
	RECV_MODE_CNT(+)	The number of times of recovery mode (+)	0	655 35
	RECV_MODE_CNT(-)	The number of times of recovery mode (-)	0	655 35
	YLD_CNT_FB	Toner supply FB ratio by yield count	50	200
	DELTA_DVB	ΔDVB(Process control DVB-ideal DVB)	-500	500
	IDL_DVB	Ideal DVB	100	600
	PROCON_DVB	Process control DVB	0	600
	DV_LIFE	Developer life area	1	32
	COVERAGE_AREA	Average coverage area	1	29
	ENV_AREA	Environmental area	1	16
M	MULTI_TIME	Accumulated driving time area	1	8
	PRO_FB_CNT	Process control feed-back toner supply remaining number of times	0	655 35
	PRO_FB_INT	Process control feed-back toner supply interval	0	655 35
	PRO_FB_RATIO	Process control feed-back toner supply ratio	-127	127
	RECV_MODE_CNT(+)	The number of times of recovery mode (+)	0	655 35
	RECV_MODE_CNT(-)	The number of times of recovery mode (-)	0	655 35
	YLD_CNT_FB	Toner supply FB ratio by yield count	50	200
	DELTA_DVB	ΔDVB(Process control DVB-ideal DVB)	-500	500
	IDL_DVB	Ideal DVB	100	600
	PROCON_DVB	Process control DVB	0	600
Y	DV_LIFE	Developer life area	1	32
	COVERAGE_AREA	Average coverage area	1	29
	ENV_AREA	Environmental area	1	16
	MULTI_TIME	Accumulated driving time area	1	8
	PRO_FB_CNT	Process control feed-back toner supply remaining number of times	0	655 35
	PRO_FB_INT	Process control feed-back toner supply interval	0	655 35
	PRO_FB_RATIO	Process control feed-back toner supply ratio	-127	127
	RECV_MODE_CNT(+)	The number of times of recovery mode (+)	0	655 35
	RECV_MODE_CNT(-)	The number of times of recovery mode (-)	0	655 35

K	YLD_CNT_FB	Toner supply FB ratio by yield count	50	200
	DELTA_DVB	ΔDVB(Process control DVB-ideal DVB)	-500	500
	IDL_DVB	Ideal DVB	100	600
	PROCON_DVB	Process control DVB	0	600
	DV_LIFE	Developer life area	1	32
	COVERAGE_AREA	Average coverage area	1	29
	ENV_AREA	Environmental area	1	16
	MULTI_TIME	Accumulated driving time area	1	8
	PRO_FB_CNT	Process control feed-back toner supply remaining number of times	0	655 35
	PRO_FB_INT	Process control feed-back toner supply interval	0	655 35
Y	PRO_FB_RATIO	Process control feed-back toner supply ratio	-127	127
	RECV_MODE_CNT(+)	The number of times of recovery mode (+)	0	655 35
	RECV_MODE_CNT(-)	The number of times of recovery mode (-)	0	655 35
	YLD_CNT_FB	Toner supply FB ratio by yield count	50	200
	DELTA_DVB	ΔDVB(Process control DVB-ideal DVB)	-500	500
	IDL_DVB	Ideal DVB	100	600
	PROCON_DVB	Process control DVB	0	600
	DV_LIFE	Developer life area	1	32
	COVERAGE_AREA	Average coverage area	1	29
	ENV_AREA	Environmental area	1	16
M	MULTI_TIME	Accumulated driving time area	1	8
	PRO_FB_CNT	Process control feed-back toner supply remaining number of times	0	655 35
	PRO_FB_INT	Process control feed-back toner supply interval	0	655 35
	PRO_FB_RATIO	Process control feed-back toner supply ratio	-127	127
	RECV_MODE_CNT(+)	The number of times of recovery mode (+)	0	655 35
	RECV_MODE_CNT(-)	The number of times of recovery mode (-)	0	655 35

25-5

Purpose :	Operation test/check
Function (Purpose)	Used to display the toner supply amount detection system value.
Section	Process (Developing section)

Operation/Procedure

- 1) Select the color with 10 keys.
- 2) Press [OK]/[START] key.

Color	Displayed items	Contents	Min-imum	Max
K	TCS_B_AVE	Toner sensor output block average value	0	255
	TSG_HUM	Current TSG environment correction value (middle speed)	-127	127
	TSG_COV	Current TSG print rate correction value (middle speed)	-127	127
	TSG_LIFE	Current TSG developer life correction value (middle speed)	-127	127
	TSG_ENV	Current TSG cumulative drive area correction value (middle speed)	-127	127
	DELTA_TSG	Average coverage area	-254	254
	DELTA_TSG	Operation voltage correction value	1	255
	TSG_TOTALL	Operation voltage target value (Middle speed)	0	255
	TCS_AVE	Toner sensor output average value	0	255

K	TN_EMP_W	The threshold of toner empty (Over W count detection counts continuously)	0	255
	TN_EMP_X	The threshold of toner empty (Over X count detection counts continuously)	0	255
	TN_EMP_Y	The threshold of toner empty (Over Y count detection counts continuously)	0	255
C	TCS_B_AVE	Toner sensor output block average value	0	255
	TSG_HUM	Current TSG environment correction value (middle speed)	-127	127
	TSG_COV	Current TSG print rate correction value (middle speed)	-127	127
	TSG_LIFE	Current TSG developer life correction value (middle speed)	-127	127
	TSG_ENV	Current TSG cumulative drive area correction value (middle speed)	-127	127
	DELTA_TSG	Average coverage area	-254	254
	DELTA_TSG	Operation voltage correction value	1	255
	TSG_TOTAL	Operation voltage target value (Middle speed)	0	255
	TCS_AVE.	Toner sensor output average value	0	255
	TN_EMP_W	The threshold of toner empty (Over W count detection counts continuously)	0	255
	TN_EMP_X	The threshold of toner empty (Over X count detection counts continuously)	0	255
	TN_EMP_Y	The threshold of toner empty (Over Y count detection counts continuously)	0	255
M	TCS_B_AVE	Toner sensor output block average value	0	255
	TSG_HUM	Current TSG environment correction value (middle speed)	-127	127
	TSG_COV	Current TSG print rate correction value (middle speed)	-127	127
	TSG_LIFE	Current TSG developer life correction value (middle speed)	-127	127
	TSG_ENV	Current TSG cumulative drive area correction value (middle speed)	-127	127
	DELTA_TSG	Average coverage area	-254	254
	DELTA_TSG	Operation voltage correction value	1	255
	TSG_TOTAL	Operation voltage target value (Middle speed)	0	255
	TCS_AVE.	Toner sensor output average value	0	255
	TN_EMP_W	The threshold of toner empty (Over W count detection counts continuously)	0	255
	TN_EMP_X	The threshold of toner empty (Over X count detection counts continuously)	0	255
	TN_EMP_Y	The threshold of toner empty (Over Y count detection counts continuously)	0	255

Y	TCS_B_AVE	Toner sensor output block average value	0	255
	TSG_HUM	Current TSG environment correction value (middle speed)	-127	127
	TSG_COV	Current TSG print rate correction value (middle speed)	-127	127
	TSG_LIFE	Current TSG developer life correction value (middle speed)	-127	127
	TSG_ENV	Current TSG cumulative drive area correction value (middle speed)	-127	127
	DELTA_TSG	Average coverage area	-254	254
	DELTA_TSG	Operation voltage correction value	1	255
	TSG_TOTAL	Operation voltage target value (Middle speed)	0	255
	TCS_AVE.	Toner sensor output average value	0	255
	TN_EMP_W	The threshold of toner empty (Over W count detection counts continuously)	0	255
	TN_EMP_X	The threshold of toner empty (Over X count detection counts continuously)	0	255
	TN_EMP_Y	The threshold of toner empty (Over Y count detection counts continuously)	0	255

26

26-6

Purpose :	Setting
Function (Purpose)	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.

Section	
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Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Press [OK]/[START] key.
The selected set content is saved.

Item	Display	Contents
1	U.S.A.	United States of America
2	CANADA	Canada
3	INCH	Inch series, other destinations
4	JAPAN	Japan
5	AB_B	AB series (B5 detection), other destinations
6	EUROPE	Europe
7	U.K.	United Kingdom
8	AUS.	Australia
9	AB_A	AB series (A5 detection), other destinations
10	CHINA	China

26-18

Purpose :	Setting
Function (Purpose)	Used to set Disable/Enable of the toner save mode operation. (For the Japan and the UK versions.)

Section	
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Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Press [OK]/[START] key.
The selected set content is saved.

Item	Display	Content	Default value
1	COPY	0 Copy toner save mode is inhibited.	0
		1 Copy toner save mode is allowed	
2	PRINT	0 Printer toner save mode is inhibited.	0
		1 Printer toner save mode is allowed.	

26-30**Purpose :** Setting**Function (Purpose)** 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 keys.

Item	Display	Content		Range
1	(0: YES, 1: NO)	1	Control allowed	0 - 1
		0	Control inhibited	

- 2) Press [OK]/[START] 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)	EUROPE	0 (CE supported)
CANADA	1 (CE not supported)	U.K.	0 (CE supported)
INCH	1 (CE not supported)	AUS.	0 (CE supported)
JAPAN	1 (CE not supported)	AB_A	0 (CE supported)
AB_B	1 (CE not supported)	CHINA	0 (CE supported)

26-35**Purpose :** Setting**Function (Purpose)** 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 keys.

Item	Display	Contents		Range
1	TROUBLE MEMORY MODE	0	Only once display. If the trouble is the same as the current one, the trouble is not saved.	0 - 1
		1	Anytime display. Even if the trouble is the same as the current one, the trouble is saved.	

- 1) Press [OK]/[START] key.

The selected set content 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 keys.
 - 2) Press [OK]/[START] key.
- The selected set content is saved.

Item	Display	Content		Setting range
1	M LIFE OVER (0: CONTINUE 1: STOP)	0	Print Enable/Disable setting when the maintenance timing is over (Print Continue)	0
		1	Print Enable/Disable setting when the maintenance timing is over (Print Stop)	

26-53**Purpose :** Setting**Function (Purpose)** User auto color calibration (color balance adjustment) Inhibit/Allow setting (copy mode)**Section****Operation/Procedure**

- 1) Enter the set value with 10 keys.

Item	Display	Contents		Range
1	ACC	1	ACC is allowed.	0 - 1
		0	ACC is permitted.	

- 1) Press [OK]/[START] key.

The selected set content is saved.

26-54	
Purpose :	Setting
Function (Purpose)	Used to set LCD contrast PWM duty
Section	

Operation/Procedure

- 1) Enter the set value with 10 keys.

Item	Display	Contents	Setting range
1	LCD PWM duty	PWM duty value	30 - 70

- 1) Press [OK]/[START] key.
The selected set content is saved.

26-69	
Purpose :	Setting
Function (Purpose)	Used to set the operating conditions for toner near end.
Section	

Operation/Procedure

- 1) Select the item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The selected set content is saved.

Item	Display	Content	Range	Default value
A	TN PREP 0:Y 1:N	The toner preparation message is displayed/ is not displayed. (0:Y 1:N)	0-1	Refer to the destination list
B	REM TN LV	Toner preparation indication at the toner rest amount x%.(From 0.5% to 9.50%, it is possible to set in 0.5%)	0-9	4
C	TNNEND 0:Y 1:N	The toner near end message is displayed is not displayed.(0:Y 1:N)	0-1	Refer to the destination list
D	TN END	Operation Enable / Disable in TONER END	1 - 3	Refer to the destination list
E	TN END CNT	Setting of the number of copy/print/ FAX outputs Enable after TONER NEAR END.	1 - 3	1
F	TNE-MAIL ALERT	When near near toner end of Toner Low status of E-mail alert system is sent. (0 : near near end / 1 : near end)	1	1

<List of Default values and set values for each destination>

Destination	Set value		
	Toner preparation	Toner near end	
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)	

26-73	
Purpose :	Setting
Function (Purpose)	Used to set Toner save setting. .
Section	

Operation/Procedure

- 1) Enter the set value with 10 keys.
- 2) Press [OK]/[START] key.
The selected set content is saved.

Item/Display	Content
TONER SAVE DISP	Toner save setting is displayed (0) / is not displayed (1)

27

27-2	
Purpose :	Setting
Function (Purpose)	Used to set the sender's registration number and the HOST server telephone number. (FSS function)
Section	

Operation/Procedure

- 1) Select an item to be set with 10 keys.]
- 2) Press [OK]/[START] key.

USER FAX_NO.	Sender registration number (Max. 16 digits)
SRV TEL_NO.	Host server telephone number (Max. 16 digits) - Refer to the destination list

<List of Default values and set values for each destination>

Destination	Set value
U.S.A	16 figure ALL"(NULL)"
CANADA	16 figure ALL"(NULL)"
INCH	16 figure ALL"(NULL)"
JAPAN	"0120382327"
AB_B	16 figure ALL"(NULL)"
EUROPE	16 figure ALL"(NULL)"
U.K.	16 figure ALL"(NULL)"
AUS.	16 figure ALL"(NULL)"
AB_A	16 figure ALL"(NULL)"
CHINA	16 figure ALL"(NULL)"

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 Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display		Content	Setting range	Default value	Remarks
1	RETRY_BUSY	Resend number setting when busy	0 - 15	2	* 0: No retry
2	TIMER (MINUTE)_BUSY	Resend timer setting (minute) when busy	1 - 15	3	
3	RETRY_ERROR	Resend number setting when error	0 - 15	1	* 0: No retry
4	TIMER (MINUTE)_ERROR	Resend timer setting (minute) when error	1 - 15	1	
5	FAX_RETRY	Fax initial connection retry frequency setting	0 - 15	2	
6	TONER ORDER TIMING (K)	EMPTY	0 - 11	0	6 (25%)
		TONER NEAR END		1	
		5%		2	
		10%		3	
		15%		4	
		20%		5	
		25%		6	
		30%		7	
		35%		8	
		40%		9	
		45%		10	
		50%		11	
7	TONER ORDER TIMING (C)	EMPTY	0 - 11	0	3(49% - 25%)
		TONER NEAR END		1	
		5%		2	
		10%		3	
		15%		4	
		20%		5	
		25%		6	
		30%		7	
		35%		8	
		40%		9	
		45%		10	
		50%		11	
8	TONER ORDER TIMING (M)	EMPTY	0 - 11	0	6 (25%)
		TONER NEAR END		1	
		5%		2	
		10%		3	
		15%		4	
		20%		5	
		25%		6	
		30%		7	
		35%		8	
		40%		9	
		45%		10	
		50%		11	
9	TONER ORDER TIMING (Y)	EMPTY	0 - 11	0	6 (25%)
		TONER NEAR END		1	
		5%		2	
		10%		3	
		15%		4	
		20%		5	
		25%		6	
		30%		7	
		35%		8	
		40%		9	
		45%		10	
		50%		11	
10	TONER ORDER CONTROL	Setting of toner order timing control	0 - 1	0	0: Toner order is sent by fixed remained amount 1: Toner order is sent by the result of toner consumption calculation
11	TONER DELIVERY CONTROL	Setting of toner comprehensive transport	0 - 1	0	0: Comprehensive transport off 1: Comprehensive transport on

Item/Display		Content	Setting range	Default value	Remarks
12	TONER DELIVERY INTERVAL	The threshold setting of toner comprehensive transport	1 - 15	3	

27-7

Purpose : Setting

Function (Purpose) Used to set of the enable, alert callout. (FSS function)

Section

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display		Content		Range	Default value
1	FUNCTION	0	FSS function enable	0 - 10	1(No)
		1	FSS function disable (*1) (Default)		
2	ALERT	0	Alert call enable (*2) (Default)		0(Yes)
		1	Alert call disable		
3	CONNECTION	0	By FAX		0(FAX)
		1	Invalid		
		2	By HTTP		

27-14

Purpose : Setting

Function (Purpose) Used to set the FSS function connection test mode.

Section

Operation/Procedure

- 1) Enter the set value with 10 keys.

Item	Display	Contents		Range	Default value
1	CONNECT EST ODE(1:ON :OFF)	1	Enable FSS function connection test mode.	0 - 1	0 (OFF)
		0	Disable FSS function connection test mode.		

- 1) Press [OK]/[START] key.
The set value in step 1) is saved.

27-15

Purpose : Setting

Function (Purpose) Used to display the FSS connection condition.

Section

Operation/Procedure

- 1) Enter the set value with 10 keys.

Item	Display	Contents	Range		Default value
1	FSS ONNECTION	Display the FSS connection.	0	Unused	0
			1	Used	

27-16

Purpose : Setting

Function (Purpose) Used to FSS alert setting.

Section

Operation/Procedure

- 1) Enter the set value with 1 keys.
- 2) Press [OK]/[START] key.

The set value in step 1) is saved.

Item/Display		Contents		Setting range
1	MAINTENANCE ALERT	0	Maintenance alert transmission permission setting	0 - 1
		1		
2	TONER ORDER ALERT	0	Toner order alert transmission permission setting	0 - 1
		1		
3	TONER CTRG ALERT	0	Toner cartridge alert transmission permission setting	0 - 1
		1		
4	TROUBLE ALERT	0	Trouble alert transmission permission setting	0 - 1
		1		

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.

1	PPD2	Resist detection
2	POD1	Detects the paper exit from fusing.
3	TFD2	Paper exit tray full detection
4	DSW_R	Right door open/close detection
5	DSW_F	Front cover open/close detection
6	DHPD_K	OPC drum phase detection (K)
7	DHPD_CL	OPC drum phase detection (Color)
8	TNFD	Waste toner full detection
9	CPED1	1CS paper detection
14	MPED	Drum detection
16	C2LUD	2CS paper upper limit detection
17	C2PPD	2CS paper transport detection
18	DSW_C2	2CS transport cover open/close detection
19	CSS2	2CS tray detection
20	1TUD_K	Primary transfer belt separation detection (K)
21	1TUD_CL	Primary transfer belt separation detection (Color)

Purpose :	Setting
Function (Purpose)	Used to set the fusing reference temperature of each operation mode.
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

NOTE:

The set value is the reference value, and it may differ from the actual fusing temperature depending on the operating conditions.

Item/Display	Content	Setting range	Group A	Group B	Group C
1 HL_UM READY	Ready standby TH_UM set value	70 - 230	145	155	155
2 HL_UM PLAIN PAPER BW	Black-White plain paper TH_UM set value	70 - 230	155	165	165
3 HL_UM PLAIN PAPER CL	Color plain paper TH_UM set value	70 - 230	160	170	170
4 WARM UP END TIME	Warm-up complete time	1 - 255	13	13	13
5 HL_UM PRE-JOB	Resetting from preheating TH_UM set value	30 - 200	150	160	160
6 HL_UM WARMUP_120L	Warm-up TH_UM set value (when the fusing temperature is under 120 degrees C)	70 - 230	150	160	160
7 HL_UM WARMUP_120H	Warm-up TH_UM set value (when the fusing temperature is 120 degrees C or above)	70 - 230	150	160	160
8 HI_WU_FM_ON_TMP	Fusing roller rotation start TH_E (when the fusing temperature in warm-up is alpha degrees C or above)	30 - 200	105	105	105
9 HI_WU_END_TIME	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha degrees C or above)	0 - 255	13	13	13
10 HI_WU_JOB_SET_TMP	Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha degrees C or above)	70 - 230	152	162	162
11 LO_WU_JOB_SET_TMP	Job Ready TH_UM temperature (CL) (When the fusing temperature in warming up is under alpha degrees C.)	70 - 230	152	162	162
12 HL_UM_JOB_SET_TMP_BW	Job Ready TH_UM temperature (BW) (When the fusing temperature in warming up is under alpha degrees C.)	70 - 230	152	162	162
1 HL_UM READY	Ready standby TH_UM set value	70 - 230	155	160	160
2 HL_UM PLAIN PAPER BW	Black-White plain paper TH_UM set value	70 - 230	165	170	170
3 HL_UM PLAIN PAPER CL	Color plain paper TH_UM set value	70 - 230	170	175	175
4 WARM UP END TIME	Warm-up complete time	1 - 255	13	13	13
5 HL_UM PRE-JOB	Resetting from preheating TH_UM set value	30 - 200	160	165	165
6 HL_UM WARMUP_120L	Warm-up TH_UM set value (when the fusing temperature is under 120 degrees C)	70 - 230	150	160	160
7 HL_UM WARMUP_120H	Warm-up TH_UM set value (when the fusing temperature is 120 degrees C or above)	70 - 230	160	165	165
8 HI_WU_FM_ON_TMP	Fusing roller rotation start TH_E (when the fusing temperature in warm-up is alpha degrees C or above)	30 - 200	105	105	105
9 HI_WU_END_TIME	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha degrees C or above)	0 - 255	13	13	13
10 HI_WU_JOB_SET_TMP	Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha degrees C or above)	70 - 230	162	167	167
11 LO_WU_JOB_SET_TMP	Job Ready TH_UM temperature (CL) (when the fusing temperature in warm-up is under alpha degrees C)	70 - 230	162	167	167
12 HL_UM_JOB_SET_TMP_BW	Job Ready TH_UM temperature (BW) (when the fusing temperature in warm-up is under alpha degrees C)	70 - 230	162	167	167
1 WARMUP FUMON TMP	Fusing motor pre-rotation start TH_US set value (under alpha degrees C)	30 - 200	80	80	80
2 WARMUP FUMOFF	Preheating TH_E set value	0 - 255	30	30	30
3 HL_UM HEAVY PAPER	Resetting from preheating TH_UM set value (Job Ready temperature)	70 - 230	170	170	170
4 HL_UM OHP PAPER	Preheating TH_LM set value	70 - 230	150	150	150
5 HL_UM ENV PAPER	Warm-up TH_UM set value (when the fusing temperature is 120 degrees C or less)	70 - 230	180	180	180
6 HL_UM GLOSS PAPER	Warm-up TH_LM set value (when the fusing temperature is 120 degrees C or less)	70 - 230	160	160	160
7 HL_UM E-STAR	Warm-up TH_E set value (when the fusing temperature is 120 degrees C or less)	30 - 200	140	150	150
8 HL_UM HEAVY2 PAPER	Heavy paper 2 TH_UM set value	70 - 230	175	175	175
9 LO_WARMUP_TIME	The applying time in WUP TH_UM of 120 degrees C or less (Timer from completion of warm-up)	0 - 255	0	0	0
10 HI_WARMUP_TIME	The applying time in WUP TH_UM of 120 degrees C or above (Timer from completion of warm-up)	70 - 230	0	0	0
11 HI_WARMUP_BORDER	The threshold value alpha degrees C or above in warm-up.	1 - 119	100	100	100
12 JOBEND_FUMON_TIME	Fusing motor after rotation time after completion of a job (Excluding heavy paper, OPH, and envelopes)	0 - 255	10	10	10

<Code descriptions>

TH_UM	Fusing upper thermister (main)	HL_UM	Heater lamp upper
TH_LM	Fusing lower thermister (main)	HL_LM	Heater lamp lower
TH_E	Fusing thermister (external heat roller)	HL_E	Heater lamp (external heat roller)

Group	Destination					
Group A	Japan	-	-	-	-	-
Group B	U.S.A.	Canada	Inch	-	-	-
Group C	Europe	U.K.	AUS	AB_A	China	AB_B

43-4

Purpose : Setting

Function (Purpose) Used to set the fusing Target temperature of each operation mode (continuation of SIM 43-01)

Section

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item		Display	Content	Setting range	Default value			Acc. Destination setting(O/X)
					Group A	Group B	Group C	
1	PLAIN SwA	HL_UM PLAIN BW DUP	Black-White plain paper duplex TH_UM set value	70 - 230	155	165	165	O
2		PLAIN BW DUP APP CNT	Black-White plain paper duplex fusing temperature application start image screen number	0 - 60	0	0	0	O
3		HL_UM PLAIN CL DUP	Color plain paper duplex TH_UM set value	70 - 230	160	170	170	O
4		PLAIN CL DUP APP CNT	Color plain paper duplex fusing temperature application start image screen number	0 - 60	0	0	0	O
1	PLAIN SwB	HL_UM PLAIN BW DUP	Black-White plain paper duplex TH_UM set value	70 - 230	165	170	170	O
2		PLAIN BW DUP APP CNT	Black-White plain paper duplex fusing temperature application start image screen number	0 - 60	0	0	0	O
3		HL_UM PLAIN CL DUP	Color plain paper duplex TH_UM set value	70 - 230	170	175	175	O
4		PLAIN CL DUP APP CNT	Color plain paper duplex fusing temperature application start image screen number	0 - 60	0	0	0	O
1	Other	HL_UM HEAVY BW DUP	Black-White heavy paper duplex TH_UM set value	70 - 230	170	170	170	X
2		HEAVY BW DUP APP CNT	Black-White heavy paper duplex fusing temperature application start image screen number	0 - 60	0	0	0	X
3		HL_UM HEAVY CL DUP	Color heavy paper duplex TH_UM set value	70 - 230	170	170	170	X
4		HEAVY CL DUP APP CNT	Color heavy paper duplex fusing temperature application start image screen number	0 - 60	0	0	0	X

<Code descriptions>

TH_UM	Fusing upper thermister (main)	HL_UM	Heater lamp upper
TH_LM	Fusing lower thermister (main)	HL_LM	Heater lamp lower
TH_E	Fusing thermister (external heat roller)	HL_E	Heater lamp (external heat roller)

Group	Destination					
Group A	Japan	-	-	-	-	-
Group B	U.S.A.	Canada	Inch	-	-	-
Group C	Europe	U.K.	AUS	AB_A	China	AB_B

43-20

Purpose : Adjustment/Setup

Function (Purpose) Used to set the environmental correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-1) in each paper mode.

Section**Operation/Procedure**

1) Select an item to be set with Arrow keys.

2) Enter the set value with 10 keys.

3) Press [OK]/[START] key.

The set value in step 2) is saved.

Correction value: -49 - +49, 1 Count = 1 degrees C Change

Correction value	-49	-25	-5	0	+5	+25	+49
Input value	1	25	45	50	55	75	99

4

Item/Display	Content	Setting range	Group A	Group B	Group C	Acc. Destination setting(O/X)
1 HL_UM READY LL	(LL-Correction) Ready standby TH_UM set value	1 - 99	65	65	65	X
2 HL_UM PLAIN BW LL	(LL-Correction) Black-White plain paper TH_UM set value	1 - 99	60	60	60	X
3 HL_UM PLAIN CL LL	(LL-Correction) Color plain paper TH_UM set value	1 - 99	60	60	60	X
4 WARMUP FUMON TMP LL	(LL-Correction) Fusing motor pre-rotation start TH_UM set value	1 - 99	40	40	40	O
5 WARMUP FUMOFF LL	(LL-Correction) Fusing motor pre-rotation end TH_UM set value	1 - 99	50	50	50	X
6 WARMUP END TIME LL	(LL-Correction) Warm-up complete time (warm-up time (sec))	1 - 99	50	50	50	X
7 HL_UM HEAVY LL	(LL-Correction) Heavy paper TH_UM set value	1 - 99	55	55	55	X
8 HL_UM OHP LL	(LL-Correction) OHP-TH_UM set value	1 - 99	55	55	55	X
9 HL_UM ENV LL	(LL-Correction) Envelope TH_UM set value	1 - 99	55	55	55	X
10 HL_UM GLOSS LL	(LL-Correction) Glossy paper TH_UM set value	1 - 99	55	55	55	X
11 HL_UM E-STAR LL	(LL-Correction) Preheating TH_UM set value	1 - 99	55	55	55	X
12 HL_UM PRE-JOB LL	(LL-Correction) Resetting from preheating TH_UM set value (Job Ready temperature)	1 - 99	55	55	55	X
13 HL_UM HEAVY2 CL LL	Correction value for heavy paper 2 TH_UM set value under LL environment	1 - 99	55	55	55	X
14 HL_UM WARMUP_120L LL	(LL-Correction) Warm-up TH_UM set value (when the fusing temperature is under 120 degrees C)	1 - 99	55	55	55	X
15 LO_WARMUP_TIME LL	(LL-Correction) Warm-up TH_UM applying time is under 120 degrees C (Timer from completion of warm-up)	1 - 99	50	50	50	X
16 HL_UM WARMUP_120H LL	(LL-Correction) Warm-up TH_UM applying time is 120 degrees C or above (Timer from completion of warm-up)	1 - 99	55	55	55	X
17 HI_WU_TIME LL	P applying time (timer from warm-up complete)	1 - 99	50	50	50	X
18 HI_WU_FM_ON_TMP LL	(LL-Correction) Fusing roller rotation start TH_E (when the fusing temperature in warm-up is alpha degrees C or above)	1 - 99	40	40	40	X
19 HI_WU_END_TIME LL	(LL-Correction) Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha degrees C or above)	1 - 99	50	50	50	X
20 HI_WU_JOB_SET_TMP LL	(LL-Correction) Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha degrees C or above)	1 - 99	60	60	60	X
21 HI_WARMUP_BORDER LL	The threshold value alpha degrees C or above in warm-up.	1 - 99	50	50	50	X
22 LO_WU_JOB_SET_TMP LL	The applying time in WUP TH_UM (CL) of 120 degrees C or above (Timer from completion of warm-up)	1 - 99	60	60	60	X
23 JOBEND_FUMON_TIME LL	(LL-Correction) Fusing roller rotation time (sec) after completion of a job	1 - 99	50	50	50	X
24 HI_WU_JOB_SET_TMP_L_BW	The applying time in WUP TH_UM (BW) of 120 degrees C or above (Timer from completion of warm-up)	1 - 99	60	60	60	X

*WARMUP END TIME LL: 1count = 1sec / other correction value: 1 count = 1 degrees C

*The item D or F: When B5 paper, above value on item D or F is corrected "-5"

*The item G or I: When B5 paper, above value on item G or I is corrected "-5"

<Code descriptions>

TH_UM	Fusing upper thermister (center)	HL_UM	Heater lamp upper
TH_LM	Fusing lower thermister	HL_LM	Heater lamp lower
TH_E	Fusing thermister (external heat roller)	HL_E	Heater lamp (external heat roller)

4

Group	Destination					
Group A	Japan	-	-	-	-	-
Group B	U.S.A.	Canada	Inch	-	-	-
Group C	Europe	U.K.	AUS	AB_A	China	AB_B

43-21

Purpose : Adjustment/Setup

Function (Purpose) Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-1) in each paper mode.

Section**Operation/Procedure**

1) Select an item to be set with Arrow keys.

2) Enter the set value with 10 keys.

3) Press [OK]/[START] key.

The set value in step 2) is saved.

Correction value: -49 - +49, 1 Count = 1 degrees C Change

Correction value	-49	-25	-5	0	5	25	49
Input value	1	25	45	50	55	75	99

*1: 1 Count = 1sec Change

Item/Display	Content	Setting range	Group A	Group B	Group C	Acc. Destination setting(O/X)
1 HL_UM READY HH	(HH-Correction) Ready standby TH_UM set value	1 - 99	50	50	50	X
2 HL_UM PLAIN BW HH	(HH-Correction) Black-White plain paper TH_UM set value	1 - 99	50	50	50	X
3 HL_UM PLAIN CL HH	(HH-Correction) Color plain paper TH_UM set value	1 - 99	50	50	50	X
4 WARMUP FUMON TMP HH	(HH-Correction) Fusing motor pre-rotation start TH_UM set value	1 - 99	50	50	50	O
5 WARMUP FUMOFF HH	(HH-Correction) Fusing motor pre-rotation end TH_LM set value	1 - 99	50	50	50	X
6 WARMUP END TIME HH	(HH-Correction) Warm-up complete time (warm-up time (sec))	1 - 99	50	50	50	X
7 HL_UM HEAVY HH	(HH-Correction) Heavy paper TH_UM set value	1 - 99	50	50	50	X
8 HL_UM OHP HH	(HH-Correction) OHP-TH_UM set value	1 - 99	50	50	50	X
9 HL_UM ENV HH	(HH-Correction) Envelope TH_UM set value	1 - 99	50	50	50	X
10 HL_UM GLOSS HH	(HH-Correction) Glossy paper TH_UM set value	1 - 99	50	50	50	X
11 HL_UM E-STAR HH	(HH-Correction) Preheating TH_UM set value	1 - 99	50	50	50	X
12 HL_UM PRE-JOB HH	(HH-Correction) Resetting from preheating TH_UM set value (Job Ready temperature)	1 - 99	50	50	50	X
13 HL_UM HEAVY2 CL HH	Correction value for heavy paper 2 TH_UM set value under LL environment	1 - 99	50	50	50	X
14 HL_UM WARMUP_120L HH	(HH-Correction) Warm-up TH_UM set value (when the fusing temperature is under 120 degrees C)	1 - 99	50	50	50	X
15 LO_WARMUP_TIME HH	(HH-Correction) Warm-up TH_UM applying time is under 120 degrees C (Timer from completion of warm-up)	1 - 99	50	50	50	X
16 HL_UM WARMUP_120H HH	(HH-Correction) Warm-up TH_UM applying time is 120 degrees C or above (Timer from completion of warm-up)	1 - 99	50	50	50	X
17 HI_WU_TIME HH	P applying time (timer from warm-up complete)	1 - 99	50	50	50	X
18 HI_WU_FM_ON_TMP HH	(HH-Correction) Fusing roller rotation start TH_E (when the fusing temperature in warm-up is alpha degrees C or above)	1 - 99	50	50	50	X
19 HI_WU_END_TIME HH	(HH-Correction) Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha degrees C or above)	1 - 99	50	50	50	X
20 HI_WU_JOB_SET_TMP HH	(HH-Correction) Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha degrees C or above)	1 - 99	50	50	50	X
21 HI_WARMUP_BORDER HH	The threshold value alpha degree C or above in warm-up.	1 - 99	50	50	50	X
22 LO_WU_JOB_SET_TMP HH	The applying time in WUP TH_UM (CL) of 120 degrees C or above (Timer from completion of warm-up)	1 - 99	50	50	50	X
23 JOBEND_FUMON_TIME HH	(HH-Correction) Fusing roller rotation time (sec) after completion of a job	1 - 99	50	50	50	X
24 HI_WU_JOB_SET_TMP_H H_BW	The applying time in WUP TH_UM (BW) of 120 degrees C or above (Timer from completion of warm-up)	1 - 99	50	50	50	X

<Code descriptions>

TH_UM	Fusing upper thermister (center)	HL_UM	Heater lamp upper
TH_LM	Fusing lower thermister	HL_LM	Heater lamp lower
TH_E	Fusing thermister (external heat roller)	HL_E	Heater lamp (external heat roller)

4

Group	Destination					
Group A	Japan	-	-	-	-	-
Group B	U.S.A.	Canada	Inch	-	-	-
Group C	Europe	U.K.	AUS	AB_A	China	AB_B

43-22

Purpose : Adjustment/Setup

Function (Purpose) Used to set the environment correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-4) in each paper mode.

Section**Operation/Procedure**

1) Select an item to be set with Arrow keys.

Item/Display	Content	Setting range	Group A	Group B	Group C	Acc. Destination setting(O/X)
1 HL_UM PLAIN BW DUP LL	(LL CORRECTION) Black-White plain paper duplex TH_UM set value	1 - 99	60	60	60	O
2 PLAIN BW DUP APP CNT LL	(LL CORRECTION) Black-White plain paper duplex fusing temperature application start image screen number	1 - 99	50	50	50	O
3 HL_UM PLAIN CL DUP LL	(LL CORRECTION) Color plain paper duplex TH_UM set value	1 - 99	60	60	60	O
4 PLAIN CL DUP APP CNT LL	(LL CORRECTION) Color plain paper duplex fusing temperature application start image screen number	1 - 99	50	50	50	O
5 HL_UM HEAVY BW DUP LL	(LL CORRECTION) Black-White heavy paper duplex TH_UM set value	1 - 99	55	55	55	X
6 HEAVY BW DUP APP CNT LL	(LL CORRECTION) Black-White heavy paper duplex fusing temperature application start image screen number	1 - 99	50	50	50	X
7 HL_UM HEAVY CL DUP LL	(LL CORRECTION) Color heavy paper duplex TH_UM set value	1 - 99	55	55	55	X
8 HEAVY CL DUP APP CNT LL	(LL CORRECTION) Color heavy paper duplex fusing temperature application start image screen number	1 - 99	50	50	50	X

*PLAIN BW DUP APP CNT LL, PLAIN CL DUP APP CNT LL:
1count = 1 sec

2) Enter the set value with 10 keys.

3) Press [OK]/[START] key.

The set value in step 2) is saved.

Correction value: -49 - +49, 1 Count = 1 degrees C Change

Correction value	-49	-25	-5	0	+5	+25	+49
Input value	1	25	45	50	55	75	99

<Code descriptions>

TH_UM	Fusing upper thermister (center)	HL_UM	Heater lamp upper
TH_LM	Fusing lower thermister	HL_LM	Heater lamp lower
TH_E	Fusing thermister (external heat roller)	HL_E	Heater lamp (external heat roller)

Group	Destination					
Group A	Japan	-	-	-	-	-
Group B	U.S.A.	Canada	Inch	-	-	-
Group C	Europe	U.K.	AUS	AB_A	China	AB_B

43-23

Purpose : Adjustment/Setup

Function (Purpose) Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-04) in each paper mode.

Section

Operation/Procedure

1) Select an item to be set with Arrow keys.

Item/Display	Content	Setting range	Group A	Group B	Group C	Acc. Destination setting(O/X)
1 HL_UM PLAIN BW DUP HH	(HH CORRECTION) Black-White plain paper duplex TH_UM set value	1 - 99	50	50	50	O
2 PLAIN BW DUP APP CNT HH	(HH CORRECTION) Black-White plain paper duplex fusing temperature application start image screen number	1 - 99	50	50	50	O
3 HL_UM PLAIN CL DUP HH	(HH CORRECTION) Color plain paper duplex TH_UM set value	1 - 99	50	50	50	O
4 PLAIN CL DUP APP CNT HH	(HH CORRECTION) Color plain paper duplex fusing temperature application start image screen number	1 - 99	50	50	50	O
5 HL_UM HEAVY BW DUP HH	(HH CORRECTION) Black-White heavy paper duplex TH_UM set value	1 - 99	50	50	50	X
6 HEAVY BW DUP APP CNT HH	(HH CORRECTION) Black-White heavy paper duplex fusing temperature application start image screen number	1 - 99	50	50	50	X
7 HL_UM HEAVY CL DUP HH	(HH CORRECTION) Color heavy paper duplex TH_UM set value	1 - 99	50	50	50	X
8 HEAVY CL DUP APP CNT HH	(HH CORRECTION) Color heavy paper duplex fusing temperature application start image screen number	1 - 99	50	50	50	X

*PLAIN BW DUP APP CNT HH, PLAIN CL DUP APP CNT HH: 1count = 1 sec

Other values: 1count = 1 degrees C

<Code descriptions>

TH_UM	Fusing upper thermister (center)	HL_UM	Heater lamp upper
TH_LM	Fusing lower thermister	HL_LM	Heater lamp lower
TH_E	Fusing thermister (external heat roller)	HL_E	Heater lamp (external heat roller)

2) Enter the set value with 10 keys.

3) Press [OK]/[START] key.

The set value in step 2) is saved.

Correction value: -49 - +49, 1 Count = 1°C Change

Correction value	-49	-25	-5	0	+5	+25	+49
Input value	1	25	45	50	55	75	99

Group	Destination					
Group A	Japan	-	-	-	-	-
Group B	U.S.A.	Canada	Inch	-	-	-
Group C	Europe	U.K.	AUS	AB_A	China	AB_B

43-24

Purpose : Adjustment/Setup

Function (Purpose) Used to set the correction of the temperature adjustment value of SIM 43-1 and 43-4.

Section

Operation/Procedure

1) Select an item to be set with Arrow keys.

2) Enter the set value with 10 keys.

3) Press [OK]/[START] key.

The set value in step 2) is saved.

Correction value: -49 - +49, 1 Count = 1 degrees C Change

Correction value	-49	-25	-5	0	5	25	49
Input value	1	25	45	50	55	75	99

4

Item/Display	Content	Setting range	Group A	Group B	Group C	Acc. Destination setting(O/X)
1 NN_120_FUS_DUP_HL_UM	Correction amount for normal paper in duplex printing under 120 degrees C in N/N-Warm Up	1 - 99	50	50	50	X
2 LL_120_FUS_DUP_HL_UM	Correction amount for normal paper in duplex printing under 120 degrees C in L/L-Warm Up	1 - 99	50	50	50	X
3 HH_120_FUS_DUP_HL_UM	Correction amount for normal paper in duplex printing under 120 degrees C in H/H-Warm Up	1 - 99	50	50	50	X
4 NN_120_FUS_DUP_CNT	Number of sheets of application of normal paper in duplex printing under 120 degrees C in N/N-Warm Up (Setting of the number of sheets at which application is started)	1 - 60	5	5	5	X
5 LL_120_FUS_DUP_CNT	Number of sheets of application of normal paper in duplex printing under 120 degrees C in L/L-Warm Up (Setting of the number of sheets at which application is started)	1 - 60	10	10	10	X
6 HH_120_FUS_DUP_CNT	Number of sheets of application of normal paper in duplex printing under 120 degrees C in H/H-Warm Up (Setting of the number of sheets at which application is started)	1 - 60	5	5	5	X
7 COOL_DOWN_HEAVY	Cool-down time heavy paper (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	10	10	10	X
8 COOL_DOWN_OHP	Cool-down time OHP (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	10	10	10	X
9 COOL_DOWN_ENVELOPE	Cool-down time envelope (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	10	10	10	X
10 HL_UM THIN PAPER BW	Thin paper BW-TH_UM	70 - 230	145	145	145	O
11 HL_UM THIN PAPER CL	Thin paper COL-TH_UM	70 - 230	155	155	155	O
12 HL_UM THIN PAPER READY	Thin paper Ready-TH_UM	70 - 230	135	135	135	O
13 HL_UM REC PAPER BW	Recycled paper BW-TH_UM	70 - 230	160	170	170	O
14 HL_UM REC PAPER CL	Recycled paper COL-TH_UM	70 - 230	165	175	175	O
15 HL_UM REC PAPER READY	Recycled paper Ready-TH_UM	70 - 230	150	160	160	O
16 HPOWER_SET	Power voltage setting 1:100V 2:120V 3:230V	1 - 3	1	2	3	O

*About the correction value

Each correction value for temperature: 1count = 1 degrees C

Each paper exit count: 1count = 1pcs paper

Each cool down time: 1count = 1sec

<Code descriptions>

TH_UM	Fusing upper thermister (center)	HL_UM	Heater lamp upper
TH_LM	Fusing lower thermister	HL_LM	Heater lamp lower
TH_E	Fusing thermister (external heat roller)	HL_E	Heater lamp (external heat roller)

4

Group	Destination					
Group A	Japan	-	-	-	-	-
Group B	U.S.A.	Canada	Inch	-	-	-
Group C	Europe	U.K.	AUS	AB_A	China	AB_B

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 Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

NOTE: Set the items to the default values unless a change is specially required.

Item/Display	Content	Setting range	Default value
1 HV	Normal operation high density process control Enable/Disable setting	Normal (Disable : 1 : NO) Reverse (Enable : 0 : YES)	0
2 HT	Normal operation half tone process control Enable/Disable setting		0
3 TC	Transfer output correction Enable/Disable setting		0
4 MD VG	Membrane decrease grid voltage correction Enable/Disable setting		0
5 MD LD	Membrane laser power voltage correction Enable/Disable setting		0
6 MD EV	Membrane decrease environment grid voltage correction Enable/Disable setting		0
7 MD DL	Membrane decrease discharge light quantity correction Enable/Disable setting		0
8 MD DL EV	Membrane decrease environment discharge light quantity correction Enable/Disable setting		1
9 MD LD EV	Membrane decrease environment discharge light quantity correction Enable / Disable setting		0
10 LD PROCON	Membrane laser power voltage correction by process control Enable / Disable setting		0
11 TN PIX SUP	Toner supply control by yield count Enable / Disable setting		0
12 TN FB	FEEDBACK toner density correction enable / disable setting		0
13 TN INT	Interval toner supply control enable / disable setting		0
14 TN RECV	Developer recovery enable / disable setting		0
15 TN ADJ	Sensor output adjustment enable / disable setting		0
16 TN EMP	Control the detection of toner drop amount enable / disable setting		0
17 TN EMP INT	Control the detection of toner drop amount when job intermission enable / disable setting		0
18 TN EMP NEW	Control the detection of toner drop amount when installed new cartridge enable / disable setting		0

Item/Display	Content	Setting range	Default value
19 TN PIX TBL	Execution the calculation of yield count correction table enable / disable setting	Normal (Disable : 1 : NO) Reverse (Enable : 0 : YES)	0
20 AR AUTO	Auto registration adjustment Enable / Disable setting		0
21 AR ERROR	Auto registration adjustment execution error check Enable / Disable setting		0
22 DM PHASE	Drum phase fitting Enable/Disable setting		0
23 PRT_HT	Half tone process control printer correction feedback Enable/Disable setting		0

44-2

Purpose :	Adjustment/Setup
Function (Purpose)	To execute the light quantity adjustment for process control sensor and registrations sensors (2pcs are done at same time), and reading the surface of belt.
Section	Process

Operation/Procedure

When [OK]/[START] key is pressed, the adjustment is executed automatically.

After completion of the adjustment, the adjustment result is displayed.

If the adjustment is not executed normally, "ERROR" is displayed.

Item/Display	Content
1 P_F_CL_ka	F side color sensor correction factor
2 P_F LED ADJ	F sensor light emitting quantity adjustment value
3 P_R LED ADJ	R sensor light emitting quantity adjustment value
4 P_F_CL_DARK	Dark voltage of color (F side)
5 P_F DARK	Dark voltage of sensor (F side)
6 P_R DARK	Dark voltage of sensor (R side)
7 P_F GRND	Belt substrate when the item D adjustment is completed.
8 P_F BELT MAX	Belt substrate input max. value
9 P_F BELT MIN	Belt substrate input min. value
10 P_R GRND	Belt substrate when the item F adjustment is completed.
11 P_R BELT MAX	Belt substrate input max. value
12 P_R BELT MIN	Belt substrate input min. value
13 REG_F BELT MAX	Belt substrate input max. value (F side)
14 REG_F BELT MIN	Belt substrate input min. value (F side)
15 REG_R BELT MAX	Belt substrate input max. value (R side)
16 REG_R BELT MIN	Belt substrate input min. value (R side)
17 REG_F PATCH(K)	Patch light receiving potential F(K)
18 REG_F PATCH(C)	Patch light receiving potential F(C)
19 REG_F PATCH(M)	Patch light receiving potential F(M)
20 REG_F PATCH(Y)	Patch light receiving potential F(Y)
21 REG_R PATCH(K)	Patch light receiving potential R(K)
22 REG_R PATCH(C)	Patch light receiving potential R(C)
23 REG_R PATCH(M)	Patch light receiving potential R(M)
24 REG_R PATCH(Y)	Patch light receiving potential R(Y)

Error name	Error content
CL_SEN_ADJ_ERR	Color sensor adjustment abnormality
BK_SEN_ADJ_ERR	Black sensor adjustment abnormality
P_F_CL_ka	F Color sensor adjustment abnormality
P_F_GRND	F sensor basis material reading abnormality
P_R_GRND	F sensor basis material reading abnormality
REG_F_LED_ADJ	Registration sensor F adjustment abnormality

Error name	Error content
REG_R_LED_ADJ	Registration sensor R adjustment abnormality
REG_F_GRND	F registration basis material reading abnormality
REG_R_GRND	R registration basis material reading abnormality

44-4

Purpose : Setting**Function (Purpose)** Used to set the conditions of the high density process control operation.**Section** Process**Operation/Procedure**

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

NOTE:

Set the items to the default values unless a change is specially required.

Item/Display	Content	Setting range	Default value
1 PCS TARGET	Sensor target set value	1 - 255	204
2 PCS ADJ LIM	Sensor adjustment target limit value	1 - 255	8
3 BELT G DIF	Effective difference between the belt circuit substrate upper and lower limit values	1 - 255	1
4 B_BK STD DIF	Bias (for black) Target calculation difference	0 - 255	0
5 B PAT INT	Patch bias output interval	1 - 255	60
6 Y TAR ID	Patch density standard value (yellow)	1 - 255	*1
7 M TAR ID	Patch density standard value (magenta)	1 - 255	*1
8 C TAR ID	Patch density standard value (cyan)	1 - 255	*1
9 K TAR ID	Patch density standard value (black)	1 - 255	*1
10 HV BK_GR LIM	Patch position substrate light receiving effective range value	1 - 255	60
11 LED ADJ ROUGH	LED radiation quantity adjustment rough 1step	1 - 255	5
12 LED ADJ ROUGH UPPER	LED radiation quantity adjustment rough 1step execution threshold level upper	1 - 255	240
13 LED ADJ ROUGH LOWER	LED radiation quantity adjustment rough 1step execution threshold level lower	1 - 255	140
14 K_PAT TARGET UPPER 1	Simplified process control solid-patch transition judgment to high density process control upper limitation 1 (K-patch)	1 - 255	10
15 K_PAT TARGET LOWER 1	Simplified process control solid-patch transition judgment to high density process control lower limitation 1 (K-patch)	1 - 255	10
16 K_PAT TARGET UPPER 2	Simplified process control solid-patch transition judgment to high density process control upper limitation 2 (K-patch)	1 - 255	15
17 K_PAT TARGET LOWER 2	Simplified process control solid-patch transition judgment to high density process control lower limitation 2 (K-patch)	1 - 255	15
18 K_HT TARGET UPPER 1	Simplified process control half-tone-patch transition judgment to high density process control upper limitation 1 (K-patch)	1 - 255	10
19 K_HT TARGET LOWER 1	Simplified process control half-tone-patch transition judgment to high density process control lower limitation 1 (K-patch)	1 - 255	10

Item/Display	Content	Setting range	Default value
20 K_HT TARGET UPPER 2	Simplified process control half-tone-patch transition judgment to high density process control upper limitation 2 (K-patch)	1 - 255	15
21 K_HT TARGET LOWER 2	Simplified process control half-tone-patch transition judgment to high density process control lower limitation 2 (K-patch)	1 - 255	15
22 CL_PAT TARGET UPPER 1	Simplified process control solid-patch transition judgment to high density process control upper limitation 1 (CL-patch)	1 - 255	10
23 CL_PAT TARGET LOWER 1	Simplified process control solid-patch transition judgment to high density process control lower limitation 1 (CL-patch)	1 - 255	10
24 CL_PAT TARGET UPPER 2	Simplified process control solid-patch transition judgment to high density process control upper limitation 2 (CL-patch)	1 - 255	15
25 CL_PAT TARGET LOWER 2	Simplified process control solid-patch transition judgment to high density process control lower limitation 2 (CL-patch)	1 - 255	15
26 CL_HT TARGET UPPER 1	Simplified process control half-tone-patch transition judgment to high density process control upper limitation 1 (CL-patch)	1 - 255	10
27 CL_HT TARGET LOWER 1	Simplified process control half-tone-patch transition judgment to high density process control lower limitation 1 (CL-patch)	1 - 255	10
28 CL_HT TARGET UPPER 2	Simplified process control half-tone-patch transition judgment to high density process control upper limitation 2 (CL-patch)	1 - 255	15
29 CL_HT TARGET LOWER 2	Simplified process control half-tone-patch transition judgment to high density process control lower limitation 2 (CL-patch)	1 - 255	15
30 SP_PAT COEF UP DIF	Simplified process control density coefficient upper threshold level	1 - 255	10
31 SP_PAT COEF LOW DIF	Simplified process control density coefficient lower threshold level	1 - 255	10

<*1 Reference value tables>

No.	Item/Display	Default value for each Group		
		Group A	Group B	Group C
6	Y TAR ID	48	48	48
7	M TAR ID	50	50	50
8	C TAR ID	50	50	50
9	K TAR ID	48	50	48

Group	Destination					
Group A	Japan	-	-	-	-	-
Group B	U.S.A.	Canada	Inch	-	-	-
Group C	Europe	U.K.	AUS	AB_A	China	AB_B

44-6

Purpose : Adjustment**Function (Purpose)** Used to execute the high density process control forcibly.**Section** Process**Operation/Procedure**

When [OK]/[START] key is pressed, the adjustment is executed automatically.

After completion of the adjustment, the adjustment result is displayed. (Refer to the table below.)

If the adjustment is not executed normally, "ERROR" is displayed.

Result display	Content description
COMPLETE	Normal complete

Result display	Content description
ERROR	Abnormal end
INTERRUPTION	Forcible interruption

Details of error display	Content description
CL_SEN_ADJ_ERR	Color sensor adjustment abnormality
BK_SEN_ADJ_ERR	Black sensor adjustment abnormality
K_HV_ERR	K high density process control abnormality
C_HV_ERR	C high density process control abnormality
M_HV_ERR	M high density process control abnormality
Y_HV_ERR	Y high density process control abnormality
TIMEOUT_ERR	Time out

44-9

Purpose : Operation data display

Function (Purpose): Used to display the results data of the high density process control operation.

Section : Image process (Photoconductor/Developing/Transfer/Cleaning)

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

MODE	PAGE	ITEM	CONTE TNT	DIS- PLAY RANGE	DEFAU LT VALUE
PROCON DATA	1/12	P DV K	High density pro- cess control DV data (KCMY)	0 - 600	450
		P DV C			
		P DV M			
		P DV Y			
	2/12	P GB K	High density pro- cess control GB data (KCMY)	150 - 850	610
		P GB C			
		P GB M			
		P GB Y			
	3/12	P DV K BASE	High density pro- cess control DV data (KCMY) Target	0 - 600	450
		P DV C BASE			
		P DV M BASE			
		P DV Y BASE			
	4/12	P GB K BASE	High density pro- cess control GB data (KCMY) Target	150 - 850	630
		P GB C BASE			
		P GB M BASE			
		P GB Y BASE			
	5/12	N(M) DV K	High density pro- cess control nor- mal (medium speed) DV data (KCMY)	0 - 600	450
		N(M) DV C			
		N(M) DV M			
		N(M) DV Y			

MODE	PAGE	ITEM	CONTE TNT	DIS- PLAY RANGE	DEFAU LT VALUE
PROCON DATA	6/12	N(M) GB K	High density pro- cess control nor- mal (medium speed) GB data (KCMY)	150 - 850	630
		N(M) GB C			
		N(M) GB M			
		N(M) GB Y			
	7/12	N(M) DV K BASE	High density pro- cess control nor- mal (medium speed) DV data (KCMY) Target	0 - 600	450
		N(M) DV C BASE			
		N(M) DV M BASE			
		N(M) DV Y BASE			
	8/12	N(M) GB K BASE	High density pro- cess control nor- mal (medium speed) GB data (KCMY) Target	150 - 850	630
		N(M) GB C BASE			
		N(M) GB M BASE			
		N(M) GB Y BASE			
	9/12	N(L) DV K	High density pro- cess control nor- mal (low speed) DV data (KCMY)	0 - 600	450
		N(L) DV C			430
		N(L) DV M			
		N(L) DV Y			
	10/12	N(L) GB K	High density pro- cess control nor- mal (low speed) DV data (KCMY)	150 - 850	615
		N(L) GB C			595
		N(L) GB M			
		N(L) GB Y			
	11/12	N(L) DV K BASE	High density pro- cess control nor- mal (low speed) DV data (KCMY) Target	0 - 600	450
		N(L) DV C BASE			430
		N(L) DV M BASE			
		N(L) DV Y BASE			
	12/12	N(L) GB K BASE	High density pro- cess control nor- mal (low speed) GB data (KCMY) Target	150 - 850	615
		N(L) GB C BASE			595
		N(L) GB M BASE			
		N(L) GB Y BASE			

MODE	PAGE	ITEM	CONTE T N T	DIS- PLAY RANGE	DEFAU LT VALUE
OTHER	1/21	TN HUD AREA	Toner control display humidity area	1 - 16	8
		TN HUD DATA	Toner control display humidity AD value	0 - 1023	0
		TC TMP AREA	Transfer display temperature area	1 - 9	4
		TC TMP DATA	Transfer display temperature AD value	0 - 1023	0
	2/21	TC HUD AREA	Transfer display humidity area	1 - 9	4
		TC HUD DATA	Transfer display humidity AD value	0 - 1023	0
		MD HUD AREA	Membrane decrease display humidity area	1 - 9	4
		MD HUD DATA	Membrane decrease display humidity AD value	0 - 1023	0
	3/21	MD K DRUM CNT	Membrane decrease drum traveling	0 - 20	0
		MD C DRUM CNT	distance area (KCMY)		
		MD M DRUM CNT			
		MD Y DRUM CNT			
	4/21	MD K REV LIFE M	LIFE grid voltage correction display (KCMY)	0 - 255	0
		MD K REV LIFE L	Medium speed / Low speed		
		MD C REV LIFE M			
		MD C REV LIFE L			
	5/21	MD M REV LIFE M			
		MD M REV LIFE L			
		MD Y REV LIFE M			
		MD Y REV LIFE L			
	6/21	MD K REV EV M	Environmental grid voltage correction display (KCMY) Medium speed / Low speed	-255 - 255	-1
		MD K REV EV L			0
		MD C REV EV M			-1
		MD C REV EV L			0

MODE	PAGE	ITEM	CONTE T N T	DIS- PLAY RANGE	DEFAU LT VALUE
OTHER	7/21	MD M REV EV M	Environmental grid voltage correction display (KCMY) Medium speed / Low speed	-255 - 255	-1
		MD M REV EV L			0
		MD Y REV EV M			-1
		MD Y REV EV L			0
	8/21	MD K REV ALL M	Grid voltage correction ALL display (KCMY) medium speed / low speed	-255 - 255	-1
		MD K REV ALL L			0
		MD C REV ALL M			-1
		MD C REV ALL L			0
	9/21	MD M REV ALL M			-1
		MD M REV ALL L			0
		MD Y REV ALL M			-1
		MD Y REV ALL L			0
	10/21	MD K REV LD M	Drum membrane decrease laser power voltage correction (KCMY) medium speed / low speed	0 - 255	100
		MD K REV LD L			
		MD C REV LD M			
		MD C REV LD L			
	11/21	MD M REV LD M			
		MD M REV LD L			
		MD Y REV LD M			
		MD Y REV LD L			
	12/21	MD K REV LD EV M	Environmental changes and Drum membrane decrease laser power voltage correction (KCMY) medium speed / low speed	-255 - 255	100
		MD K REV LD EV L			
		MD C REV LD EV M			
		MD C REV LD EV L			

MODE	PAGE	ITEM	CONTETNT	DIS- PLAY RANGE	DEFAU LT VALUE
OTHER	13/21	MD M REV LD EV M	Environmental changes and Drum membrane decrease laser power voltage cor- rection (KCMY) medium speed / low speed	-255 - 255	100
		MD M REV LD EV L			
		MD Y REV LD EV M			
		MD Y REV LD EV L			
	14/21	MD K REV LD_P M	High density pro- cess control Drum membrane decrease laser power voltage cor- rection (KCMY) medium speed / low speed	-127 - 127	0
		MD K REV LD_P L			
		MD C REV LD_P M			
		MD C REV LD_P L			
	15/21	MD M REV LD_P M			
		MD M REV LD_P L			
		MD Y REV LD_P M			
		MD Y REV LD_P L			
	16/21	MD K REV DL M	Drum membrane decrease dis- charge light quantity correction (%) medium speed / low speed	0 - 100	0
		MD K REV DL L			
		MD C REV DL M			
		MD C REV DL L			
	17/21	MD M REV DL M			
		MD M REV DL L			
		MD Y REV DL M			
		MD Y REV DL L			
	18/21	MD K REV DL EV M	Drum membrane decrease environ- ment discharge light quantity correction (%) medium speed / low speed	-100 - 100	0
		MD K REV DL EV L			
		MD C REV DL EV M			
		MD C REV DL EV L			

MODE	PAGE	ITEM	CONTE NTNT	DIS- PLAY RANGE	DEFAU LT VALUE
OTHER	19/21	MD M REV DL EV M	Drum membrane decrease environ- ment discharge light quantity correction (%) medium speed / low speed	-100 - 100	0
		MD M REV DL EV L			
		MD Y REV DL EV M			
		MD Y REV DL EV L			
	20/21	DESTI- NATION	Machine side CRUM destination (Main unit data)	0 - 41	CRUM info- mation
		CRUM DEST_ K	CRUM destination (CRUM data) (KCMY)	0 - 255	
		CRUM DEST_ C			
		CRUM DEST_ M			
	21/21	CRUM DEST_ Y			
		P CNT HV	High density pro- cess control num- ber of executions	0 - 9999999 9	0
		P CNT HT	Half tone process control number of executions		0

(*1) Differs depending on the destination.

Display Code No.	Destination	Model
1	A (North America, Latin America, Asia and Hong-Kong)	Neo
2	B (Europe / Oceania)	Neo
3	C (Philippine, Taiwan, Middle east, Africa and Israel)	Neo
4	E (China)	Neo
5	B (Japan)	Neo
41	B (Japan)	Neo

44-12

Purpose :	Operation data display
Function (Purpose)	Used to display the operation data of the high density process control.
Section	Image process (Photoconductor/Develop- ing)

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Mode	Page	Item	Content	Range	Default Value
TAR-GET	1/4	ADK_CL(K)	Development characteristics gradient coefficient (K)	-999 - 999	0.00
		ADK_INT(K)	Development characteristics intercept coefficient (K)	-9999 - 9999	0.0
		TAR-GET(K)	High density process control target density level (K)	0 - 255	0
		ADK_CL(C)	Development characteristics gradient coefficient (C)	-999 - 999	0.00
	2/4	ADK_INT(C)	Development characteristics intercept coefficient (C)	-9.99 - 9.99	0.0
		TAR-GET(C)	High density process control target density level (C)	-999.9 - 999.9	0
		ADK_CL(M)	Development characteristics gradient coefficient (M)	0 - 255	0.00
		ADK_INT(M)	Development characteristics intercept coefficient (M)	-9.99 - 9.99	0.0
	3/4	TAR-GET(M)	High density process control target density level (M)	-999.9 - 999.9	0
		ADK_CL(Y)	Development characteristics gradient coefficient (Y)	0 - 255	0.00
		ADK_INT(Y)	Development characteristics intercept coefficient (Y)	-9.99 - 9.99	0.0
		TAR-GET(Y)	High density process control target density level (Y)	-999.9 - 999.9	0
	4/4	P_F_CL-DARK	F color dark electrical potential	0 - 255	0
		P_F_DARK	F sensor dark electrical potential	-9.99 - 9.99	0
		P_R_DARK	R sensor dark electrical potential	-999.9 - 999.9	0
PATCH	1/23	Bk_BASE 1	High density process control patch data 1_K1_BASE	0 - 255	0
		CL_BASE 1	High density process control patch data 1_C1_BASE	0 - 255	0
		K1	High density process control patch data 1_K1	0 - 255	0
		K2	High density process control patch data 1_K2	0 - 255	0

Mode	Page	Item	Content	Range	Default Value
PATCH	2/23	K3	High density process control patch data 1_K3	0 - 255	0
		K4	High density process control patch data 1_K4	0 - 255	0
		C1	High density process control patch data 1_C1	0 - 255	0
		C2	High density process control patch data 1_C2	0 - 255	0
	3/23	C3	High density process control patch data 1_C3	0 - 255	0
		C4	High density process control patch data 1_C4	0 - 255	0
		M1	High density process control patch data 1_M1	0 - 255	0
		M2	High density process control patch data 1_M2	0 - 255	0
	4/23	M3	High density process control patch data 1_M3	0 - 255	0
		M4	High density process control patch data 1_M4	0 - 255	0
		Y1	High density process control patch data 1_Y1	0 - 255	0
		Y2	High density process control patch data 1_Y2	0 - 255	0
	5/23	Y3	High density process control patch data 1_Y3	0 - 255	0
		Y4	High density process control patch data 1_Y4	0 - 255	0
		Bk_BASE 2	High density process control patch data 2_K1_BASE	0 - 255	0
		CL_BASE 2	High density process control patch data 2_C1_BASE	0 - 255	0
	6/23	K1	High density process control patch data 2_K1	0 - 255	0
		K2	High density process control patch data 2_K2	0 - 255	0
		K3	High density process control patch data 2_K3	0 - 255	0
		K4	High density process control patch data 2_K4	0 - 255	0
	7/23	C1	High density process control patch data 2_C1	0 - 255	0
		C2	High density process control patch data 2_C2	0 - 255	0
		C3	High density process control patch data 2_C3	0 - 255	0
		C4	High density process control patch data 2_C4	0 - 255	0

Mode	Page	Item	Content	Range	Default Value
PATCH	8/23	M1	High density process control patch data 2_M1	0 - 255	0
		M2	High density process control patch data 2_M2	0 - 255	0
		M3	High density process control patch data 2_M3	0 - 255	0
		M4	High density process control patch data 2_M4	0 - 255	0
	9/23	Y1	High density process control patch data 2_Y1	0 - 255	0
		Y2	High density process control patch data 2_Y2	0 - 255	0
		Y3	High density process control patch data 2_Y3	0 - 255	0
		Y4	High density process control patch data 2_Y4	0 - 255	0
	10/23	Bk_BASE 3	High density process control patch data 3_K1_BASE	0 - 255	0
		CL_BASE 3	High density process control patch data 3_C1_BASE	0 - 255	0
		K1	High density process control patch data 3_K1	0 - 255	0
		K2	High density process control patch data 3_K2	0 - 255	0
	11/23	K3	High density process control patch data 3_K3	0 - 255	0
		K4	High density process control patch data 3_K4	0 - 255	0
		C1	High density process control patch data 3_C1	0 - 255	0
		C2	High density process control patch data 3_C2	0 - 255	0
	12/23	C3	High density process control patch data 3_C3	0 - 255	0
		C4	High density process control patch data 3_C4	0 - 255	0
		M1	High density process control patch data 3_M1	0 - 255	0
		M2	High density process control patch data 3_M2	0 - 255	0

Mode	Page	Item	Content	Range	Default Value
PATCH	13/23	M3	High density process control patch data 3_M3	0 - 255	0
		M4	High density process control patch data 3_M4	0 - 255	0
		Y1	High density process control patch data 3_Y1	0 - 255	0
		Y2	High density process control patch data 3_Y2	0 - 255	0
	14/23	Y3	High density process control patch data 3_Y3	0 - 255	0
		Y4	High density process control patch data 3_Y4	0 - 255	0
		Bk_BASE 4	High density process control patch data 4_K1_BASE	0 - 255	0
		CL_BASE 4	High density process control patch data 4_C1_BASE	0 - 255	0
	15/23	K1	High density process control patch data 4_K1	0 - 255	0
		K2	High density process control patch data 4_K2	0 - 255	0
		K3	High density process control patch data 4_K3	0 - 255	0
		K4	High density process control patch data 4_K4	0 - 255	0
	16/23	C1	High density process control patch data 4_C1	0 - 255	0
		C2	High density process control patch data 4_C2	0 - 255	0
		C3	High density process control patch data 4_C3	0 - 255	0
		C4	High density process control patch data 4_C4	0 - 255	0
	17/23	M1	High density process control patch data 4_M1	0 - 255	0
		M2	High density process control patch data 4_M2	0 - 255	0
		M3	High density process control patch data 4_M3	0 - 255	0
		M4	High density process control patch data 4_M4	0 - 255	0

Mode	Page	Item	Content	Range	Default Value
PATCH	18/ 23	Y1	High density process control patch data 4_Y1	0 - 255	0
		Y2	High density process control patch data 4_Y2	0 - 255	0
		Y3	High density process control patch data 4_Y3	0 - 255	0
		Y4	High density process control patch data 4_Y4	0 - 255	0
	19/ 23	Bk_BASE 5	High density process control patch data 5_K1_BASE	0 - 255	0
		CL_BASE 5	High density process control patch data 5_C1_BASE	0 - 255	0
		K1	High density process control patch data 5_K1	0 - 255	0
		K2	High density process control patch data 5_K2	0 - 255	0
	20/ 23	K3	High density process control patch data 5_K3	0 - 255	0
		K4	High density process control patch data 5_K4	0 - 255	0
		C1	High density process control patch data 5_C1	0 - 255	0
		C2	High density process control patch data 5_C2	0 - 255	0
	21/ 23	C3	High density process control patch data 5_C3	0 - 255	0
		C4	High density process control patch data 5_C4	0 - 255	0
		M1	High density process control patch data 5_M1	0 - 255	0
		M2	High density process control patch data 5_M2	0 - 255	0
	22/ 23	M3	High density process control patch data 5_M3	0 - 255	0
		M4	High density process control patch data 5_M4	0 - 255	0
		Y1	High density process control patch data 5_Y1	0 - 255	0
		Y2	High density process control patch data 5_Y2	0 - 255	0
	23/ 23	Y3	High density process control patch data 5_Y3	0 - 255	0
		Y4	High density process control patch data 5_Y4	0 - 255	0

44-14	
Purpose :	Operation data display
Function (Purpose)	Used to display the output level of the temperature and humidity sensor.
Section	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	Content	Range	Default value
TH_UM (deg)	Fusing main thermistor detection temperature (Temperature degrees C)	Temperature 0 - 255 degrees C(+/-1degrees C)	Measured value
TH_UM_AD (hex)	Fusing main thermistor differential input AD value (AD value)	AD value 0 - 1023	Measured value
TH_UM_AD 1(deg)	Fusing main thermistor compensation sensor temperature (Temperature degrees C)	Temperature 0.0 - 255.0 degrees C(+/-0.1degrees C)	Measured value
TH_UM_AD 1(hex)	Fusing main thermistor compensation sensor, AD value V	AD value 0 - 1023	Measured value
TH_UM_AD 2(hex)	Fusing main thermistor detection sensor AD value (AD value)	AD value 0 - 1023	Measured value
TH_US(deg)	Fusing sub thermistor detection temperature (Temperature degrees C)	Temperature 0 - 255 degrees C(+/-1degrees C)	Measured value
TH_US_AD (hex)	Fusing sub thermistor AD input value (AD value)	AD value 0 - 1023	Measured value
TH_M(deg)	Multipurpose tray temperature sensor AD value (Temperature degrees C)	Temperature - 40.0 degrees C - 150.0(+/-0.1degrees C)	Measured value
TH_M_AD(hex)	Multipurpose tray temperature sensor AD value (AD value)	AD value 0 - 1023	Measured value
HUD_M(%)	Multipurpose tray humidity sensor AD value (Humidity %)	Humidity 0.0 - 100.0(+/-0.1%)	Measured value
HUD_M_AD (hex)	Multipurpose tray humidity sensor AD value (AD value)	AD value 0 - 1023	Measured value
TH1_LSU(deg)	LSU thermistor 1 AD value (Temperature degrees C)	Temperature 0.0 - 255.0degrees C(+/-1degrees C)	Measured value
TH1_LSU_AD(hex)	LSU thermistor 1 AD value (AD value)	AD value 0 - 255	Measured value

* above AD values are changed to hexadecimal

44-15	
Purpose :	Operation data display
Function (Purpose)	Used to set the OPC drum idle rotation.
Section	Developing system

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

NOTE:

Set the items to the default values unless a change is specially required.

Item	Content	Range
TIME	Idle rotation interval (time interval between the previous OPC drum idle rotation and the next one) setting (h)	0 - 255
AREA1	Environmental area difference judgment threshold value setting (difference between the previous OPC drum idle rotation and the current one)	0 - 5
AREA2	Environmental area conditions (AND condition of the previous OPC drum idle rotation and the current one)	1 - 15
CYCLE	Previous rotation time setting (sec) in the process control when recovered from power ON, preheating / sleep mode.	0 - 255

44-21	
Purpose :	Adjustment/Setup
Function (Purpose)	Used to set the half tone process control target.
Section	Process

Operation/Procedure

- When pressed [OK]/[START] key, the adjustment is executed and the results are displayed.
In case of abnormal end, "ERROR" and the following error codes are displayed.

Item/Display	Content	Range
K/C/M/Y #1 - #17	Half-tone correction values in each color	0 - 255

Error code	Content
CL_SEN_ADJ_ERR	Color image density sensor sensitivity adjustment error *
BK_SEN_ADJ_ERR	Black image density sensor sensitivity adjustment error *
[YMCK]	High density process control error [YMCK]
OTHER	Other errors

44-22	
Purpose :	Operation data display
Function (Purpose)	Used to display the toner patch density level in the half tone process control operation.
Section	Process

Operation/Procedure

- Select an item to be set with Arrow keys.
- Enter the set value with 10 keys.
- Press [OK]/[START] key.
The set value in step 2) is saved.
The the toner patch density level which is created at the half tone process control operation is displayed.

Item/Display	Content
K/C/M/Y_n	Patch data display(n=1 - 13)
K/C/M/Y_B1	Belt substrate data (START)
K/C/M/Y_B2	Belt substrate data (LAST)

44-24	
Purpose :	Operation data display
Function (Purpose)	Used to display the correction target and the correction level in the half tone process control operation.
Section	Process

Operation/Procedure

- Select the display category with 10 keys.
- Select a target adjustment color with [OK]/[START] key.

No.	Item/Display	Content
1	DITHER RAW VALUE	Half tone process control reference dither value (Previous adjustment)
2	SENSOR_TARGET	Half tone process control reference value
3	S_VALUE	Half tone process control correction value
4	BEFORE S_VALUE	Previous half tone process control correction value
5	CALIB VALUE	Automatic calibration reference value
6	CALIB VALUE PRC	Automatic calibration reference value (half tone process control)

44-25	
Purpose :	Setting
Function (Purpose)	Used to set the calculating conditions of the correction value for the half tone process control.
Section	Process

Operation/Procedure

- Select the display category with 10 keys.
- Select a target adjustment color with [OK]/[START] key.
- Enter the set value with 10 keys.
- Press [OK]/[START] key.

NOTE:

Set the items to the default values unless a change is specially required.

No.	Item	Content	Min	Max	Default value
1	HIGHT-LIGHT LIMIT K	Correction limit value of the highlight correction amount	0	128	20
2	MAX LIMIT K	Correction limit value of the highest density value	0	128	20
3	HIGHT-LIGHT LIMIT C	Correction limit value of the highlight correction amount	0	128	20
4	MAX LIMIT C	Correction limit value of the highest density value	0	128	20
5	HIGHT-LIGHT LIMIT M	Correction limit value of the highlight correction amount	0	128	20
6	MAX LIMIT M	Correction limit value of the highest density value	0	128	20
7	HIGHT-LIGHT LIMIT Y	Correction limit value of the highlight correction amount	0	128	20
8	MAX LIMIT Y	Correction limit value of the highest density value	0	128	20

44-26	
Purpose :	Adjustment/Setup
Function (Purpose)	Used to execute the half tone process control compulsorily.
Section	Process

Operation/Procedure

Press [OK]/[START] key.

The half tone process control is performed and the operation data are displayed.

ITEMS	DISPLAY ITEMS	CONTENT	RANGE
K/C/M/Y	#1 - #17	Half-tone correction values in each color	0 - 255

Display	Contents
CL_SEN_ADJ_ERR	Color sensor adjustment error
BK_SEN_ADJ_ERR	Black sensor adjustment error
[YMCK]	High density process control [YMCK] error
OTHER	Other error

44-27	
Purpose :	Data clear
Function (Purpose)	Used to clear the correction data of the half tone process control.
Section	Process

Operation/Procedure

- Press [OK]/[START] key.
The correction data of the half tone process control are cleared.

Purpose : Adjustment/Setup

Function (Purpose) Used to set the process control execution conditions.

Section Process

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

NOTE: Set the items to the default values unless a change is specially required.

Mode		Item/Display		Content		Setting range		Default value	
1	Process control Enable/Disable setting	INITIAL	YES	When warm-up after clearing the counter of the OPC drum and the developer unit	Enable	0 - 1	0	0	
			NO		Disable		1		
2		SW ON	When supplying the power (when clearing shut-off.)	Color process control Enable	0 - 3	0	3		
				Process control Disable		1			
				BK process control Enable		2			
				Pixel count judgment (Judgement is based on the setting value of item K, L.)		3			
3		TIME	After passing the specified time from leaving READY continuously (Time can be changed by INTERVAL TIME)	Color process control Enable	0 - 3	0	3		
				Process control Disable		1			
				BK process control Enable		2			
				Pixel count judgment (Judgement is based on the setting value of item K, L.)		3			
4		HUM_LIMIT	HUM judgment is made when turning ON the power and after passing TIME.	Color process control Enable	0 - 2	0	0		
				Process control Disable		1			
				BK process control Enable		2			
5		Process control Enable/Disable setting	HUM	The temperature and humidity in side the machine are monitored only during a job for every 2hours (set by item N). When the changes in the temperature and the humidity are greater than the specified level (the set value of item O) in comparison with the previous process control.	Color process control Enable	0 - 2	0	0	
					Process control Disable		1		
					BK process control Enable		2		
6			REV1	YES	The accumulated traveling distance of BK or M position OPC unit reaches the specified level after turning the power.	Enable	0 - 1	0	0
				NO		Inhibit		1	
7			REV2_BK	YES	The accumulated traveling distance of BK position OPC drum unit reaches the specified level from execution of the previous density correction.	Enable	0 - 1	0	0
				NO		Inhibit		1	
8			REV2_CL	YES	The accumulated traveling distance of M position OPC drum unit reaches the specified level from execution of the previous density correction.	Enable	0 - 1	0	0
				NO		Inhibit		1	
9			REFRESH MODE(*1)	YES	Select of YES/NO of the manual process control key with key operation	Key operation display	0 - 1	0	1
				NO		Key operation NO display		1	

Mode		Item/Display		Content		Setting range		Default value
10	Process control conditions setting	DAY		When the next warm-up if there is no color job after a color job after passing the specified days from execution of the previous color process control	Disable of the specified days judgment 1 - 999 days passing	0 - 999	0 999	1
11		HI-COV		Setting of the execution judgment of the process control in continuous printing of high print ratio images		0 - 2		0
12		LO-COV		Setting of the execution judgment of the process control in continuous printing of low print ratio images		0 - 1		0
13		REV1_SH		When the accumulated traveling distance of K or M OPC drum unit reaches the specified level after turning ON the power.		0 - 1		1
14		REV2_BK_SH		When the accumulated traveling distance of K OPC drum unit reaches the specified level from execution of the previous density correction.		0 - 1		1
15		REV2_CL_SH		When the accumulated traveling distance of M OPC drum unit reaches the specified level from execution of the previous density correction.		0 - 1		1
16		AVERAGE-PAGE		Setting of the number of pages of item HI-COV set value 2		1 - 10		3
17		LIMIT PAGE		Setting of the number of connected jobs of the process control and of the limit number of the process control		1 - 10		10
18		PIX_RATIO_BK		Variable magnification ratio setting (%) of the BK toner count specified value The set value of 100 corresponds to K print of A4 at the print ratio of 5%.		1 - 999		10
19		PIX_RATIO_CL		Variable magnification ratio setting (%) of the color (CMY) toner count specified value The set value of 100 corresponds to K print of A4 at the print ratio of 5%.		1 - 999		10
20		INTERVAL TIME		Setting of the leaving time when turning ON the power (including the sleep recovery time) (h: hour)		1 - 255		3
21		HUM HOUR		Interval setting of the temperature and humidity monitoring time of "HUM" (unit: 10 minutes)		1 - 24		2
22		HUM_DIF		The specified value of the area difference in humidity between the level at execution of the previous control and the current humidity (Applied to item HUM)		1 - 9		2
23		BK_RATIO		Magnification ratio setting (%) of the specified value of the BK OPC drum traveling distance of "REV2_BK"		1-999 (Entry of 20 corresponds to 100,000mm.)		15
24		M_RATIO		Magnification ratio setting (%) of the M OPC drum traveling distance of "REV2_CL"		1-999 (Entry of 20 corresponds to 100,000mm.)		15
25		REV1_RATIO		Magnification ratio setting (%) of the specified value of the BK OPC drum traveling distance of "REV1"		1-999		20
26		REV1_RATIO_SH		Magnification ratio setting (%) of the M position OPC drum traveling distance of "REV1_SH"		1-255		20
27		BK_RATIO_SH		Magnification ratio setting (%) of the specified value of the BK OPC drum traveling distance of "REV2_BK_SH"		1-999		15
28		M_RATIO_SH		Magnification ratio setting (%) of the M position OPC drum traveling distance of "REV2_CL_SH"		1-999		15
29		COLOR BORDER		Magnification ratio setting (%) of the M position OPC drum traveling distance when executing the BK process control	BK process control is executed without judgment of ratio of the M OPC drum traveling distance. (Addition) 1 - 999(%)	0 - 999		20
30		BK ONLY		Disable/Enable setting and setting of the number of repetition of the BK process control when monochrome print is continued.	Enable 5 time Disable 1-5 times Inhibit	0 - 6	0 1 - 5 6	4
31		HT_DIF		Bias change difference value used for judgment of HT process control		1 - 255		40
32	Registration adjustment setting	RG_ON_SYNC	CL ALL CL/BK	Select of synchronous/asynchronous of the power ON process control		0 - 2	0 1 2	0
33		RG_TEMP_TIMER		Execution timing setting after turning ON the power		0 - 240 (MINUTE)		0
34		RG_PERM_TIMER		Span setting from execution Disable to Enable		0 - 15 (HOUR)		0
35		RG_HOUR_TIMER		Span setting of timer execution		0-15 (Above)+(MINUTE)		6
36		RG_BW_SYNC		Setting of Enable/Disable of the registration adjustment after a monochrome job		0-1		1

44-29

Purpose :	Setting
Function (Purpose)	Used to set the operating conditions of the process control during a job.
Section	Process

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

NOTE: Set the items to the default values unless a change is specially required.

Item/Display	Content	Setting range	Default value
1	COPY	During copy job	0
2	PRINTER	During print job	1
3	FAX	During FAX print job	2
4	SELF PRINT	During self print	2

Item/Display	Content	Setting range	Default value
1	PRINT MODE	Print mode	1 : Deflection check pattern print for every 45 degrees (8-sheet print) □□□□□□ 2 : Deflection check pattern print for every 90 degrees (4-sheet print) □□□□ 3 : Deflection check pattern print at the set value (1-sheet print)
2	COLOR	Phase adjustment value BK -> CL	Angle step 0 degree (1) □ 45 degrees (2) □ 90 degrees (3) □ 135 degrees (4) □ 180 degrees (5) □ 225 degrees (6) □ 270 degrees (7) □ 315 degrees (8)
3	PAPER	Tray selection	1 : Manual paper feed 2 : 1 CS 3 : 2CS

44-37

Purpose :	Adjustment/Setup
Function (Purpose)	Used to set the development bias correction level in the continuous printing operation.
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

NOTE: When the print density is varied in the continuous printing operation, this simulation is used.

Item/Display	Contents	Range	Default value
1	MUL_MC_ADJ	MC bias correction in the continuous printing is enabled / disabled.	0-1

44-31

Purpose :	Adjustment/Setup
Function (Purpose)	Used to adjust the OPC drum phase. (Manual adjustment)
Section	Process

Operation/Procedure

NOTE: For the OPC drum phase adjustment, do not use this simulation, but use SIM50-22 (auto adjustment).

- 1) Select item A with Arrow key.
- 2) Enter the value corresponding to the adjustment pattern with 10 keys.
- 3) Press [OK]/[START] key. (The adjustment pattern is printed out.)
- 4) Select an adjustment pattern whose deflection is within two scale lines on the adjustment pattern of C, M, Y colors.
- 5) Select item B with Arrow keys.
- 6) Enter the adjustment pattern sheet number selected in procedure 4).
- 7) Press [OK]/[START] key.
- 8) The adjusted adjustment pattern is printed.

44-43

Purpose :	Data display
Function (Purpose)	Used to display the identification information of the developing unit.
Section	Developing system

Operation/Procedure

The identification number and the identification signal level of the developing unit are displayed.

Item/Display	Content	Display range
1	DVCH KIND K	K color development unit identification number
2	DVCH KIND C	C color development unit identification number
3	DVCH KIND M	M color development unit identification number
4	DVCH KIND Y	Y color development unit identification number
5	DVCH_AD_K	K color developing unit identification number AD value
6	DVCH_AD_C	C color developing unit identification number AD value
7	DVCH_AD_M	M color developing unit identification number AD value
8	DVCH_AD_Y	Y color developing unit identification number AD value

Purpose :	Setup/Adjustment
Function (Purpose)	Used to set the process control execution conditions.
Section	Process

Operation/Procedure

This simulation allows collective change in the set contents of SIM44-4 and SIM44-28.

A suitable one is selected among a number of options depending on the condition.

- 1) Select an item to be set with Arrow keys.
To change the image density in the high density area, select [PROCON TARGET].
To change the frequency of the process control operations, select [PROCON MODE].
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display	Contents	Note	Content
PRO-CON TARGET	Process control target value registration	0 : CL ID DOWN	The densities of C, M, and Y decrease. (The C/M/Y high density process control target values decrease.)
		1 : CL ID UP	The densities of C, M, and Y increase. (The C/M/Y high density process control target values increase.)
		2 : BK ID DOWN	The density of K decreases. (The high density process control target value decreases.)
		3 : BK ID UP	The density of K increases. (The high density process control target value increases.)
		4 : ALL ID DOWN	The densities of C, M, Y and K decrease. (The C/M/Y/K high density process control target values decrease.)
		5 : ALL ID UP	The densities of C, M, Y and K increase. (The C/M/Y/K high density process control target values increase.)
		6 : NORMAL	The standard density of C, M, Y and K. (The C/M/Y/K high density process control target values are the standard values.)
PRO-CON MODE	Density adjustment timing mode	0 : HIGH QUALITY1	The execution frequency of the process control is high. (It is set when the color image quality is given priority.)
		1 : HIGH QUALITY2	The execution frequency of the process control is highest. (It is set when the color image quality is given priority.)
		2 : PRINT PERFORMANCE	The execution frequency of the process control is low. (It is set when the job speed is given priority.)
		3 : BW MODE	The process control is executed in the normal frequency. (It is set when there are little color jobs and many monochrome jobs.)
		4 : NORMAL	The process control is executed in the normal frequency.

Purpose :	Adjustment (Color copy mode)
Function (Purpose)	Used to adjust the copy density in the copy mode.

Section**Operation/Procedure**

- 1) Select an item to be set with 10 keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) 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
1	LOW	TEXT	Exposure adjustment (color copy) text	1 - 99	50
2		TEXT/PRINTED PHOTO	Exposure adjustment (color copy) text/printed photo	1 - 99	50
3		PHOTO-GRAPH	Exposure adjustment (color copy) photograph	1 - 99	50
1	HIGH	TEXT	Exposure adjustment (color copy) text	1 - 99	50
2		TEXT/PRINTED PHOTO	Exposure adjustment (color copy) text/printed photo	1 - 99	50
3		PHOTO-GRAPH	Exposure adjustment (color copy) photograph	1 - 99	50

Purpose :	Adjustment (Monochrome copy mode)
Function (Purpose)	Used to adjust the copy density in the copy mode.

Section**Operation/Procedure**

- 1) Select an item to be set with 10 keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display			Content	Setting range	Default value
1	LOW	TEXT	Exposure adjustment (monochrome copy) text	1 - 99	50
2		TEXT/PRINTED PHOTO	Exposure adjustment (monochrome copy) text/printed photo	1 - 99	50
3		PHOTO-GRAPH	Exposure adjustment (monochrome copy) photograph	1 - 99	50

Item/Display			Content	Setting range	Default value
1	HIGH	TEXT	Exposure adjustment (monochrome copy) text	1 - 99	50
2		TEXT/PRINTED PHOTO	Exposure adjustment (monochrome copy) text/printed photo	1 - 99	50
3		PHOTOGRAPH	Exposure adjustment (monochrome copy) photograph	1 - 99	50

46-4

Purpose : Adjustment (Color scanner mode)

Function (Purpose) Used to adjust the density in the image send mode.

Section

Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display			Content	Setting range	Default value
1	LOW	TEXT	Exposure adjustment (color scanner) text	1 - 99	50
2		TEXT/PRINTED PHOTO	Exposure adjustment (color scanner) text/printed photo	1 - 99	50
3		PHOTOGRAPH	Exposure adjustment (color scanner) photograph	1 - 99	50
1	HIGH	TEXT	Exposure adjustment (color scanner) text	1 - 99	50
2		TEXT/PRINTED PHOTO	Exposure adjustment (color scanner) text/printed photo	1 - 99	50
3		PHOTOGRAPH	Exposure adjustment (color scanner) photograph	1 - 99	50

46-5

Purpose : Adjustment (Monochrome scanner mode)

Function (Purpose) Used to adjust the density in the image send mode.

Section

Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display			Content	Setting range	Default value
1	LOW	TEXT	Exposure adjustment (monochrome scanner) text LOW	1 - 99	50
2		TEXT/PRINTED PHOTO	Exposure adjustment (monochrome scanner) text/printed photo LOW	1 - 99	50
3		PHOTOGRAPH	Exposure adjustment (monochrome scanner) photograph LOW	1 - 99	50

Item/Display			Content	Setting range	Default value
1	HIGH	TEXT	Exposure adjustment (monochrome scanner) text HIGH	1 - 99	50
2		TEXT/PRINTED PHOTO	Exposure adjustment (monochrome scanner) text/printed photo HIGH	1 - 99	50
3		PHOTOGRAPH	Exposure adjustment (monochrome scanner) photograph HIGH	1 - 99	50

46-9

Purpose : Adjustment (RSPF mode)

Function (Purpose) Used to adjust the scan image density.

Section

Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display			Content	Setting range	Default value
1	LOW	COPY	RSPF copy mode exposure adjustment (low density)	1 - 99	48
2		SCAN	RSPF scanner mode exposure adjustment (low density)	1 - 99	48
3		FAX	RSPF FAX mode exposure adjustment (low density)	1 - 99	48
1	HIGH	COPY	RSPF copy mode exposure adjustment (high density)	1 - 99	53
2		SCAN	RSPF scanner mode exposure adjustment (high density)	1 - 99	53
3		FAX	RSPF FAX mode exposure adjustment (high density)	1 - 99	53

46-19

Purpose : Setting

Function (Purpose) Used to set the operating conditions for the density scanning (exposure) of monochrome auto copy mode documents.

Section

Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display		Content	Range	Default value
1	AE_MODE	Auto exposure mode (0 : Real time process, 1 : Stop process at the edge)	0-1	1
2	DESTINATION MODE	Destination setting (0 : Japan, 1 : Overseas)	1-2	1

46-21

Purpose : Adjustment

Function (Purpose) Copy color balance adjustment (Manual adjustment)

Section

Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Press [OK]/[START] key.
- 3) Enter the setting value with 10 keys.
- 4) Press [OK]/[START] key.
When the adjustment value is increased, the image density is increased, and vice versa.
When [OK]/[START] key is pressed, the check pattern in printed in the color balance and density corresponding to the adjustment value.

Item/Display		Density level (Point)	MIn	Max	Default value
K	POINT1K	Point 1	1	255	128
	-	-			
	POINT17 K	Point 17			
C	POINT1C	Point 1	1	255	128
	-	-			
	POINT17 C	Point 17			
M	POINT1M	Point 1	1	255	128
	-	-			
	POINT17 M	Point 17			
Y	POINT1Y	Point 1	1	255	128
	-	-			
	POINT17 Y	Point 17			

46-23

Purpose : Adjustment/Setup

Function (Purpose) Used to set the density correction of copy high density section (High density tone gap supported).

Section

Operation/Procedure

- 1) Enter the set value with 10 keys.

0	Enable
1	Inhibit

Press [OK]/[START] key. The set value is saved.

Item/Display		Content	Set-ting range	Default value
1	CMY (0 : ENABLE 1 : DISABLE)	0 CMY engine high-est density correc-tion mode : Enable	0 - 1	0
		1 CMY engine high-est density correc-tion mode : Disable		
2	K (0 : ENABLE 1 : DISABLE)	0 K engine highest density correction mode : Enable	0 - 1	1
		1 K engine highest density correction mode : Disable		
3	CYAN MAX TAR-GET	Scanner target value for CYAN maximum density correction	0 - 999	500
4	MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction	0 - 999	500
5	YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction	0 - 999	500

Item/Display		Content	Set-ting range	Default value
6	BLACK MAX TAR-GET	Scanner target value for BLACK maximum density correction	0 - 999	500

- * When tone gap is generated in the high density area, set items A and B to "0".
The density of high density part decreases. However, the tone gap is better.
 - * To increase the density in the high density area further, set items A and B to "1".
The tone gap may occur in high density part.
- NOTE: Do not change the values of items 3, 4, 5, and 6. . If these values are changed, the density in the high density area is changed.

46-24

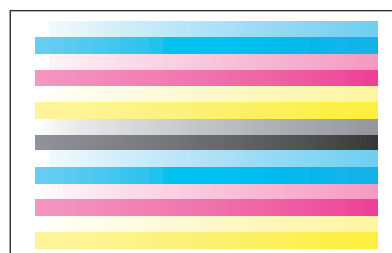
Purpose : Adjustment

Function (Purpose) Color balance adjustment (Auto adjustment)

Section

Operation/Procedure

- 1) Press [OK]/[START] key.
The color patch image (adjustment pattern) is printed out.
- 2) Plate the printed adjustment pattern on the document table.
- 3) Press [OK]/[START] key.
The copy color balance automatic adjustment is performed, then the adjustment result pattern is printed.
- 4) Press [OK]/[START] key.
The half tone correction target registration is processed.



- 1) Press [OK]/[START] key.
The half tone correction adjustment is processed.

46-27

Purpose : Adjustment/Setup

Function (Purpose) Used to adjust the gamma/density of copy images.

Section

Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display (Copy mode)		Content	MIn	Max
1	TEXT (SLOPE)	Character edge gamma skew adjustment	1	99
2	TEXT (INTER-CEPT)		1	99
3	TEXT PRT(SLOPE)	Character edge / photo mode gamma skew adjustment	1	99
4	TEXT PRT (INTER-CEPT)		1	99

Item/Display (Copy mode)		Content	Min	Max
5	PHOTO (SLOPE)	Character edge / photography mode gamma skew adjustment	1	99
6	PHOTO (INTERCEPT)		1	99

When the adjustment values of SLOPE are changed, the gamma of the total image is changed.

When the adjustment value of SLOPE is increased, the image contrast of the total image is increased. When the adjustment value is decreased, the image contrast of the total image is decreased.

When the adjustment value of INTERCEPT is increased, the image density of the total image is increased. When the adjustment value is decreased, the image density of the total image is decreased.

46-32

Purpose :	Adjustment/Setup
Function (Purpose)	Used to set the AE reactivity control.
Section	

Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

	Item/Display	Content	Setting range	Default value
1	COLOR COPY	AE reactivity control (COLOR COPY)	0 - 255	160
2	MONO COPY	AE reactivity control (MONO COPY)	0 - 255	160
3	FAX	AE reactivity control (FAX)	0 - 255	160
4	COLOR PUSH	AE reactivity control (COLOR PUSH)	0 - 255	160
5	MONO PUSH	AE reactivity control (MONO PUSH)	0 - 255	160

46-37

Purpose :	Adjustment/Setup
Function (Purpose)	Used to adjust the color document reproducibility in the monochrome copy mode.
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

This simulation is used to adjust the reproducibility of red and yellow images when copy a color document of red and yellow images in the gray push scanning mode.

	Item/Display	Content	Setting range	Default value
1	R-Ratio	Gray making setting (R)	0 - 999	347
2	G-Ratio	Gray making setting (G)	0 - 999	701

When the adjustment values of items 1 and 2 are decreased, the copy density of yellow images is increased. When the adjustment values are increased, the density is decreased.

When the adjustment value of item 1 is decreased and the adjustment value of item 2 is increased, the copy density of red images is increased. When the adjustment value of item 1 is increased and the adjustment value of item 2 is decreased, the copy density is decreased.

46-39

Purpose :	Adjustment/Setup
Function (Purpose)	Used to adjust the sharpness of FAX send images.
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Determine the value and starts the test print with pressing [START] key.
Input small numeric value to obtain crispy image. Input large numeric value to decrease moire.

	Item/Display	Content	Setting range	Default value
1	STD	Normal	0 - 2	1
2	FINE	Fine	0 - 2	1
3	S-FINE	Super Fine	0 - 2	1
4	FINE/HT	Fine + Halftone	0 - 2	1
5	S-FINE/HT	Super Fine + halftone	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 original on the original table.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
When [START] key is pressed, the adjustment value is set and the scanned document image is outputted.

	Item/Display	Content	Setting range	Default value
1	AUTO	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 original on the original table.
- 2) Select an item to be set with Arrow keys.
- 3) Press [OK]/[START] key
When [START] key is pressed, the adjustment value is set and the scanned document image is outputted.

	Item/Display	Content	Setting range	Default value
1	AE	Auto exposure value (Normal)	1 - 99	50
2	MANUAL	Manual exposure value (Normal)	1 - 99	50

46-42

Purpose :	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Fine)
Section	

Operation/Procedure

- 1) Set the original on the original table.
- 2) Select an item to be set with Arrow keys.
- 3) Press [OK]/[START] key
When [START] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
1	AE(PHOTO ON)	Automatic exposure value (Fine/HT)	1 - 99	50
2	AE(PHOTP OFF)	Automatic exposure value (Fine)	1 - 99	50
3	MANUAL(PHOTO ON)	Manual exposure value (Fine/HT)	1 - 99	50
4	MANUAL(PHOTO OFF)	Manual exposure value (Fine)	1 - 99	50

46-43

Purpose :	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Super Fine)

Section

Operation/Procedure

- 1) Set the original on the original table.
- 2) Select an item to be set with Arrow keys.
- 3) Press [OK]/[START] key
When [START] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
1	AE(PHOTO ON)	Automatic exposure value (Super fine/HT)	1 - 99	50
2	AE(PHOTP OFF)	Automatic exposure value (Super fine)	1 - 99	50
3	MANUAL(PHOTO ON)	Manual exposure value (Super fine/HT)	1 - 99	50
4	MANUAL(PHOTO OFF)	Manual exposure value (Super fine)	1 - 99	50

46-51

Purpose :	Adjustment/Setup
Function (Purpose)	Used to adjust the gamma for the copy mode heavy paper mode and the image process mode. (Manual adjustment)

Section

Operation/Procedure

- 1) Select a target adjustment mode with 10keys.
- 2) Select an adjustment target color with [OK]/[START] key.
- 3) Select a target adjustment density level with Arrow keys.
- 4) Enter the set value with 10 keys.
- 5) Press [OK]/[START] key
When COPY key is pressed, the adjustment pattern is printed.
When the image density is insufficient or a background copy is made in heavy paper copy, change this adjustment value to adjust the image density.

Item/Display		Content
1	HEAVYPAPER K	Copier heavy paper K
2	HEAVYPAPER C	Copier heavy paper C
3	HEAVYPAPER M	Copier heavy paper M
4	HEAVYPAPER Y	Copier heavy paper Y
5	DITHER1 K	Color error diffusion K

Item/Display		Content
6	DITHER1 C	Color error diffusion C
7	DITHER1 M	Color error diffusion M
8	DITHER1 Y	Color error diffusion Y
9	DITHER2	Monochrome error diffusion
10	DITHER3	Monochrome dither (600dpi)

Item/Display		Density level (Point)	Setting range	Default value
1	POINT1	Point 1	1 - 255	128
2	POINT2	Point 2	1 - 255	128
3	POINT3	Point 3	1 - 255	128
4	POINT4	Point 4	1 - 255	128
5	POINT5	Point 5	1 - 255	128
6	POINT6	Point 6	1 - 255	128
7	POINT7	Point 7	1 - 255	128
8	POINT8	Point 8	1 - 255	128
9	POINT9	Point 9	1 - 255	128
10	POINT10	Point 10	1 - 255	128
11	POINT11	Point 11	1 - 255	128
12	POINT12	Point 12	1 - 255	128
13	POINT13	Point 13	1 - 255	128
14	POINT14	Point 14	1 - 255	128
15	POINT15	Point 15	1 - 255	128
16	POINT16	Point 16	1 - 255	128
17	POINT17	Point 17	1 - 255	128

46-52

Purpose :	Adjustment/Setup
Function (Purpose)	Used to reset the copy color balance adjustment (adjustment for each dither) to the default value.

Section

Operation/Procedure

- 1) Select an item to be reset to the default (for each dither) with 10 keys.
To reset the adjustment values of all the items, select [ALL].
- 2) Press [OK]/[START] key

Select item (Mode/Image)		Content
Dither	ALL	All dither values
	Heavy Paper	Dither values for heavy paper
	Color ED	Dither values for color mode
	B/W ED	Dither values for the monochrome mode
	B/W 600dpi	Dither values for the monochrome 600dpi mode

46-54

Purpose :	Adjustment
Function (Purpose)	Used to reset the copy color balance adjustment (auto adjustment for each dither).

Section

Operation/Procedure

The color balance, the density, and the gradation are adjusted for the monochrome mode, the heavy paper mode, the text, and the line image edges.

This simulation is used to improve image quality in these modes and images.

- 1) Press [OK]/[START] key. (A4 or 11" x 8.5" paper is automatically selected.) The color patch image (adjustment pattern) is printed.
- 2) Set the color patch image (adjustment pattern) printed in the procedure 1) on the document table so that the thin lines on the printed color patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern).
- 3) Press [OK]/[START] key.

The color balance adjustment is automatically performed.

The adjustment pattern is printed out. Check it for any abnormality.

- 4) Press [OK]/[START] key.
The list of the adjustment items (for each dither) is displayed.
- 5) Select an adjustment item (for each dither).
- 6) Press [OK]/[START] key. (A4 or 11" x 8.5" paper is automatically selected.)
The color patch image (adjustment pattern) is printed out.
- 7) Set the color patch image (adjustment pattern) printed in the procedure 6) on the document table so that the thin lines on the printed color patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern).
- 8) Press [OK]/[START] key.
The color balance adjustment is automatically performed.
The adjustment pattern is printed out. Check it for any abnormality.
- 9) When [OK]/[START] key is pressed, the adjustment result is registered and the adjustment mode is terminated. When [EXECUTE] key is pressed, the adjustment result is registered and the screen is shifted to the other item (Mode/Image) select menu.
To execute the adjustment of the other item (Mode/Image), press [EXECUTE] key.
After completion of all the adjustments of the items (Mode/Image), press [OK]/[START] key, and the adjustment results are registered.
- 10) Make a copy, and check the copy image quality.

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) Enter the set value with 10 keys.
- 2) Press [OK]/[START] key.
The set value in step 1) is saved.

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

A change of "1" in the adjustment value of item 1, 3, or 5 corresponds to a change of about 0.02% in the copy magnification ratio.

A change of "1" in the adjustment value of item 2, 4, or 6 corresponds to a change of about 0.1% in the copy magnification ratio.

Item/Display		Content	Setting range	Default value
1	CCD (MAIN)	SCAN main scanning magnification ratio adjustment (CCD)	1 - 99	50
2	CCD (SUB)	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99	50
3	SPF (MAIN)	RSPF document front surface magnification ratio (Main scan)	1 - 99	50
4	SPF (SUB)	RSPF document front surface magnification ratio (Sub scan)	1 - 99	50
5	SPFB (MAIN)	RSPF document back surface magnification ratio (Main scan)	1 - 99	50

Item/Display		Content	Setting range	Default value
6	SPFB (SUB)	RSPF document back surface magnification ratio (Sub scan)	1 - 99	50

48-6

Purpose :	Adjustment
Function (Purpose)	Used to adjust the rotation speed of each motor.
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

When the adjustment value is increased, the speed is increased, and vice versa. A change of 1 in the adjustment value corresponds to a change of about 0.1% in the speed.

Item/Display		Content	Min	Max	Default
COLOR	FUM	Drum motor correction value	1	99	56
	DVM	Drum motor correction value	1	99	56
	DM	Drum motor correction value	1	99	56
	C2MM	2CStranport motor correction value	1	99	56
MONO	FUM	Fusing motor correction value	1	99	56
	DM	Drum motor correction value	1	99	56
HEAVY	FUM	Drum motor correction value	1	99	54
	DVM	Drum motor correction value	1	99	56
	DM	Drum motor correction value	1	99	56

49

49-1

Purpose :	
Function (Purpose)	Used to perform the firmware update.
Section	

Operation/Procedure

- 1) Save the firmware to the USB flash drive.
- 2) Insert the USB flash drive into the main unit.
- 3) Select a target firmware file for update.
Press Arrow key to select all the Firmware collectively.
- 4) Press [OK]/[START] key.
- 5) Press [OK]/[START] key.
The selected firmware is updated.
When the operation normally completed, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

49-2

Purpose :**Function (Purpose)** Used to perform the FPGA update.**Section****Operation/Procedure**

- 1) Save the FPGA file to the USB flash drive.
- 2) Insert the USB flash drive into the main unit.
- 3) Select a target FPGA file for update.
Press Arrow key to select all the FPGA collectively.
- 4) Press [OK]/[START] key.
Right after pressing the button, the selected firmware is started to be updated.
- 5) Turn OFF and ON the power of the machine. .
When the operation normally completed, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

50

50-1

Purpose : Adjustment**Function (Purpose)** Copy image position, image loss adjustment**Section****Operation/Procedure**

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
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]/[START] key. The set value in step 2) is saved.

Item/Display			Content	Set-ting range	Default value
1	Lead edge adjustment value	RRCA	Document lead edge reference position (OC)	0 - 99	50
2		RRCB-CS1	Resist motor ON timing adjustment	Standard Tray	1 - 99
3		RRCB-DSK		Desk	1 - 99
4		RRCB-MFT		Manual paper feed	1 - 99
5		RRCB-ADU		ADU	1 - 99
6	Image loss area setting value	LEAD	Lead edge image loss area setting	0 - 99	10
7		SIDE	Side image loss area adjustment	0 - 99	10
8	Void area adjustment	DENA	Lead edge void area adjustment	1 - 99	40
9		DENB	Rear edge void area adjustment	1 - 99	35
10		FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	35
11	Off-center adjustment	OFFSET_OC	OC document off-center adjustment	1 - 99	50
12	Magnification ratio correction	SCAN_SPEED_OC	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99	50

Item/Display			Content	Set-ting range	Default value
13	Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value	1 - 99	50
14		DENB-CS1	Tray 1 correction value	1 - 99	50
15		DENB-CS2	Tray 2 correction value	1 - 99	50
16		DENB-ADU	ADU correction value	1 - 99	50

1. (RRC-A) Timing from starting document scanning to specifying the image lead edge reference is adjusted. (0.1mm/step)

* When the value is decreased, the timing is advanced. When the value is increased, the timing is delayed.

2 - 5. (RRC-B) Timing of paper (resist roller ON) for the image position on the transfer belt is adjusted. (0.1mm/step)

* When the value is decreased, the timing is delayed. When the value is increased, the timing is advanced.

6. (LEAD) The lead edge image loss amount is adjusted. (0.1mm/step)

* When the value is increased, the image loss is increased.

7. (SIDE) The side image loss amount is adjusted.

* When the value is increased, the image loss is increased. (0.1mm/step)

8. (DEN-A) The paper lead edge void amount is adjusted. (0.1mm/step)

* When the value is increased, the void is increased.

9 (DEN-B) The paper rear edge void amount is adjusted. (0.1mm/step)

* When the value is increased, the void is increased.

10. (FRONT/REAR) The void amount on the right and left edges of paper is adjusted. (0.1mm/step)

50-5

Purpose :	Adjustment
Function (Purpose)	Used to adjust the print lead edge image position. (PRINTER MODE)
Section	

Operation/Procedure

- 1) Select a target adjustment item (DEN-C) with Arrow key.
- 2) Enter the adjustment value using the 10 keys.
- 3) Press [OK]/[START] 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: 4.0 +/- 2.0mm

Item/Display		Content	Setting range	Default value	NOTE
1	DEN-C	Used to adjust the print lead edge image position. (PRINTER MODE)	1 - 99	50	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.
2	DEN-B	Rear edge void area adjustment	1 - 99	40	Void amount generated at the paper rear edge. When the adjustment value of item B (DEN-B) is decreased by 1, the printer print start position in the sub scanning direction for the paper transport direction is decreased by 0.1mm.
3	FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	35	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.
4	DENB-MFT	Manual feed rear edge void area adjustment correction value	1 - 99	50	Fine adjustment value of each paper feed source for the adjustment value of DEN-B
5	DENB-CS1	Tray 1 rear edge void area adjustment correction value	1 - 99	50	
6	DENB-CS2	Tray 2 rear edge void area adjustment correction value	1 - 99	50	
7	DENB-ADU	ADU rear edge void area adjustment correction value	1 - 99	50	

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 item to be set with 10 keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display		Content	Setting range	Default value
1	SIDE1	Front surface document scan position adjustment (CIS)	1 - 99	50
2	SIDE2	Back surface document scan position adjustment (CIS)	1 - 99	50

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
3	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1)	Front surface lead edge image loss amount setting	0 - 99	10
4		FRONT_REAR (SIDE1)	Front surface side image loss amount setting	0 - 99	10
5		TRAIL_EDGE (SIDE1)	Front surface rear edge image loss amount setting	0 - 99	35
6	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2)	Back surface lead edge image loss amount setting	0 - 99	10
7		FRONT_REAR (SIDE2)	Back surface side image loss amount setting	0 - 99	10
8		TRAIL_EDGE (SIDE2)	Back surface rear edge image loss amount setting	0 - 99	35

Item 1, 2: When the adjustment value is increased, the scan timing is delayed.

Item 3 - 8: When the adjustment value is increased, the image loss is increased.

Item 1 - 8: 1 step = 0.1mm change

50-10	
Purpose	Adjustment
Function (Purpose)	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 item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.

The set value in step 2) is saved.

Item/Display		Content		Setting range	Default value	NOTE
1	BK-MAG	Main scan print magnification ratio BK		60 - 140	100	Adjustment Item List
2	MAIN-MFT	Print off center adjustment value (Manual paper feed)		1 - 99	50	
3	MAIN-CS1	Print off center adjustment value (Tray 1)		1 - 99	50	
4	MAIN-CS2	Print off center adjustment value (Tray 2)		1 - 99	50	
5	MAIN-ADU	Print off center adjustment value (Duplex) (NOTE) If the adjustment items A - F are not properly adjusted, this adjustment cannot be executed properly.		1 - 99	50	
6	SUB-MFT	Resist motor ON timing adjustment	Manual paper feed	1 - 99	50	
7	SUB-CS1		Standard cassette	1 - 99	40	
8	SUB-DSK		DESK	1 - 99	42	
9	SUB-ADU		ADU	1 - 99	50	
10	PAPER	Cassette selection	Manual paper feed	1 - 3	1	
	CS1		Cassette 1		2	
	CS2		Cassette 2		3	

Item 1: When the set value is increased, the BK image magnification ratio in the main scanning direction is increased. When the set value is decreased, the image magnification ratio is decreased.

Item 2 - 7: 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.

Item 2 - 7: 1 step = 0.1mm change

50-12	
Purpose	Adjustment
Function (Purpose)	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 item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.

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
1	OC	Document table image off-center adjustment	1 - 99 50
2	SPF(FRONT)	RSPF front surface image off-center adjustment	1 - 99 50
3	SPF (Rear)	RSPF back surface image off-center adjustment	1 - 99 50

50-20	
Purpose	Adjustment
Function (Purpose)	Image registration adjustment (Manual adjustment)

Section

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
 - 2) Enter the set value with 10 keys.
 - 3) Press [OK]/[START] key.
- The set value in step 2) is saved.

Item/Display	Contents	Range	Default value
1	OFFSET_S UB_C	Registration adjustment value sub scanning direction offset value CYAN	1 - 99 50
2	OFFSET_M AIN_C_F	Registration adjustment value main scanning direction offset value CYAN (FRONT)	1 - 99 50
3	OFFSET_M AIN_C_R	Registration adjustment value main scanning direction offset value CYAN (REAR)	1 - 99 50
4	OFFSET_S UB_M	Registration adjustment value sub scanning direction offset value MAGENTA	1 - 99 53
5	OFFSET_M AIN_M_F	Registration adjustment value main scanning direction offset value MAGENTA (FRONT)	1 - 99 50
6	OFFSET_M AIN_M_R	Registration adjustment value main scanning direction offset value MAGENTA (REAR)	1 - 99 50
7	OFFSET_S UB_Y	Registration adjustment value sub scanning direction offset value YELLOW	1 - 99 53
8	OFFSET_M AIN_Y_F	Registration adjustment value main scanning direction offset value YELLOW (FRONT)	1 - 99 50

Item/Display		Contents	Range	Default value
9	OFFSET_M AIN_Y_R	Registration adjustment value main scanning direction offset value YELLOW (REAR)	1 - 99	50
10	PAPER	Cassette selection 1:MFT(Manual paper feed), 2:CS1(Cassette1) 3:CS2(Cas- sette 2)	1 - 3	2(CS1)
11	REGIST_SU B_C	Registration adjustment value sub scanning direction value CYAN (Black Drum standard)	1 - 199	100
12	REGIST_MA IN_C_F	Registration adjustment value main scanning direction CYAN F side	1 - 199	100
		(Cyan laser writing position F side)	1 - 199	100
13	REGIST_MA IN_C_R	Registration adjustment value main scanning direction CYAN R side	1 - 199	100
		(Cyan laser writing position R side)	1 - 199	100
14	REGIST_SU B_M	Registration adjustment value sub scanning direction value Magenta (Black Drum standard)	1 - 199	100
15	REGIST_MA IN_M_F	Registration adjustment value main scanning direction MAGENTA F side	1 - 199	100
		(Magenta laser writing position F side)	1 - 199	100
16	REGIST_MA IN_M_R	Registration adjustment value main scanning direction MAGENTA R side	1 - 199	100
		(Magenta laser writing position R side)		100
17	REGIST_SU B_Y	Registration adjustment value sub scanning direction value Yellow (Black Drum standard)	1 - 199	100
18	REGIST_MA IN_Y_F	Registration adjustment value main scanning direction YELLOW F side	1 - 199	100
		(Yellow laser writing position F side)		100
19	REGIST_MA IN_Y_R	Registration adjustment value main scanning direction YELLOW R side	1 - 199	100
		(Yellow laser writing position R side)	1 - 199	100
20	PAPER	Cassette selection 1:MFT(Manual paper feed), 2:CS1(Cassette1) 3:CS2(Cas- sette 2)	1 - 3	2(CS1)

50-22

Purpose :	Adjustment
Function (Purpose)	Used to adjust the image registration. (Main scan direction, sub scan direction) (Auto adjustment)/OPC drum phase adjustment (Auto adjustment)
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

NOTE: The contents of the following list are mainly used by the technical division, and are not necessary for the market.

Item/Display	Content	Display
SKEW_K	Print skew amount calculation result (Cyan)	-999 - 999
SKEW_C	Print skew amount calculation result (Cyan)	-999 - 999
SKEW_C(DIF)	Print skew amount calculation result (Cyan) (Difference from the previous adjustment value)	-1999 - 1999

Item/Display	Content	Display
SKEW_M	Print skew amount calculation result (Magenta)	-999 - 999
SKEW_M(DIF)	Print skew amount calculation result (Magenta) (Difference from the previous adjustment value)	-1999 - 1999
SKEW_Y	Print skew amount calculation result (Yellow)	-999 - 999
SKEW_Y(DIF)	Print skew amount calculation result (Yellow) (Difference from the previous adjustment value)	-1999 - 1999
REGIST_SUB_C	Registration adjustment value sub scanning direction (Cyan drum -> Black drum)	10 - 1990
REGIST_SUB_C(DIF)	Registration adjustment value sub scanning direction (Difference from the previous adjustment value) (Cyan drum to Black drum)	-1999 - 1999
REGISTMAIN_C_F	Registration adjustment value main scanning direction (Cyan laser writing position F side)	10 - 1990
REGISTMAIN_C_F(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Cyan laser writing position F side)	-1999 - 1999
REGISTMAIN_C_R	Registration adjustment value main scanning direction (Cyan laser writing position R side)	10 - 1990
REGISTMAIN_C_R(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Cyan laser writing position R side)	-1999 - 1999
REGIST_SUB_M	Registration adjustment value sub scanning direction (Magenta drum -> Black drum)	10 - 1990
REGIST_SUB_M(DIF)	Registration adjustment value sub scanning direction (Difference from the previous adjustment value) (Magenta drum to Black drum)	-1999 - 1999
REGIST_MAIN_M_F	Registration adjustment value main scanning direction (Magenta laser writing position F side)	10 - 1990
REGIST_MAIN_M_F(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Magenta laser writing position F side)	-1999 - 1999
REGIST_MAIN_M_R	Registration adjustment value main scanning direction (Magenta laser writing position R side)	10 - 1990
REGIST_MAIN_M_R(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Magenta laser writing position R side)	-1999 - 1999
REGIST_SUB_Y	Registration adjustment value sub scanning direction (Yellow drum -> Black drum)	10 - 1990
REGIST_SUB_Y(DIF)	Registration adjustment value sub scanning direction (Difference from the previous adjustment value) (Yellow drum -> Black drum)	-1999 - 1999
REGIST_MAIN_Y_F	Registration adjustment value main scanning direction (Yellow laser writing position F side)	10 - 1990
REGIST_MAIN_Y_F(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Yellow laser writing position F side)	-1999 - 1999
REGIST_MAIN_Y_R	Registration adjustment value main scanning direction (Yellow laser writing position R side)	10 - 1990
REGIST_MAIN_Y_R(DIF)	Registration adjustment value main scanning direction (Difference from the previous adjustment value) (Yellow laser writing position R side)	-1999 - 1999
PHASE	OPC drum phase adjustment value (BK to CL)	0 - 359
PHASE before	OPC drum phase adjustment value (BK to CL)	0 - 359

*1: The color image skew adjustment is performed according to this display value.

When "R" is displayed in front of the value, turn and click the skew adjustment screw (LSU) clockwise by the value.

When "L" is displayed in front of the value, turn and click the skew adjustment screw (LSU) counterclockwise by the value.

At that time, the values under the decimal point are rounded.

<Error displays in case of abnormal end >

	Error code	Error display	Error content	Description
Forcible end error	-	INTER-RUP-TION	Door open end	Door open during operation
	-	INTER-RUP-TION	Stop button end	CA button pressed during operation
	-	-	OFF end	Unconfirmed operation during operation
Basic error	1	TONNER EMPTY 01	Toner Empty	BK or ALL Color toner EMPTY detection
	2	BEFOR BEHAV-IOR 02	Other condition	Other condition
	4	SEN-SOR CALIB-LATION F 04	Calibra-tion error	The target is not reached by 3 times of retry of F or R
	5	SEN-SOR CALIB-LATION R 05	Calibra-tion error R	
	6	SEN-SOR CALIB-LATION FR 06	Calibra-tion error FR	
	7	TIME OVER 07	Time error	No data is received for 90 sec. after receiving the previous data.
	8	PRO-CESS CON-TROL 08	Process control error	Process control error detection
Sub scanning adjustment error	10	DATA_S UB_K_F _all 10	Data number error Sub scanning direction BK F side	There is no pitch data.
	11	DATA_S UB_K_F _any 11	Data number error Sub scanning direction BK F side	The pitch data number are not the specified value.
	15	DATA_S UB_K_R _all 15	Data number error Sub scanning direction BK R side	There is no pitch data.
	16	DATA_S UB_K_R _any 16	Data number error Sub scanning direction BK R side	The pitch data number are not the specified value.
	20	DATA_S UB_C_F _all 20	Data number error Sub scanning direction CY F side	There is no pitch data.

	Error code	Error display	Error content	Description
Sub scanning adjustment error	21	DATA_S UB_C_F _any 21	Data number error Sub scanning direction CY F side	The pitch data number are not the specified value.
	25	DATA_S UB_C_R _all 25	Data number error Sub scanning direction CY R side	There is no pitch data.
	26	DATA_S UB_C_R _any 26	Data number error Sub scanning direction CY R side	The pitch data number are not the specified value.
	30	DATA_S UB_M_F _all 30	Data number error Sub scanning direction MG F side	There is no pitch data.
	31	DATA_S UB_M_F _any 31	Data number error Sub scanning direction MG F side	The pitch data number are not the specified value.
	35	DATA_S UB_M_R _all 35	Data number error Sub scanning direction MG F side	There is no pitch data.
	36	DATA_S UB_M_R _any 36	Data number error Sub scanning direction MG R side	The pitch data number are not the specified value.
	40	DATA_S UB_Y_F _all 40	Data number error Sub scanning direction YE F side	There is no pitch data.
	41	DATA_S UB_Y_F _any 41	Data number error Sub scanning direction YE F side	The pitch data number are not the specified value.
	45	DATA_S UB_Y_R _all 45	Data number error Sub scanning direction YE R side	There is no pitch data.
Main scanning adjustment error	46	DATA_S UB_Y_R _any 46	Data number error Sub scanning direction YE R side	The pitch data number are not the specified value.
	50	DATA_M AIN_K_F _all 50	Data number error Main scanning direction BK F side	There is no pitch data.
	51	DATA_M AIN_K_F _any 51	Data number error Main scanning direction BK F side	The pitch data number are not the specified value.

	Error code	Error display	Error content	Description
Main scanning adjustment error	55	DATA_M AIN_K_ R_all 55	Data number error	There is no pitch data.
			Main scanning direction BK R side	
	56	DATA_M AIN_K_ R_any 56	Data number error	The pitch data number are not the specified value.
			Main scanning direction BK R side	
	60	DATA_M AIN_C_ F_all 60	Data number error	There is no pitch data.
			Main scanning direction CY F side	
	61	DATA_M AIN_C_ F_any 61	Data number error	The pitch data number are not the specified value.
			Main scanning direction CY F side	
	65	DATA_M AIN_C_ R_all 65	Data number error	There is no pitch data.
			Main scanning direction CY R side	
	66	DATA_M AIN_C_ R_any 66	Data number error	The pitch data number are not the specified value.
			Main scanning direction CY R side	
	70	DATA_M AIN_M_ F_all 70	Data number error	There is no pitch data.
			Main scanning direction MG F side	
	71	DATA_M AIN_M_ F_any 71	Data number error	The pitch data number are not the specified value.
			Main scanning direction MG F side	
	75	DATA_M AIN_M_ R_all 75	Data number error	There is no pitch data.
			Main scanning direction MG R side	
	76	DATA_M AIN_M_ R_any 76	Data number error	The pitch data number are not the specified value.
			Main scanning direction MG R side	
	80	DATA_M AIN_Y_ F_all 80	Data number error	There is no pitch data.
			Main scanning direction YE F side	
	81	DATA_M AIN_Y_ F_any 81	Data number error	The pitch data number are not the specified value.
			Main scanning direction YE F side	
	85	DATA_M AIN_Y_ R_all 85	Data number error	There is no pitch data.
			Main scanning direction YE R side	

	Error code	Error display	Error content	Description
Main scanning adjustment error	86	DATA_M AIN_Y_ R_any 86	Data number error Main scanning direction YE R side	The pitch data number are not the specified value.
Sub scanning adjustment error	91	RANGE _SUB_C 91	Adjustment value error	The calculation result value is not within the allowable range.
			Sub scanning direction CY R side	
	93	RANGE _SUB_M 93	Adjustment value error	
			Sub scanning direction MG	
	95	RANGE _SUB_Y 95	Adjustment value error	
			Sub scanning direction YE	
Main scanning adjustment error	97	RANGE _MAIN_C_F 97	Adjustment value error	
			Main scanning direction CY R side	
	99	RANGE _MAIN_C_R 99	Adjustment value error	
			Main scanning direction CY R side	
	101	RANGE _MAIN_M_F 101	Adjustment value error	
			Sub scanning direction MG F side	
	103	RANGE _MAIN_M_R 103	Adjustment value error	
			Main scanning direction MG F side	
Main scanning adjustment error	105	RANGE _MAIN_Y_F 105	Adjustment value error	
			Adjustment value error	
	107	RANGE _MAIN_Y_R 107	Adjustment value error	
			Main scanning direction YE R side	

51

51-1

Purpose :	Adjustment/Setup
Function (Purpose)	Used to adjust the ON/OFF timing of the secondary transport voltage.

Section

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.

51-2

Purpose :	Adjustment/Setup
Function (Purpose)	Used to adjust the contact pressure (deflection amount) on paper by the main unit and the RSPF resist 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

Mode	Display/Item	Content		Setting range	Default value
1	TRAY1	Main unit cassette / deflection adjustment value (Plain paper)	LT size (215mm) or less	1 - 99	60
2	MANUAL PLAIN PAPER	Manual feed tray/deflection adjustment value (Plain paper)	LT size (215mm) or less	1 - 99	35
3	MANUAL HEAVY PAPER	Manual feed tray/deflection adjustment value (Heavy paper)	LT size (215mm) or less	1 - 99	60
4	MANUAL ENV	Manual feed tray/deflection adjustment value (Envelope)	-	1 - 99	60
5	ADU PLAIN PAPER	ADU/deflection adjustment value (Plain paper)	LT size (215mm) or less	1 - 99	35
6	DESK	DESK/deflection adjustment value (Plain paper)	LT size (215mm) or less	1 - 99	15

<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.

53

53-8

Purpose :	Adjustment
Function (Purpose)	Used to adjust the document lead edge reference and the RSPF mode document scan position.

Section

Operation/Procedure

Select an adjustment item [AUTO].

<AUTO: Document lead edge reference (RRCA) adjustment>

- 1) Enter the set value with 10 keys.
- 2) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display	Content	Setting range	Default value
MANUAL ADJUST VALUE	SPF reading position adjustment (Manual adjustment)	1-99 (0.1mm unit)	50

- 3) Press [OK]/[START] key.

The set value in step 2) is saved.

When the adjustment value is decreased, the transfer ON/OFF timing for the paper is advanced. When the adjustment value is increased, the timing is delayed.

When the adjustment value is changed by 1, the timing is changed by about 10ms. The setting range is -490 - +490ms.

Item/Display	Content	Default value	Default value
1 TC2 ON TIMING	Secondary transfer voltage ON timing setting	1 - 99	40
2 TC2 OFF TIMING	Secondary transfer voltage OFF timing setting	1 - 99	60

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

53-9

Purpose :	Adjustment
Function (Purpose)	Used to detect the dirt of the SPF unit
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys..
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display	Contents	Range		Default value
1 POS SET START	RSPF front surface optimum scan position detection setting (When starting)	0 - 1	0:OFF/ 1:ON	0
2 POS SET JOB	RSPF front surface optimum scan position detection setting (After a job)	0 - 1	0:OFF/ 1:ON	1
3 POS LV	RSPF front surface optimum scan position detection level setting	0 - 1	0:Weak 1:Middle 2:Strong	1

53-10

Purpose : Adjustment**Function (Purpose)** Used to set the display of the dirt detection position of the SPF**Section****Operation/Procedure**

- 1) Press [OK]/[START] key.

Item/Display	Content	Description
SPF	Display the dirt detection position	SPF glass surface dirt detection position (main scan position 1 to 8) "-": No dirt, A***: Dirt

55

55-1

Purpose : (Do not use this function unless specially required.)**Function (Purpose)** Used to set the specifications of the engine control operations. (SOFT SW)**Section****Operation/Procedure**

55-2

Purpose : (Do not use this function unless specially required.)**Function (Purpose)** Used to set the specifications of the scanner control operation. (SOFT SW)**Section****Operation/Procedure**

55-3

Purpose : (Do not use this function unless specially required.)**Function (Purpose)** Used to set the specifications of the controller operation. (SOFT SW)**Section**

56

56-2

Purpose : Data backup (Data transfer)**Function (Purpose)** Used to backup the data in the EEPROM and Flash memory (including user authentication data) to the USB memory. (Corresponding to the device cloning and the storage backup.)**Section****Operation/Procedure**

- 1) Insert the USB flash drive into the main unit.
- 2) Select a transfer mode with Arrow keys.
 - IMPORT STORED DATA
From USB MEMORY DEVICE to EEPROM
 - EXPORT STORED DATA
From EEPROM to USB MEMORY DEVICE
- 3) Press [OK]/[START] key.
Data transfer is performed
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-5

Purpose : Adjustment/Setting/Operation data check**Function (Purpose)** Used to import the SIM22-6 data to a USB flash drive in the TEXT format.**Section****Operation/Procedure**

- 1) Insert the USB flash drive into the main unit.
- 2) Select a kind of data to be imported with Arrow keys.
- 3) Press [OK]/[START] key. .
Procedure 2) The selected data are imported.

60

60-1

Purpose : Operation test/check**Function (Purpose)** Used to check the operations (read/write) of the MFP PWB memory.**Section****Operation/Procedure**

- 1) Press [OK]/[START] key.
Start the test.

Result display	Description
OK	Success
NG	Error

61

61-1

Purpose : Operation test/check**Function (Purpose)** Used to check the LSU polygon motor rotation and laser emission/detection.**Section****Operation/Procedure**

- 1) Press [OK]/[START] key.
When the operation is completed normally, [OK] is displayed.
In case of an abnormal end, [NG] is displayed.

Display	Content
NG:PG	Polygon mirror rotation abnormality
NG:K	Laser light emitting abnormality, Laser light detection abnormality(K)
NG:C	Laser light emitting abnormality (C)
NG:M	Laser light emitting abnormality (M)
NG:Y	Laser light emitting abnormality, Laser light detection abnormality(Y)

61-3

Purpose : Adjustment/Setup**Function (Purpose)** Used to set the laser power**Section****Operation/Procedure**

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.
When the laser power is 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
1	1 COPY MID-DLE	LP MID (K)	Used to set the laser power (Middle speed/K)	0 - 255	110	X
2		LP MID (C)	Used to set the laser power (Middle speed/C)	0 - 255	110	X
3		LP MID (M)	Used to set the laser power (Middle speed/M)	0 - 255	110	X
4		LP MID (Y)	Used to set the laser power (Middle speed/Y)	0 - 255	110	X
5		LP MID (BW)	Used to set the laser power (Middle speed/BW)	0 - 255	110	X
6		LP DUTY MID (K)	Laser DUTY select low speed (K)	0 - 255	0	O
7		LP DUTY MID (C)	Laser DUTY select low speed (C)	0 - 255	0	O
8		LP DUTY MID (M)	Laser DUTY select low speed (M)	0 - 255	0	O
9		LP DUTY MID (Y)	Laser DUTY select low speed (Y)	0 - 255	0	O
10		LP DUTY MID (BW)	Laser DUTY select low speed (BW)	0 - 255	0	O
1	2 COPY LOW	LP LOW(K)	Used to set the laser power (Low speed/K)	0 - 255	110	X
2		LP LOW(C)	Used to set the laser power (Low speed/C)	0 - 255	110	X
3		LP LOW(M)	Used to set the laser power (Low speed/M)	0 - 255	110	X
4		LP LOW(Y)	Used to set the laser power (Low speed/Y)	0 - 255	110	X
5		LP LOW(BW)	Used to set the laser power (Low speed/BW)	0 - 255	110	X
6		LP DUTY LOW(K)	Laser DUTY select low speed (K)	0 - 255	0	O
7		LP DUTY LOW(C)	Laser DUTY select low speed (C)	0 - 255	0	O
8		LP DUTY LOW(M)	Laser DUTY select low speed (M)	0 - 255	0	O
9		LP DUTY LOW(Y)	Laser DUTY select low speed (Y)	0 - 255	0	O
10		LP DUTY LOW(BW)	Laser DUTY select low speed (BW)	0 - 255	0	O

Mode	Item/Display		Content	Setting range	Default value	Destination linkage
1	3 COPY CORRECT	LP K1	Used to set the laser power (K1)	0 - 255	100	O
2		LP K2	Used to set the laser power (K2)	0 - 255	100	X
3		LP C1	Used to set the laser power (C1)	0 - 255	100	X
4		LP C2	Used to set the laser power (C2)	0 - 255	100	X
5		LP M1	Used to set the laser power (M1)	0 - 255	100	X
6		LP M2	Used to set the laser power (M2)	0 - 255	100	X
7		LP Y1	Used to set the laser power (Y1)	0 - 255	100	X
8		LP Y2	Used to set the laser power (Y2)	0 - 255	100	X
1	4 PRINTER MID-DLE	LP MID (K)	Used to set the laser power (Middle speed/K)	0 - 255	110	X
2		LP MID (C)	Used to set the laser power (Middle speed/C)	0 - 255	110	X
3		LP MID (M)	Used to set the laser power (Middle speed/M)	0 - 255	110	X
4		LP MID (Y)	Used to set the laser power (Middle speed/Y)	0 - 255	110	X
5		LP MID (BW)	Used to set the laser power (Middle speed/BW)	0 - 255	110	X
6		LP DUTY MID(K)	Laser DUTY select mid-speed (K)	0 - 255	0	O
7		LP DUTY MID(C)	Laser DUTY select mid-speed (C)	0 - 255	0	O
8		LP DUTY MID(M)	Laser DUTY select mid-speed (M)	0 - 255	0	O
9		LP DUTY MID(Y)	Laser DUTY select mid-speed (Y)	0 - 255	0	O
10		LP DUTY MID(BW)	Laser DUTY select mid-speed (BW)	0 - 255	0	O
11		LP DUTY MID(K1)	Laser DUTY select mid-speed (K) 1 BIT	0 - 255	0	O
12		LP DUTY MID(C1)	Laser DUTY select mid-speed (C) 1 BIT	0 - 255	0	O
13		LP DUTY LOW(M1)	Laser DUTY select mid-speed (M) 1 BIT	0 - 255	0	O
14		LP DUTY LOW(Y1)	Laser DUTY select mid-speed (Y) 1 BIT	0 - 255	0	O

Mode	Item/Display		Content	Setting range	Default value	Destination linkage
15	4 PRINT ER MID- DLE	LP DUTY LOW(B W1)	Laser DUTY select mid- dle speed (BW) 1 BIT	0 - 255	0	O
1	5 PRINT ER LOW	LP LOW(K)	Used to set the laser power (Low speed/K)	0 - 255	110	X
2		LP LOW(C)	Used to set the laser power (Low speed/C)	0 - 255	110	X
3		LP LOW(M)	Used to set the laser power (Low speed/M)	0 - 255	110	X
4		LP LOW(Y)	Used to set the laser power (Low speed/Y)	0 - 255	110	X
5		LP LOW(B W)	Used to set the laser power (Low speed/BW)	0 - 255	110	X
6		LP DUTY LOW(K)	Laser DUTY select low speed (K)	0 - 255	0	O
7		LP DUTY LOW(C)	Laser DUTY select low speed (C)	0 - 255	0	O
8		LP DUTY LOW(M)	Laser DUTY select low speed (M)	0 - 255	0	O
9		LP DUTY LOW(Y)	Laser DUTY select low speed (Y)	0 - 255	0	O
10		LP DUTY LOW(B W)	Laser DUTY select low speed (BW)	0 - 255	0	O
11		LP DUTY LOW(K 1)	Laser DUTY select low speed (K) 1 BIT	0 - 255	0	O
12		LP DUTY LOW(C 1)	Laser DUTY select low speed (C) 1 BIT	0 - 255	0	O
13		LP DUTY LOW(M 1)	Laser DUTY select low speed (M) 1 BIT	0 - 255	0	O
14		LP DUTY LOW(Y 1)	Laser DUTY select low speed (Y) 1 BIT	0 - 255	0	O
15		LP DUTY LOW(B W1)	Laser DUTY select low speed (BW) 1 BIT	0 - 255	0	O

61-4

Purpose : Adjustment

Function (Purpose) Used to print the print image skew adjustment pattern. (LSU unit)

Section

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

The print image skew adjustment pattern is printed.

Item/Display			Content			Default value
A	MULTICOUNT		Print quantity (1-999)			1
B	PAPER	MFT	Tray selection	1	Manual paper feed	2 (CS1)
		CS1		2	Tray 1	
		CS2		3	Tray 2	

63

63-1

Purpose : Adjustment/Setting/Operation data check

Function (Purpose) Used to display the shading correction result.

Section Scanner

Operation/Procedure

- 1) Select a target color to display with Arrow keys.

Item/Display	Content
GAIN1(mono)	Gain adjustment value1 (monochrome)
GAIN2(mono)	Gain adjustment value2 (monochrome)
GAIN3(mono)	Gain adjustment value3 (monochrome)
GAIN1(color)	Gain adjustment value1 (color)
GAIN2(color)	Gain adjustment value2 (color)
GAIN3(color)	Gain adjustment value3 (color)
OFFSET1(mono)	Offset value 1(monochrome)
OFFSET2 (mono)	Offset value 2(monochrome)
OFFSET3 (mono)	Offset value 3(monochrome)
OFFSET1 (color)	Offset value 1(color)
OFFSET2 (color)	Offset value 2(color)
OFFSET3 (color)	Offset value 3(color)
SMP MAX1 (mono)	Reference plate sampling average value 1 (monochrome)
SMP MAX2 (mono)	Reference plate sampling average value 2 (monochrome)
SMP MAX3 (mono)	Reference plate sampling average value 3 (monochrome)
SMP MAX1 (color)	Reference plate sampling average value 1 (color)
SMP MAX2 (color)	Reference plate sampling average value 2 (color)
SMP MAX3 (color)	Reference plate sampling average value 3 (color)
TARGET VALUE	Target value
BLACK LEVEL	Black output level
ERROR CODE	Error code (0, 1-14) (for debug)

63-2

Purpose : Adjustment

Function (Purpose) Used to perform shading.

Section

Operation/Procedure

- 1) Press [OK]/[START] key.
Used to perform shading.

When the operation is completed, [OK]/[START] key returns to the normal display.

63-3

Purpose : Adjustment

Function (Purpose) Used to perform scanner (CIS) 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.

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- 2) Press [OK]/[START] key.
The scanner (CIS) color balance automatic adjustment is performed.

63-5

Purpose :	Adjustment/Setup
Function (Purpose)	Used to perform the scanner (CIS) color balance and gamma default setting.

Section

Operation/Procedure

- 1) Press [OK]/[START] key.
- 2) The scanner (CIS) color balance and gamma are set to the default.

63-12

Purpose :	Adjustment/Setup
Function (Purpose)	Change the lighting time for each lamp by setting the RGB mixing ratio (value), And, LED lights in the ratio set in this mode with monochrome mode.

Section

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display	Contents	Range	Default value
R-Ratio	Red mixing ratio (R)	0-100	20
G-Ratio	Green mixing ratio (G)	0-100	70
B-Ratio	Blue mixing ratio (B)	0-100	10

Purpose :	Operation test/check
Function (Purpose)	Test print. (Self print) (Color mode)
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display			Content		Setting range		Default value
1	PRINT PATTERN		Specification of the print pattern (* For details, refer to the description below.)		1 - 58		1
2	DOT1		Setting of print dot number (M parameter) (Self print pattern: m by n)		0-255		1
3	DOT2		Setting of blank dot number (N parameter) (Self print pattern: m by n)		0-255		236
4	DENSITY		Used to specify the print gradation.		0-255		255
5	MULTI COUNT		Number of print		1 - 999		1
6	EXPOSURE	THROUGH	Exposure mode specification	No process (through)	1-8	1	8 (STANDARD DITHER)
CHAR/PRPIC		Text/ Photograph		3			
CHAR		Text		4			
PRINT PIC		Printed Photo		5			
STANDARD DITHER		Dither without correction		8			
7	PAPER	MFT	Tray selection	Manual paper feed	1 - 3	1	2 (CS1)
CS1		Tray 1		2			
CS2		Tray 2		3			
8	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)
NO		No		1			
9	PAPER TYPE	PLAIN	Paper type	Standard paper	1 - 5	1	1 (PLAIN)
HEAVY		Heavy paper		2			
OHP		OHP		3			
ENVELOPE		Envelope		4			
GLOSSY		Glossy paper		5			
10	K		Black		0 - 1		0
11	C		Cyan		0 - 1		
12	M		Magenta		0 - 1		
13	Y		Yellow		0 - 1		

<Print pattern of Item A>

Pattern No.	Content	Pattern generating section	NOTE
1	Grid pattern	LSU-ASIC	
2	Dot print		-
9	Each color 10% area (A4/A4E) density print		Each interval is 41.86mm (989dot).
10	8-color belt print		
11	4-color dot print (sub scan)		
17	All background (half tone)	Half tone (MFP ASIC rear process)	When all colors are selected, print is made in CMY.
18	256 gradations pattern (Other dither)		- When all colors are selected, print is made in CMY. - 16 gradations are printed in the main scanning direction, and feedback is made, and the next 16 gradations are printed. (16 x 16 patch print) - Print is made from 255 gradations, and 0-254 gradations are printed.
21	4-point dot print (main scan)	LSU-ASIC	
22	Slant line		

Purpose :	Operation test/check
Function (Purpose)	Test print. (Self print) (Monochrome mode)
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display		Content		Setting range		Default value
1	PRINT PATTERN	Print pattern specification		1 - 58		1
2	DOT1	Setting of print dot number (M parameter) (Self print pattern: m by n)		0-255		1
3	DOT2	Setting of blank dot number		0-255		236
4	DENSITY	Used to specify the print gradation.		1-255		255
5	MULTI COUNT	Number of print		1 - 999		1
6	EXPOSURE	THROUGH	Exposure mode specification	No process (through)	1	8 (STANDARD DITHER)
		CHAR/PRPIC			3	
		CHAR			4	
		PRINT PIC			5	
		STANDARD DITHER			8	
7	PAPER	MFT	Tray selection	Manual paper feed	1	2 (CS1)
		CS1			2	
		CS2			3	
8	DUPLEX	YES	Duplex print selection	Yes	0	1 (NO)
		NO			1	
9	PAPER TYPE	PLAIN	Paper type	Standard paper	1	1 (PLAIN)
		HEAVY			2	
		OHP			3	
		ENVELOPE			4	
		GLOSSY			5	

<Print pattern of Item A>

Pat-tern No.	Content	Pattern generat-ing sec-tion	NOTE
1	Grid pattern	LSU-ASIC	
2	Dot print		-
9	Each color 10% area (A4/A4R) density print		
10	8-color belt print		
11	4-color dot print (sub scan)		Print of each color is made for every 1/4 of the sub scanning paper size.
17	All background (half tone)	Half tone (MFP ASIC after process)	-
18	256 gradations pattern (Other dither)		-
20	-	-	-
21	4-point dot print (main scan)	LSU-ASIC	
22	Slant line		

Purpose :	Operation test/check
Function (Purpose)	Printer test print. (Self print) (256 gradations)
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display		Content		Setting range		Default value
1	PRINT PATTERN	Specification of the print pattern (* For details, refer to the description below.)		1 - 6		6
2	DENSITY	Print density selection		1 - 255		128
3	MULTI COUNT	Number of print		1 - 999		1
4	PAPER	Paper feed tray selection	Manual paper feed	1 - 3	1	2 (CS1)
			CS1		2	
			CS2		3	
5	HALFTONE	Halftone	Low	0 - 1	0	0 (LOW)
			High		1	
6	QUALITY	Image quality setting	Standard	0 - 1	0	1 (HIGHQUALITY)
			High quality		1	
7	DITHER	Specification of dither correction	Straight	0 - 1	0	0 (Straight)
			Calibration		1	
8	PAPER TYPE	Paper type	Plain paper	0 - 2	0	0
			Heavy paper		1	
			Glossy paper		2	
9	K	Black		0 - 1		6
10	C	Cyan		0 - 1		6
11	M	Magenta		0 - 1		6
12	Y	Yellow		0 - 1		6

<Print pattern of Item A>

Pattern No.	Content
1	256 gradations pattern (COLOR)
2	256 gradations pattern (B/W)
3	256 gradations pattern (COLOR) (Y-M-C-K continuous)
4	Half tone pattern (COLOR)
5	Half tone pattern (B/W)
6	4-color background, dot print (Sub scanning)

64-5

Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PCL)
Section	

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

Item/Display		Content		Setting range		Default value
1	PRINT PATTERN	Specification of the print pattern (* For details, refer to the description below.)		1 - 3		3
2	DENSITY	Print density selection		1 - 255		255
3	MULTI COUNT	Number of print		1 - 999		1
4	PAPER	Paper feed tray selection	Manual paper feed	1 - 3	1	2
			CS1		2	
			CS2		3	
5	HALFTONE	Halftone	Low(Image)	0 - 2	0	2
			High(Text)		1	
			Auto		2	
6	QUALITY	Image quality setting	Standard	0 - 1	0	1
			High quality		1	
7	DITHER	Specification of dither correc- tion	Straight	1 - 2	1	1
			Calibration		2	
8	PAPER TYPE	Paper type	Plain paper	0 - 2	0	0
			Heavy paper		1	
			Glossy paper		2	
9	INTENT	Rendering indent	Perceptual	0 - 2	0	0
			Colormetric		1	
			Saturation		2	
10	OUTPUT PROFILE	Output profile	Standard	0 - 2	0	0
			Photo		1	
			Graphic		2	
11	RGB SOURCE PRO- FILE	RGB source profile	SRGB	0 - 6	0	1
			Gamma 1.6		1	
			Gamma 1.8		2	
			Gamma 2.0		3	
			Gamma 2.6		4	
			Gamma 3.0		5	
			TONER SAVE		6	
12	GRAY COMPENSA- TION	Gray compensation	K only	0 - 1	0	0 (K)
			KCMY		1	
13	PURE BLACK PRINT	Only black printing	ON	0 - 1	0	0 (ON)
			OFF		1	
14	BW TONER SAVE	Monochrome printing	OFF	0 - 1	0	0 (OFF)
			ON		1	
15	K	Black			0 - 1	0
16	C	Cyan			0 - 1	0
17	M	Magenta			0 - 1	0
18	Y	Yellow			0 - 1	0

<Print pattern of Item A>

Pattern No.	Content
1	COLOR
2	B/W
3	Continuous COLOR,B/W

64-6

Purpose :	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PS)
Section	

Item/Display		Content		Setting range		Default value
1	PRINT PATTERN	Specification of the print pattern (* For details, refer to the description below.)		1 - 2		1
2	DENSITY	Used to specify the print gradation		1 - 255		255
3	MULTI COUNT	Number of print		1 - 999		1
4	PAPER	Paper feed tray selection	Manual paper feed	1 - 3	1	2
			CS1		2	
			CS2		3	
5	HALFTONE	Halftone	Low(Image)	0 - 2	0	2
			High(Text)		1	
			Auto		2	
6	QUALITY	Image quality setting	Standard	0 - 1	0	1
			High quality		1	
7	DITHER	Specification of dither correction	Straight	1 - 2	1	1
			Calibration		2	
8	PAPER TYPE	Paper type	Plain paper	0 - 2	0	0
			Heavy paper		1	
			Glossy paper		2	
9	INTENT	Rendering indent	Perceptual	0 - 2	0	0
			Colormetric		1	
			Saturation		2	
10	OUTPUT PROFILE	Output profile	Standard	0 - 2	0	0
			Photo		1	
			Graphic		2	
11	RGB SOURCE PRO-FILE	RGB source profile	SRGB	0 - 6	0	0
			Gamma 1.6		1	
			Gamma 1.8		2	
			Gamma 2.0		3	
			Gamma 2.6		4	
			Gamma 3.0		5	
TONER SAVE	6					
12	GRAY COMPENSA-TION	Gray compensation	K only	0 - 1	0	0
			KCMY		1	
13	PURE BLACK PRINT	Only black printing	ON	0 - 1	0	0
			OFF		1	
14	BW TONER SAVE	Monochrome printing	OFF	0 - 1	0	0
			ON		1	
15	CMYK SIMULATION	CMYK simulation	OFF	0 - 4	0	0
			SWOP		1	
			EURO		2	
			JAPAN COLOR		3	
			TONER SAVE		4	
16	K	Black			0 - 1	0
17	C	Cyan			0 - 1	0
18	M	Magenta			0 - 1	0
19	Y	Yellow			0 - 1	0

<Print pattern of Item A>

Pattern No.	Content
1	COLOR
2	B/W

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

65

65-10

Purpose :	Setting
Function (Purpose)	Used to set the display of the key waiting time.
Section	Operation panel section

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK]/[START] key.
The set value in step 2) is saved.

66

66-1

Purpose :	Setting
Function (Purpose)	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	FAX
----------------	-----

Operation/Procedure

- 1) Enter the [SW NO] with 10keys.
 - * When [C] key is pressed, the entered value of [SW NO] is cleared.
- 2) Press [OK]/[START] key. The soft SW data entered in procedure 1) is displayed.
 - * When [SW NO] key is pressed, the display returns to the initial screen.
- 3) When [OK]/[START] key is pressed, it is highlighted and the setting is saved.

66-2

Purpose :	Setting
Function (Purpose)	Used to enter a country code and set the default value for the country code.

Section	FAX
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Operation/Procedure

- 1) When the machine enters Simulation 66-02, the following screen is displayed.
- 2) Enter the country code (8 digits) with 10 keys. .
- 3) When [OK]/[START] key is pressed after entering the country code, the soft SW corresponding to the country code is initialized.

Operation/Procedure (Shifting to the country page)

- * When Arrow key 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>

No.	Country	Code
1	Japan	00000000
2	U.S.A.	10110101
3	U.K.	10110100
4	China	00100110
5	India	01010011
6	Taiwan	11111110
7	Australia	00001001
8	New Zealand	01111110
9	Singapore	10011100
10	Malaysia	01101100
11	Hong Kong	01010000
12	South Africa	10011111
13	Germany	00000100
14	France	00111101
15	Spain	10100000
16	Portugal	10001011
17	Denmark	00110001
18	Norway	10000010
19	Switzerland	10100110
20	Italy	01011001
21	Belgium	00001111
22	Luxembourg	01101001
23	Netherlands	01111011
24	Finland	00111100

No.	Country	Code
25	Sweden	10100101
26	Thailand	10101001
27	Czech	00101110
28	Slovakia	11111100
29	Hungary	01010001
30	Greece	01000110
31	Poland	10001010
32	Russia	10111000
33	Middle east	11111101
34	Brazil	00010110

66-4

Purpose :	Operation test/Check
Function (Purpose)	Used to send the selected signals to the line and the main unit speaker.

Section	FAX
----------------	-----

Operation/Procedure

- 1) Select a button of a signal to be sent with Arrow keys and input the setting values with 10 keys.
- 2) Determine the setting values with [OK]/[START] key.
- 3) Press [OK]/[START] key to send the signals.

<Signal send table>

1:NO SIGNAL	11:12000bps(v34)	21:7200bps(V29)	31:NO RBT
2:33600bps(V34)	12:9600bps(v34)	22:4800bps(V27 ter)	32:DP MAKE
3:31200bps(V34)	13:7200bps(v34)	23:2400bps(V27 ter)	33:DP BREAK
4:28800bps(v34)	14:4800bps(v34)	24:300bps(FLAG)	
5:26400bps(v34)	15:2400bps(v34)	25:2100Hz (CED)	
6:24000bps(v34)	16:14400bps(v17)	26:1100Hz (CNG)	
7:21600bps(v34)	17:12000bps(V17)	27:300bps(V21)	
8:19200bps(v34)	18:9600bps(V17)	28:2100Hz (ANSam)	
9:16800bps(v34)	19:7200bps(V17)	29:PSEUDO RINGER	
10:14400bps(v34)	20:9600bps(V29)	30:NO MSG	

66-7

Purpose :	Data output/Check
Function (Purpose)	Used to output all image data saved in the image memory of FAX part.

Section	FAX
----------------	-----

Operation/Procedure

- 1) When [OK]/[START] key is pressed, it is highlighted and all image data saved in the image memory are outputted.
- 2) After completion of printing, [EXECUTE] key returns to the normal display.

66-8

Purpose :	Operation test/Check
Function (Purpose)	Used to send the selected sound messages to the line and the speaker.

Section	FAX
----------------	-----

Operation/Procedure

- 1) When the machine enters Simulation 66-08, the following screen is displayed.
- 2) Select an item to be set with 10 keys.

- 3) Determine the setting values with [OK]/[START] key.
- 4) Press [OK]/[START] key to send the sound messages.

<Sound message table>

No.	Sound message
1	NONE
2	FAX/TEL MSG
3	FAX/TEL MSG
4	FAX/TEL MSG
5	RINGER
6	EXT.TELRINGER

66-10

Purpose :	Data clear
Function (Purpose)	Used to clear the FAX image data.
Section	FAX

Operation/Procedure

- 1) Press [OK]/[START] key.
- 2) After completion of clearing, press [CA] key to reboot the machine.

66-11

Purpose :	Operation test/Check
Function (Purpose)	Used to send the selected signal at 300bps to the line and the speaker.
Section	FAX

Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Determine the setting values with [OK]/[START] key.
- 3) Press [OK]/[START] key and a selected signal is sent .

<300bps send signal table>

No	Signal	No	Signal
1	No signal (CML ON)	4	00000
2	11111	5	010101
3	11110	6	00001

66-13

Purpose :	Setting
Function (Purpose)	Used to execute the dial send test.
Section	FAX

Operation/Procedure

The dials which can be sent are as follows

- Dial pulse 10PPS
- Dial pulse 20PPS
- DTMF

- 1) Select an item to be set with 10 keys.
- 2) Determine the setting values with [OK]/[START] key.
- 3) Press [OK]/[START] key and a selected dial is sent .

66-17

Purpose :	Operation test/Check
Function (Purpose)	Used to send the DTMF signal to the line and the speaker.
Section	FAX

Operation/Procedure

- 1) Select an item to be set with 10 keys.

- 2) Determine the setting values with [OK]/[START] key.
- 3) Press [OK]/[START] key and a selected dial is sent.

66-21

Purpose :	Check
Function (Purpose)	Used to print the selected items (FAX setting list, software SW list, protocol monitor).
Section	FAX

Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Determine the setting values with [OK]/[START] key.
- 3) Press [OK]/[START] key and printing is started.

66-30

Purpose :	Operation test/Check
Function (Purpose)	Used to display the TEL/LIU status change. The display is highlighted by status change.
Section	FAX

Operation/Procedure

- 1) Press [OK]/[START] key and check the condition after the status is changed.

<TEL/LIU status change item description>

Signal	Notice (Signal Low)	Notice (Signal High)
EXRHS	Inversion	No inversion

66-31

Purpose :	Setting
Function (Purpose)	Used to set ON/OFF the port for output to TEL/LIU.
Section	FAX

Operation/Procedure

- 1) Select an item to be set with 10 keys.
- 2) Determine the setting values with [OK]/[START] key.
- 3) Press [OK]/[START] key and the changed setting is reflected to the port which outputs to TEL/LIU.

<Port which outputs to TEL/LIU>

1: CION	2: 150VON	3: EC
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66-32

Purpose : Operation test/Check**Function (Purpose)** Used to check the fixed data received from the line and to display the result.**Section** FAX**Operation/Procedure**

- 1) Press [OK]/[START] key to check the fixed data received from the line.

* 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.

Receive speed: 300BPS

Receive data: 00H

Judgment data: 100byte

66-33

Purpose : Operation test/Check**Function (Purpose)** Used to execute detection of various signals with the line connected (CNG,CED, BT, DT, DTMF) or line not connected (CI, FNET) and to display the detection result. When a signal is detected, the display is highlighted.**Section** FAX**Operation/Procedure**

- 1) Select an item to be set with 10 keys.
- 2) Determine the setting values with [OK]/[START] key.

<Signal used for signal detection check>

(When "CI FNET" is selected)

CI FNET

(When "CNG/CED/BT/DT/DTMF" is selected)

CNG	CED	BT	DT	DTMF
-----	-----	----	----	------

66-34

Purpose : Operation test/Check**Function (Purpose)** Used to execute the send test and display the time for sending (receiving) the image data during sending the test data on LCD.**Section** FAX**Operation/Procedure**

<Range>

Send : From sending the flag before sending the image data to sending the RCP frame

Receive : From receiving the flag before receiving the image data to receiving the RCP frame

- 1) Enter the SIM 66-34 mode.
- 2) Press [OK]/[START] key and the test is started. Then, the time is displayed on LCD.

67

67-25

Purpose : Adjustment/Setup**Function (Purpose)** Printer color balance adjustment (Manual adjustment)**Section** Printer**Operation/Procedure**

- 1) Select an item to be set with 10 keys.
- 2) Change the setting items with Arrow keys and determine the setting values with [OK]/[START] key.
- 3) Set the adjustment value with 10 keys and save the value with [OK]/[START] key.

When the adjustment value is increased, the image density is increased, and vice versa.

Item/Display	Setting range	Default value
1 POINT1	1 - 255	128
2 POINT2	1 - 255	128
3 POINT3	1 - 255	128
4 POINT4	1 - 255	128
5 POINT5	1 - 255	128
6 POINT6	1 - 255	128
7 POINT7	1 - 255	128
8 POINT8	1 - 255	128
9 POINT9	1 - 255	128
10 POINT10	1 - 255	128
11 POINT11	1 - 255	128
12 POINT12	1 - 255	128
13 POINT13	1 - 255	128
14 POINT14	1 - 255	128
15 POINT15	1 - 255	128
16 POINT16	1 - 255	128
17 POINT17	1 - 255	128

67-31

Purpose : Data clear**Function (Purpose)** Used to clear the calibration value.**Section** Printer**Operation/Procedure**

- 1) Press [OK]/[START] key.
The calibration data (Half tone correction data) are cleared.
(The color balance correction is canceled.)

67-33

Purpose : Adjustment/Setup**Function (Purpose)** Used to change the gamma of the printer screen.**Section** Printer**Operation/Procedure**

- 1) Select an item to be set with 10 keys.
- 2) Change the setting items with Arrow keys and determine the setting values with [OK]/[START] key.
- 3) Set the adjustment value with 10 keys and save the value with [OK]/[START] key.

Item/Display	Content	Set- ting Range	Heavy paper or screen1 to 7	Screen 8
			Default value	Default value
1 POINT1	Point 1	0 - 255	128	127
2 POINT2	Point 2	0 - 255	128	125
3 POINT3	Point 3	0 - 255	128	124
4 POINT4	Point 4	0 - 255	128	124

Item/Display		Content	Set- ting Range	Heavy paper or screen1 to 7	Screen 8
				Default value	Default value
5	POINT5	Point 5	0 - 255	128	122
6	POINT6	Point 6	0 - 255	128	120
7	POINT7	Point 7	0 - 255	128	114
8	POINT8	Point 8	0 - 255	128	105
9	POINT9	Point 9	0 - 255	128	95
10	POINT10	Point 10	0 - 255	128	82
11	POINT11	Point 11	0 - 255	128	70
12	POINT12	Point 12	0 - 255	128	64
13	POINT13	Point 13	0 - 255	128	57
14	POINT14	Point 14	0 - 255	128	62
15	POINT15	Point 15	0 - 255	128	75
16	POINT16	Point 16	0 - 255	128	114
17	POINT17	Point 17	0 - 255	128	128

Item	Display	Content
1	HEAVYPAPER_K	Heavy paper K
2	HEAVYPAPER_C	Heavy paper C
3	HEAVYPAPER_M	Heavy paper M
4	HEAVYPAPER_Y	Heavy paper Y
5	SCREEN1_K	Standard/Photo
6	SCREEN1_C	Standard/Photo
7	SCREEN1_M	Standard/Photo
8	SCREEN1_Y	Standard/Photo
9	SCREEN2_K	Standard/Photo
10	SCREEN2_C	Standard/Photo
11	SCREEN2_M	Standard/Photo
12	SCREEN2_Y	Standard/Photo
13	SCREEN3_K	High quality/Photo
14	SCREEN3_C	High quality/Photo
15	SCREEN3_M	High quality/Photo
16	SCREEN3_Y	High quality/Photo
17	SCREEN4_K	High quality/Photo
18	SCREEN4_C	High quality/Photo
19	SCREEN4_M	High quality/Photo
20	SCREEN4_Y	High quality/Photo
21	SCREEN5_K	B/W Standard K
22	SCREEN6_K	B/W High quality/Photo K
23	SCREEN7_K	B/W High quality/Photo K
24	SCREEN8_K	B/W Toner Save K

67-34

Purpose :	Adjustment/Setup
Function (Purpose)	Used to set the density correction in the printer high density section. (Support for the high density section tone gap)
Section	Printer

Operation/Procedure

- 1) Enter the set value with 10 keys.

0	Enable
1	Disable

- 2) Press [OK]/[START] key. The set value in step 1) is saved.

Item/Display		Content		Set- ting range	Default value
1	CMY PROHIBIT (0: ENABLE 1: DISABLE)	0	CMY engine highest density correction mode : Enable	0 - 1	0
		1	CMY engine highest density correction mode : Disable		
2	K PROHIBIT (0: ENABLE 1: DISABLE)	0	K engine highest density correction mode : Enable	0 - 1	1
		1	K engine highest density correction mode : Disable		

- When tone gap is generated in the high density section, set items 1 and 2 to "0."
The density in the high density section is decreased, but tone gap is reduced.
- To increase the density in the high density section further, set items 1 and 2 to "1."
The tone gap may occur in high density part.

67-36

Purpose :	Adjustment/Setup
Function (Purpose)	Used to adjust the density in the low density section.
Section	Printer

Operation/Procedure

- 1) Enter the adjustment value using the 10 keys.
- 2) Press [OK]/[STRT] key.

When the adjustment value is increased, the low density images are strongly reduced. When the adjustment value is decreased, the low density are images are weakly reproduced.

When tone gap is generated in the low density section (highlight section), changing this adjustment value may improve the trouble.

Item	Display	Content	Range	Default value
1	A PATCH INPUT	A patch input value	0 - 13	1

67-52

Purpose :	Adjustment
Function (Purpose)	Used to reset the printer color balance adjustment (adjustment for each dither) to the default value. (The set values of SIM67-33 are set to the default values.)

Section

Operation/Procedure

This simulation is used to reset the adjustment values of SIM67-54 and SIM67-33 to the default values.

- 1) Select an item to be reset to the default (for each dither) with 10 keys.
To reset the adjustment values of all the items, select [ALL].

Item	Display	Content	Note
1	ALL	All dither value	
2	HEAVY PAPER	Heavy paper dither value	
3	1BIT	1 bit dither value	
4	2BIT	2 bit dither value	
5	B/W	Monochrome dither value	

- 2) Press [OK]/[START] key.

4.Soft switch (Detail of Sim. 66-1)

A.Soft switch list

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
1	1 - 8		Country code			
2	1 - 2		Not used			
	3 - 8		language			
3	1-4	Adjustment value	Minimum pause time (10PPS) setting	0(525ms) -15(900ms) $X(\text{ms}) = (N * 25) + 525$		Two states input
	5 - 8	Adjustment value	Make time (10PPS) setting	Setting range 26 to 41 seconds (1 ms intervals)		Two states input
4	1-4	Adjustment value	Minimum pause time (10PPS) setting	0(525ms) - 15(900ms) $X(\text{ms}) = (N * 25) + 525$		Two states input
	5 - 8	Adjustment value	Minimum pause time (20PPS) setting	375ms	0 0 0	
				400ms	0 0 1	
				425ms	0 1 0	
				450ms	0 1 1	
				475ms	1 0 0	
				500ms	1 0 1	
				525ms	1 1 0	
				550ms	1 1 1	
5	1-4	Adjustment value	Make time (20PPS) setting	Setting range 9 to 26 ms (1 ms intervals)		Two states input
	5		Not used			
	6 - 8	Adjustment value	Setting of DTMF minimum pause time	90ms	0 0 0	
				100ms	0 0 1	
				110ms	0 1 0	
				120ms	0 1 1	
				130ms	1 0 0	
				140ms	1 0 1	
				150ms	1 1 0	
				160ms	1 1 1	
6	1-5	Adjustment value	DTMF signal send time	Setting range 6(60ms) to 31(310ms) ms $X(\text{ms}) = (N * 10)$		
	6 - 7	Adjustment value	Dial call waiting time	3.5s	0 0	
				4.0s	0 1	
				5.0s	1 0	
				6.0s	1 1	
	8	Adjustment value	SDT signal detection	0: No 1: Yes		
7	1	Setting	No. 2 dial tone detection	0: No 1: Yes		
	2	Setting	Dial tone detection	0: No 1: Yes		
	3 - 4	Adjustment value	Dial tone ON detection time (during continuous detection)	1.0s	0 0	
				1.5s	0 1	
				2.0s	1 0	
8	1-3	Adjustment value	Upper limit of dial tone ON/OFF detection time (during intermittent detection)	Setting range 1000ms to 4000ms (200ms intervals)		Two states input
	4		Not used			
8	5-8	Setting	External line connection number setting 1 <First digit>	The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / - (pause) (c) / Not used for this digit and after (d) / Any is OK (f).		

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
9	1-4	Setting	External line connection number setting 1 <Second digit>	The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f).		
	5-8	Setting	External line connection number setting 1 <Third digit>	The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f).		
10	1-4	Setting	External line connection number setting 1 <Fourth digit>	The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f).		
	5-8	Setting	External line connection number setting 2 <First digit>	The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f).		
11	1-4	Setting	External line connection number setting 2 <Second digit>	The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f).		
	5-8	Setting	External line connection number setting 2 <Third digit>	The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f).		
12	1-4	Setting	External line connection number setting 2 <Fourth digit>	The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f).		
	5		Not used			
	6 -7	Adjustment value	DT/BT detection level	MODEM fixed (400Hz)	0 0	
				420Hz - 600Hz	0 1	
				360Hz - 440Hz	1 0	
				245Hz - 650Hz	1 1	
	8	Setting	Busy tone detection	0: No 1: Yes		
13	1-4	Adjustment value	Lower limit of call signal ON time	Not used	0 0 0 0	
				100ms	0 0 0 1	
				200ms	0 0 1 0	
				300ms	0 0 1 1	
				400ms	0 1 0 0	
				500ms	0 1 0 1	
				600ms	0 1 1 0	
				700ms	0 1 1 1	
				800ms	1 0 0 0	
				900ms	1 0 0 1	
	5-8	Adjustment value	Upper limit of call signal ON time	Setting range 1000ms to 4000ms		Two states input

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
14	1, 2	FAX initial setting	Flash send out waiting time	0s	0 0	
				0.5s	0 1	
				1s	1 0	
				2s	1 1	
	3, 4	FAX initial setting	Flash send out time	90ms	0 0	
				180ms	0 1	
				270ms	1 0	
				360ms	1 1	
	5	Setting	Dial tone detection	0 : 10s	1 : 17s	
	6, 7	Setting	Busy tone detection	2 puls	0 0	
				4 puls	0 1	
				6 puls	1 0	
				10 puls	1 1	
	8		Not used			
15	1 - 4	Setting	Minimum BT ON time	Not used	0 0 0 0	Refer to the detailed table. *1
				140ms	0 0 0 1	
				200ms	0 0 1 0	
				220ms	0 0 1 1	
				270ms	0 1 0 0	
				280ms	0 1 0 1	
				310ms	0 1 1 0	
				450ms	0 1 1 1	
				100ms	1 0 0 0	
				450ms	Other settings	
	5- 8		Not used			
16	1 - 3	Setting	Time setting for moving the machine to the FAX starting sending state when the CED signal is not activated.	Moves to the FAX starting sending state when the CED/ ANSam signal is received. (Default)	0 0 0	
				Moves to the FAX starting sending state after 10.5s.	0 0 1	
				Moves to the FAX starting sending state after 21.5s.	0 1 0	
				Moves to the FAX starting sending state after 31.5s.	0 1 1	
				Moves to the FAX starting sending state after 42.0s.	1 0 0	
				Moves to the FAX starting sending state after 52.5s.	1 0 1	
				Moves to the FAX starting sending state after 63.0s.	1 1 0	
				Moves to the FAX starting sending state after 73.5s.	1 1 1	
	4 - 8		Not used			
17	1, 2	Adjustment value	1300Hz detection time	1.5s	0 0	
				2.5s	0 1	
				3.0s	1 0	
	3	FAX initial setting	150V ON control	0: No	1: Yes	
	4 - 7	Settings/FAX initial setting	Setting of the number of calls for changing over from manual to automatic reception	Setting range 1 to 9times		
	8	ECM	150V ON control	0: No	1: Yes	
18	1 - 7	FAX initial setting	CI signal off detection time	Setting range 0 to 1270 ms (10ms intervals)		Two states input
	8		Not used			
19	1 - 7	FAX initial setting	Maximum RING disappear OFF time	5s	0 0	
				10s	0 1	
				15s	1 0	
				20s	1 1	
	8		Not used			
20	1-4	Adjustment value	Lower limit of the detection time during talking	270ms	0 1	Refer to the detailed table. *1
				400ms	1 0	
				450ms	1 1	
				540ms	0 0	
				570ms	0 1	
				630ms	1 0	
				680ms	1 1	
				900ms	0 0	

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
20	5-8	Adjustment value	Upper limit of the detection time during talking	610ms	0 0 0 1	Refer to the detailed table. *1
				880ms	0 0 1 0	
				1100ms	0 0 1 1	
				1210ms	0 1 0 0	
				1540ms	0 1 0 1	
				1560ms	0 1 1 0	
				1600ms	0 1 1 1	
				1650ms	1 0 0 0	
				1760ms	1 0 0 1	
				2750ms	1 0 1 0	
21	1-4	Adjustment value	Ring back tone send out number	0 - 15 times		Two states input
	5-8	Adjustment value	Ring back tone limit number	Setting range 0 - 15 times 0 : Fixed value		Two states input
22	1-4	Adjustment value	Ring back tone ON time	Setting range 0.2 - 0.3 s (200ms intervals) 0 : Fixed value		Two states input
	5-8	Adjustment value	Ring back tone OFF time	Setting range 0.2 - 0.3 s (200ms intervals) 0 : Fixed value		Two states input
23	1-4	Adjustment value	CNG detecting time	Setting range 0 - 15 times 0 : Fixed value		Two states input
	5, 6	Adjustment value	Telephone/FAX transmission automatical voice message	Message 1 before simulated ring	0 0	
				Message 2 before simulated ring	0 1	
				Message after simulated ring	1 0	
				No message	1 1	
	7, 8		Not used			
24			Not used			
25	1-5	Adjustment value	Signal sending out level	0(0dBm) - 26(-26dBm)		Two states input
	6-8		Not used			
26	1 - 4	Timer	T1 timer setting	Setting range 15 - 90s (5s intervals)		Two states input
	5 - 6	Timer	T2 timer setting	6s	0 0	
				7s	0 1	
				8s	1 0	
				9s	1 1	
	7 - 8	Timer	T4 timer setting Timer during automatic operation (+1.5 seconds at times of manual operation)	3s	0 0	
				4s	0 1	
				5s	1 0	
				6s	1 1	
27	1, 2	Timer	T5 timer setting	1min	0 0	Two states input
				5min	0 1	
				10min	1 0	
				15min	1 1	
	3	Setting	Sharp machine mode	0 : OFF	1 : ON	
	4	Setting	V.34 mode function	0 : OFF	1 : ON	
	5	Setting	V.34 mode function at times of manual communication	0 : OFF	1 : ON	
	6 - 7	Communication/Setting	Coding capacity during transmission and reception (V.34 communication) (reflected in DIS/DCS/DTC)	JBIG/MMR/MR/MH	0 0	
				MMR/MR/MH	0 1	
				MR/MH	1 0	
				MH	1 1	
	8		Not used			
28	1, 2	Communication/Setting	Coding capacity during transmission and reception (other than V.34 communication) (reflected in DIS/DCS/DTC)	JBIG/MMR/MR/MH	0 0	Two states input
				MMR/MR/MH	0 1	
				MR/MH	1 0	
				MH	1 1	
	3, 4	Setting	300bps preamble send out time	1.0s	0 0	
				1.0s	0 1	
				1.5s	1 0	
				2.0s	1 1	
	5	Setting	Error handling when transmission and receiving RTN	0 : Error	1 : Not error	
	6	Setting	PIN code correspondence	0 : OFF	1 : ON	
	7 - 8		Not used			

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
29-30			Not used			
31	1 - 3	Setting	Symbol rate transmission	Automatic	0 0 0	
				2400	0 0 1	
				2400/2743	0 1 0	
				2400/2743/2800	0 1 1	
				2400/2743/2800/3000	1 0 0	
				2400/2743/2800/3000/3200	1 0 1	
				2400/2743/2800/3000/3200/3429	1 1 0	
				Not used	1 1 1	
	4 - 7	Communication/Setting	Modem transmission speed (less than V.33 mode)	V.27 2400bps	0 0 0 0	
				v.29 9600bps	0 0 0 1	
				V.27 4800bps	0 0 1 0	
				V.29 7200bps	0 0 1 1	
				V.33 14.4kbps	0 1 0 0	
				V.33 12.0kbps	0 1 1 0	
				V.17 9600bps	1 0 0 1	
				V.17 12.0kbps	1 0 1 0	
				V.17 7200bps	1 0 1 1	
				V.17 14.4kbps	Other setting values than above settings	
	8	Communication/Setting	Echo countermeasure (setting of hold time between DIS reception and sending of signal) when transmitting.	0 : 500ms	1 : 800ms	
32	1, 2	Communication/Setting	Echo countermeasure (setting of hold time between DIS reception and sending of signal) when transmitting.	0 : Once when performing NSF reception Twice when performing DIS reception	0 0	Two states input
				Twice regardless of NSF reception	0 1	
				Once regardless of NSF reception	1 0	
				Not used	1 1	
	3	Setting	Echo suppressor tone setting	0 : OFF	1 : ON	
	4	Setting	Training	0 : Short training	1 : Long training	
	5, 6		Phase-C head dummy data send time	0.2s	0 0	
				0.3s	0 1	
				0.4s	1 0	
	7, 8		Not used	0.5s	1 1	
33	1 - 4	Setting	V.34 Primary channel sending speed	Sending Speed = 2400(bps) x N N : 0=2400bps 15=33600bps		Two states input
	5	Setting	REN EOL send out number	0 : 12 times	1 : 6 times	Two states input
	6 - 8		Not used			
34-35			Not used			
36	1	Timer	EOL detection timer	0 : 13s	1 : 25s	
	2	Communication/Adjustment value	CED signal sending	0 : OFF	1 : ON	
	3, 4	Communication/Adjustment value	CED signal sending time	3s	0 0	
				4s	0 1	
				5s	1 0	
				6s	1 1	
	5	Communication/Adjustment value	CED detection time	0 : 700ms	1 : 1400ms	
	6 - 7	Speed/Setting	Fixing of modem speed during reception	Not fixed	0 0	
				V.29-9600BPS	0 1	
				V.27ter-4800BPS	1 0	
				V.17-14400BPS	1 1	
	8	Communication/Setting	Echo countermeasure (CED tone sending interval) when receiving	0 : 75ms	1 : 500ms	

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
37	1		Protocol monitor	0 : OFF	1 : ON	
	2		Only at times of Protocol monitor error	0 : OFF	1 : ON	
	3		Enable/Disable of 33 bit or later of DIS (Reflected only to DIS)	0 : Enable	1 : Disable	
	4		CSI sending	0 : OFF	1 : ON	
	5	Communication/ Adjustment value	EYE Q Check	0 : Receive and EYE Q Check	1 : Only EYE Q Check	
	6	Communication/ Adjustment value	Time out time setting after starting TCF signal reception	0 : 2s	1 : 4s	
	7	Speed/Setting	TCF Check time	0 : 1.3s	1 : 1.0s	
	8	Adjustment value	Time between DCS-TCF	0 : 150ms	1 : 75ms	
38	1 - 3	Adjustment value	Dial in waiting time	1000ms	0 0 0	Two states input
				1200ms	0 0 1	
				1400ms	0 1 0	
				1600ms	0 1 1	
				1800ms	1 0 0	
				2000ms	1 0 1	
				2200ms	1 1 0	
				2400ms	1 1 1	
39	4 - 7	Setting	V.34 primary channel reception speed	Sending Speed = 2400(bps) x N N : 0=2400bps 15=33600bps		Two states input
	8		Not used			
40-41	1, 2	Communication/ Setting	ANSam signal sending time	3s	0 0	Two states input
				4s	0 1	
				5s	1 0	
				6s	1 1	
	3 - 5	Communication/ Setting	Reception gain changeover when receiving	0dBm	0 0 0	
				1dBm	0 0 1	
				2dBm	0 1 0	
				3dBm	0 1 1	
				4dBm	1 0 0	
				5dBm	1 0 1	
				6dBm	1 1 0	
				7dBm	1 1 1	
	6 - 7		Not used			
	8		Receiving level adjustment(U1F1)	0 : Valid	1 : Invalid	
42			Not used			
43-44	1		Data output during communication error	0 : Output	1 : Not output	
	2		Memory overflow during receiving data	0 : Output	1 : Not output	
	3		Received data duplex printing setting (list)	0 : OFF	1 : ON	
	4		Duplex printing tray (Tray 1)	0 : OFF	1 : ON	
	5		Duplex printing tray (Tray 2)	0 : OFF	1 : ON	
	6		Duplex rotated printing	0 : ON	1 : OFF	
	7 - 8		Not used			
45			Not used			
46	1		Simulated ring bell sounds	0 : Sound	1 : Not sound	
	2	FAX initial setting	Digital line net setting	0 : OFF	1 : ON	
	3		Quick memory send setting display	0 : Displayed	1 : Not displayed	
	4		Manual send selection screen displayed	0 : Displayed	1 : Not displayed	
	5 - 8		Magnification setting in automatic reduction	Setting range 0 - 15% (100 - setting value)		

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
46	1		Remote reception indication	0 : OFF	1 : ON	
	2		Remote changeover number setting	0 : Only call-in	1 : Call-in/Call-out	
	3		Transfer function	0 : Prohibited	1 : Permitted	
	4		Specified number reception Enable/Disable setting on manual reception	0 : Ignore the specified number	1 : Reject the specified number	
	5		Record of rejected reception	0 : Record	1 : Not record	
	6		Print in automatic reduction	0 : Prohibited	1 : Permitted	
	7		Priority order of the paper selection	0 : Priority area	1 : Priority width	
	8		Output way (Inch) when receiving the A4 width image	0 : 210mm width printing	1 : 8.5inch width printing	
47	1		Reception copy setting when receiving the data	0 : Print out the copy when receiving every one data	1 : Print out all copies after receiving all copies	
	2		Report output (when cancelled)	0 : Output	1 : Not output	
	3		Report output (when refusing reception)	0 : Output	1 : Convert name to the dial number and print out	
	4		Address name of report conversion	0 : Not convert	1 : Reject the specified number	
	5 - 6		Range of the sound monitor	Speaker is always off.	0 0	
				Speaker is on while dialing and handshaking; off in data mode.	0 1	
				Speaker is always on.	1 0	
				Speaker is off while dialing; on during handshaking and retraining.	1 1	
	7		Control of the communication error sound	0 : Sound	1 : Not sound	
	8		The communication error sound when there is no response	0 : Sound	1 : Not sound	
48	1	FAX initial setting	Speaker volume after finishing scanning (Small)	0 : Use volume 1	1 : Use volume 2	
	2	FAX initial setting	Speaker volume after finishing scanning (Middle)	0 : Use volume 2	1 : Use volume 3	
	3	FAX initial setting	Speaker volume after finishing scanning (Large)	0 : Use volume 3	1 : Use volume 4	
	4	FAX initial setting	Speaker volume during DTMF sending (Small)	0 : Use volume 1	1 : Use volume 2	
	5	FAX initial setting	Speaker volume during DTMF sending (Middle)	0 : Use volume 2	1 : Use volume 3	
	6	FAX initial setting	Speaker volume during DTMF sending (Large)	0 : Use volume 3	1 : Use volume 4	
	7	FAX initial setting	Speaker volume of line monitor (Small)	0 : Use volume 1	1 : Use volume 2	
	8	FAX initial setting	Speaker volume of line monitor (Middle)	0 : Use volume 2	1 : Use volume 3	
49	1	FAX initial setting	Speaker volume of line monitor (Large)	0 : Use volume 3	1 : Use volume 4	
	2	FAX initial setting	Speaker volume when finishing communication (Small)	0 : Use volume 1	1 : Use volume 2	
	3	FAX initial setting	Speaker volume when finishing communication (Middle)	0 : Use volume 2	1 : Use volume 3	
	4	FAX initial setting	Speaker volume when finishing communication (Large)	0 : Use volume 3	1 : Use volume 4	
	5	FAX initial setting	Speaker volume when on-hook (Small)	0 : Use volume 1	1 : Use volume 2	
	6	FAX initial setting	Speaker volume when on-hook (Middle)	0 : Use volume 2	1 : Use volume 3	
	7	FAX initial setting	Speaker volume when on-hook (Large)	0 : Use volume 3	1 : Use volume 4	
	8	FAX initial setting	Call sound volume (Small)	0 : Use volume 1	1 : Use volume 2	
50	1	FAX initial setting	Call sound volume (Middle)	0 : Use volume 2	1 : Use volume 3	
	2	FAX initial setting	Call sound volume (Large)	0 : Use volume 3	1 : Use volume 4	
	3, 4	Setting	Order of the year/month/day of LCD, report, original record	year/month/day	0 0	
				month/day/year	0 1	
				day/month/year	1 0	
	5	Setting	Time display format	0 : 24 hours	1 : AM/PM	
	6	Setting	Prior to the display of the day	0 : OFF	1 : ON	
	7	Setting	Summer time setting	0 : Prohibited	1 : Permitted	
	8	Setting	User authentication management	0 : Prohibited	1 : Permitted	

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
51	1	FAX initial setting	Preferred setting of the data LED during energy saving	0 : Prior to energy saving	1 : Prior to data LED	
	2	FAX initial setting	The machine moves to the power off mode when the machine is shut down.	0 : Prohibited	1 : Permitted	
	3 - 8		Not used			
52-53			Not used			
54	1	FAX initial setting	Automatic/Manual reception default setting	0 : Automatic reception	1 : Manual reception	
	2	FAX initial setting	Absent connection default setting	0 : OFF	1 : ON	
	3	FAX initial setting	Printing hold function	0 : OFF	1 : ON	
	4 - 8		Not used			
55	1, 2	Communication/Setting	Report output (when sending the data)	Print is prohibited	0 0	
				Print all	0 1	
				Only when data cannot be sent	1 0	
	3, 4	Setting	Report output (sequential multi-address transmission, sequential send request, relay multi-address transmission)	Print is prohibited	0 0	
				Print all	0 1	
				Only for the address where data cannot be sent	1 0	
	5, 6	Setting	Print the copy when the memory send error occurs	Print is prohibited	0 0	
				Print all	0 1	
				When the sending is failed	1 0	
	7, 8	Setting	Report output (when receiving the data)	Print is prohibited	0 0	
				Print all	0 1	
				Only when the error occurs	1 0	
56	1		Not used			
	2	FAX initial setting	Automatic printing of the record sheet	0 : Prior to energy saving	1 : Prior to data LED	
	3	FAX initial setting	Select a designated time of the communication record sheet	0 : Prohibited	1 : Permitted	
	4 - 8	FAX initial setting	Printing of the communication record sheet at a designated time (hours)	Setting range 0 - 23 hours		Two states input
57	1 - 6	FAX initial setting	Printing of the communication record sheet at a designated time (minutes)	Setting range 0 - 59 minutes		Two states input
	7-8		Not used			
58	1, 2	FAX initial setting	Tone/Pulse initial setting (Dial call signal setting)	10PPS	0 0	
				20PPS	0 1	
				TONE	1 0	
	3 - 6	FAX initial setting/Adjustment value	Pause time setting (between dials)	Setting range 1 - 15s (4 - 15s only for South Africa)		
	7, 8	FAX initial setting	Speaker volume when on-hook	No sound	0 0	
				Small	0 1	
				Middle	1 0	
				Large	1 1	
59	1, 2	FAX initial setting	Call sound volume	No sound	0 0	
				Small	0 1	
				Middle	1 0	
				Large	1 1	
	3, 4	FAX initial setting	Line monitor volume setting	No sound	0 0	
				Small	0 1	
				Middle	1 0	
				Large	1 1	
	5, 6	FAX initial setting	Volume of the transmission completion sound	No sound	0 0	
				Small	0 1	
				Middle	1 0	
				Large	1 1	
	7, 8	FAX initial setting	Volume of the scanning completion sound	No sound	0 0	
				Small	0 1	
				Middle	1 0	
				Large	1 1	

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
60	1, 2	FAX initial setting	Tone of the successful transmission sound	550Hz	0 0	
				1000Hz	0 1	
				1700Hz	1 0	
	3, 4	FAX initial setting	Tone of the reception sound	550Hz	0 0	
				1000Hz	0 1	
				1700Hz	1 0	
	5 - 7	FAX initial setting	Setting of the time of the transmission/reception error sound	Not used	0 0 0	
				1 : 2.0s	0 0 1	
				2 : 2.5s	0 1 0	
				3 : 3.0s	0 1 1	
				4 : 3.5s	1 0 0	
				5 : 4.0s	1 0 1	
				Not used	1 1 0	
				Not used	1 1 1	
	8	FAX initial setting	External telephone connection	0 : OFF	1 : ON	
61	1 - 4	FAX initial setting	Distinctive link	OFF	0 0 0 0	
				Standard/ON	0 0 0 1	
				Pattern 1	0 0 1 0	
				Pattern 2	1 0 0 0	
				Pattern 3	0 1 0 0	
				Pattern 4	1 1 0 0	
				Pattern 5	0 0 1 0	
				ON (Australia)	1 0 1 0	
				ON (New Zealand)	1 1 1 0	
				ON (Hong Kong)	1 0 0 1	
	5	FAX initial setting	Telephone/FAX in automatic transmission	0 : OFF	1 : ON	
61	6	FAX initial setting	Dial-in function	0 : Invalid	1 : Valid	
	7	FAX initial setting	1300Hz detection	0 : Detect	1 : Not detect	
	8	FAX initial setting	Answerphone connection function	0 : OFF	1 : ON	
62	1 - 4	FAX initial setting	Answerphone call number setting	Setting range 0 - 15 times		Two states input
	5 - 8		Not used			
63	1 - 8	FAX initial setting	Remote changeover number setting	Setting range 0 - 9		Two states input
64	1 - 3	FAX initial setting	PBX setting	OFF	0 0 0	
				Flash	1 0 1	
				ID	1 1 0	
	4	FAX initial setting	Data printing hold key operation	0 : Prohibited	1 : Permitted	
	5, 6		Not used			
	7, 8	FAX initial setting	Paper size setting	A4	0 0	
				8.5 inch	0 1	
				Do not set	1 0	
				16K	1 1	
65	1 - 3	FAX initial setting	Image quality priority selection	Ordinary lettering	0 0 0	
				Small lettering	0 0 1	
				Fine	0 1 0	
				Very fine	0 1 1	
				Not used	1 0 0	
				Small lettering, medium tone	1 0 1	
				Fine, medium tone	1 1 0	
				Very fine, medium tone	1 1 1	
	4 - 8	FAX initial setting	Density default setting	OFF	Automatic	
				Light	1 0 0 0 0	
				Slightly light	0 1 0 0 0	
				Middle	0 0 1 0 0	
				Deep	0 0 0 1 0	
				Slightly deep	0 0 0 0 1	
				Use default values	Other settings than above settings	

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
66	1	FAX transmission setting	Memory send/Direct send Default setting	0 : Memory send	1 : Direct send	
	2	FAX transmission setting	Quick Memory transmission changeover	0 : Prohibited	1 : Permitted	
	3	FAX initial setting	Designation of date and source printing position	0 : Outside of document (outside of send data)	1 : Inside of document (inside of send data)	
	4 - 5	FAX initial setting	Address confirmation function	OFF	0 0	
				ON	0 1	
				Only for applying the direct input	1 0	
				Not used	1 1	
67	6 - 8		Not used			
	1 - 4	FAX initial setting	Interval between recalls when busy	Setting range 1 - 15 min 4 - 15 min (Taiwan)		Two states input
68	5 - 8	FAX initial setting	Number of re-calls when busy	Setting range 0 - 15times (Japan, Taiwan) 0 - 14 times (North America, Canada) 0 - 10 times (England, Germany, France, Middle east, South Africa) 0 - 9 (Australia, New Zealand, Singapore, Malaysia, India) 0 - 3 (China, Hong Kong)		Two states input
	1 - 4	FAX initial setting	Interval between recalls when communication error	Setting range 1 - 15 min 4 - 15 min (Taiwan) 1 - 15 min (Malaysia, Thailand, India) 0 - 15 min (Other countries than above countries) 0 : Re-send right after the line is disconnected		Two states input
69	5 - 8	FAX initial setting	Number of re-calls when communication error	Setting range 0 - 15times (Japan, Taiwan) 0 - 1 times (North America, Canada, Australia) 0 - 5 times (England, Germany, France, Middle east, South Africa) 0 - 9 (Australia, New Zealand, Hong Kong, Malaysia, India) 0 - 3 (China, Hong Kong) 0 - 14 (Taiwan) 0 - 9 (Singapore, Malaysia, India, Brasil)		Two states input
	1 - 4	Timer	Setting of call time (T0 timer setting) in automatic transmission	Setting range 30 - 45 s (China, Hong Kong) 30 - 75s (Japan) 30 - 35s (Russia) 30 - 60s (Other countries than above countries) 5s intervals $X (ms) = (N \times 5) + 30$		Two states input
	5	FAX initial setting	Selection of date and transmission source print	0 : OFF	1 : ON	Two states input
70	6 - 8		Not used			
	1 - 2	FAX initial setting	Reception Lamp	Pattern1	0 0 0	
				Pattern2	1 0 1	
				Pattern3	1 1 0	
	3 - 5	FAX initial setting	Call sound number	Setting range 0 - 15times (Japan, Taiwan, North America, Malaysia, India) 2 - 4 times (New Zealand, Australia) 0 - 3 times (Singapore) 0 - 9 (Other countries than above countries)		Two states input
	7	FAX reception setting/ Setting	Setting for changing over to automatic reception during manual reception	0 : Prohibited	1 : Permitted	
70	8	FAX initial setting	Paper tray setting (Tray 1)	0 : OFF	1 : ON	

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
71	1	FAX initial setting	Paper tray setting (Tray 2)	0 : OFF	1 : ON	
	2, 3	FAX initial setting	Output setting	Reduce the size	0 0	
				Same size	0 1	
				Separate	1 0	
	4	FAX reception setting	Double-faced printing of received data (double-faced reception setting)	0 : Prohibited	1 : Permitted	
	5		Setting of size selection in A4 data reception (AB series)	0 : 210mm with printing	1 : 8.5 inch printing	
	6	FAX reception setting	Specified number reception Enable/Disable setting	0 : Reception Enable	1 : Reception Disable	
	7	FAX initial setting	Polling protection	0 : Protect	1 : Do not protect	
	8		Not used			
72	1 - 4	FAX initial setting	FAX copy off center adjustment (SPF)	0 dot	0 0 0 0	
				7 dot	0 0 0 1	
				14 dot	0 0 1 0	
				21 dot	0 0 1 1	
				28 dot	0 1 0 0	
				35 dot	0 1 0 1	
				42 dot	0 1 1 0	
				49 dot	0 1 1 1	
				0 dot	1 0 0 0	
				- 7 dot	1 0 0 1	
				-14dot	1 0 1 0	
				- 21 dot	1 0 1 1	
				- 28 dot	1 1 0 0	
				- 35 dot	1 1 0 1	
				- 42 dot	1 1 1 0	
				- 49 dot	1 1 1 1	
72	5 - 8	FAX initial setting	FAX copy off center adjustment (OC)	0 dot	0 0 0 0	
				7 dot	0 0 0 1	
				14 dot	0 0 1 0	
				21 dot	0 0 1 1	
				28 dot	0 1 0 0	
				35 dot	0 1 0 1	
				42 dot	0 1 1 0	
				49 dot	0 1 1 1	
				0 dot	1 0 0 0	
				- 7 dot	1 0 0 1	
				-14dot	1 0 1 0	
				- 21 dot	1 0 1 1	
				- 28 dot	1 1 0 0	
				- 35 dot	1 1 0 1	
				- 42 dot	1 1 1 0	
				- 49 dot	1 1 1 1	
73-80			Not used			
81	1 - 4	Adjustment value	Signal sending level	0 - 15 dBm		
	5 - 8		Not used			
82	1 - 3	Adjustment value	Time setting before dialing (20PPS)	50ms	0 0 0	
				60ms	0 0 1	
				70ms	0 1 0	
				80ms	0 1 1	
				90ms	1 0 0	
				100ms	1 0 1	
				110ms	1 1 0	
				120ms	1 1 1	
	4 - 6	Adjustment value	Time setting before dialing (DTMF)	30ms	0 0 0	
				40ms	0 0 1	
				50ms	0 1 0	
				60ms	0 1 1	
				70ms	1 0 0	
				80ms	1 0 1	
				90ms	1 1 0	
				100ms	1 1 1	
	7, 8		Not used			
83	1 - 4	Adjustment value	Setting of DTMF send level (high group)	Setting range 0(0dBm) - 15 (-15dBm) 1dBm intervals		Two states input
	5 - 8	Adjustment value	Setting of DTMF send level (low group)	Setting range 0(0dBm) - 15 (-15dBm)		Two states input

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
84	1 - 4	Adjustment value	Setting of DTMF send maximum level (high group)	Setting range 0(0dBm) - 15 (-15dBm)		Two states input
	5	Adjustment value	Setting of DTMF send level (low group adjustment)	0 : 0.5dBm adjustment OFF	1 : 0.5dBm adjustment ON	
	6	Adjustment value	Setting of DTMF send level (high group adjustment)	0 : 0.5dBm adjustment OFF	1 : 0.5dBm adjustment ON	
	7	Adjustment value	Polar reverse check when calling	0 : OFF	1 : ON	
	8		Not used			
85	1, 2	Busy tone detection	Report output (when sending the data)	Do not change	0 0	
				Not used	0 1	
				Not used	1 0	
				Not used	1 1	
	3, 4	Setting	External line on-hook time	100ms	0 0	
				200ms	0 1	
				300ms	1 0	
				400ms	1 1	
	5	Setting	External line on-hook detection	0 : Photo coupler	1 : Line voltage	
	6, 7	Setting	External line on-hook detection threshold with Line voltage	16V	0 0	
				18V	0 1	
				20V	1 0	
				22V	1 1	
	8		DPMUTE control	0 : OFF	1 : ON	
86	1 - 4	Adjustment value	DPMUTE time after dialing	$X(\text{ms}) = (N * 5) + 5$		Two states input
	5 - 8	Adjustment value	The interval till the next call after finishing the communication	Setting range 0 - 15s		Two states input
87	1	Adjustment value	Manual calibration	0 : Perform manual calibration	1 : Does not perform manual calibration	Two states input
	2, 3	Adjustment value	External line off-hook detection time under the simulated voltage addition	50ms	0 0	
				100ms	0 1	
				200ms	1 0	
				300ms	1 1	
	4 - 8		Not used			
88-89			Not used			
90	1 - 8	Adjustment value	Minimum cycle of CI signal	CI signal maximum cycle +1 to 255 ms(1ms interval)		Two states input
91	1 - 8	Adjustment value	Maximum cycle of CI signal	12 to 254 ms(1ms interval)		Two states input
92	1 - 3	Adjustment value	CI signal ON detection time	155ms	0 0 0	
				165ms	0 0 1	
				175ms	0 1 0	
				185ms	0 1 1	
				195ms	1 0 0	
				205ms	1 0 1	
				215ms	1 1 0	
				225ms	1 1 1	
	4	Adjustment value	Ring ON OFFSET	0 : No	1 : +100ms	Two states input
	5	Adjustment value	Ring OFF OFFSET	0 : No	1 : +100ms	Two states input
	6 - 8		Not used			
93	1 - 8	Adjustment value	CI signal Threshold value	Not used at this moment		Two states input
94-95			Not used			
96	1	Adjustment value	Telephone/FAX CNG judgement	0 : Perform CNG judgement	1 : Does not perform CNG judgement	
	2	Adjustment value	Telephone/FAX CNG 4s observation	0 : Observe 4s	1 : Does not observe 4s.	
	3 - 8		Not used			

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
97	1	Adjustment value	Telephone/FAX CNG judgement	0 : Perform CNG judgement	1 : Does not perform CNG judgement	
	2 - 3	Setting	Time out setting when the image cannot be detected during receiving the data (V1.7)	30s	0 0	
				40s	0 1	
				50s	1 0	
				60s	1 1	
	4 - 7	Adjustment value	Maximum signal send level	Setting range 0(0dBm) - 15 (-15dBm)		Two states input
	8	Adjustment value	Maximum signal send level adjustment	0 : Not used	1 : 0.5dBm adjustment	Two states input
98	1	FAX initial setting	ECM byte/frame	0 : 256[byte/frame]	1 : 64[byte/frame]	
	2	FAX transmission setting	JBIG encode line template selection	0 : 3 line template	1 : 2 line template	
	3	FAX initial setting	Apply with the one stripe and one page length when receiving the JBIG data.	0 : Applied	1 : Not applied	
	4	FAX initial setting	JBIG encode TP mode	0 : TP mode invalid	1 : TPmode valid	
	5	FAX initial setting	Last stripe	0 : Applied	1 : Not applied	
	6 - 7	FAX initial setting	Timer setting between flag and address (V.21 to FSK)	6s	0 0	
				15s	0 1	
				30s	1 0	
				120s	1 1	
99	8		Waiting time between flames	0 : 3.4s	1 : 4.4s	
	1	Adjustment value	Time up time on v.8 mode	0 : 10s	1 : 15s	
	2	Adjustment value	Timer out between flames	0 : Does not check	1 : Check	
	3 - 4	Setting	Minimum flag numbers between flames	1-flag	0 0	
				2-flag	0 1	
				3-flag	1 0	
				4-flag	1 1	
	5 - 6	Setting	Time out setting when the image cannot be detected during receiving the data	30s	0 0	
				60s	0 1	
				90s	1 0	
				120s	1 1	
	7 - 8	Setting	PPR occurrence number limitation when the image cannot be detected during receiving the data	No limitation	0 0	
				5 times	0 1	
				10 times	1 0	
				15 times	1 1	
100	1	FAX initial setting	Moves to non-V.34 communication	0 : Does not move	1 : Move	
	2 - 6	Adjustment value	Timeout value used by the answering modem from the beginning of the +FRH=FSKL command to the +A8I:0 indicator	Setting range 0 - 26s		Two states input
	7 - 8	Setting	Threshold of Packet error ratio	Not used	0 0	
				100%	0 1	
				50%	1 0	
				33.3%	1 1	
101	1		Silent time adjustment when receiving CM	0 : 75ms	1 : 500ms	
	2		Individual SiDaa setting judgement after AT+GCI (ADDG1)	0 : Only GCI command of AT	1 : Activate the SW of individual SiDAA register (U62) below GCI +.	
	3		Individual SiDaa setting judgement after AT+GCI (ADDG3)	0 : Only GCI command of AT	1 : Activate the SW of individual SiDAA register (U63) below GCI +.	
	4		Individual SiDaa setting judgement after AT+GCI (ADDG4)	0 : Only GCI command of AT	1 : Activate the SW of individual SiDAA register (U65) below GCI +.	
	5		Individual SiDaa setting judgement after AT+GCI (ADDG5)	0 : Only GCI command of AT	1 : Activate the SW of individual SiDAA register (U66) below GCI +.	
	6		Individual SiDaa setting judgement after AT+GCI (ITC1)	0 : Only GCI command of AT	1 : Activate the SW of individual SiDAA register (U67) below GCI +.	
	7		Individual SiDaa setting judgement after AT+GCI (ITC3)	0 : Only GCI command of AT	1 : Activate the SW of individual SiDAA register (U68) below GCI +.	
	8		Individual SiDaa setting judgement after AT+GCI (ITC4)	0 : Only GCI command of AT	1 : Activate the SW of individual SiDAA register (U6A) below GCI +.	

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
102	1		U62 Reg. DAAC1 FULL2	0 : DAA FULL2 bit cleared	1 : DAA FULL2 bit set.	
	2		U62 Reg. DAAC1 On-Hook Speed 2	0 : Not used at this moment	1 : Not used at this moment	
	3		U62 Reg. DAAC1 FOH	0 : Automatic calibration timer set to 426 ms.	1 : Automatic calibration timer set to 106 ms.	
	4		U62 Reg. DAAC1 DL	0 : Digital loopback beyond isolation capacitor interface.	1 : Digital loopback across isolation capacitor interface only.	
	5 - 8		U63 Reg. DAAC3 AC Termination Select	Real 600 Ω	0 0 0 0	
				220 Ω + (820 Ω 120 nF) and 220 Ω + (820 Ω 115 nF)	0 0 1 1	
				370 Ω + (620 Ω 310 nF)	0 1 0 0	
				Global complex impedance	1 1 1 1	
103	1		U65 Reg. DAAC4 PWM Gain	0 : No gain.	1 : 6 dB gain applied to AOUT.	
	2		U65 Reg. DAAC4 Powerdown	0 : Normal.	1 : Powerdown.	
	3		U65 Reg. DAAC4 Powerdown Line-Side Chip	0 : Normal operation.	1 : Places the Si3018 in powerdown mode.	
	4		U66 Reg. DAAC5 Frame Detect	0 : Isolation link frame lock not established.	1 : Isolation link frame lock established.	
	5 - 6		U67 Reg. ITC1 Minimum Operational Loop Current	10mA	0 0	
				12mA	0 1	
				14mA	1 0	
				16mA	1 1	
	7		U67 Reg. ITC1 Current Limiting Enable	0 : Current limiting mode disabled.	1 : Current limiting mode enabled.	
	8		U67 Reg. ITC1 DC Impedance Selection	0 : 50 Ω dc termination slope is selected.	1 : D800 Ω dc termination is selected.	
104	1 - 2		U67 Reg. ITC1 TIP/RING Voltage Adjust	3.1 V–4 dB	0 0	
				3.2 V–2 dB	0 1	
				3.35 V0 dB	1 0	
				3.5 V0 dB	1 1	
	3		U67 Reg. ITC1 Ringer Impedance	0 : Maximum (high) ringer impedance.	1 : Synthesize ringer impedance. C	
	4		U67 Reg. ITC1 Ringer Threshold Select	0 : 11 to 22 Vrms.	1 : 17 to 33 Vrms.	
	5		U67 Reg. ITC1 On-Hook Speed	0 : Not used at this moment	1 : Not used at this moment	
	6		U68 Reg. ITC3 Billing Tone Protect Enable	0 : Disabled.	1 : Enabled.	
105	7		U68 Reg. ITC3 Receive Overload	0 : Normal receive input level.	1 : Excessive receive input level.	
	8		U68 Reg. ITC3 Billing Tone Detected	0 : No billing tone.	Billing tone detected (cleared by writing 0).	
	1		U6A Reg. ITC4 Spark quenching. SQ1	0 : Not used at this moment	1 : OHS OHS2 SQ1 SQQ AOUT.	
	2		U6A Reg. ITC4 Spark quenching. SQQ	0 : 0 1 0 0 3ms +/- 10% (meets ETSI standard)	1 : 1 x 1 1 26 ms +/- 10% (meets Australia spark quenching spec).	
	3		U6A Reg. ITC4 Loop current loss:	0 : No loop current loss	1 : Loop current loss	
	4		1800 Hz Guard Tone Enable	0 : Disable	1 : Enable	
	5 - 6		V.34 Precoder Options.	Allow precoder use. However, if packet error percentage is greater than UD6 threshold, negotiate lower primary channel rate and stop using precoder.	0 0	
				Allow precoder use. However, if packet error percentage is greater than UD6 threshold, negotiate lower primary channel rate but keep using precoder.	0 1	
				Never use precoder	1 0	
				Never use precoder	1 1	
	7		Disable automatic TX level control during V.34 transmission.	0 : automatic TX level control during V.34 enabled.	1 : automatic TX level control during V.34 disabled.	
	8		Not used			

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
106	1 - 4		V.34 Connection Aggressiveness Control	Use ROM Table with automatic aggressiveness setting.	0 0 0 0	
				Use ROM Table (most aggressive).	0 0 1 0	
				Use ROM Table (more aggressive).	0 0 1 1	
				Use ROM Table (aggressive).	0 1 0 0	
				Use ROM Table (less aggressive).	0 1 0 1	
				Use ROM Table (least aggressive).	0 1 1 0	
	5 - 6		G3 dropout threshold	6.0 dB	0 0	
				4.1 dB	0 1	
				2.5 dB	1 0	
				1.1 dB	1 1	
	7		Disable G3 Echo Suppression when the modem is the originator.	0 : G3 Echo Suppression Enabled	1 : G3 Echo Suppression Disabled	
	8		Disable G3 Echo Suppression when the modem is the answerer.	0 : G3 Echo Suppression Enabled	1 : G3 Echo Suppression Disabled	
107	1		Add slight pre-emphasis to V.34 CC to overcome attenuation at high frequency.	0 : Enable	1 : Disable	
	2		Mechanism to watch for the case where the V.34 Primary Channel	0 : Enable this mechanism	1 : Disable this mechanism	
	3 - 5	Number of additional V.34 control channel inter frame flags		0-flag	0 0 0	
				1-flag	0 0 1	
				2-flag	0 1 0	
				3-flag	0 1 1	
				4-flag	1 0 0	
				5-flag	1 0 1	
				6-flag	1 1 0	
				7-flag	1 1 1	
	6 - 8	Number of additional V.34 primary channel inter frame flags		0-flag	0 0 0	
				1-flag	0 0 1	
				2-flag	0 1 0	
				3-flag	0 1 1	
				4-flag	1 0 0	
				5-flag	1 0 1	
				6-flag	1 1 0	
				7-flag	1 1 1	
108	1 - 4		Guaranteed V.34 preamble duration for primary channel	Setting value +50ms		Two states input
	5 - 8		Guaranteed V.34 preamble duration for control channel	Setting value +50ms		Two states input
109	1 - 3		Delayed time from ANSam detection	1.0s	0 0 0	
				1.5s	0 0 1	
				2.0s	0 1 0	
				2.5s	0 1 1	
				3.0s	1 0 0	
				3.5s	1 0 1	
				4.0s	1 1 0	
				4.5s	1 1 1	
	4 - 5		Not used			
	6		Measure the communication time (Image)	0 : OFF	1 : ON	
	7 - 8		Not used			
110 - 111			Not used			
112	1, 2		CNG send starting time	0.5s	0 0	
				1.0s	0 1	
				1.5s	1 0	
	3, 4		RCP send number	3 times	0 0	
				6 times	0 1	
				9 times	1 0	
				12 times	1 1	
	5, 6		V.34 retrain PPR number when sending	Does not retrain	0 0	
				1 times	0 1	
				2 times	1 0	
				3 times	1 1	
	7, 8		CI send number to move to non-V.34 communication	Does not retrain	0 0	
				1 times	0 1	
				2 times	1 0	
				3 times	1 1	

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
113	1	FAX initial setting/ Adjustment value	Super G3 invalid when the last call is re-sent at error	0 : Super G3 invalid	1 : Super G3 valid	
	2	FAX initial setting	Prohibit/Permit the re-call of direct send	0 : Prohibited	1 : Permitted	
	3, 4		Waiting time for starting sending G3	4.5s	0 0	
				5.0s	0 1	
				6.0s	1 0	
				7.0s	1 1	
	5		Operation when receiving EER flame	0 : Does not continue operation	1 : Continue operation	
	6 - 8		Not used			
114 - 115			Not used			
116	1, 2		Line error ratio of RTN sending	6line	0 0	
				12line	0 1	
				60line	1 0	
				120line	1 1	
	3, 4		Waiting time of CED starting sending	2.25s	0 0	
				3s	0 1	
				4s	1 0	
	5, 6		Waiting time of ANSam starting sending	2.25s	0 0	
				3s	0 1	
				4s	1 0	
	7, 8		Not used			
117	1 - 8		ANSam and CED Transmit Power Level Adjustment.	Not used at this moment		Two states input
118	1, 2		CI send number to move to non-V.34 communication	Does not move	0 0	
				1 times	0 1	
				2 times	1 0	
				3 times	1 1	
	3, 4		V.34 retrain PPR number when receiving Data ratio : More than 16800bps	Does not retrain	0 0	
				1 times	0 1	
				2 times	1 0	
				3 times	1 1	
	5, 6		V.34 retrain PPR number when receiving Data ratio : More than 14400bps	Does not retrain	0 0	
				1 times	0 1	
				2 times	1 0	
				3 times	1 1	
	7		Primary channel fall back when V.34 is received	0 : Does not fall back	1 : Fall back	
	8		Not used			
119	1, 2		Threshold of primary channel fall back EQM when V.34 is received	Not used at this moment	0 0	
				Not used at this moment	0 1	
				Not used at this moment	1 0	
				Not used at this moment	1 1	
	3, 4		SC threshold of TCF reception judgement	Loose(-3 dB against the Normal)	0 0	
				Normal (Default)	0 1	
				Severe (+3 dB against the Normal)	1 0	
				Not used at this moment	1 1	
	5 - 8		Prohibit the waiting after sending CFR for 1.6 sec.	Setting range 0 - 3000ms		Two states input
120	1 - 4		High speed CD OFF decision time	Setting range 0(150ms) - 15(1650ms) Interval 100ms		Two states input
	5 - 8		Not used			
121 - 122			Not used			

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
123	1		Alternate reception	0 : OFF	1 : ON	
	2		Document quantity count confirmation when the error occurs	0 : Remove the sending error page	1 : Include the sending error page	
	3		Remaining receivable memory	0 : 128KB	1 : 64KB	
	4		Recover from the energy saving of external telephone	0 : Does not recover	1 : Recover	
	5		Origin telephone number registration	0 : Possible	1 : Impossible	
	6		PC-FAX job finish waiting time	0 : 2min	1 : 10min	
	7, 8		Modem speaker volume	OFF Low Medium High	0 0 0 1 1 0 1 1	
124	1		Telephone line menu	0 : Permitted	1 : Prohibited	
	2		Extend the time of FSS data reception (Extend the communication time)	0 : Not used at this moment	1 : Not used at this moment	
	3		Answerphone connection permission	0 : OFF	1 : ON	
	4 - 7	TEL/LIU PWB setting	Japan	0 0 0 0		
			Europe	0 0 1 0		
			North America	0 0 1 1		
			No	0 1 0 0		
			Asia	0 1 0 1		
			China	0 1 1 0		
	8		Not used			
125	1		Test mode judgement flag	0 : Normal mode	1 : Test mode	
	2, 3	Threshold of primary channel fall back EQM when V.34 is received	Very fine	0 0		
			Fine	0 1		
			Small	1 0		
			Normal	1 1		
	4		Debug display	0 : Does not display	1 : Display	
	5		Encryption	0 : Does not encrypt	1 : Encrypt	
	6, 7	Delayed time when releasing the line during the dial test	2s	0 0		
			3s	0 1		
			4s	1 0		
			5s	1 1		
126	8		Not used			
	1		CNG display function	0 : CNG display valid	1 : CNG display invalid	
	2		CNG detection judgement	0 : Normal mode	1 : CNG detection invalid	
	3 - 8		Not used			
127 - 139			Not used			
140	1		F code password transmission setting when the other party's machine has no password capacity	0 : Disconnect with DCN	1 : Send with password	
	2		Observe the polar reverse during communication	0 : OFF	1 : ON	
	3		Print the copy of the sending contents when sending the F code.	0 : Print	1 : Does not print	
	4, 5	Speaker volume when sending DTMF	No sound	0 0		
			Small	0 1		
			Middle	1 0		
			Large	1 1		
	6		CI detection method	0 : Ring detection circuit	1 : Silicon DAA-RGDT signal	
	7		AGC lock	0 : Not used at this moment	1 : Not used at this moment	
	8		V.17 Tap hold	0 : Not used at this moment	1 : Not used at this moment	
	1 - 4		FSK signal decision time	Not used at this moment		
	5 - 8		Starting time of silence detection	Setting range 0 - 15s		Two states input
142	1 - 8		Finish time of silence detection	0 : No limit Setting range 1 - 255s		Two states input
143	1 - 4		Threshold vale 1 of symbol speed detection	Not used at this moment		
	5 - 8		Threshold vale 2 of symbol speed detection	Not used at this moment		

SW No.	Bit No.	System settings	Item	SW selection and function		Remarks
144	1		Detect the answerphone with silence	0 : OFF	1 : ON	
	2		CI disappearance judgement	0 : OFF	1 : ON	
	3, 4		Filter time when detecting CI signal.	Not used at this moment	0 0	
				Not used at this moment	0 1	
				Not used at this moment	1 0	
				Not used at this moment	1 1	
145 - 150	5 - 8		Not used			
			Not used			

B. Fax software switch initial value list

Destination	Destination name	Destination	Destination name	Destination	Destination name
A	North America	N	India	a	South Africa
B	Australia	O	Hong Kong	b	Czech
C	U.K.	P	Sweden	c	Slovakia
D	Germany	Q	Spain	d	Hungary
E	France	R	Portugal	e	Greece
F	Australia	S	Italy	f	Poland
G	New Zealand	T	Switzerland	g	Russia
H	China	U	Finland	h	Brazil
I	Taiwan	V	Denmark	i	Viet Nam
J	Singapore	W	Norway	j	Korea
K	Malaysia	X	Netherland		
L	Thailand	Y	Luxemburg		
M	Middle East	Z	Belgium		

SW NO.	Bit NO.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	i	j
SW1	1	1	0	1	0	0	0	0	0	1	1	0	1	1	0	0	1	1	1	0	1	0	0	1	0	0	0	1	0	1	0	0	1	1	0	1	0
	2	0	0	0	0	0	0	1	0	1	0	1	0	1	1	1	0	0	0	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	0	1
	3	1	1	1	0	1	0	1	1	1	0	1	1	1	0	0	1	1	0	0	1	1	1	0	1	1	0	0	1	1	0	0	0	1	0	1	1
	4	1	0	1	0	1	0	1	0	1	1	0	0	1	1	1	0	0	0	1	0	1	1	0	1	0	0	1	0	1	1	0	0	1	1	1	0
	5	0	0	0	0	1	1	1	0	1	1	1	1	1	0	0	0	0	1	1	0	1	0	0	1	1	1	1	1	1	0	0	1	1	0	1	0
	6	1	0	1	1	1	0	1	1	1	1	1	0	1	0	0	1	0	0	0	1	1	0	0	0	0	1	1	1	1	0	1	0	0	1	1	0
	7	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	1	0	1	0	0	1	1	0	1	1	1	0	0	1	1	0	1	0
	8	1	0	0	0	1	1	0	0	0	0	0	0	1	1	1	0	1	0	1	1	0	0	1	0	1	1	1	1	0	0	1	0	0	0	0	0

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MX-C250 SIMULATION 6 – 91

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SW NO.	Bit NO.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	i	j
SW82	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW83	1	0	0	1	1	1	0	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
	2	1	1	0	0	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	3	1	1	0	0	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	4	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0
	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	7	0	0	1	1	1	0	0	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0
SW84	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
	6	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SW85	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8	0	0	0	0	0	1	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
SW86	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0
	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0
	7	0	0	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0
	8	1	1	0	0	0	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1
SW87	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

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[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

4

	BT				
		ON Time 1	OFF Time 1	Minimum cycle	Maximum cycle
		Total Time		Minimum ON Time	
Japan		500	500	640	1400
		1000		320	
North America		500	500	500	1000
		1000		250	
U.K.		375	375	300	1410
		750		150	
Germany		480	480	300	1410
		960		150	
France		500	500	300	1410
		1000		150	
Australia		375	375	600	2500
		750		300	
New Zealand		500	500	500	1000
		1000		250	
China		350	350	700	1400
		700		350	

Taiwan
Singapore
Malaysia
Thailand
Middle East
India
Hong Kong

		BT			
		ON Time 1	OFF Time 1	Minimum cycle	Maximum cycle
		Total Time		Minimum ON Time	
Sweden	I	250	250	300	1410
		500		150	
	II	500	500		
		1000			
Spain	I	200	200	300	1410
		400		150	
	II	500	500		
		1000			
Portugal		500	500	300	1410
		1000		150	
Italy		500	500	300	1410
		1000		150	
Switzerland		500	500	300	1410
		1000		150	
Finland		300	300	300	1410
		600		150	
Denmark	I	250	250	300	1410
		500		150	
	II	500	500		
		1000			
Norway		500	500	300	1410
		1000		150	
Netherland		500	500	300	1410
		1000		150	
Luxemburg		480	480	300	1410
		960		150	
Belgium		500	500	300	1410
		1000		150	
South Africa		500	500	500	1100
		1000		250	
Czech		330	330	300	1410
		660		150	
Slovakia		330	330	300	1410
		660		150	
Hungary		300	300	300	1410
		600		150	
Greece		300	300	300	1410
		600		150	
Poland		500	500	300	1410
		1000		150	
Russia		400	400	600	800
		800		300	
Brazil		250	250	450	550
		500		225	
Viet Nam				300	1410
				150	
Korea				500	1000
				300	

	Default values		
	Lower limit of the detection time during talking	Upper limit of the detection time during talking	Minimum BT ON time
	SW20 - 1-4	SW20 - 5-8	SW15 - 1-4
Japan	570	1600	280
North America	450	1100	220
U.K.	270	1560	140
Germany	270	1560	140
France	270	1560	140
Australia	540	2750	270
New Zealand	450	1100	220
China	630	1540	310
Taiwan	570	1600	280
Singapore	450	1650	220
Malaysia	680	1100	450
Thailand	540	1100	270
Middle East	450	1760	200
India	450	1650	220
Hong Kong	450	1210	220
Sweden	270	1560	140
Spain	270	1560	140
Portugal	270	1560	140
Italy	270	1560	140
Switzerland	270	1560	140
Finland	270	1560	140
Denmark	270	1560	140
Norway	270	1560	140
Netherland	270	1560	140
Luxemburg	270	1560	140
Belgium	270	1560	140
South Africa	450	1210	220
Czech	270	1560	140
Slovakia	270	1560	140
Hungary	270	1560	140
Greece	270	1560	140
Poland	270	1560	140
Russia	270	880	140
Brazil	400	610	200
Viet Nam	270	1560	140
Korea	450	1100	270

[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 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.

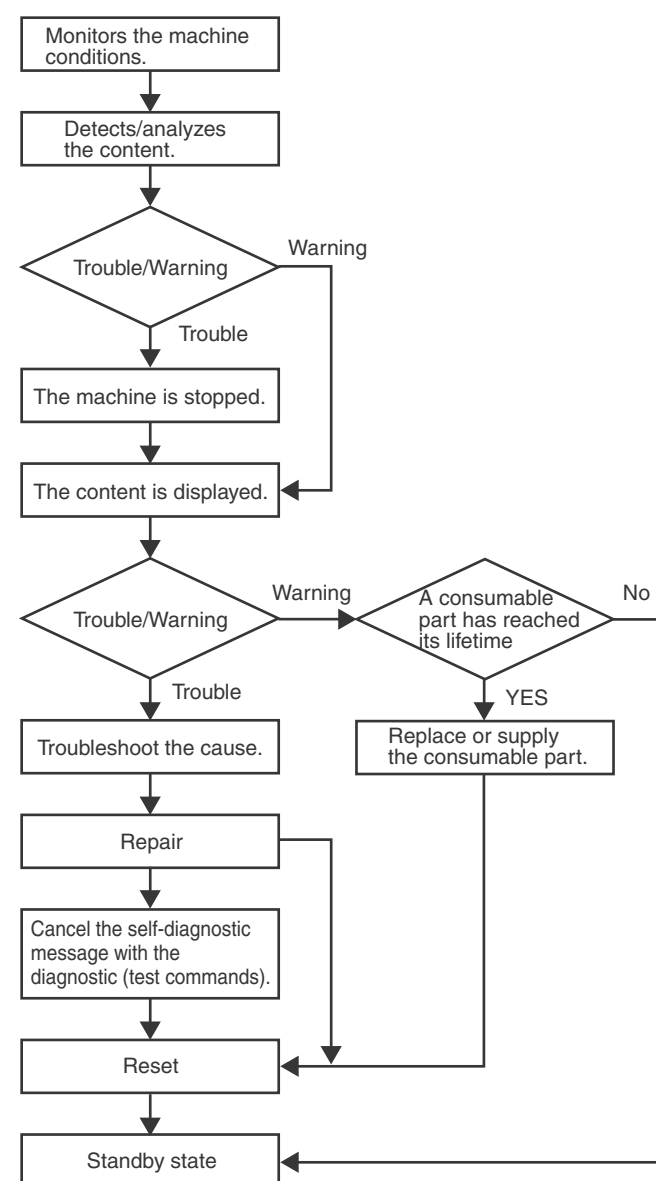
A warning message is displayed when a consumable part life is nearly expired or is expired.

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 operatable mode

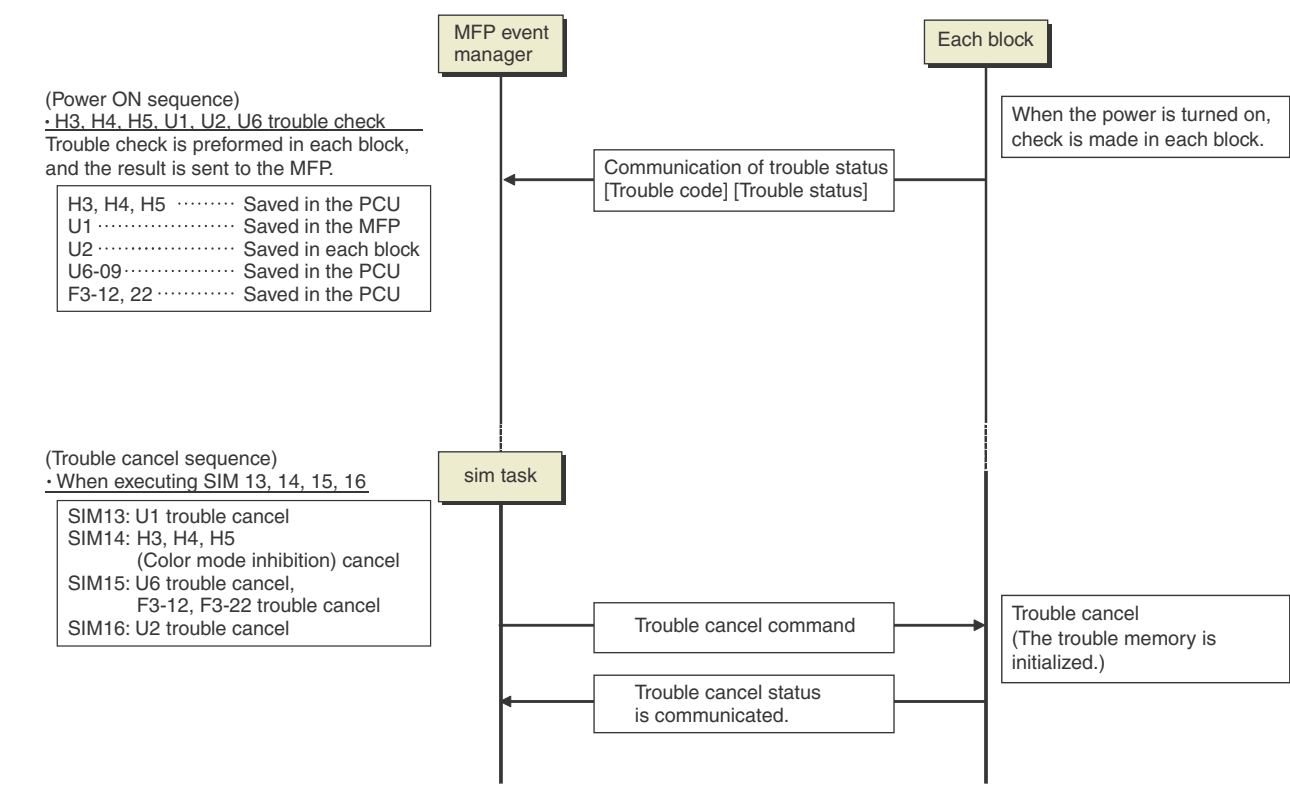
Trouble content		Judgment block	Trouble code	Operatable mode								
				Copy scan (including interruption)	Scan (Push)	Scan (Pull)	Scan-To HDD	Print	List print	FAX Send	FAX print	FAST Notification to host
FAX board trouble	FAX board breakdown	MFPC	F6 (00, 04, 21)	X	X	X	X	X	X	X	X	X
OPU communication trouble	OPU communication trouble		U9(00,81,82,84,88,99)									
Backup battery voltage fall trouble	Backup battery voltage fall		U1 (01)	X	X	X	X	X	X	X	X	X
Connection trouble Operation disable trouble 2	Memory error (included not installed the expansion RAM)		A0(30), U2 (00, 05, 11)	X	X	X	X	X	X	X	X	X
Operation disable trouble 3	Image memory trouble, decode error		E7(01,91,93)	X	X	X	X	X	X	X	X	X
Laser trouble	LSU breakdown		E7 (20, 28, 29) 6 (10)	X	X	X	X	X	X	X	X	X
Engine trouble 2	MFPC troubles (motor, fusing, etc.)		C1 (10)F2 (22, 40, 64, 70, 74)H2 (00, 02, 03)H3 (00, 02)H4 (00)H5 (01)H7 (10)L4 (02, 03, 04, 06, 17, 32, 34, 35, 40)L8 (02)	X	X	X	X	X	X	X	X	X
Process system trouble	Process system breakdown		E7 (21, 22, 23)F2 (23, 41, 42, 43, 65, 66, 67, 71, 72, 73, 75, 76, 77)	X	X	X	X	X	X	X	X	X
Paper feed tray 2 trouble	Paper feed tray 2 breakdown		F3 (22)	X	X	X	X	X	X	X	X	X
Other troubles	Other troubles		EE (EC, EL, EU)	X	X	X	X	X	X	X	X	X
Process control trouble	Process control breakdown (MFPC detection)		F2 (39, 47, 49, 50, 51, 58, 78)	X	X	X	X	X	X	X	X	X
SCU ASIC trouble	SCU ASIC error	MFPC	UC (02)	X	X	X	X	X	X	X	X	X
SCU communication trouble	SCU communication error		E7 (80)	X	X	X	X	X	X	X	X	X
Scanner trouble 2	Scanner section breakdown (motor, lens, copy lamp)		L1 (00)L3 (00)	X	X	X	X	X	X	X	X	X
CIS trouble	CIS breakdown (shading, etc.)		E7 (10, 11, 14)	X	X	X	X	X	X	X	X	X
SPF/DF trouble	RSPF/DF breakdown		U5 (40)	X	X	X	X	X	X	X	X	X

Error where only history data are saved

Trouble content	Judgment block	Trouble code	Operatable mode							
			Copy scan (including interrup-tion)	Scan (Push)	Scan (Pull)	Print	List print	FAX Send	FAX print	FAST Notific-aion to host
Error history	MFPC	F2 (45), E7(38)	O	O	O	O	O	O	O	O

O: Operation enabled X: Operation disabled

(2) Trouble detection sequence and trouble cancel sequence when turning on the power



(3) How to cancel the error code

Simulation	Error Code
SIM14	U1, H3, H4, H5
SIM16	U2
Power OFF - ON	Other errors

F. Error code list

(1)Error code

Trouble code		Trouble code content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
A0	30	Machine configuration error	MFPC			O		
C1	10	Main charger trouble (K)	MFPC			O		
E7	01	MFP image data error	MFPC			O		
	10	Shading error (Black correction)	MFPC			O		
	11	Shading error (White correction)	MFPC			O		
	14	CIS-ASIC error	MFPC			O		
	20	LSU BD(KC) detection error / LSU LD deform error (K)	MFPC			O		
	21	LSU LD deform error (C)	MFPC			O		
	22	LSU LD deform error (M)	MFPC			O		
	23	LSU BD(MY) detection error / LSU LD deform error (Y)	MFPC			O		
	28	LSU-MFPC connection error	MFPC			O		
	29	LSU ASIC frequency error	MFPC			O		
	38	Zoran chip AD adjustment error	MFPC			O		
	80	Flex RISC - SCU communication error	MFPC			O		
	90	MFP-PCU PWB communication error	MFPC			O		
	91	FAX reception image data error	MFPC				O	
	93	Copy, image send, FAX, filing, print image data process error	MFPC			O		
EE	EC	Automatic toner density adjustment error (Sampling level 76 - 117/ 139 - 178)	MFPC			O		
	EL	Automatic toner density adjustment error (Overtoner)	MFPC			O		
	EU	Automatic toner density adjustment error (Undertoner)	MFPC			O		
F2	22	Discharge lamp trouble (K)	MFPC					O
	23	Discharge lamp trouble (CMY)	MFPC					O
	39	Main unit thermister trouble	MFPC					O
	40	Toner density sensor trouble (K)	MFPC					O
	41	Toner density sensor trouble (C)	MFPC					O
	42	Toner density sensor trouble (M)	MFPC					O
	43	Toner density sensor trouble (Y)	MFPC					O
	45	K image density sensor trouble	MFPC					O
	47	Ozone duct thermister trouble	MFPC					O
	49	LSU thermister trouble	MFPC					O
	50	K drum phase sensor trouble	MFPC					O
	51	CL drum phase sensor trouble	MFPC					O
	58	Main unit humidity sensor trouble	MFPC					O
	64	Toner supply operation trouble (K)	MFPC					O
	65	Toner supply operation trouble (C)	MFPC					O
	66	Toner supply operation trouble (M)	MFPC					O
	67	Toner supply operation trouble (Y)	MFPC					O
	70	Improper toner cartridge detection (K)	MFPC					O
	71	Improper toner cartridge detection (C)	MFPC					O
	72	Improper toner cartridge detection (M)	MFPC					O
	73	Improper toner cartridge detection (Y)	MFPC					O
	74	Toner cartridge CRUM error (K)	MFPC					O
	75	Toner cartridge CRUM error (C)	MFPC					O
	76	Toner cartridge CRUM error (M)	MFPC					O
	77	Toner cartridge CRUM error (Y)	MFPC					O
	78	Registration image density sensor trouble (Transfer belt substrate reflection rate abnormality)	MFPC					O
F3	22	Paper feed tray 2 lift operation trouble	MFPC	O				
F6	00	Controller - FAX communication trouble	MFPC				O	
	04	FAX MODEM operation trouble	MFPC				O	
	21	Improper combination of FAX PWB and FAX soft switch	MFPC				O	
H2	00	Thermister open trouble (TH_UM_AD2)	MFPC	O				
	02	Sub thermister open trouble (TH_US)	MFPC	O				
	03	Compensation thermister open trouble	MFPC	O				
H3	00	Compensation thermister open trouble (TH_UM)	MFPC	O				
	02	Fusing section high temperature trouble (TH_US)	MFPC	O				
H4	00	Fusing section low temperature trouble (TH_UM_AD2)	MFPC	O				
H5	01	5 times continuous POD1 not-reach jam	MFPC	O				
H7	10	Fusing low temperature recovery trouble (TH_UM_AD2).	MFPC	O				
L1	00	Scanner feed trouble	MFPC	O				
L3	00	Scanner return trouble	MFPC	O				

Trouble code		Trouble code content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
L4	02	Paper feed motor trouble	MFPC					
	03	Fusing motor lock trouble	MFPC			O		
	04	Developing motor trouble	MFPC			O		
	06	Transfer unit lift trouble	MFPC			O		
	17	Drum motor lock trouble	MFPC					
	32	Power source cooling fan trouble	MFPC			O		
	34	LSU fan trouble	MFPC			O		
	35	Fusing cooling fan trouble	MFPC			O		
	40	Ozone fan motor 1 trouble	MFPC					
L6	10	Polygon motor trouble	MFPC			O		
L8	02	Full wave signal error	MFPC			O		
PC	-	Personal counter not detected	MFPC	O				
U1	01	Battery trouble	MFPC			O		
U2	00	MFPC EEPROM read/write error	MFPC			O		
	05	Erroneous detection of account management data	MFPC			O		
	11	MFPC PWB EEPROM counter check sum error	MFPC			O		
U5	40	SPF connection trouble	MFPC			O		
U9	00	Communication trouble between the controller and OPU	MFPC			O		
	81	OPU communication trouble (parity)	MFPC			O		
	82	OPU communication trouble (overflow)	MFPC			O		
	84	OPU communication trouble (flaming) * Flaming is the one kind of communication error related with the length and the parity bit.	MFPC			O		
	88	OPU communication trouble (time-out)	MFPC			O		
	99	OPU language error	MFPC			O		
UC	02	IPD ASIC (CPT) error	MFPC			O		

(2)Other error code

The following error is not registered in the history of the error. And, the following error can be canceled by the customer.

Error code	Error name
CE-00	General communication error
CE-01	Network controller trouble
CE-02	Not-specified mail/FTP server error
CE-03	Communication error in image send
CE-04	FTP server account name or authentication password input error
CE-05	FTP server directory input error
CE-06	E-mail address error
CE-09	E-mail file size error
CE-11	Scanner memory shortage
CE-12	LADP address number is over
CE-13	USB memory is not installed
CE-14	USB memory write protect
CE-15	Out of USB memory space
CE-16	USB memory I/O error
CE-17	USB memory other error

G. Details of error codes and countermeasures

A0-30 Machine configuration error

Cause	IFAX modem PWB is not connected properly FAX modem PWB is broken Wireless LAN PWB is not connected properly Wireless LAN PWB is broken RSPF/SPF is not connected properly RSPF/SPF is broken
Check & Remedy	Check connection of FAX modem PWB Replace FAX modem PWB Check connection of LAN PWB Replace LAN PWB Check connection of RSPF/SPF Replace RSPF/SPF

C1-10 Main charger trouble (K)

Cause	The main charger unit (K, C, M, Y) is not installed properly. There is an abnormality in the main charger unit (K, C, M, Y). Disconnection of the high voltage PWB connector. Breakage of the high voltage harness. DV PWB trouble. MFPC PWB trouble
Check & Remedy	Check the output of the main charger with SIM8-2. Check disconnection of the main charger./Replace. Check disconnection of the high voltage PWB connector. /Replace. Replace the DV PWB. Replace the MFPC PWB.

E7-01 MFP image data error

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. Replace the MFPC PWB.

E7-10 Shading error (Black correction)

Cause	Abnormality in the CIS black scan level when the copy lamp is turned OFF. Improper installation of the harness to the CIS unit/MFPC PWB. Improper installation of the harness to the CIS unit/AFE PWB. Improper installation of the harness to the MFP PWB/AFE PWB. CIS unit abnormality. AFE PWB abnormality. MFPC PWB abnormality.
Check & Remedy	Check connection of the harness to the CIS unit/MFP PWB. Check connection of the harness to the CIS unit/AFE PWB. Check connection of the harness to the AFE PWB/MFPC PWB. Check the CIS unit. Check the AFE PWB. Check the MFPC PWB.

E7-11 Shading error (White correction)

Cause	Abnormality in the CIS white reference plate scan level when the scanner lamp is turned ON. Improper installation of the harness to the CIS unit/MFP PWB. Improper installation of the harness to the CIS unit/AFE PWB. Improper installation of the harness to the MFPC PWB/AFE PWB. Dirt on the mirror, lens, and the reference white plate. Copy lamp lighting trouble. CIS unit abnormality. AFE PWB abnormality. MFPC PWB abnormality.
Check & Remedy	Check connection of the harness to the CIS unit/MFPC PWB. Check connection of the harness to the CIS unit/AFE PWB. Check connection of the harness to the MFP PWB/AFE PWB. Check connection of the harness to the Copy lamp unit. Clean the mirror, the lens, and the reference white plate. Check the CIS unit. Check the AFE PWB. Check the MFPC PWB

E7-14 CIS-ASIC error

Cause	MFP PWB trouble. AFE PWB trouble. MFP PWB trouble. Improper installation of the harness to the MFPC PWB/AFE PWB.
Check & Remedy	Check the MFP PWB. Replace the MFP PWB. Check the AFE PWB. Replace the AFE PWB. Check connection of the harness to the AFE PWB/MFPC PWB.

E7-20 LSU BD(KC) detection error / LSU LD deform error (K)

Cause	Optical axis shift. Reduced laser power, lighting error, laser diode trouble. BD PWB trouble. Harness and connector trouble between the LD/BD(KC) PWB and the LSUcnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.

E7-21 LSU LD deform error (C)

Cause	Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the LD PWB and the LSUcnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.

E7-22 LSU LD deform error (M)

Cause	Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the LD PWB and the LSU cnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.

E7-23 LSU BD(MY) detection error / LSU LD deform error (Y)

Cause	Optical axis shift. Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the PWB and the LSU cnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.

E7-28 LSU-MFPC connection error

Cause	Communication error between the CPU in the MFPC PWB and the control ASIC. Improper connection of the communication connector between the MFPC PWB and the LSU cnt PWB. Harness trouble between the MFPC PWB and the LSU cnt PWB MFPC PWB or LSU cnt PWB trouble
Check & Remedy	Check connection of the connector and the harness between the MFPC PWB and the LSU cnt PWB. Replace the LSU. Replace the MFPC PWB.

E7-29 LSU ASIC frequency error

Cause	Oscillation abnormality of the external oscillator and the internal oscillating circuit used in the LSU ASIC. LSU ASIC abnormality on the LSUcnt PWB. Frequency error of image transfer clock from the MFPC PWB.
Check & Remedy	Check connection of the connector and the harness between the MFPC PWB and the LSUcnt PWB.. Replace the MFPC PWB. Replace the LSU.

E7-38 Zoran chip AD adjustment error

Cause	The voltage on MFPC PWB is not stable The parts on the MFPC PWB are not soldered properly
Check & Remedy	Replace the MFPC PWB.

E7-80 Flex RISC- SCU communication error

Cause	FlexRISC trouble
Check & Remedy	Check fixation of the MFPC PWB Replace the MFPC PWB.

E7-91 FAX reception image data error

Cause	FAX control PWB trouble Image data process abnormality Flash memory contact error Image compression data corruption Control PWB trouble
Check & Remedy	Replace the fax control PWB Sim60-1 to check the read/write operations of the memory Replace the MFPC PWB

E7-93 Copy, image send, FAX, filing, print image data process error

Cause	Image compression data corruption Image data process abnormality Control PWB trouble
Check & Remedy	Replace the mother board. Sim60-1 to check the read/write operations of the memory Replace the MFPC PWB

EE-EC Automatic toner density adjustment error (Sampling level 76 - 117/139 - 178)

Cause	Toner density sensor trouble. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Replace the developing unit. Replace the PCU PWB.

EE-EL Automatic toner density adjustment error (Overtoner)

Cause	Toner density sensor trouble. Charging voltage/ developing voltage trouble, toner density trouble, or developing unit trouble. MFPC PWB trouble.
Check & Remedy	Replace the toner density sensor. Replace the developing unit. Replace the MFPC PWB.

EE-EU Automatic toner density adjustment error (Undertoner)

Cause	Toner density sensor trouble. Charging voltage/ developing voltage trouble, toner density trouble, or developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Replace the developing unit. Replace the MFPC PWB.

F2-22 Discharge lamp trouble (K)

Cause	Contact trouble between the discharge lamp PWB (K) and the MFPC PWB. Discharge lamp PWB (K) trouble. MFPC PWB trouble.
Check & Remedy	Replace the discharge lamp PWB (K). Check the harness and the connector. Replace the MFPC PWB.

F2-23 Discharge lamp trouble (CMY)

Cause	Contact trouble between the discharge lamp PWB (C) and the PCU PWB. Discharge lamp PWB (C) trouble. MFPC PWB trouble.
Check & Remedy	Replace the discharge lamp PWB (C). Check the harness and the connector. Replace the MFPC PWB.

F2-39 Process thermister trouble

Cause	Process thermister trouble. Process thermister harness connection trouble. MFPC PWB trouble
Check & Remedy	Replace the process thermister. Check connection of the harness and the connector. Replace the MFPC PWB.

F2-40 Toner density sensor trouble (K)

Cause	Toner density sensor output abnormality (Sample level 25 or less, or 231 or above) Connection trouble of the connector and the harness. Developing unit trouble. MFPC PWB trouble
Check & Remedy	Replace the toner density sensor. Harness and connector connection trouble. Replace the developing unit. Replace the MFPC PWB.

F2-41 Toner density sensor trouble (C)

Cause	Toner density sensor output abnormality (Sample level 25 or less, or 231 or above) Connection trouble of the connector and the harness. Developing unit trouble. MFPC PWB trouble
Check & Remedy	Replace the toner density sensor. Harness and connector connection trouble. Replace the developing unit. Replace the MFPC PWB.

F2-42 Toner density sensor trouble (M)

Cause	Toner density sensor output abnormality (Sample level 25 or less, or 231 or above) Connection trouble of the connector and the harness. Developing unit trouble. MFPC PWB trouble
Check & Remedy	Replace the toner density sensor. Harness and connector connection trouble. Replace the developing unit. Replace the MFPC PWB.

F2-43 Toner density sensor trouble (Y)

Cause	Toner density sensor output abnormality (Sample level 25 or less, or 231 or above). Connection trouble of the connector and the harness. Developing unit trouble. MFPC PWB trouble.
Check & Remedy	Replace the toner density sensor. Harness and connector connection trouble. Replace the developing unit. Replace the MFPC PWB.

F2-45 K image density sensor trouble

Cause	K image density sensor sensitivity adjustment trouble. K image density sensor trouble. Harness and connector connection trouble. K image density sensor dirt. Calibration plate dirt. Calibration plate solenoid trouble. MFPC PWB trouble.
Check & Remedy	Replace the K image density sensor. Check connection of the connectors and the harness. Clean the K image density sensor. Replace the calibration plate. Replace the calibration plate solenoid. Replace the PCU PWB. Use SIM44-2 to adjust the process control sensor sensitivity.

F2-47 Ozon duct thermister trouble

Cause	The ozone duct thermister trouble. Harness and connector connection trouble between the ozone duct thermistor and the MFPC PWB. MFPC PWB trouble.
Check & Remedy	Check connection of the connectors and the harness between the ozone duct thermistor and the MFPC PWB. Replace the MFPC PWB.

F2-49 LSU thermister trouble

Cause	The LSU detection temperature is outside of -28 degrees C - 78 degrees C. LSU thermister trouble. Harness and connector connection trouble. MFPC PWB trouble LSU control PWB trouble.
Check & Remedy	Check connection of the connectors and the harness. Replace the MFPC PWB. Replace the LSU.

F2-50 K drum phase sensor trouble

Cause	Drum phase sensor trouble. Harness and connector connection trouble. Drum drive section trouble. MFPC PWB trouble
Check & Remedy	Use SIM30-1 to check the operation of "DHPD_K". Replace the drum phase sensor. Check connection of the connectors and the harness. Repair the drum drive section. Replace the MFPC PWB.

F2-51 CL drum phase sensor trouble

Cause	Drum phase sensor trouble. (DHPCL) Harness and connector connection trouble. Drum drive section trouble. MFPC PWB trouble.
Check & Remedy	Use SIM30-1 to check the operation of "DHPD_CL". Replace the drum phase sensor. Check connection of the connectors and the harness. Repair the drum drive section. Replace the MFPC PWB.

F2-58 Process humidity sensor trouble

Cause	Process humidity sensor trouble. Harness and connector connection trouble. MFPC PWB trouble.
Check & Remedy	Replace the process humidity sensor. Check connection of the connectors and the harness. Replace the MFPC PWB.

F2-64 Toner supply operation trouble (K)

Cause	Toner motor trouble. Toner drive clutch trouble. Toner density sensor trouble. Connector/harness trouble. MFPC PWB trouble. Toner cartridge trouble. Developing unit trouble.
Check & Remedy	Replace the toner motor. Replace the toner drive clutch. Replace the toner density sensor. Connector/harness trouble. Replace the MFPC PWB. Replace the toner cartridge. Replace the developing unit.

F2-65 Toner supply operation trouble (C)

Cause	Toner motor trouble. Toner drive clutch trouble. Toner density sensor trouble. Connector/harness trouble. MFPC PWB trouble Toner cartridge trouble. Developing unit trouble.
Check & Remedy	Replace the toner motor. Replace the toner drive clutch. Replace the toner density sensor. Connector/harness trouble. Replace the MFPC PWB. Replace the toner cartridge. Replace the developing unit.

F2-66 Toner supply operation trouble (M)

Cause	Toner motor trouble. Toner drive clutch trouble. Toner density sensor trouble. Connector/harness trouble. MFPC PWB trouble Toner cartridge trouble. Developing unit trouble.
Check & Remedy	Replace the toner motor. Replace the toner drive clutch. Replace the toner density sensor. Connector/harness trouble. Replace the MFPC PWB. Replace the toner cartridge. Replace the developing unit.

F2-67 Toner supply operation trouble (Y)

Cause	Toner motor trouble. Toner drive clutch trouble. Replace the toner drive clutch. Toner density sensor trouble. Connector/harness trouble. MFPC PWB trouble Toner cartridge trouble. Developing unit trouble.
Check & Remedy	Replace the toner motor. Replace the toner density sensor. Connector/harness trouble. Replace the MFPC PWB. Replace the toner cartridge. Replace the developing unit.

F2-70 Improper toner cartridge detection (K)

Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. MFPC PWB trouble
Check & Remedy	Replace the toner cartridge. Replace the MFPC PWB.

F2-71 Improper toner cartridge detection (C)

Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. MFPC PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the MFPC PWB.

F2-72 Improper toner cartridge detection (M)

Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. MFPC PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the MFPC PWB.

F2-73 Improper toner cartridge detection (Y)

Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. MFPC PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the MFPC PWB.

F2-74 Toner cartridge CRUM error (K)

Cause	Toner cartridge (CRUM) trouble. MFPC PWB trouble. Connector/harness trouble.
Check & Remedy	Replace the toner cartridge. Replace the MFPC PWB. Connector/harness trouble.

F2-75 Toner cartridge CRUM error (C)

Cause	Toner cartridge (CRUM) trouble. MFPC PWB trouble. Connector/harness trouble.
Check & Remedy	Replace the toner cartridge. Replace the MFPC PWB. Connector/harness trouble.

F2-76 Toner cartridge CRUM error (M)

Cause	Toner cartridge (CRUM) trouble. MFPC PWB trouble. Connector/harness trouble.
Check & Remedy	Replace the toner cartridge. Replace the MFPC PWB. Connector/harness trouble.

F2-77 Toner cartridge CRUM error (Y)

Cause	Toner cartridge (CRUM) trouble. MFPC PWB trouble. Connector/harness trouble.
Check & Remedy	Replace the toner cartridge. Replace the MFPC PWB. Connector/harness trouble.

F3-22 Paper feed tray 2 lift operation trouble

Cause	LUD1 is not turned ON within the specified time. C2LUD1sensor trouble Paper feed tray 2 lift unit trouble. MFPC PWB trouble. Harness and connector connection trouble.
Check & Remedy	Check connection of the harness and the connector of C2LUD. Replace the lift-up unit. Replace the MFPC PWB.

F6-00 Controller - 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 PWB trouble
	Check and Remedy	Check/Replace the FAX PWB (The modem chip is not soldered correctly)
Case 4	Cause	FAX PWB trouble
	Check and Remedy	Check/Replace the FAX PWB (The modem chip is not soldered correctly)

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 FAX PWB and FAX soft switch

Trouble content		Incompatibility between the FAX PWB and the FAX control PWB information (soft switch)
Section		MFPC
Case 1	Cause	The destination of the FAX PWB installed is improper.
	Check and Remedy	Check the destination of the FAX PWB.
Case 2	Cause	FAX PWB trouble.
	Check and Remedy	Replace the FAX PWB.

H2-00 Thermister open trouble (TH_UM_AD2)

Cause	Thermister trouble. MFPC PWB trouble Connection trouble of the connector and the harness. Fusing unit not installed.
Check & Remedy	Replace the thermister. Replace the MFPC PWB. Harness and connector connection trouble.

H2-02 Sub thermister open trouble (TH_US)

Cause	Thermister trouble. MFPC PWB trouble. Connection trouble of the connector and the harness. Fusing unit not installed.
Check & Remedy	Replace the thermister. Replace the MFPC PWB. Harness and connector connection trouble.

H2-03 Compensation thermister open trouble (TH_UM_AD1)

Cause	Thermister trouble. MFPC PWB trouble Connection trouble of the connector and the harness. Fusing unit not installed.
Check & Remedy	Replace the thermister. Replace the MFPC PWB. Harness and connector connection trouble.

H3-00 Fusing section high temperature trouble (TH_UM)

Cause	The fusing temperature exceeds the specified level. Thermister trouble. MFPC PWB trouble Connection trouble of the connector and the harness. Power unit trouble.
Check & Remedy	Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermister. Replace the MFPC PWB. Harness and connector connection trouble. Replace the power unit.

H3-02 Fusing section high temperature trouble (TH_US)

Cause	The fusing temperature exceeds the specified level. Thermister trouble. MFPC PWB trouble Connection trouble of the connector and the harness. Power unit trouble.
Check & Remedy	Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermister. Replace the MFPC PWB. Harness and connector connection trouble. Replace the power unit.

H4-00 Fusing section low temperature trouble (TH_UM_AD2)

Cause	The fusing temperature does not reach the specified level within the specified time from turning ON the power relay. Thermister trouble. Heater lamp trouble. MFPC PWB trouble. Thermostat trouble. Connector, harness connection trouble. Power unit trouble. Interlock switch trouble.
Check & Remedy	Replace the thermister. Replace the heater lamp. Replace the MFPC PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Replace the interlock switch. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble.

H5-01 5 times continuous POD1 not-reach jam

Cause	A fusing jam is not canceled completely. (A jam paper remains.) POD1 sensor trouble. Fusing unit installation trouble. Connector, harness connection trouble. MFPC PWB trouble
Check & Remedy	Replace the POD1 sensor. Check the installing position of the fusing unit. Replace the fusing unit. Check connection of the connector and the harness. Replace the MFPC PWB. Use SIM14 to cancel the trouble.

H7-10 Fusing low temperature recovery trouble (TH_UM_AD2).

Cause	The fusing temperature does not reach the specified level within the specified time from stopping a job due to fall in the fusing temperature. Thermister trouble. Heater lamp trouble. MFPC PWB trouble Thermostat trouble. Connector, harness connection trouble. Power unit trouble. Interlock switch trouble.
Check & Remedy	Replace the thermister. Replace the heater lamp. Replace the MFPC PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Replace the interlock switch. Use SIM5-2 to check the flashing operation of the heater lamp.

L1-00 Scanner feed trouble

Cause	Scanner feed is not completed within the specified time. Scanner unit trouble. MFPC 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 MFPC PWB. Check connection of the connectors and the harness. Replace the scanner home position sensor. Replace the scanner motor.

L3-00 Scanner return trouble

Cause	Scanner return is not completed within the specified time. Scanner unit trouble. MFPC 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 MFPC PWB. Check connection of the connectors and the harness. Replace the scanner home position sensor. Replace the scanner motor.

L4-02 Paper feed motor trouble

Trouble content	A lock signal is not detected within the specified time in ON operation of the paper feed motor after warming-up or canceling a jam.
Cause	Paper feed motor trouble Paper feed motor harness and connector connection trouble MFPC PWB trouble
Check & Remedy	Use SIM6-1 to check the operation of the paper feed motor. Replace the paper feed motor. Check connection of the paper feed motor harness and the connector. Replace the MFPC PWB.

L4-03 Fusing motor lock trouble

Cause	The motor lock signal is detected during rotation of the fusing motor. Fusing motor trouble. MFPC PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use Sim6-1 to check the operation of the fusing motor. Replace the fusing motor. Replace the MFPC PWB. Check connection of the connector and the harness.

L4-04 Developing motor trouble (BLACK)

Cause	The motor lock signal is detected during rotation of the developing motor. Developing motor trouble. Harness and connector connection trouble. MFPC PWB trouble Developing unit trouble.
Check & Remedy	Use SIM25-1 to check the operation of the developing motor. Replace the developing motor. Check connection of the connectors and the harness. Replace the MFPC PWB. Replace the developing motor. Replace the developing unit.

L4-06 Transfer unit lift trouble

Cause	Transfer unit position sensor trouble. MFPC PWB trouble. Connection trouble of the connector and the harness. Transfer unit separation clutch operation trouble. Primary transfer belt unit is not installed.
Check & Remedy	Use SIM6-3 to check the separating operation of the transfer unit. Install the primary transfer belt unit. Replace the transfer unit position sensor. Replace the MFPC PWB. Harness and connector connection trouble. Replace the transfer unit separation clutch.

L4-17 Drum motor lock trouble

Cause	Drum motor trouble Connection trouble of the connector and the harness between MFPC PWB and the drum motor MFPC PWB trouble
Check & Remedy	Check the operation of the drum motor with SIM 25-01 Check the connection of the connector and the harness between MFPC PWB and the drum motor Replace the drum motor Replace the MFPC PWB

L4-32 Power source cooling fan trouble

Cause	The fan operation signal is not detected within the specified time in the power cooling fan operation. Power cooling fan trouble. MFPC PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check the rotating operation of the fan. Replace the power cooling fan. Replace the MFPC PWB. Check/replace the connector or the harness.

L4-34 LSU fan trouble

Cause	The fan rotation signal is not detected in the specified time during operation of the LSU fan. Connection trouble of the connector and the harness. LSU fan trouble. Replace the MFPC PWB.
Check & Remedy	Use SIM6-2 to check the operation of the fan. Check connection of the connector and the harness. Replace the LSU fan. Replace the MFPC PWB.

L4-35 Fusing cooling fan trouble

Cause	The fan operation signal is not detected within the specified time in the fusing cooling fan operation. Fusing cooling fan trouble. MFPC PWB trouble Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check the rotating operation of the fan. Replace the fusing cooling fan. Replace the MFPC PWB. Harness and connector connection trouble.

L4-40 Ozone fan motor 1 trouble

Cause	Connection trouble of the connector and the harness between MFPC PWB and the fan motor. MFPC PWB trouble FAN motor trouble The fan is not operated by other causes (the power is not supplied.) .
Check & Remedy	Check the fan motor operation with the SIM06-02. Check the harness and connector connection between the MFPC PWB and the fan motor. Replace the fan motor Replace the MFPC PWB.

L6-10 Polygon motor trouble

Cause	The motor does not reach the specified rpm in specified time after starting rotation of the polygon motor. Polygon motor trouble. LSUcnt 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 connectors and the harness. Replace the polygon motor. Replace the LSU.

L8-02 Full wave signal error

Cause	An abnormality in the full wave signal frequency is detected. (The frequency is detected as 80Hz or above, or 30Hz or less.) MFPC PWB trouble. Power unit trouble. Connection trouble of the connector and the harness. Power frequency, waveform abnormality.
Check & Remedy	Replace the MFPC PWB. Replace the power unit. Check connection of the connectors and the harness. Check the power waveform.

U1-01 Battery trouble

Case 1	Cause	1) Battery life 2) Battery circuit abnormality
	Check & Remedy	Check to confirm that the battery voltage is about 2.0V or above. Use SIM13 to cancel the trouble.

U2-00 MFPC EEPROM read/write error

Cause	MFPC PWB EEPROM trouble. EEPROM socket contact trouble. MFP PWB trouble. Strong external noises.
Check & Remedy	Use SIM16 to cancel the error. Replace the MFP PWB EEPROM. Replace the MFP PWB. Check the power environment.

U2-05 Erroneous detection of account management data

Cause	EEPROM is broken The device access error/connection error of EEPROM by the noise
Check & Remedy	Cancel the error by SIM16

U2-11 MFPC PWB EEPROM counter check sum error

Cause	MFPC PWB EEPROM trouble. EEPROM socket contact trouble. MFPC PWB trouble. Strong external noises.
Check & Remedy	Use SIM16 to cancel the error. Replace the MFPC PWB.

U5-40 SPF connection trouble

Cause	Hardware trouble
Check & Remedy	Check the operation of the SPF and the control circuit

U9-00 Communication trouble between the controller and OPU

Cause	OPU connector connection trouble Harness trouble between OPU PWB and MCU PWB Break connector pin of OPU PWB Lift unit trouble. Connection trouble of the connector and the harness. PCU PWB trouble
Check & Remedy	Check connector connection and harness of OPU PWB and MCU PWB Replace OPU PWB or MCU PWB Check ground point Power off/on

U9-81 OPU communication trouble (parity)

Cause	OPU connector connection trouble Harness trouble between OPU PWB and MCU PWB Break connector pin of OPU PWB Lift unit trouble. Connection trouble of the connector and the harness. PCU PWB trouble
Check & Remedy	Check connector connection and harness of OPU PWB and MCU PWB Replace OPU PWB or MCU PWB Check ground point Power off/on

U9-82 OPU communication trouble (overflow)

Cause	Connection error between OPU PWB and MCU PWB / data corruption
Check & Remedy	Check connector connection and harness of OPU PWB and MCU PWB Replace OPU PWB or MCU PWB Check ground point Power off/on

U9-84 OPU communication trouble (flaming)

Cause	Connection error between OPU PWB and MCU PWB / data corruption
Check & Remedy	Check connector connection and harness of OPU PWB and MCU PWB Replace OPU PWB or MCU PWB Check ground point Power off/on

U9-88 OPU communication trouble (time-out)

Cause	Command size error from MCU to OPU
Check & Remedy	Check connector connection and harness of OPU PWB and MCU PWB Replace OPU PWB or MCU PWB Check ground point Power off/on

U9-99 OPU language error

Cause	Command size error from MCU to OPU
Check & Remedy	Check connector connection and harness of OPU PWB and MCU PWB Replace OPU PWB or MCU PWB Check ground point Power off/on

UC-02 IPD ASIC (CPT) error

Cause	IPD ASIC (CPT) operation error MFPC PWB trouble.
Check & Remedy	Replace the MFPC 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	- FAX (Internet FAX) reception print (Other than long size images)	*1
	1*	JPEG		*1
	2*	JBIG		*1
	3*	Mxx1ch		
	4*	Mxx4ch		
	5*	Other	- FAX (Internet FAX) reception print (Long size images)	*1
	6*	JPEG		*1
	7*	JBIG		*1
	8*	Mxx1ch		
	9*	Mxx4ch		
	A* - F*	Not Used		*1
E7-93	0*	Other	- Copy print (in ERDH) - Copy composing system function (Custom Stamp, Water mark)	*1
	1*	JPEG		
	2*	JBIG		
	3*	Mxx1ch		*1
	4*	Mxx4ch	- Image send - Document filing - Preview display	
	5*	Other		*1
	6*	JPEG		
	7*	JBIG		
	8*	Mxx1ch		
	9*	Mxx4ch		
	A*	Other	- GDI/PCL printer print - Copy composing system function (Custom Stamp, Water mark)	*1
	B*	JPEG		
	C*	JBIG		
	D*	Mxx1ch		*1
	E*	Mxx4ch		
	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	●	-	O	O	O	O	-	O
	2*, 7*, C*	JBIG	●	-	-	-	O	O	-	O
	3*, 8*, D*	Mxx1ch	●	-	-	-	-	-	-	O
	4*, 9*, E*	Mxx4ch	●	-	-	-	-	-	-	O
Error detection circuit										

●: Added code indicating that the memory and its peripheral must be focused for check in case of an error.

O: Added code indicating that doubtful sections are in a wider range such as the memory, PWB's, 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 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	- Use SIM60-01 (Memory read/write check) to check to insure that no error occurs. - Replace the MFPC PWB.

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 reasons. 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	- Check the MFPC PWB to insure that there is no abnormality. - 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. - Perform SIM60-01 (Memory read/write check) to insure that there is no NG. - Check the installing state of the MFPC PWB to insure that there is no abnormality. - Replace the HDD. - Replace the FAX control PWB. - Replace the MFPC PWB.

2. JAM and troubleshooting

A. JAM code list

(1) Main unit

JAM code	JAM content
C2PPD_ST	C2PPD remaining JAM (Cassette2 feed paper)
TRAY1	PPD2 not-reached JAM (Main cassette feed paper)
TRAY2	C2PPD not-reached JAM (Cassette2 feed paper)
PPD2_N2	PPD2 not-reached JAM (Cassette 2 feed paper)
MFT	PPD2 not-reached JAM (Manual feed tray feed paper)
PPD2_NA	PPD2 not-reached JAM (ADU feed paper)
PPD2_S1	PPD2 remaining JAM (Main cassette feed paper)
PPD2_S2	PPD2 remaining JAM (Main cassette 2 feed paper)
PPD2_SA	PPD2 remaining JAM (ADU feed paper)
PPD2_SM	PPD2 remaining JAM (Manual feed tray feed paper)
PRI	PPD2 JAM (Waiting the image preparation finish time out)

(2) SCU JAM causes

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
P_SHORT	Short size JAM
SPPD1_NR	SPPD1 reverse not reached JAM
SPPD1_SR	SPPD1 reverse remaining JAM

3. Image send communication report code

A. Outline and code system descriptions

After completion of communication, the communication report table, the communication registration 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.)

Important

The communication report sub code 1 and sub code 2 are in hexadecimal notation. (The others are in decimal notation.)

Important

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

Important

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 bulleting 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>
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>
75	NG75 XXXX *1	? Reservation cannot be made due to machine busy. (Reservation of PC-FAX cannot be accepted.) ? When "PC-FAX or PC-Internet FAX send inhibit" is set on the machine side.
79	NG79 XXXX *1	An authentication error occurs when PC-FAX or PC-Internet FAX is reserved.

Report code (Communication result)	Display in the column of result	Content of communication interruption
80	NG80 XXXX *1	NIC connect failure (network abnormality) ? Check for disconnection of cables. ? A network trouble (CE-XX) occurs. ? The port is set to DISABLE. ? Authentication of the POP server is failed when POP before SMTP is enabled. ? When an error other than the communication result code 93 or 94 in D-SMTP send (including error response of 5XX)

*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.

? 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	-

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 parts PWB unit (with ROM) for repair to the machine.
- 3) 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

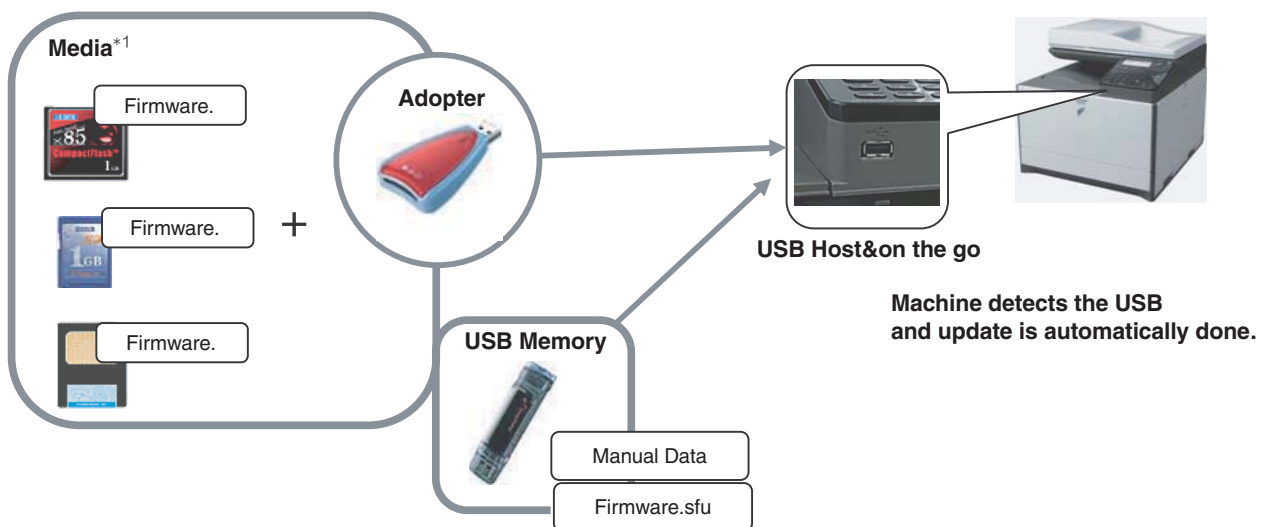
There are following methods of update of the firmware.

- 1) Firmware update using USB memory.

2. Update procedure

1. Firmware update using media

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 a minimum of 32MB of storage capacity.
- The USB thumb drive equipped with the security (secure) function cannot be used.

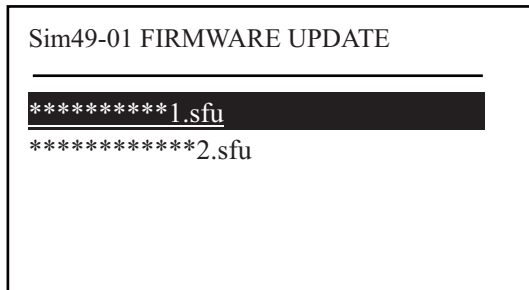
1.1. Firmware update procedure from the USB memory

The firmware update executes by SIM49-01.

- 1) Insert the media or USB memory which stores the firmware into the main unit. (Use the USB I/F of the operation panel section.)

- 2) Enter the SIM49-01.

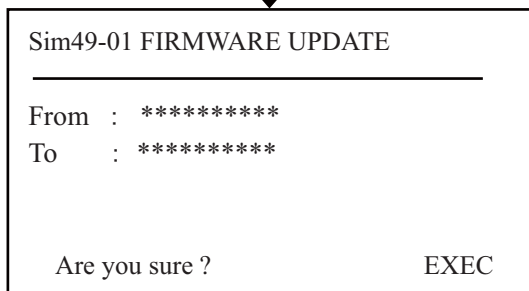
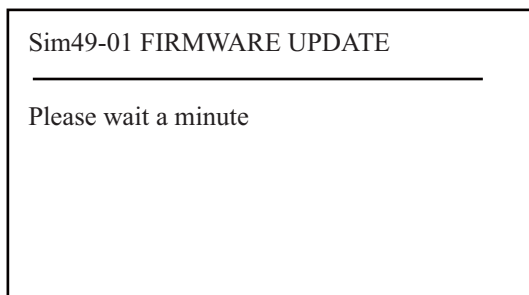
Select the firmware file to be updated with [up] or [down] key. The displayed firmware file is changed depending on the files in the USB thumb drive.



* When there is no firmware file in the USB memory, "No file detected" message is displayed.

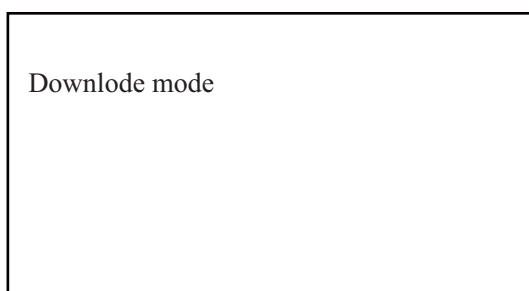
* The displayed firmware file is changed depending on the files in the USB thumb drive.

- 3) Select the file and press [OK] button or [Start] button. Then, the current version and the new version are displayed.



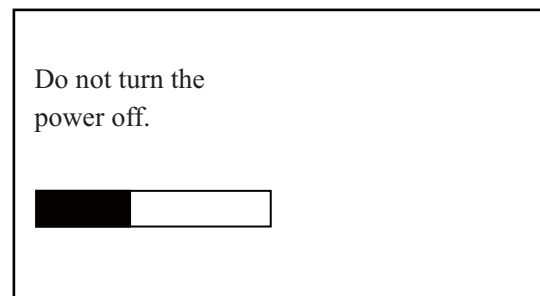
- 4) Press [OK] button or [Start] button. Then, the machine is restarted and the download of the firmware file starts.

* At this moment, do not disconnect the USB memory.



- 5) After downloading the firmware file, the upgrading starts.

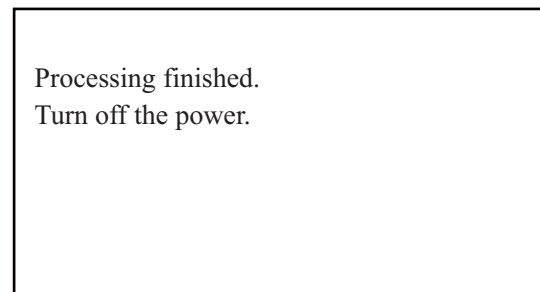
* At this moment, do not disconnect the USB memory.



- 6) When the upgrading is finished, the upgrading result is displayed.

When the upgrading is finished correctly, the message shown in the figure is displayed.

When the upgrading is failed, the defective part and the error code are displayed.



[9] MAINTENANCE

1. Necessary work for maintenance

A. Counter reset

When the drum cartridge, the primary transfer unit, the secondary transfer unit, or the fusing unit is replaced with a new one, the initial detection function operates after turning ON the power to reset each counter automatically.

When the machine is initialized during warming up, or when the simulation is executed or the machine is turned OFF and the door is opened before the machine enters the print (copy) ready state, the initial detection function may not operate normally. Therefore, never execute the simulation or never operate the machine such as turning OFF the machine power and opening the door before the machine enters the print (copy) ready state after replacing one of the above parts and turning ON the power.

When the counter is not automatically reset, it must be reset manually.

Since the maintenance counter (total) and the maintenance counter (color) are not automatically reset, they must be cleared by executing SIM24-4.

(For details, refer to the page of "2. Maintenance timing display.")

B. Toner density initial setting

When the developer cartridge is replaced, the initial setting of the toner density needs to be executed by SIM25-2.

If another simulation is executed or the machine power is turned OFF during execution of this simulation, the initial setting of the toner density cannot be executed normally. Therefore, never operate the machine until the initial setting of the toner density is completed (the machine enters the print (copy) ready state).

C. Auto color calibration (auto color balance adjustment) according to the guidance

This function is valid only when the setting of SIM26-55 is Enable. (To enable this function, set the other items than the fusing unit to Enable in the menu of SIM26-53/54.)

When one of the developer cartridge, the drum cartridge, the primary transfer unit, and the secondary transfer unit is replaced with a new one, the guidance for execution of the auto color calibration is displayed on the LCD. Follow the guidance to execute the auto color calibration.

When a sub part is used to execute the maintenance of the primary transfer unit, the guidance is not displayed. In this case, use SIM46-24 to execute the auto color calibration.

When the fusing unit is replaced, this guidance is not displayed.

D. Other

Perform the following items.

- Image skew adjustment (LSU unit) (SIM61-04)
- Image registration adjustment (SIM50-22)
- Image density sensor (Image registration sensor) adjustment (SIM44-13)
- CIS gamma adjustment (CIS calibration) (SIM63-03) (Execute according to the necessity.)
- Firmware version check (SIM22-05) (Execute according to the necessity.)
- Trouble counter and JAM counter reset (SIM24-01)
- Copy/printer color balance adjustment (SIM46-24) (When the auto color calibration (auto color balance adjustment) is not executed according to the guidance)

2. Maintenance timing display

A message of maintenance timing is displayed when each counter reaches the set value.

The relationship between the kinds of messages and the counters is shown below.

The display contents marked with [] are displayed in a window appearing at the center of the LCD.

A. Maintenance counter

Display content	Display condition			Print job Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
(Maintenance required.Code:TA)	0 (Print continue)	Maintenance counter (Total)	When the Sim21-1 set value is reached	Enable
	1 (Print stop)		When 90% of the Sim21-1 set value is reached	
[Maintenance required. Code: TA]	1 (Print stop)		When the Sim21-1 set value is reached	Disable
(Maintenance required.Code:CA)	0 (Print continue)	Maintenance counter (Color)	When the Sim21-1 set value is reached	Enable
	1 (Print stop)		When 90% of the Sim21-1 set value is reached	
[Maintenance required. Code: CA]	1 (Print stop)		When the Sim21-1 set value is reached	Disable

- After execution of maintenance, execute SIM24-4 or SIM24-5 to clear the maintenance counter (total) and the maintenance counter (color).
- When the maintenance counter (total) and the maintenance counter (color) are cleared, the above display disappears.

B. Primary transfer unit

Display content	Display condition			Print job Enable/Disable
	Sim26-38-B set value	Counter name	Counter value	
(Maintenance required.Code:TK)	0 (Print continue)	Primary transfer unit print counter	When 150K is reached	Enable
	1 (Print stop)			

- The above display disappears by cleaning the counters.

C. Fusing unit

Display content	Display condition			Print job Enable/Disable
	Sim26-38-D set value	Counter name	Counter value	
(Maintenance required.Code:FK)	0 (Print continue)	Fusing unit print counter	When 150K is reached	Enable
	1 (Print stop)			

- If a sub part is used to execute the maintenance or if the above guidance does not disappear when the whole fusing unit is replaced, SIM24-4 must be executed to clear each counter of the fusing unit. (the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter)
- The above display disappears when the counters are cleared.

D. Drum cartridge

For KCMY only the life end cartridge code is displayed.

Display content	Display condition			Print job Enable/Disable
	Sim26-38-E set value	Counter name	Counter value	
(Maintenance required. Code:DK)	0 (Print continue)	Drum cartridge print counter (K), Drum cartridge accumulated rotation number (K)	When 100K(Other countries than China) or 75K(China) is reached. When 575K rotations is reached.	Enable
	1 (Print stop)			
(Maintenance required. Code:D(C/M/Y))	0 (Print continue)	Drum cartridge print counter (C/M/Y) Drum cartridge accumulated rotation number (C/M/Y)	When 60K(Other countries than China) or 45K(China) is reached. When 575K rotations is reached.	Enable
	1 (Print stop)			

- When the black drum cartridge does not reach the life end and only the color drum cartridge reaches the life end, black/white print can be performed but color print cannot be performed.
- When the drum cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared, and the above display disappears.
- The above display disappears when the counters are cleared.

E. Developer cartridge

For CMYK only the life end cartridge code is displayed.

Display content	Display condition			Print job Enable/Disable
	SIM26-38-E set value	Counter name	Counter value	
(Maintenance required. Code:VK)	0 (Print continue)	Developer cartridge print counter (K) Developer cartridge accumulated rotation number (K)	When 100K(Other countries than China) or 75K(China) is reached. When 575K rotations is reached.	Enable
	1 (Print stop)			
(Maintenance required. Code:V(C/M/Y))	0 (Print continue)	Developer cartridge print counter (C/M/Y) Developer cartridge accumulated rotation number (C/M/Y)	When 60K(Other countries than China) or 45K(China) is reached. When 575K rotations is reached.	Enable
	1 (Print stop)			

- When the black drum cartridge does not reach the life end and only the color drum cartridge reaches the life end, black/white print can be performed but color print cannot be performed.
- When the developer cartridge is replaced with a new one, execute SIM24-5 to clear the print counter, the accumulated traveling distance counter and the usage day.
- If the above guidance does not disappear when the developer cartridge is replaced, the initial setting of the toner density must be executed with the simulation, and the auto color calibration must be executed.
- When the initial setting of the toner density is executed, the counters are cleared and the above display disappears.

F. Toner cartridge

For KCMY only the life end cartridge code is displayed.

Display content	Display condition			Print JOB Enable/Disable
	SIM26-38-A Set value	Counter name	Counter value	
(K/C/M/Y) Prepare a toner (Near near end)	No relation	Toner motor rotation time	Specified time of rotations	Enable
(K/C/M/Y) Toner supply is low (Near end)	No relation	Toner supply amount is decreasing.	ATC sensor output variation	Enable
Replace the toner cartridge. (K) (End)	0 (Print continue)	The pixel count from near end reaches the specified value.	Specified pixel count	(Disable for a JOB which requires K toner)
	1 (Print stop)			
Replace the toner cartridge. (C/M/Y) (End)	0 (Print continue)	The pixel count from near end reaches the specified value.	Specified pixel count	Enable for monochrome, Disable for color
	1 (Print stop)			

- Detected by the toner motor rotation number and the pixel count (The value of larger life percentage is employed.)
Since the life of the toner cartridge which is packed when shipping from the factory is 1.0K, the remaining quantity of the toner cartridge, though it is a new one, is displayed as 25-50%.
- Selection of Display/Not Display can be made with Sim26-69. (Default: Not Display)
- When the black toner cartridge does not reach the life end and only the color toner cartridge reaches the life end, black/white print can be performed but color print cannot be performed.

G. Toner collection container

Display content	Display condition			Print JOB Enable/Disable
	SIM26-38-A Set value	Counter name	Counter value	
Maintenance required. Call for service. TK	0 (Print continue)	When the waste toner full detection switch is ON for 1000ms.		Enable
	1 (Print stop)			
Replace Toner collection container.	0 (Print continue)	When 10450 count is reached from the near end detection.		Disable
	1 (Print stop)			

When the Toner collection container is replaced, the display disappears.

H. Other (Ozone Filter)

Display content	Display condition			Print JOB Enable/Disable
	SIM26-38-A Set value	Counter name	Counter value	
No	No relation	Ozone filter counter	When 75K rotations is reached.	Enable

3. Maintenance list

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

Section name	Unit name	When calling	45 K	75 K	90 K	135 K	150 K	180 K	225 K	270 K	300 K	Remarks
OPC drum section	OPC drum unit (monochrome)	-	-	▲	-	-	▲	-	▲	-	-	
	OPC drum unit (color)	-	▲	-	▲	▲	-	▲	▲	▲	-	
Developing section	Developing unit (monochrome)	-	-	▲	-	-	▲	-	▲	-	-	
	Developing unit (color)	-	▲	-	▲	▲	-	▲	▲	▲	-	
Toner cartridge	Toner cartridge BK	User replacement for every toner empty.										
	Toner cartridge CMY	User replacement for every toner empty.										
Toner collection container	Toner collection container	Replaced by the user when full is detected.										

Section name	Unit name	Part name	When calling	75 K	150 K	225 K	300 K	Remark
SPF section	SPF unit	Paper feed roller	O	O	O	O	O	Replace when the SPF feed counter reaches 100K or parts are worn.
		Paper pickup roller	O	O	O	O	O	
		Each transport roller	X	X	X	X	X	
		Scan plate	O	O	O	O	O	
		Paper exit roller	X	X	X	X	X	
		Discharge brush	X	X	X	X	X	
		OC mat	O	O	O	O	O	
		Gears	X	X	X	X	X	
RSPF section	RSPF unit	Paper feed roller	O	O	O	O	O	Replace when the RSPF feed counter reaches 100K or parts are worn.
		Paper pickup roller	O	O	O	O	O	
		Each transport roller	X	X	X	X	X	
		Scan plate	O	O	O	O	O	
		Paper exit roller	X	X	X	X	X	
		Discharge brush	X	X	X	X	X	
		OC mat	O	O	O	O	O	
		Gears	X	X	X	X	X	
Scanner section	Scanner unit	CIS	X	X	X	X	X	Air cleaning on SELFOC lens part.
		Table glass, SPF glass	X	X	X	X	X	
		Rail	X	X	X	X	X	Grease the indicated area with MOLYKOTE EM50-L when checking.
		Drive belt	X	X	X	X	X	
		Drive gears / pulley	X	X	X	X	X	
Transfer section	Primary transfer unit	Primary transfer unit	X	-	▲	-	▲	Replace at 150K or 2 year of use.
	Secondary transfer unit	Secondary transfer roller	X	-	O	-	O	Replace as needed
LSU section	LSU	Dust-proof glass	X	X	X	X	X	
	Others	LSU cleaning unit	X	▲	▲	▲	▲	Replace as needed
Paper feed section	Manual paper feed unit/Tray paper feed unit	Paper feed roller	X	O	O	O	O	Replace at 100K of each counter or 1 year of use.
		Separation roller	X	O	O	O	O	
		Torque limiter	X	O	O	O	O	
		Sensors	X	X	X	X	X	
Paper registration section (paper transport section)/ Paper exit section/ADU section		PS auxiliary roller	X	O	O	O	O	
		Transport rollers	X	O	O	O	O	
		Paper guides	O	O	O	O	O	
		Discharge brush	X	X	X	X	X	
		Gears	X	X	X	X	X	Apply to the specified area when checking. FLOIL GE-676
		Paper dust removing unit						
Drive section		Gears (grease)	X	X	X	X	X	Apply to the specified area when checking. FLOIL G-313S
		Shaft earth sections conduction grease	X	X	X	X	X	
		Belts	X	X	X	X	X	
		Sensors	X	X	X	X	X	
Fusing section	Fusing unit	Fusing unit	X	-	▲	-	▲	Replace at 150K or 2 year of use.
Other		Process registration sensor	X	O	O	O	O	Clean when the Fusing unit and the Drum cartridge is replaced.
		Ozone filter	X	▲	▲	▲	▲	Replace at 75K

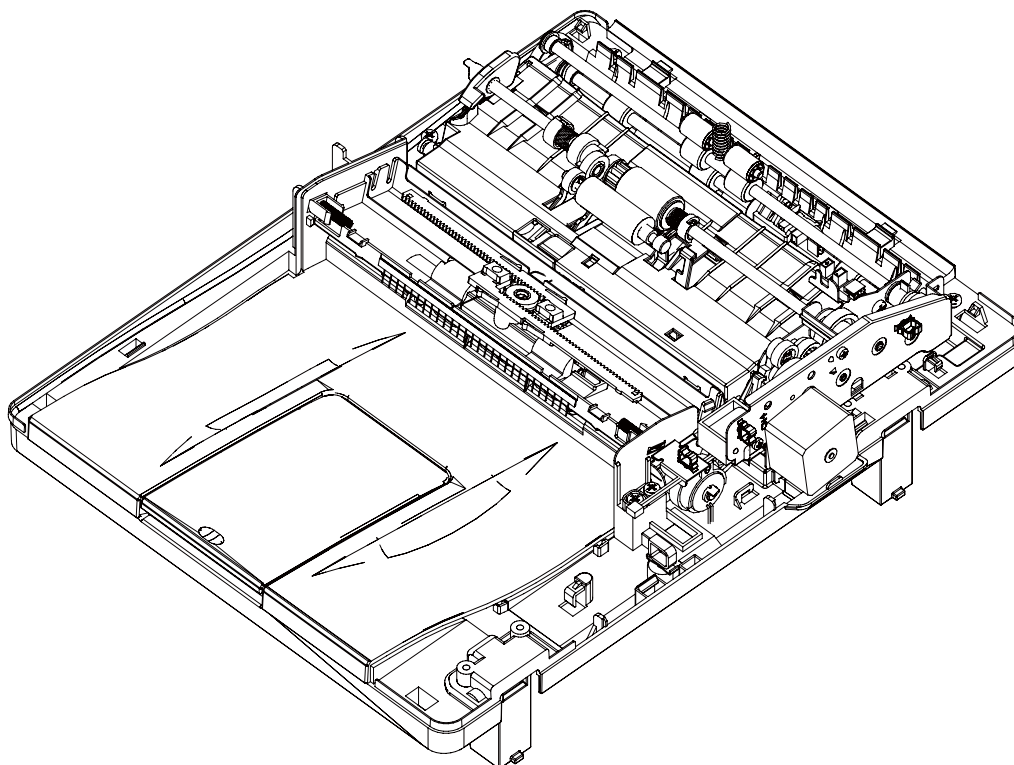
MX-CS11

Section name	Unit name	Part name	When calling	75 K	150 K	225K	300 K	Remark
MX-CS11		Pick-up roller	O	O	O	O	O	When the SPF/RSPF paper feed counter reaches a value of 100K or when one year has elapsed since the start of use.
		Paper feed roller	O	O	O	O	O	
		Separation roller	O	O	O	O	O	
		Torque limiter	X	X	X	X	X	
		Transport rollers	X	O	O	O	O	
		Transport paper guides	O	O	O	O	O	
		Discharge brush	X	X	X	X	X	
		Gears	X	X	X	X	X	Apply to the specified area when checking. FLOIL GE-676

A. RSPF section

X: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

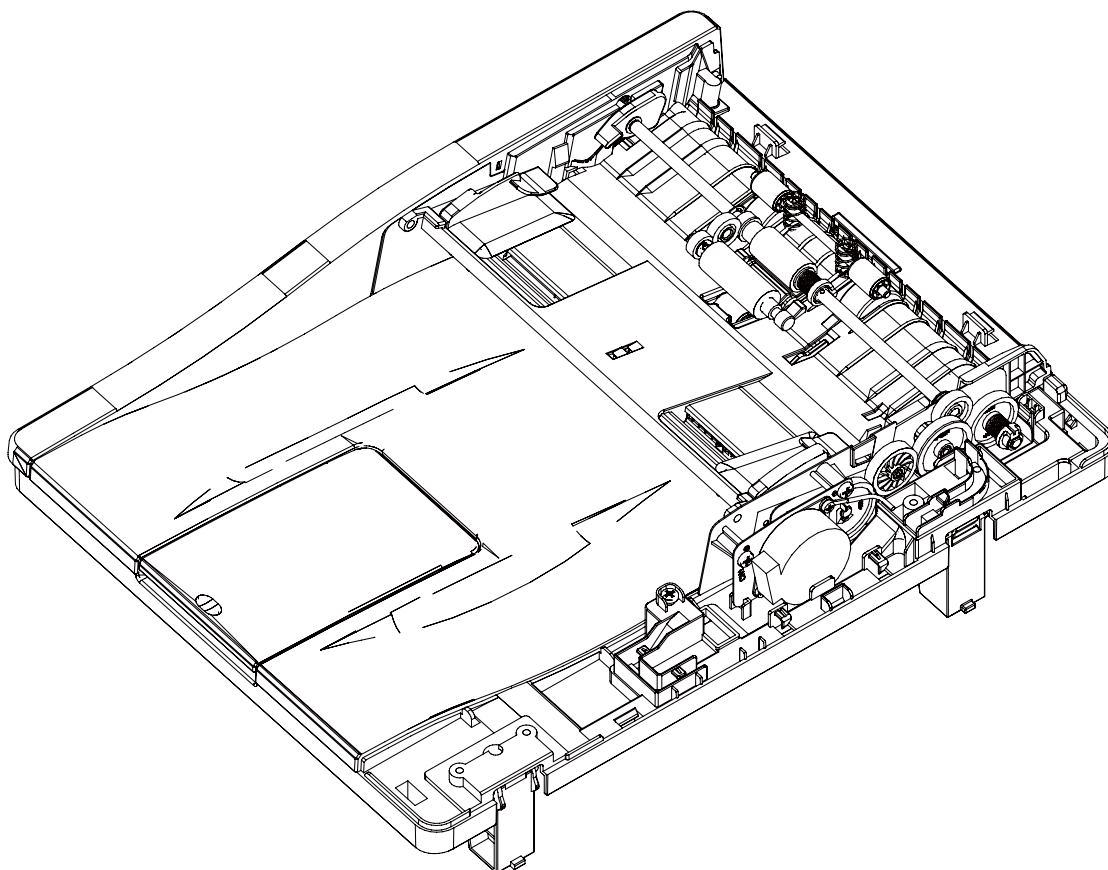
No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Paper feed roller	○	○	○	○	○	Replace when the RSPF feed counter reaches 100K or parts are worn.
2	Paper pickup roller	○	○	○	○	○	
3	Each transport roller	X	X	X	X	X	
4	Scan plate	○	○	○	○	○	
5	Paper exit roller	X	X	X	X	X	
6	Discharge brush	X	X	X	X	X	
7	OC mat	○	○	○	○	○	
8	Gears	X	X	X	X	X	
9	Belts	X	X	X	X	X	



B. SPF section

X: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

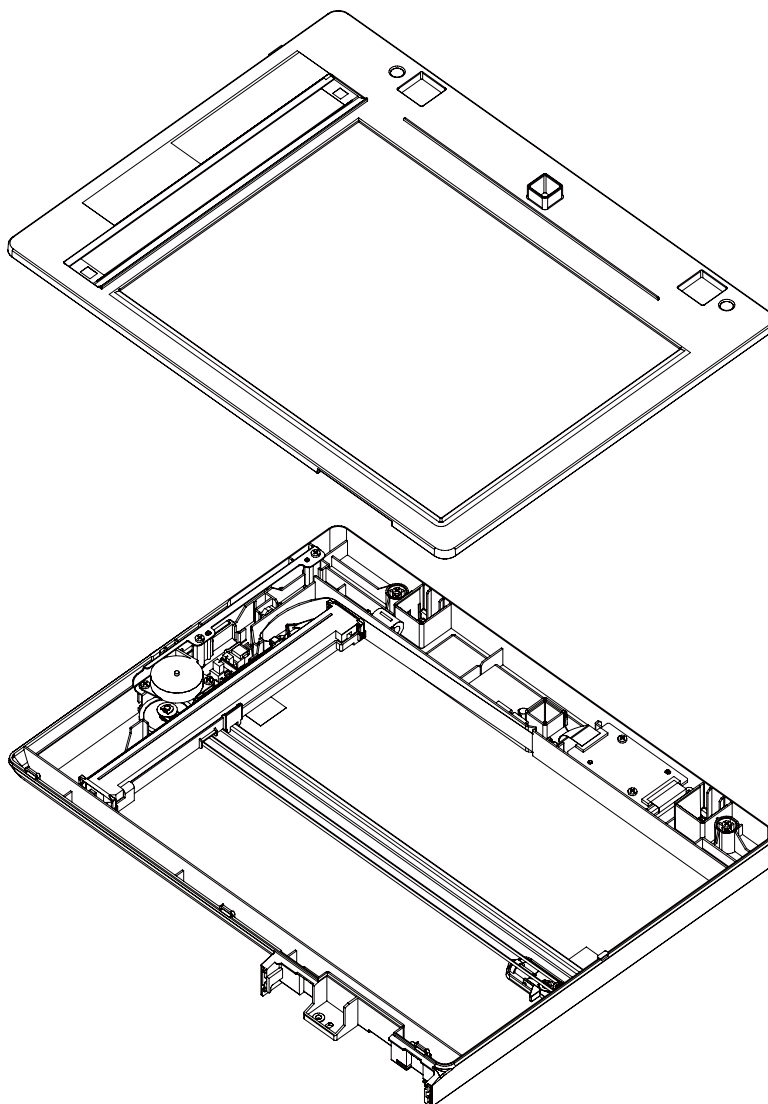
No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Paper feed roller	○	○	○	○	○	Replace when the SPF feed counter reaches 100K or parts are worn.
2	Paper pickup roller	○	○	○	○	○	
3	Each transport roller	X	X	X	X	X	
4	Scan plate	○	○	○	○	○	
5	Paper exit roller	X	X	X	X	X	
6	Discharge brush	X	X	X	X	X	
7	OC mat	○	○	○	○	○	
8	Gears	X	X	X	X	X	



C.Scanner section

×: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

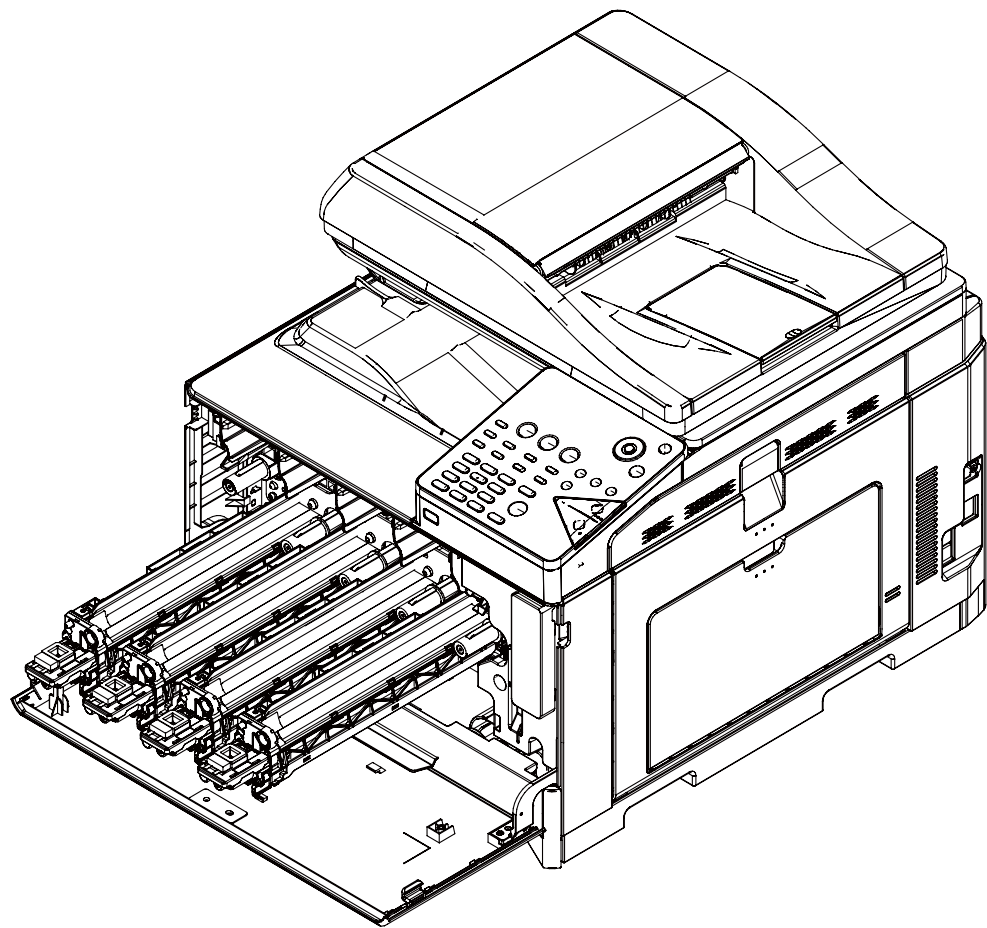
No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	CIS	×	×	×	×	×	Air cleaning on SELFOC lens part.
2	Table glass, SPF glass	×	×	×	×	×	
3	Rail	×	×	×	×	×	Grease the indicated place with MOLYKOTE EM50-L when checking.
4	Drive belt	×	×	×	×	×	
5	Drive gears / pulley	×	×	×	×	×	



D.Developing section

X: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

No	Unit name	When calling	45K	75 K	90 K	135 K	150 K	180K	225 K	270 K	300 K	Remarks
1	Developing unit (monochrome)	-	-	▲	-	-	▲	-	▲	-	-	
	Developing unit (color)	-	▲	-	▲	▲	-	▲	▲	▲	-	

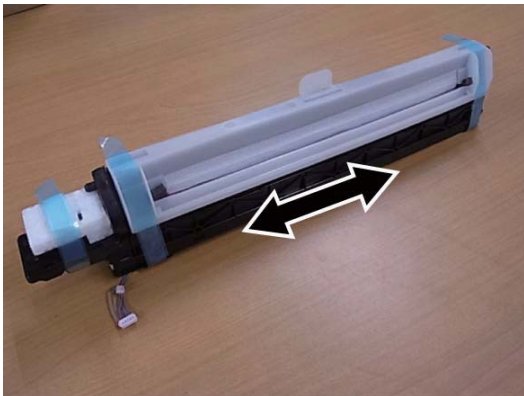


(1)Notes for using the new developing unit

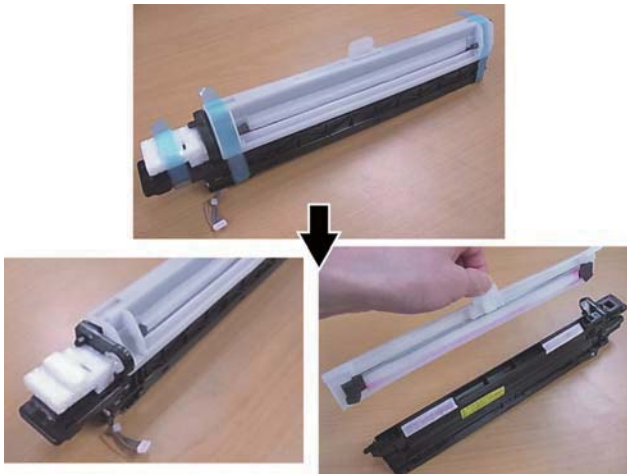
- 1) Take out the developing unit from the packing box.



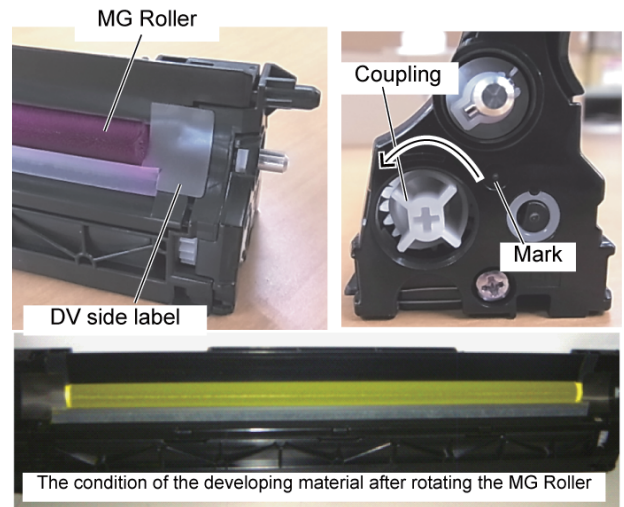
- 2) Shake the developing unit five or six times vertically while still in the packing material.
* This is for preventing the unevenness of developing material



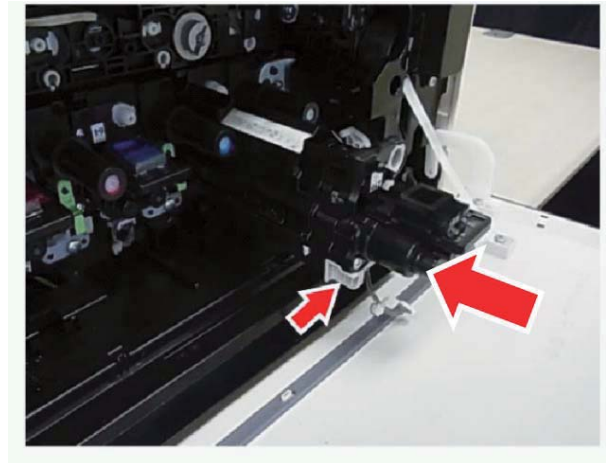
- 3) Remove the packing material from the developing unit.
* When removing the MG cover, lift up the MG cover above by pressing the pawl.



- 4) Rotate the coupling shown in the figure counter clockwise (the direction indicated by the mark) for preventing the developing material from pushing up the DV side label. It is possible to use a cross slot screwdriver. Refer to the Note1, 2 and 3 described in the end of this procedure.



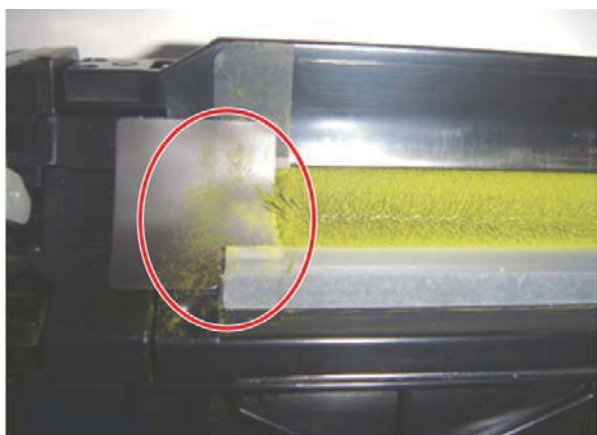
- 5) Install the developing unit straight into the machine until the lever of the developing unit catches. (Check the color and the position of the developing unit.)



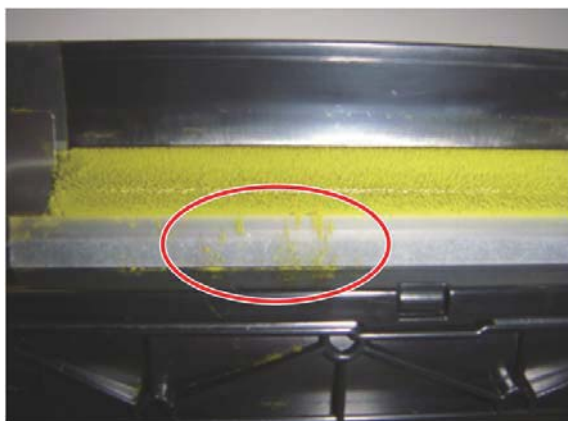
- 6) Connect the connector of the developing unit.
Refer to the Note4 described at the end of this procedure.



- (Note1) Clean the developing material when the developing material is on the DV side label as shown in the figure. (F/R both side)
 * When installing, the remaining developing material could damage the drum unit.

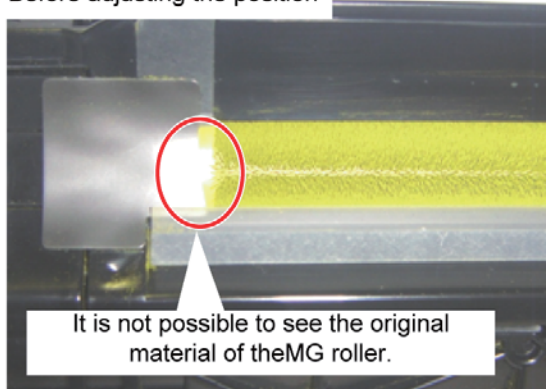


- (Note2) Clean the developing material when the developing material is on the DV blade as shown in the figure. (F/R both side)
 * When installing, the remaining developing material could damage the drum unit.

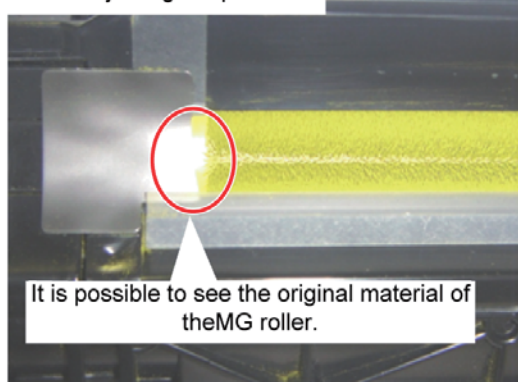


- (Note3) When the Developing material had migrated to the end of the seal, rotate the Developer MG Roller while tilting the DV Unit 45 degrees to re attract the Developer back to the MG Roller. (F/R both side)
 * When installing the DV Unit with Developer on the seal, the drum unit can become damaged.

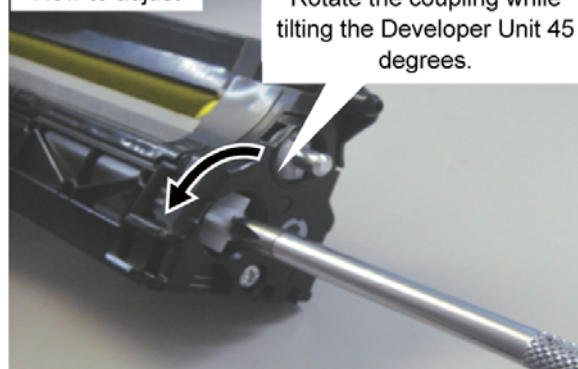
Before adjusting the position



After adjusting the position



How to adjust



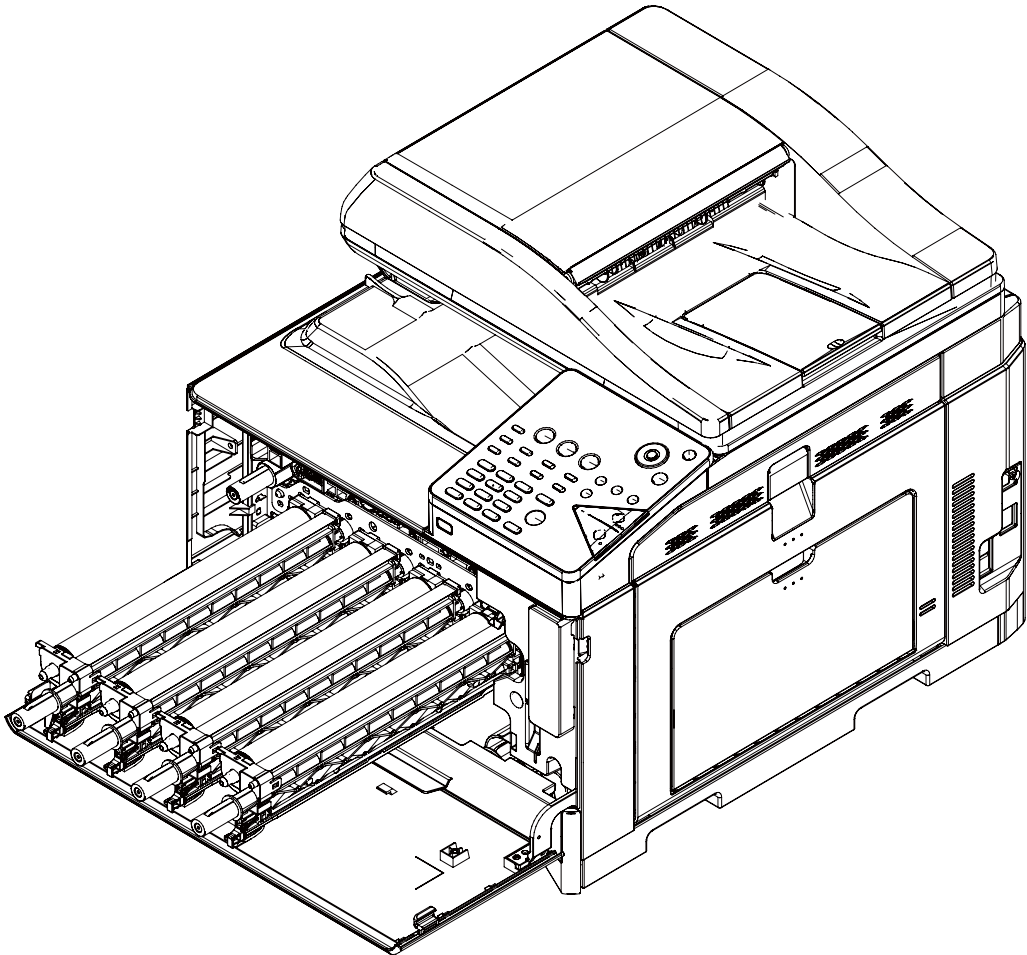
- (Note4) Connect the connector of the developing unit firmly.
 * When the connector is not connected correctly, the developing adjustment error occurs.

- 7) Execute SIM24-5 to clear the developing unit counters.
 Then, execute SIM25-2 to adjust the developing unit automatically.

E.Drum cartridge

×: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

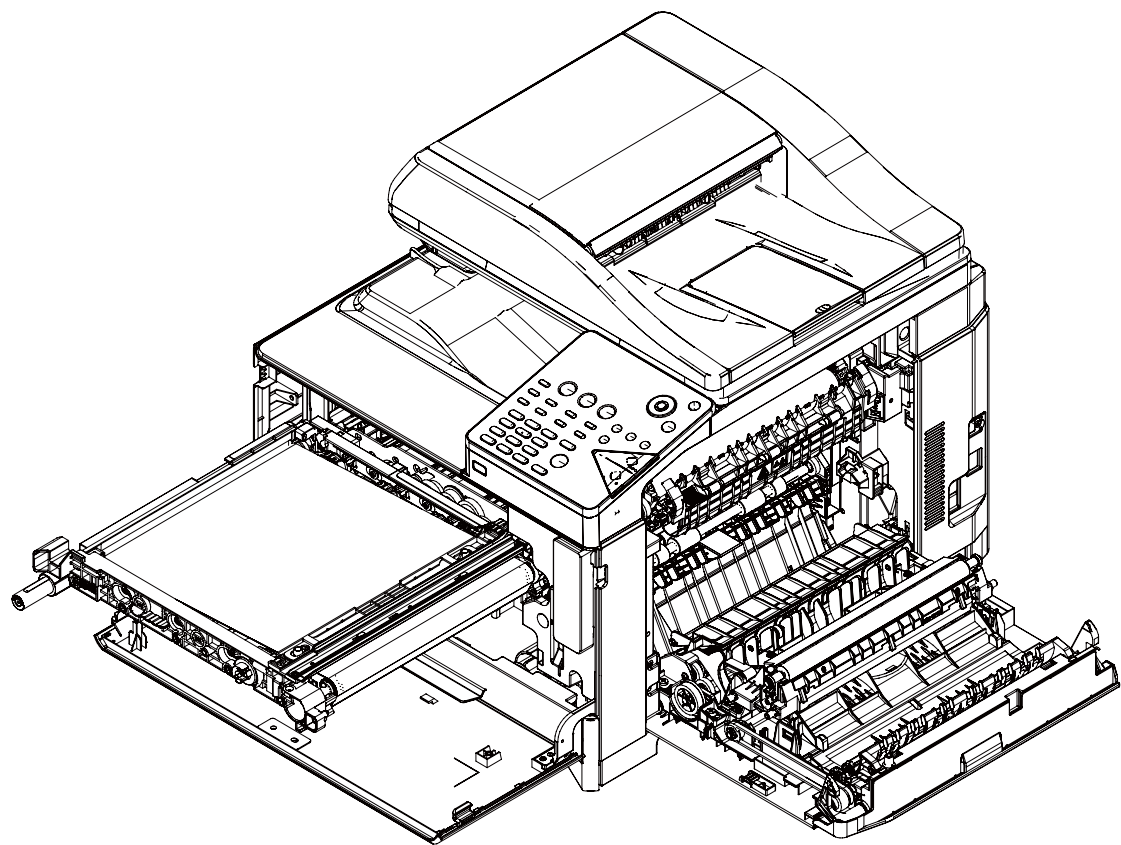
No	Unit name	When calling	45K	75 K	90 K	135 K	150 K	180K	225 K	270 K	300 K	Remarks
1	OPC drum unit (monochrome)	-	-	▲	-	-	▲	-	▲	-	-	
	OPC drum unit (color)	-	▲	-	▲	▲	-	▲	▲	▲	-	



F.Transfer section

X: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Unit name	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Primary transfer unit	Primary transfer unit	X	-	▲	-	▲	Replace at 150K or 2 year of use.
2	Secondary transfer unit	Secondary transfer roller	X	-	○	-	○	Replace as needed

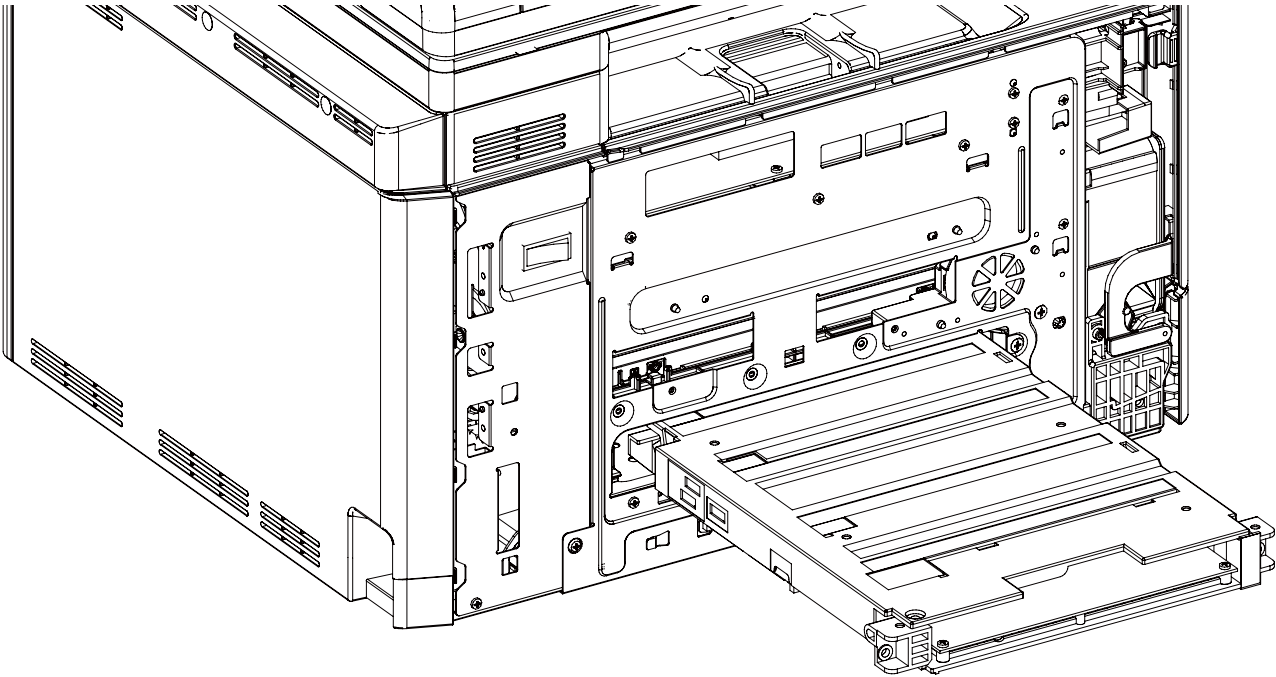


G. LSU section

X: Check (Clean, replace, or adjust according to necessity.) □ : Clean ▲: Replace △: Adjust ☆: Lubricate

2

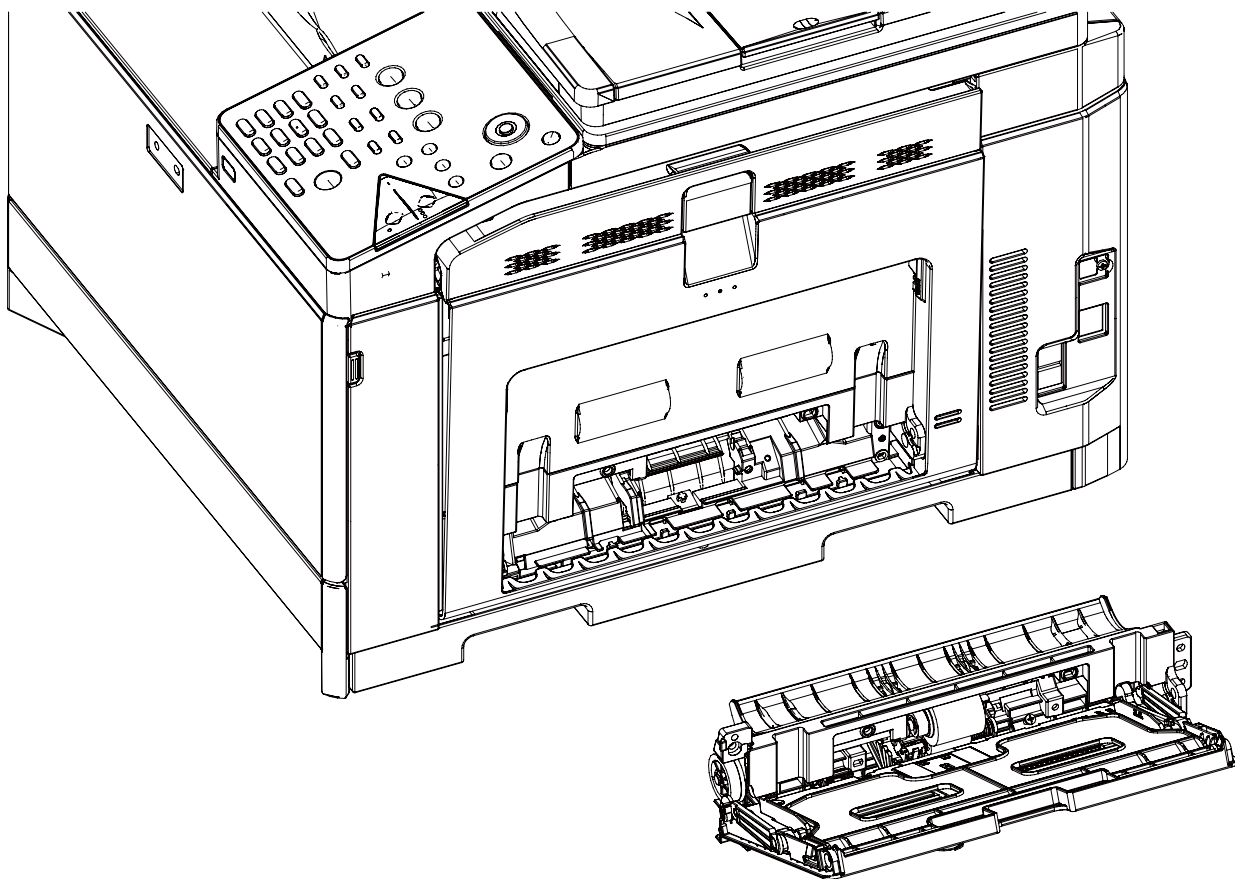
No.	Unit name	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	LSU	Dust-proof glass	X	X	X	X	X	
2	Others	LSU cleaning unit	X	▲	▲	▲	▲	Replace as needed



H. Manual paper feed section

X: Check (Clean, replace, or adjust according to necessity.) □ : Clean ▲: Replace △: Adjust ☆: Lubricate

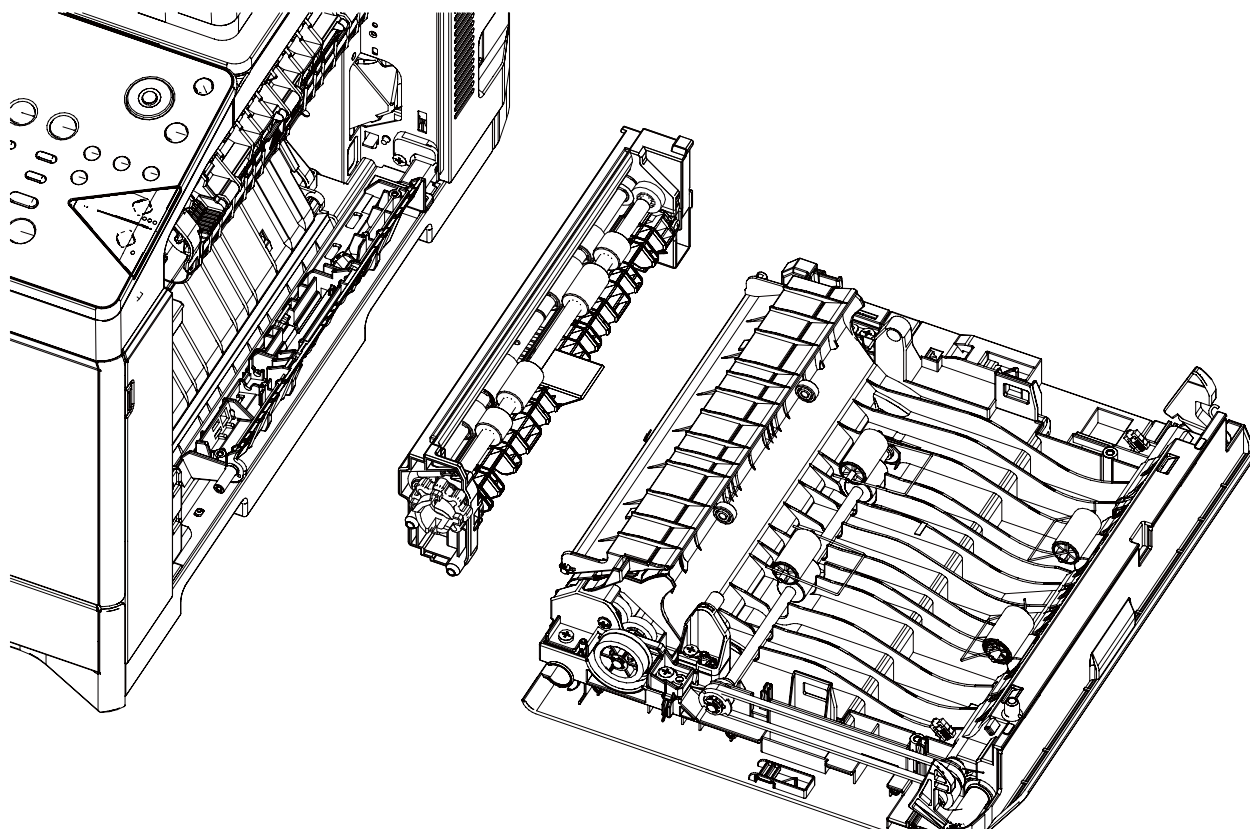
No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Paper feed roller	X	○	○	○	○	Replace at 100K of each counter or 1 year of use.
2	Separation roller	X	○	○	○	○	
3	Torque limiter	X	○	○	○	○	
4	Sensors	X	X	X	X	X	



I. Transport, Reverse, Paper exit section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

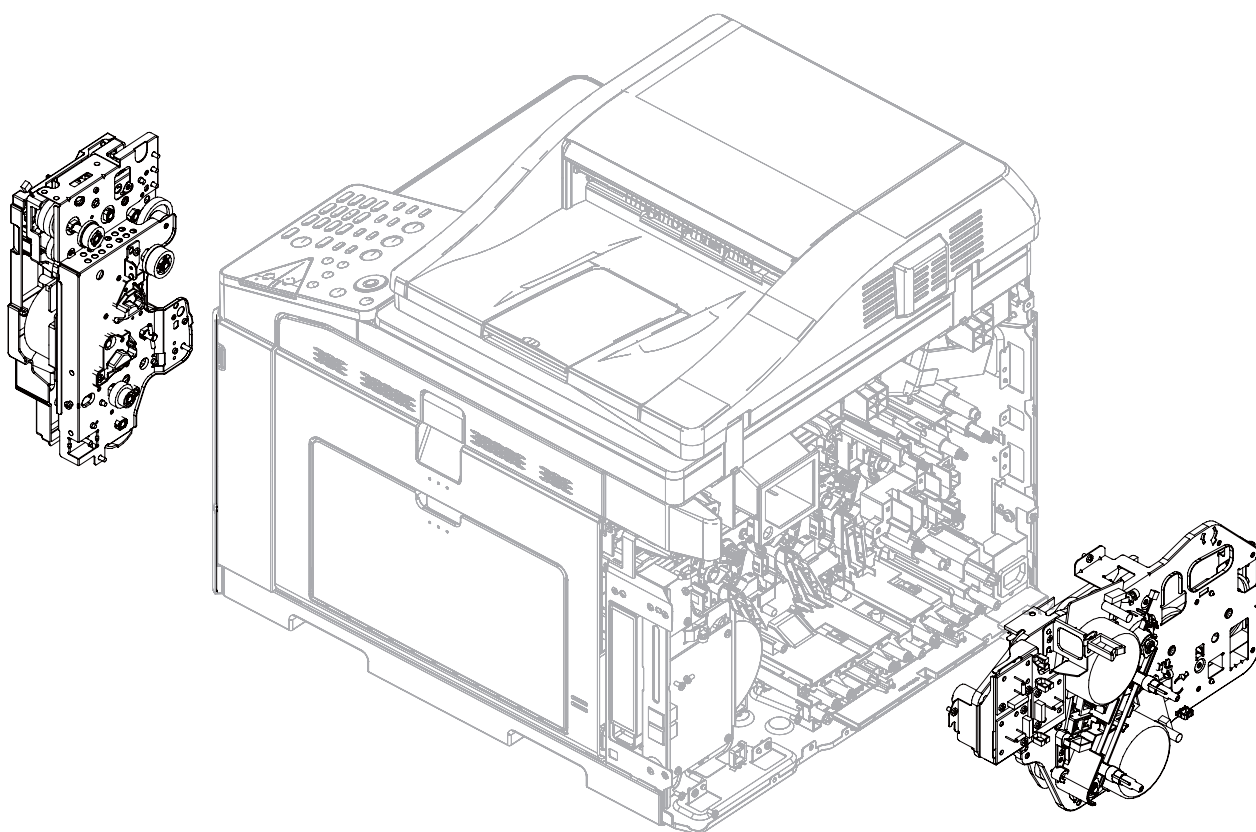
No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	PS auxiliary roller	X	O	O	O	O	
2	Transport rollers	X	O	O	O	O	
3	Paper guides	O	O	O	O	O	
4	Discharge brush	X	X	X	X	X	
5	Gears	X	X	X	X	X	Apply to the specified area when checking. FLOIL GE-676
6	Paper dust removing unit						



J. Drive section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

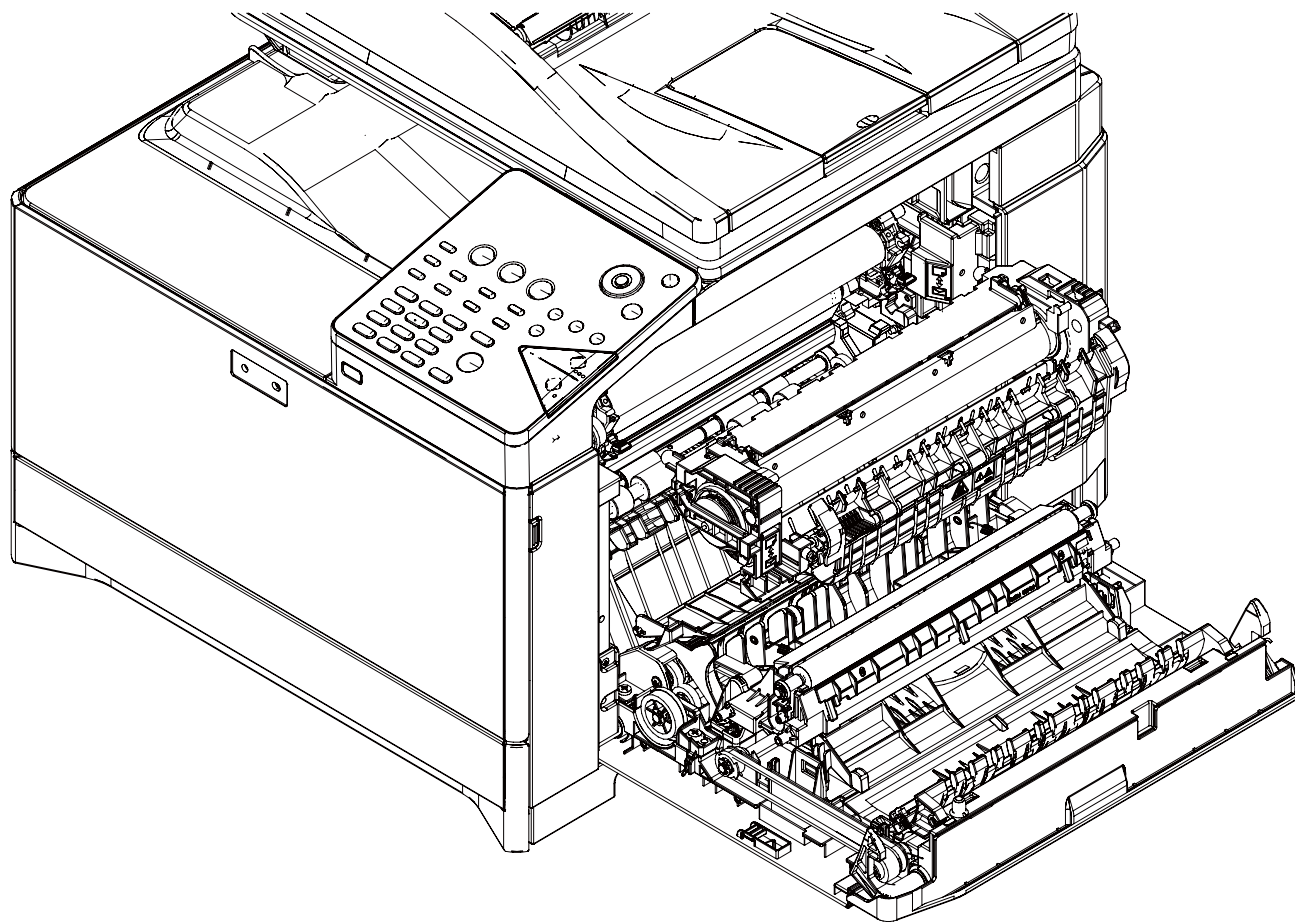
No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Gears (grease)	X	X	X	X	X	Apply to the specified area when checking. FLOIL G-313S
2	Shaft earth sections conduction grease	X	X	X	X	X	Apply to the specified area when checking. FLOIL GE-676
3	Belts	X	X	X	X	X	
4	Sensors	X	X	X	X	X	



K.Fusing section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Fusing unit	X	-	▲	-	▲	Replace at 150K or 2 year of use.

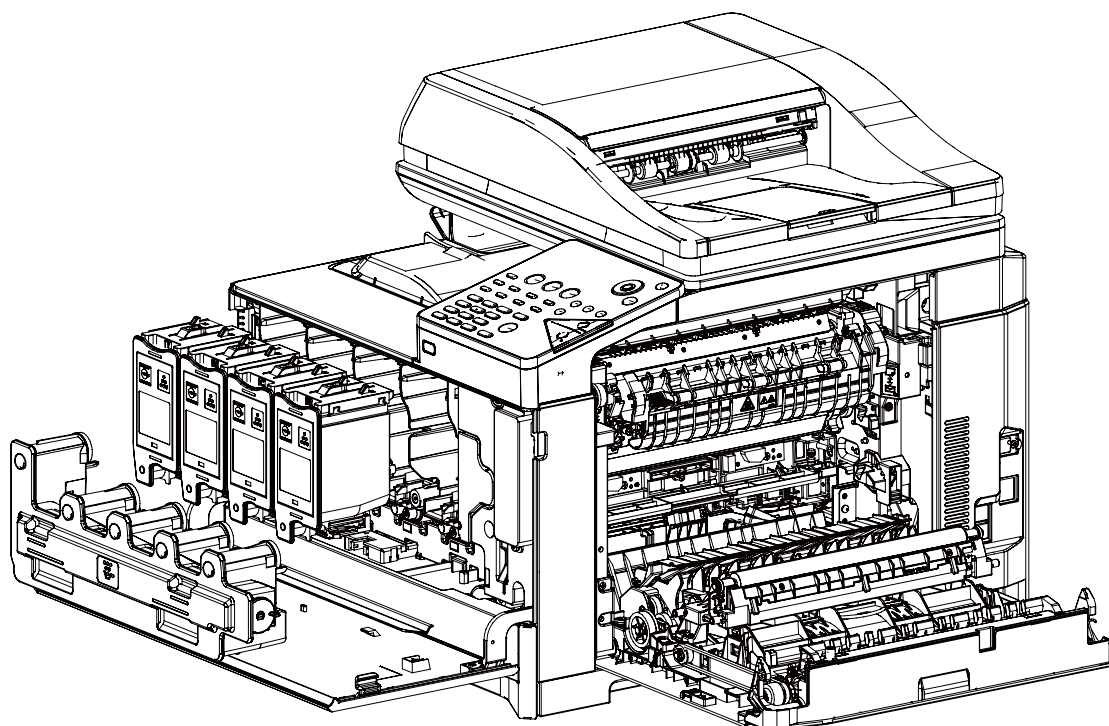


L. Other (Filter) section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Unit name	When calling	45K	75 K	90 K	135 K	150 K	180K	225 K	270 K	300 K	Remarks
1	Toner cartridge BK	User replacement for every toner empty.										
2	Toner cartridge CMY	User replacement for every toner empty.										
3	Toner collection container	Replaced by the user when full is detected.										

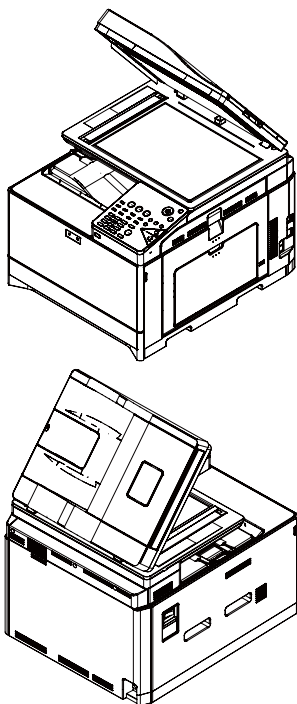
No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Process registration sensor	X	O	O	O	O	Clean when the Fusing unit and the Drum cartridge is replaced.
2	Ozone filter	X	▲	▲	▲	▲	Replace at 75K



[10] DISASSEMBLY AND ASSEMBLY

1. Disassembly of Units

A. External view



Parts	
1	Left cabinet NE
2	Paper exit tray
3	Operation base plate NE
4	Right cabinet front NE
5	Rear cabinet upper NE
6	Rear cabinet NE
7	Paper exit tray rear connection cabinet
8	Right cabinet rear NE
9	Upper cabinet right NE

(1) Left cabinet NE

1) Pull out the Paper tray.



2) Open the front cover.



3) Remove a screw and unhook pawls. Then, remove the Left cabinet NE.



(2) Paper exit tray

- 1) Open the front cover.
- 2) Remove screws and remove the paper exit tray.



(3) Operation base plate NE

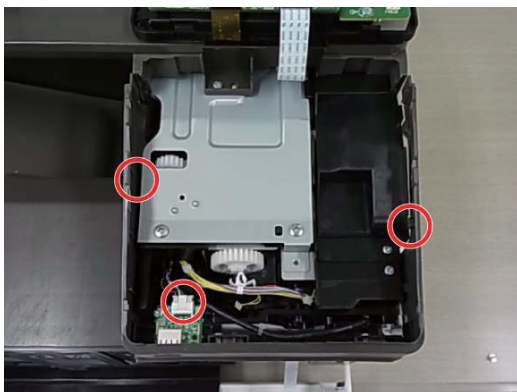
- 1) Press pawls and pull the Operation base plate NE toward you.



- 2) Open the RSPF unit and place the operation panel shown in the figure.

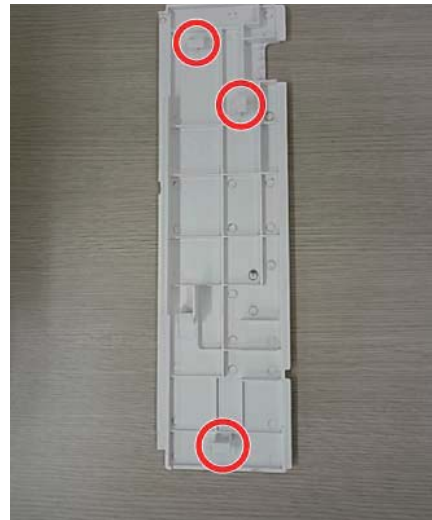


- 3) Disconnect the harness of the USB I/F PWB and remove the operation base plate NE.



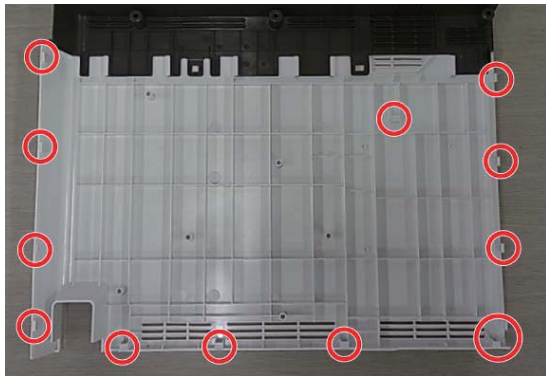
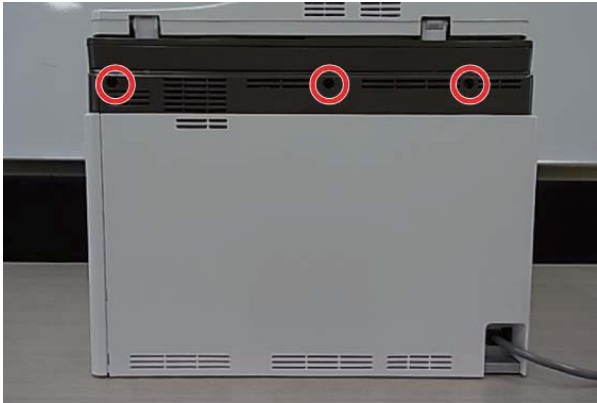
(4) Right cabinet front NE

- 1) Remove the Operation plate NE.
- 2) Remove pawls and remove the Right cabinet front NE.



(5)Rear cabinet upper NE, Rear cabinet NE

- 1) Remove screws and pawls. Then, remove the Rear cabinet upper NE and the Rear cabinet NE.



(6) Paper exit tray rear connection cabinet

- 1) Remove the Paper exit tray left cabinet NE.
- 2) Remove the rear connection cabinet.



(7)Right cabinet rear NE, Upper cabinet right NE

- 1) Remove the Rear cabinet uoover NE and the Rear cabinet NE.
- 2) Open the right door.

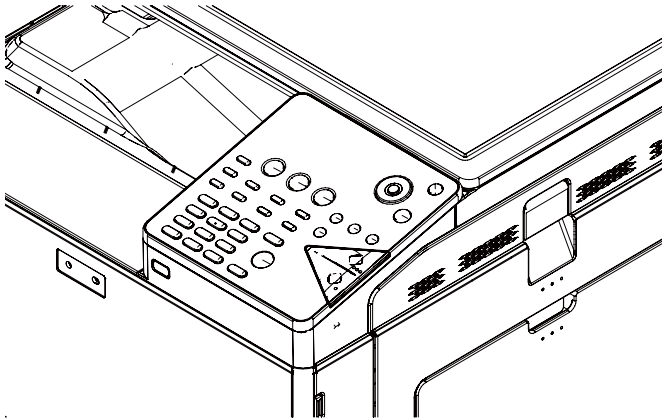


- 3) Remove the Right cabinet rear NE and the Upper cabinet right NE.



B. Operation panel section

No.	Name
1	Operation panel unit



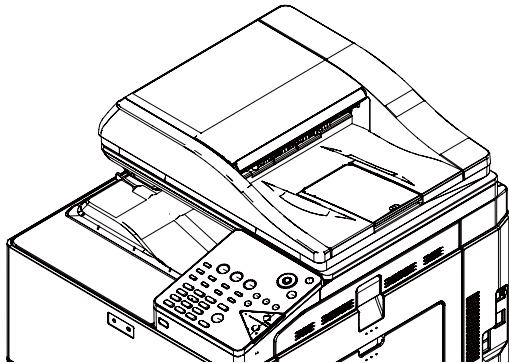
(1) Operation panel unit

- 1) Remove the Left cabinet NE and the Operation base plate NE.
- 2) Remove the ribbon cable and the Operation panel unit.



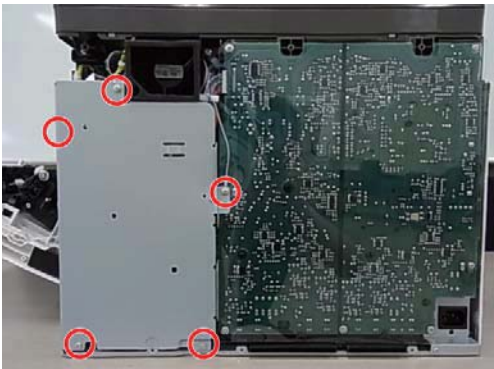
C. RSPF/SPF unit

No.	Name
1	RSPF/SPF unit

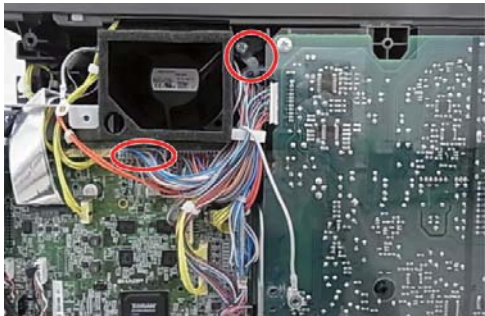


(1) RSPF/SPF unit

- 1) Remove the Rear cabinet NE, the Right cabinet NE and the Upper cabinet right NE.
- 2) Remove the earth cable and the MFP PWB shield.



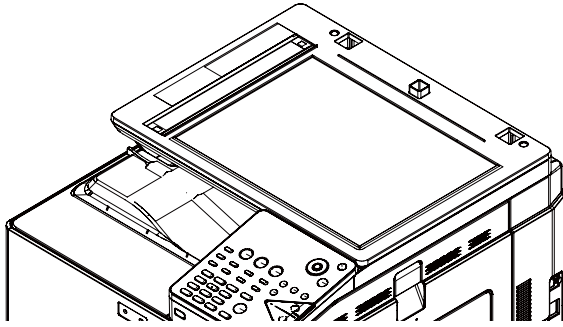
- 3) Remove the RSPF cable from the MFP PWB and the screw fixing the RSPF cable.



- 4) Remove the RSPF/SPF unit from the main unit.

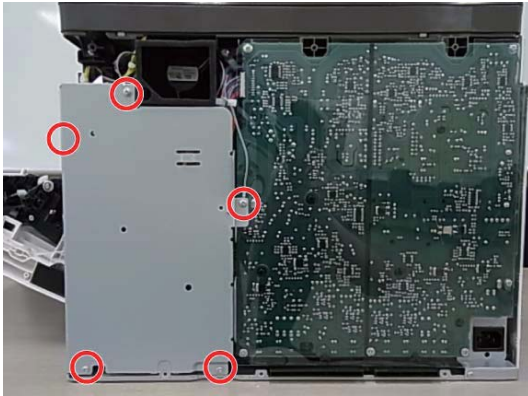


D. Scanner unit



Parts	
1	Scanner PWB

- 1) Remove the RSPF/SPF unit.
- 2) Remove the Operation panel unit.
- 3) Remove the Upper cabinet left.
- 4) Remove the Rear cabinet NE.
- 5) Remove the earth cable and the MFP PWB shield.

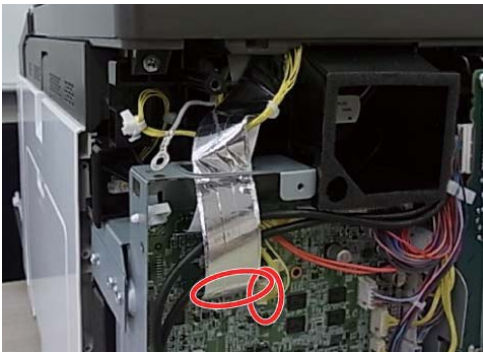


1

- 6) Remove the SCN harness NE/CIF FFC NE from the MFPC PWB.

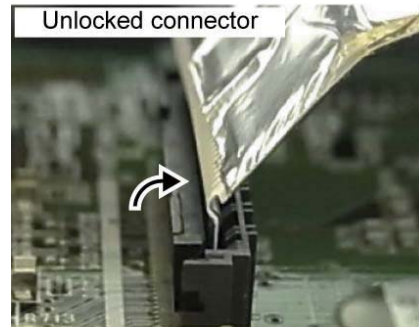
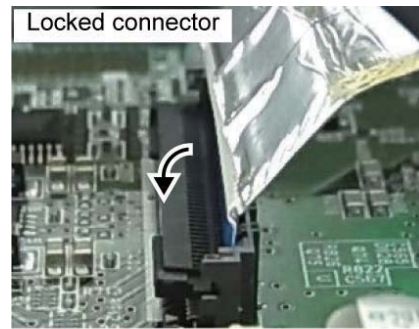
2

* Remove the FFC by releasing the lock of the FFC connector.



When the connection part of the connector is lifted up as shown in the figure, the connector is unlocked. It is necessary to remove the FFC with releasing the lock of the connector.

2

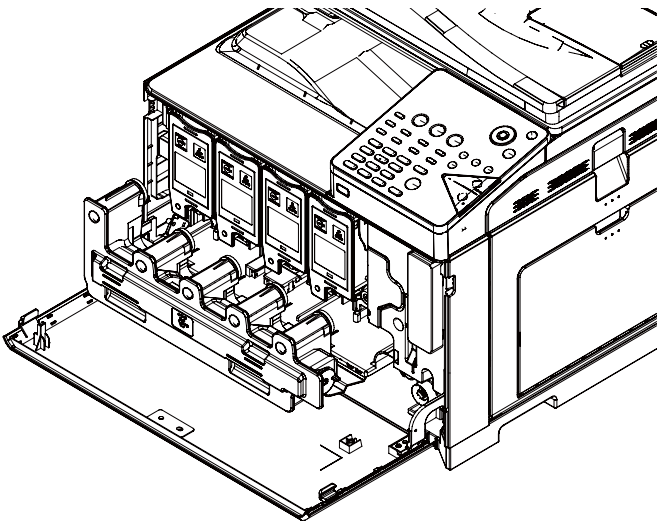


- 7) Remove the scanner unit.



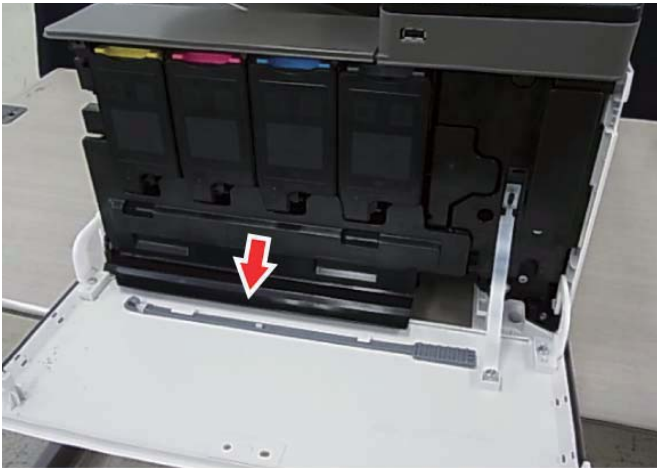
E. Toner collection container

No.	Name
1	Toner collection container



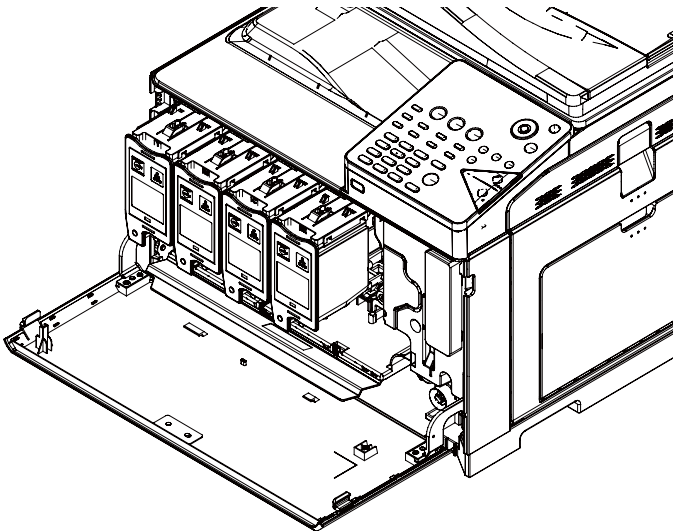
(1) Toner collection container

- 1) Pull out the Paper tray.
- 2) Open the front cover.
- 3) Remove the Toner collection container.



F. Toner supply section

No.	Name
1	Toner cartridge

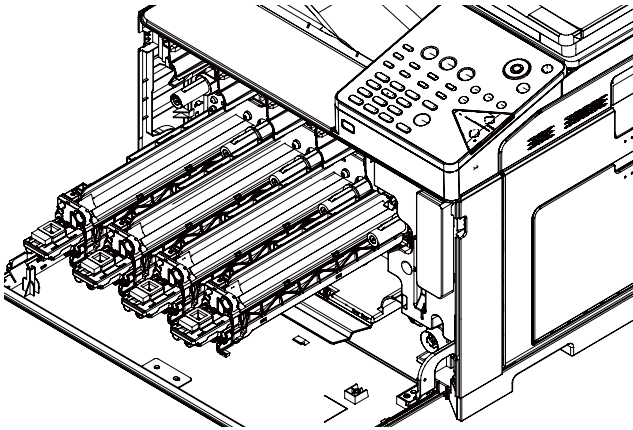


(1) Toner cartridge

- 1) Hold the handle of the toner cartridge, and pull it out straight.
- NOTE: Do not install a toner cartridge of a different color. Be sure to install a toner cartridge of the same color.
- NOTE: When installing, do not insert with great force. Push with your hand until it is completely inserted.
- NOTE: Regardless of the installation of the toner cartridge, remove the toner cartridges when transferring the main unit.
- NOTE: When transferring to other place, be sure to remove the toner cartridges. (The toner cartridges could have clog-ging symptom.)



G. Development unit

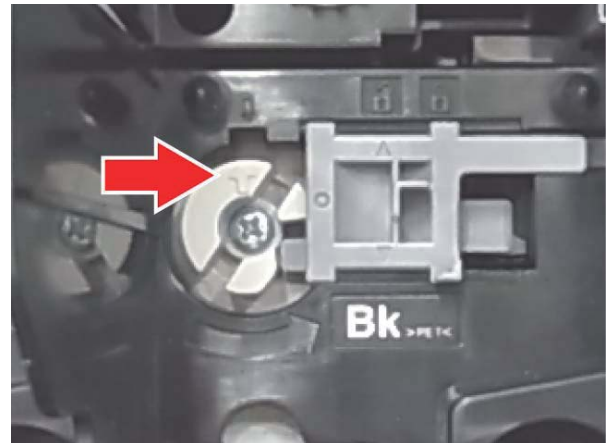
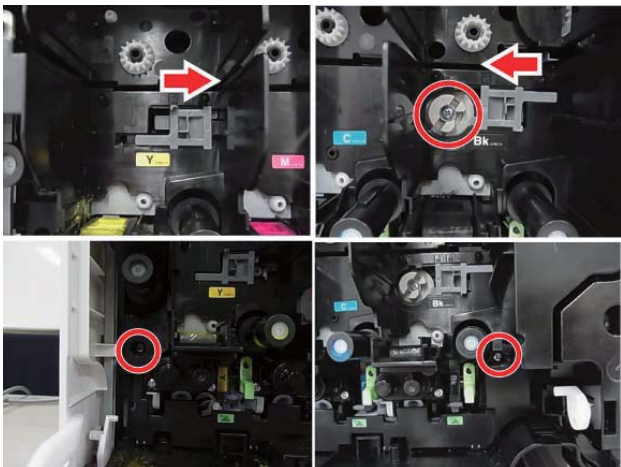


Parts	
1	Development unit

- 1) Remove the Toner collection container.
- 2) Remove the toner cartridges.
- 3) Move the stopper of the developing unit cover inside and remove the 2 screws. Then, remove the developing unit cover.



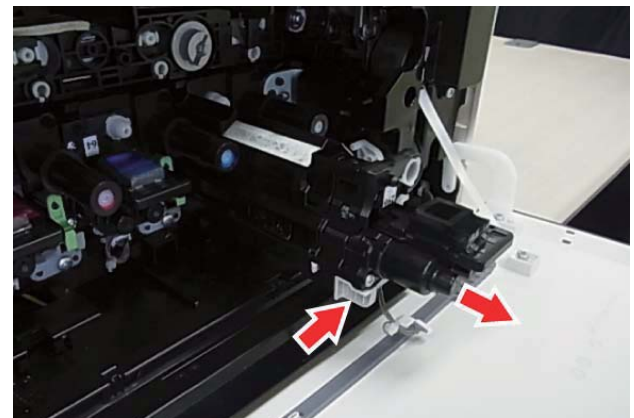
Check the home position of the Primary transfer unit. Rotate the cam counter clockwise.



- 4) Disconnect the developing unit connector.



- 5) Pull out the developing unit with pressing the lever.



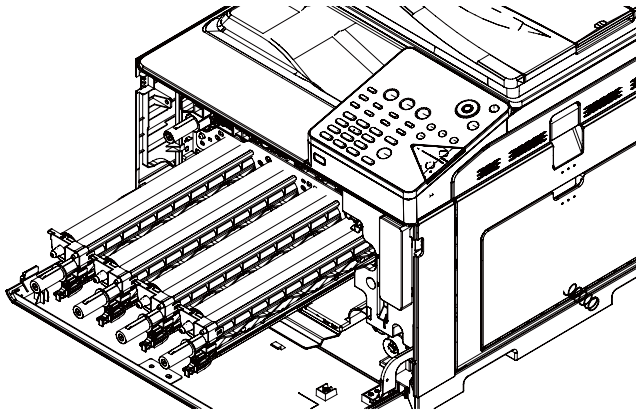
Important

When pulling out and pushing in the developing unit, put your hand beneath the unit and slide it horizontally along the guide.

Important

When pushing in the developing unit, connect the connector of the developing unit firmly.

H. Drum unit

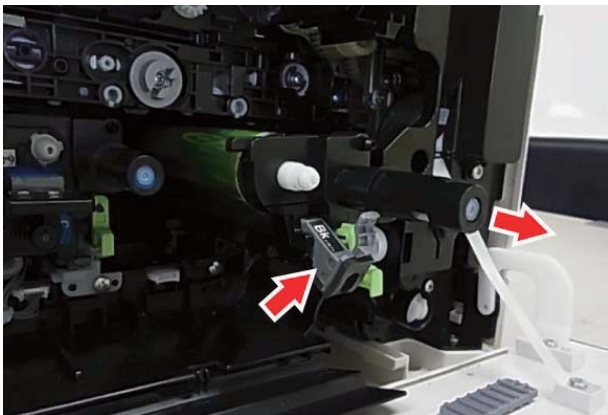


Parts	
1	Drum unit

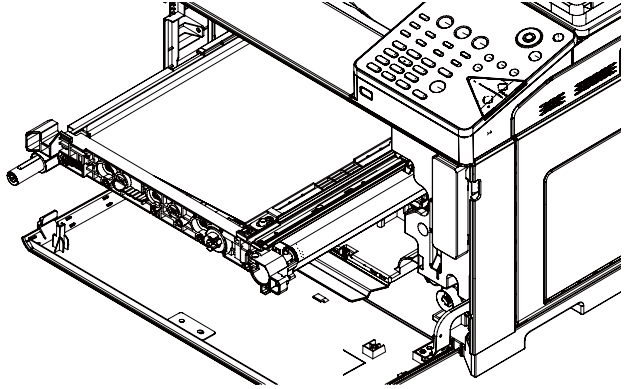
- 1) Remove the Toner collection container.
- 2) Remove the Developing unit.
- 3) Lift up the lever and pull out the Drum unit.

Important

When pulling out and pushing in the OPC drum unit, put your hand beneath the unit and slide it horizontally along the guide on the right side.
At the time, be careful not to touch the OPC drum surface.



I. Primary transfer unit



Parts	
1	Primary transfer unit

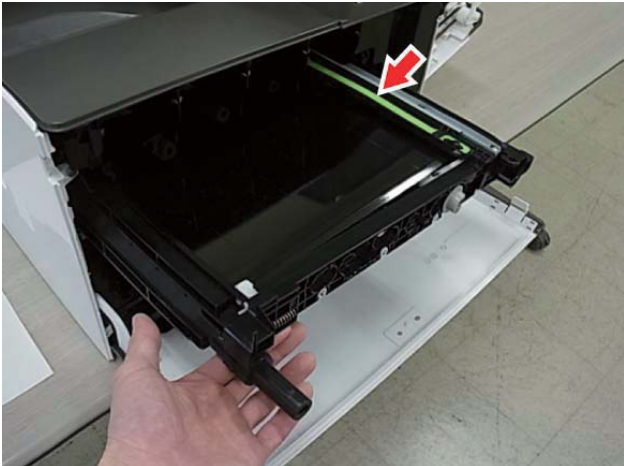
- 1) Remove the Toner collection container.
- 2) Remove the Developing unit.
- 3) Open the Right door unit.
- 4) Remove the screws fixing the primary transfer unit and pull out the primary transfer unit it stops.



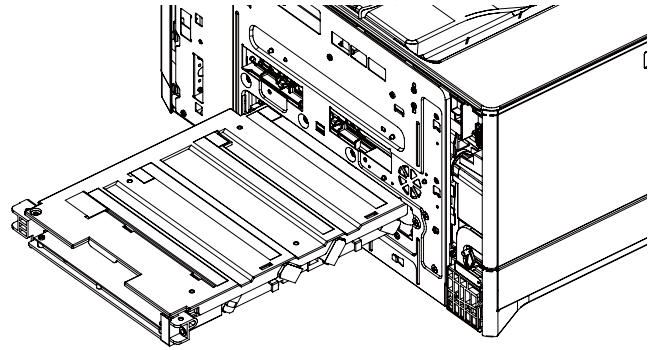
Important

Be careful to keep Primary Transfer Unit free of any foreign materials or objects.

- 5) While holding the handle of the Primary transfer unit, remove the Secondary transfer unit by pressing the lock of the Primary transfer unit.

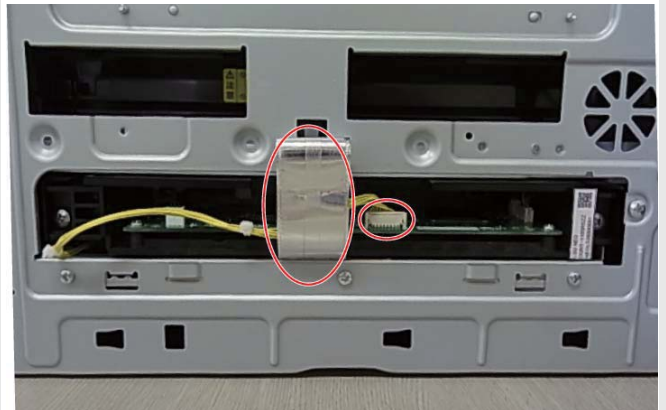


J. LSU

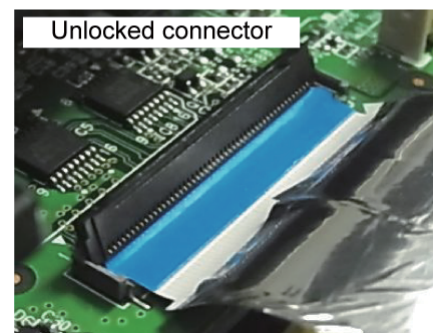
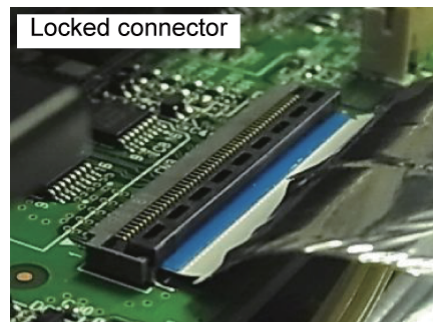


Parts	
1	LSU unit

- 1) Remove the left cabinet. .
- 2) Pull out the LSU unit and remove the FFC and the harness by referring the following procedures.
* Remove the FFC by releasing the lock of the FFC connector.



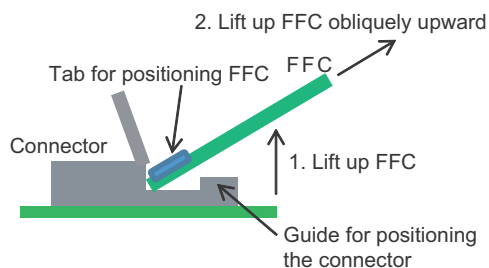
When the connection part of the connector is lifted up as shown in the figure, the connector is unlocked. It is necessary to remove the FFC with releasing the lock of the connector.



It is necessary to remove the FFC after the FFC is lifted up , pulled out obliquely upward and the tab is removed from the connection part. If the FFC is forced to remove, the FFC and the connector could be broken.

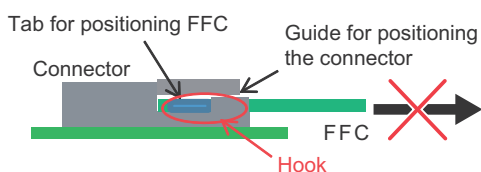
OK : Lift up FFC obliquely upward

<Unlocked connector and FFC from side view>



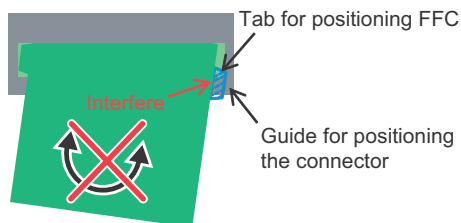
NG : Do not pull out the FFC right beside

<Locked connector and FFC from side view>



NG : Do not pull out the FFC with rotating

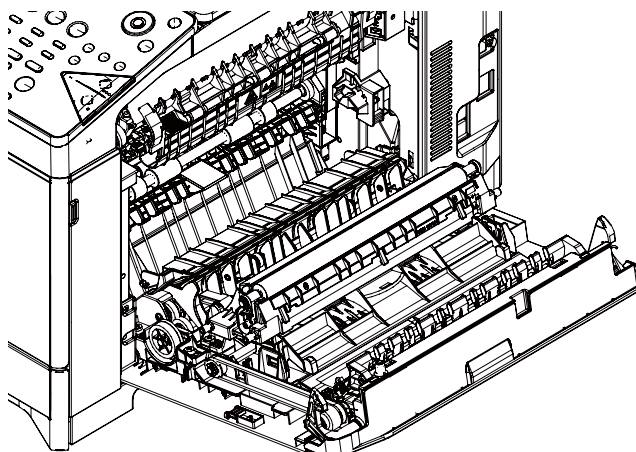
<Top View>



3) Remove the screws and pull out the LSU unit.



K. Paper transport/Paper exit/ADU section



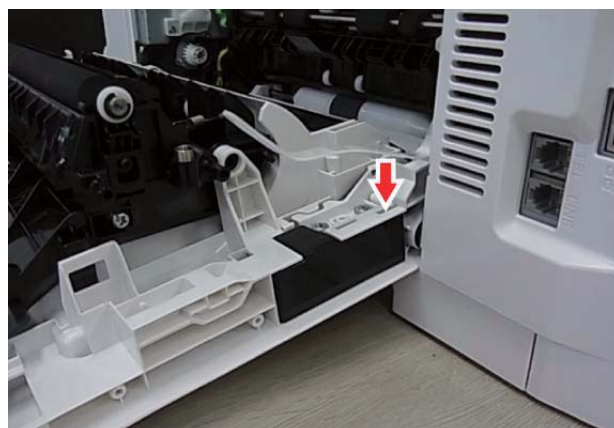
Parts	
1	Right door unit
2	Paper exit unit

(1) Right door unit

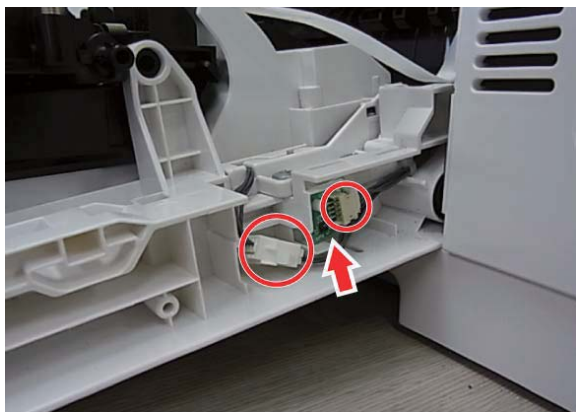
- 1) Open the right door unit.
- 2) Remove the right door unit connection.



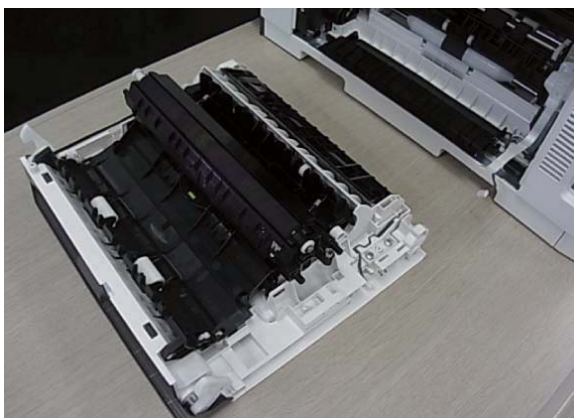
3) Remove the humidity sensor cover



- 4) Remove the harness of the humidity sensor cover.

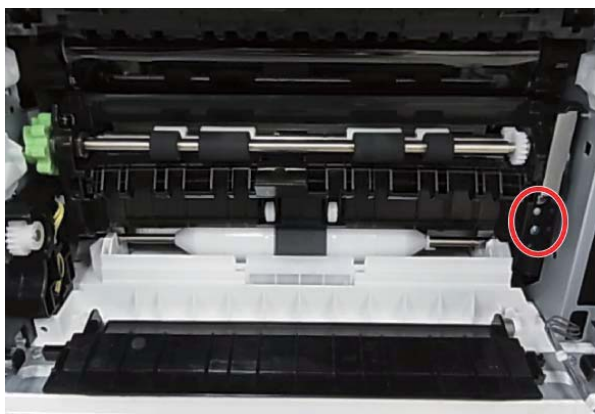


- 5) Remove the right door unit.

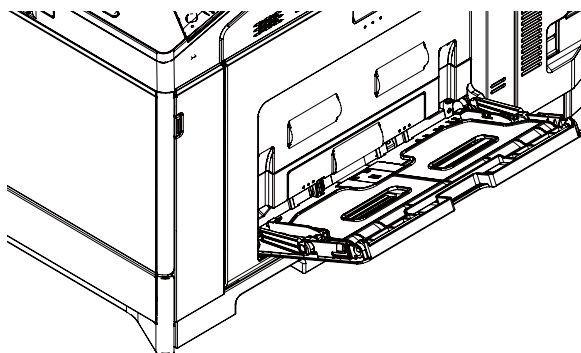


(2) Paper exit unit

- 1) Open the right door unit.
- 2) Remove the right door unit .



L. Manual paper feed unit

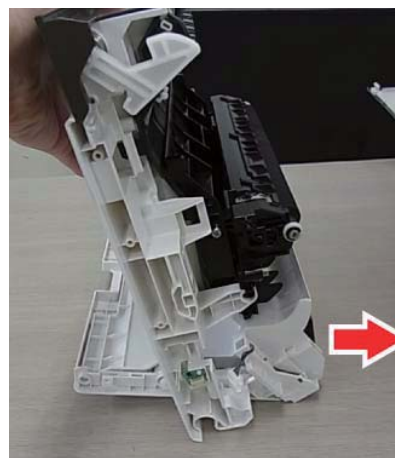


Parts	
1	Manual paper feed tray

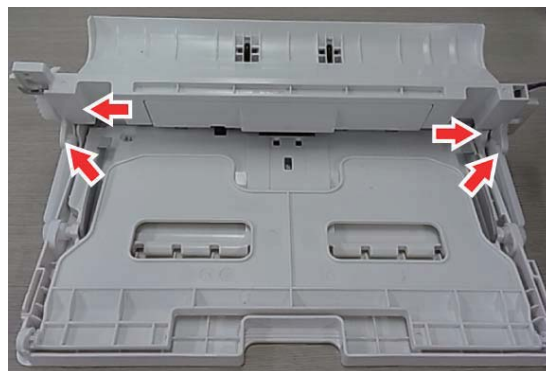
- 1) Open the right door unit.
- 2) Remove the screw fixing the manual paper feed unit .



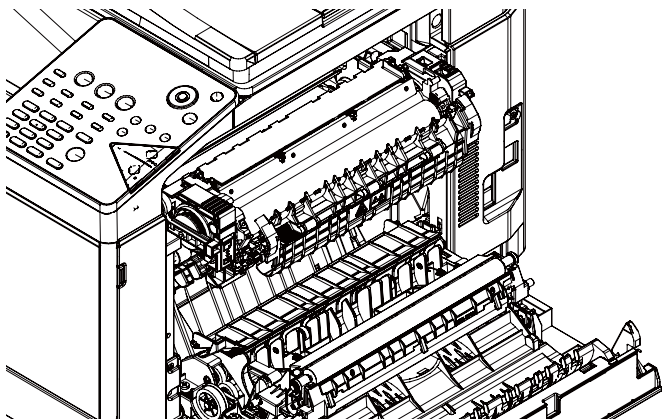
- 3) Remove the manual paper feed unit.



- 4) Remove the connecting parts of the manual paper feed tray and remove it.



M. Fusing unit

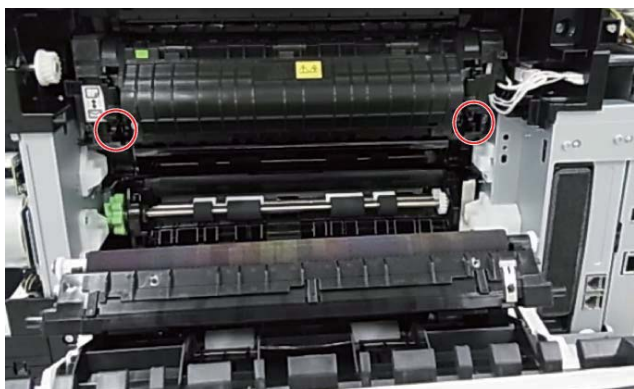
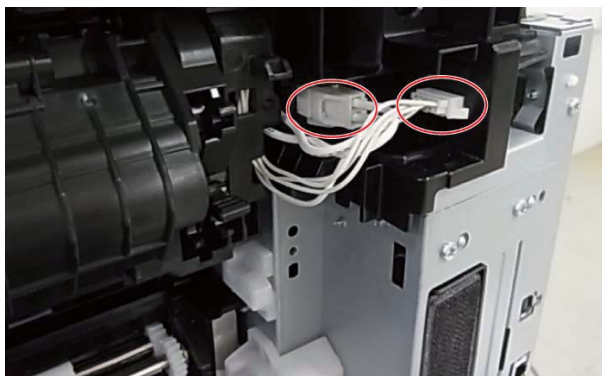


Parts	
1	Fusing unit

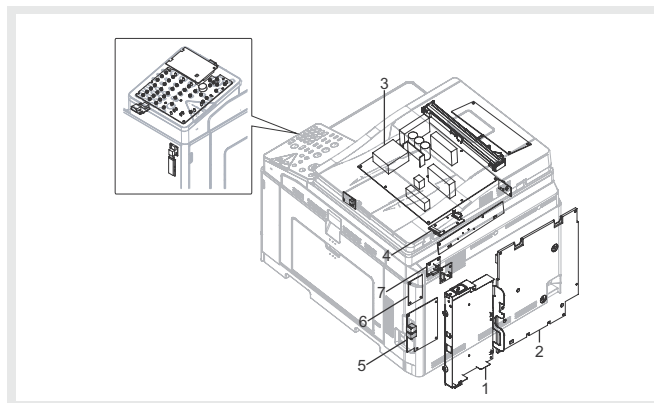
- 1) Open the right door unit.
- 2) Remove the right cabinet rear NE and the upper cabinet right NE.
- 3) Remove the harness cover.



- 4) Remove the screws and the harness. Then, remove the fusing unit.



N. PWB



Parts	
1	MFPC PWB
2	HV PWB
3	AC DC PWB
4	AFE PWB
5	FAX PWB
6	RINGER PWB
7	FAN IF PWB

(1) MFPC PWB

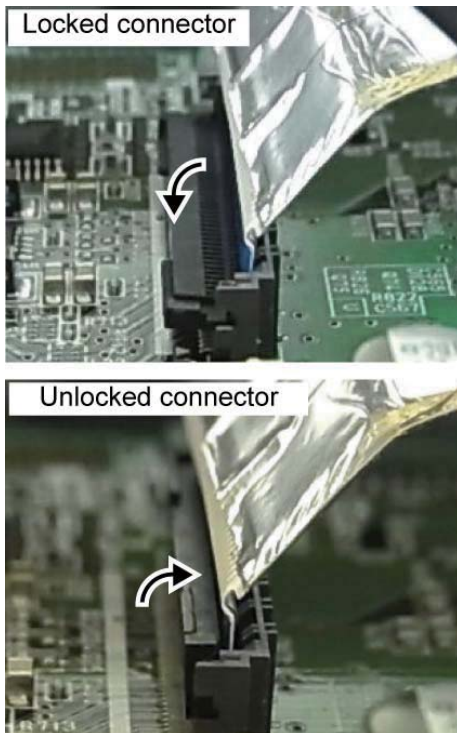
- 1) Remove the right cabinet rear NE
- 2) Remove the rear cabinet rear NE
- 3) Remove the MFPC cover.



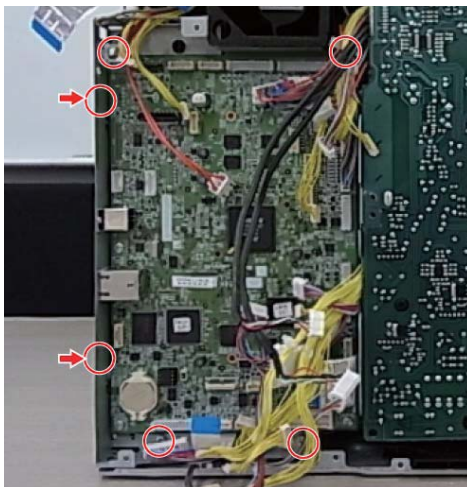
- 4) Remove the FFCs from MFPC unit by referring the following procedures.
* It is necessary to remove the FFC by releasing the lock of the FFC connector.



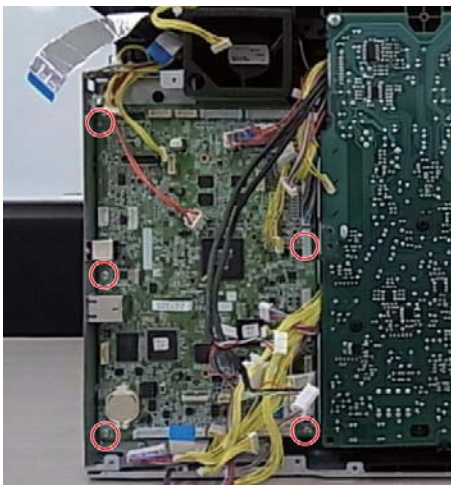
When the connection part of the connector is lifted up as shown in the figure, the connector is unlocked. It is necessary to remove the FFC with releasing the lock of the connector.



5) Remove the MFPC frame.

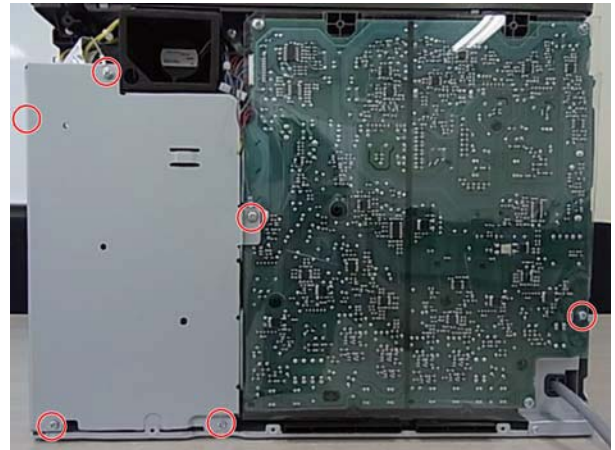


6) Remove the MFPC PWB from the MFPC PWB frame.

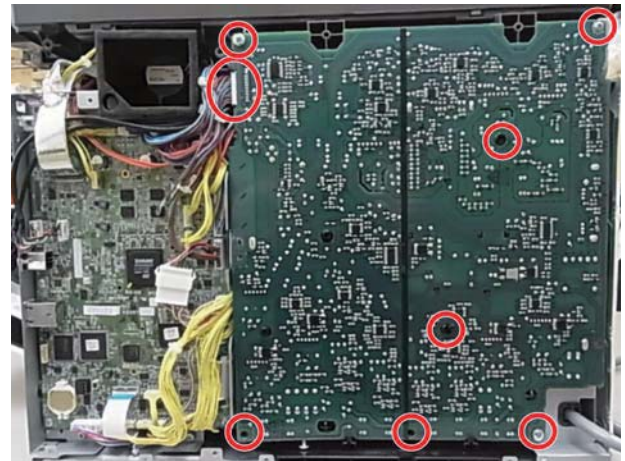


(2) HV PWB

- 1) Remove the right cabinet rear NE
- 2) Remove the rear cabinet rear NE
- 3) Remove the PWB protection sheet NE and the MFPC cover.



4) Remove the HV PWB.



(3) AC DC PWB

- 1) Open the front cover.
- 2) Remove the paper exit tray.
- 3) Remove the AC DC PWB with the stubby driver. .

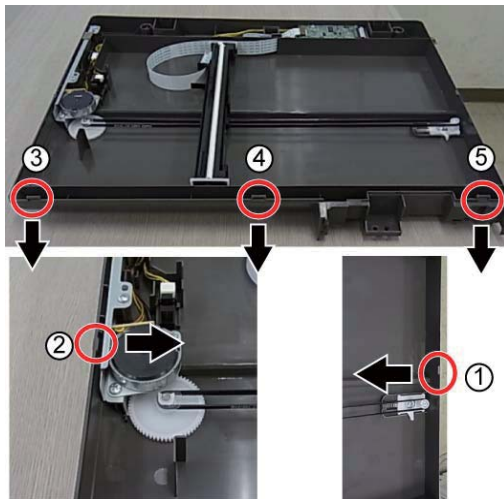


(4) AFE PWB

- 1) Remove the scanner unit.
- 2) Remove the scanner upper cover NE. .

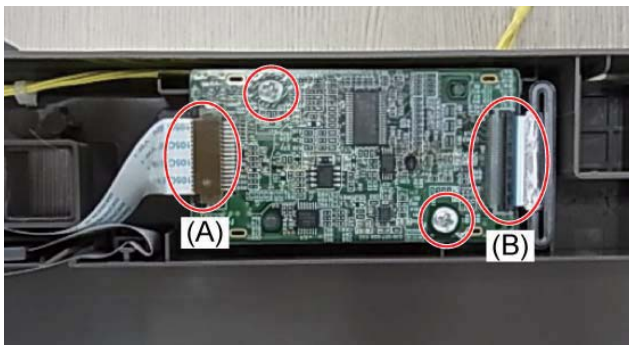


When removing the scanner upper cover, press No.1 and 2 pawls inside and slide no.3, 4 and 5 pawls outside.

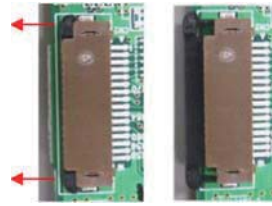


- 3) Remove the FFCs and AFE PWB by referring the following procedures.

* It is necessary to remove the FFC by releasing the lock of the FFC connector.



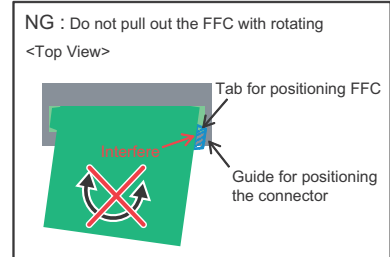
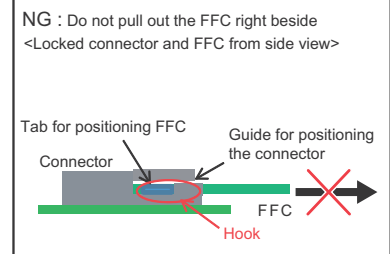
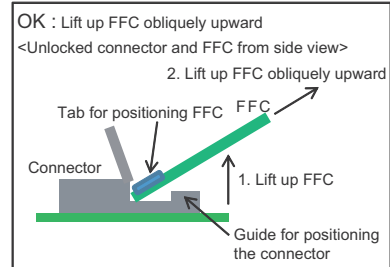
(A) Connector : Release the lock by pulling the Black lock lever as shown in the figure. It is necessary to remove the FFC with releasing the locking lever.



(B) Connector : When the connection part of the connector is lifted up as shown in the figure, the connector is unlocked. It is necessary to remove the FFC with releasing the locking of the connector.

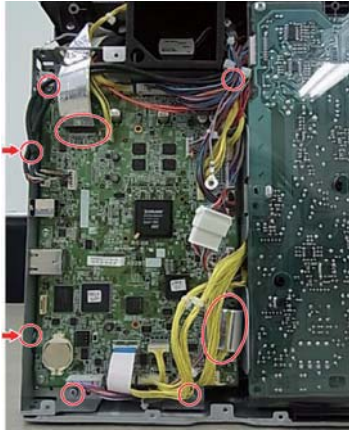


It is necessary to remove the FFC after the FFC is lifted up , pulled out obliquely upward and the tab is removed from the connection part. If the FFC is forced to remove, the FFC and the connector could be broken.

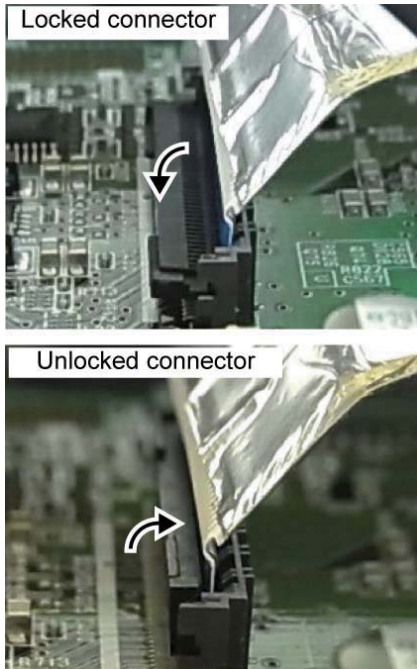


(5) FAX PWB

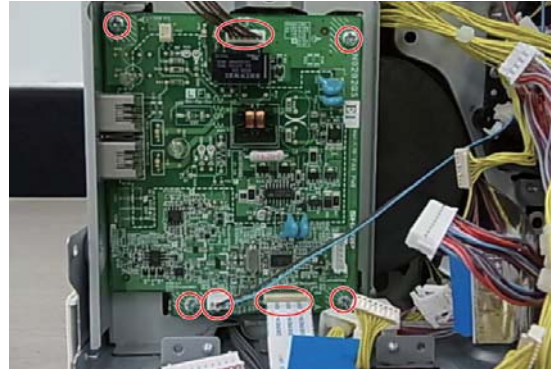
- 1) Remove the harnesses and the FFC connected to the MFOC PWB and remove the MFPC unit.
* It is necessary to remove the FFC by releasing the lock of the FFC connector.



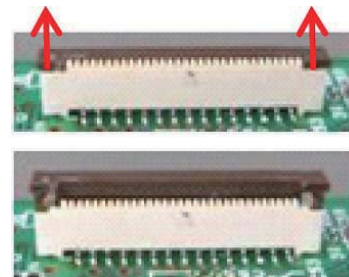
When the connection part of the connector is lifted up as shown in the figure, the connector is unlocked. It is necessary to remove the FFC with releasing the lock of the connector.



- 2) Remove the FAX PWB.
* It is necessary to remove the harness and FFC by releasing the lock of the FFC connector.

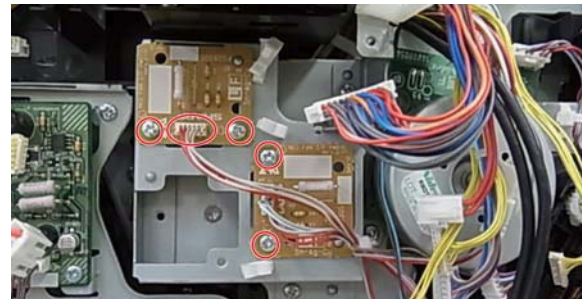


Release the lock by lifting up the lock lever as shown in the figure. It is necessary to remove the FFC with releasing the lock of the connector.

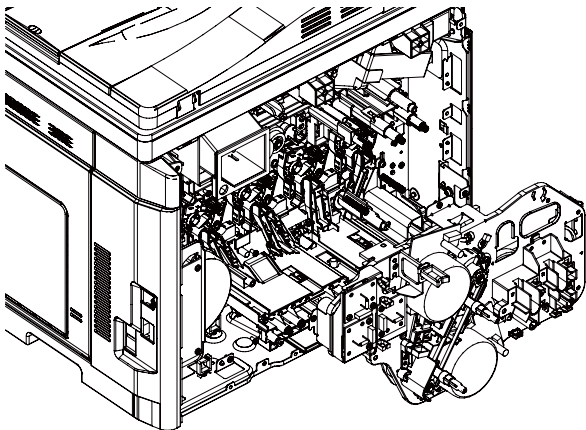


(6) FAN IF PWB

- 1) Remove the MFPC unit.
- 2) Remove the FAN IF PWB.



O. Drive unit

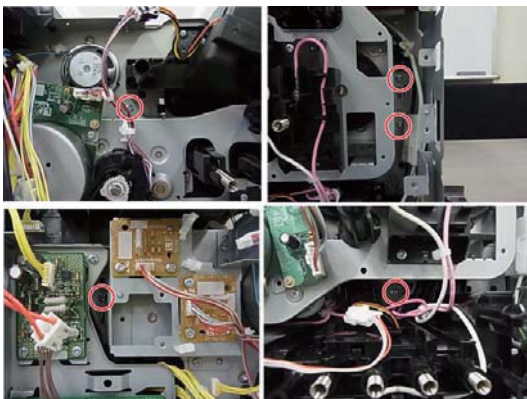
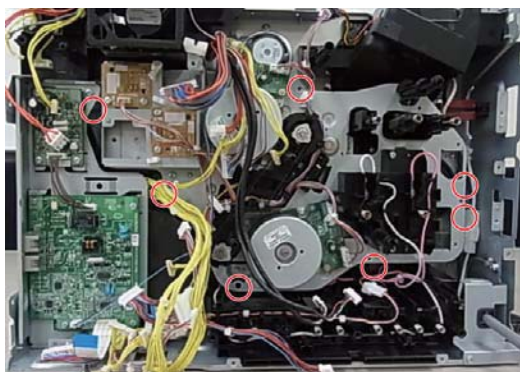


Parts	
1	Main drive unit

- 1) Remove the MFPC unit and the HV PWB.
- 2) Disconnect the connector, harnesses and clamps of the main drive unit.

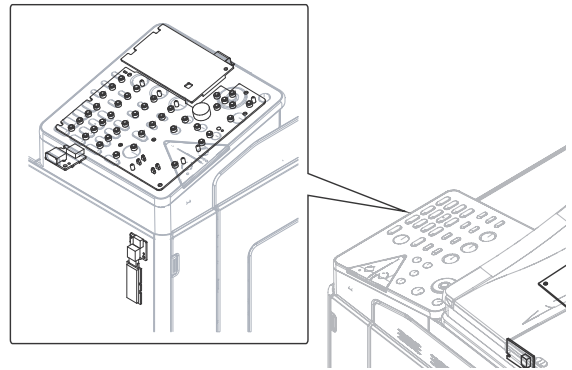


- 3) Remove the main drive unit .



2.Disassembly and assembly of each unit

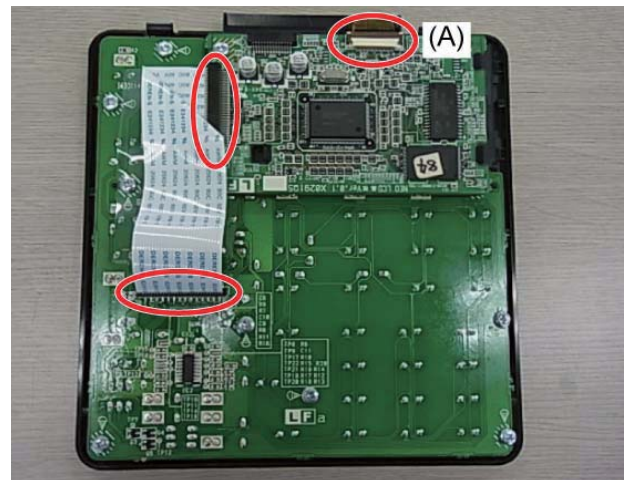
A. Operation panel unit



No.	Name
1	LCD PWB
2	KEY-LED PWB
3	LCD

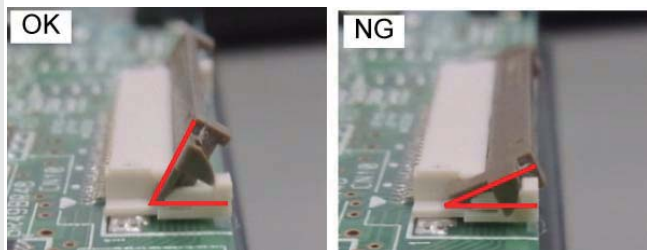
(1) LCD PWB

- 1) Remove the KEY FFC.

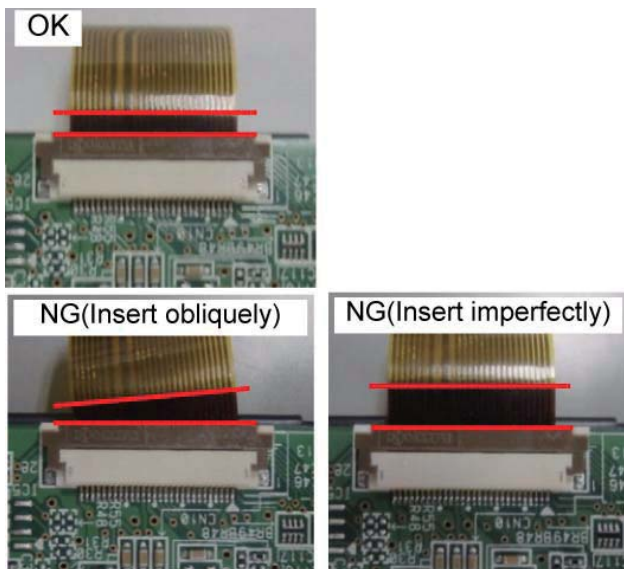


Regarding the connection part (A), remove the FFC by referring the following procedure.

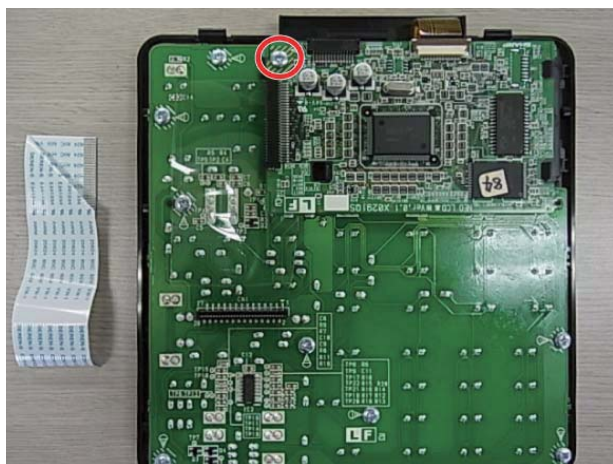
Lifting up the lock lever as the OK state shown in the figure. It is necessary to remove the FFC with releasing the lock of the connector.



When connecting the FFC, connect the FFC correctly as the OK state shown in the figure.

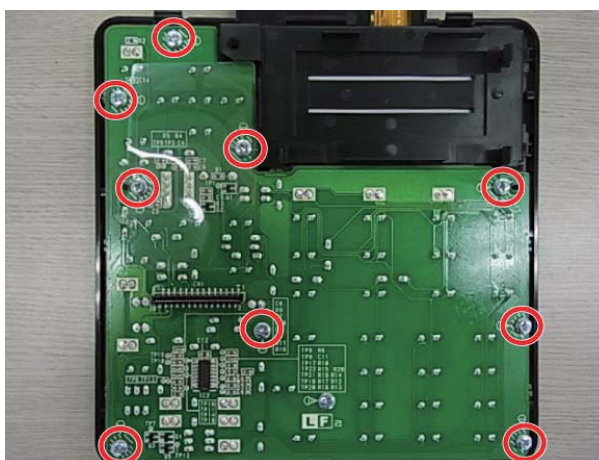


2) Remove the screws and remove the LCD PWB.



(2) KEY-LED PWB

- 1) Remove the KEY-LED PWB.
- 2) Remove the screws, remove the protection mylar and KEY-LED PWB.



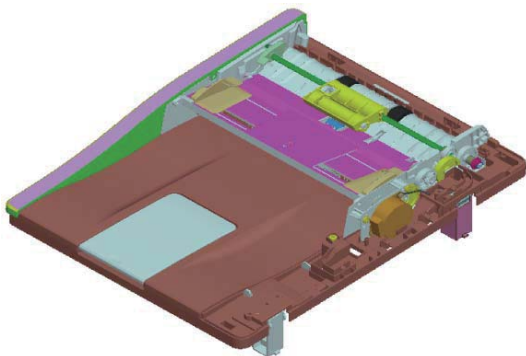
(3) LCD

- 1) Remove the KEY-LED PWB and the LCD PWB.
- 2) Open the pawls and remove the LCD unit.

NOTE: Use enough care not to put finger prints on the LCD surface.



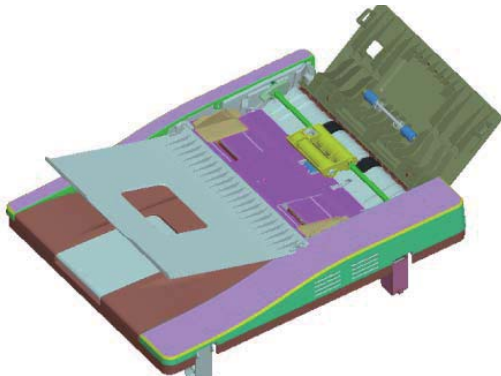
B.SPF unit



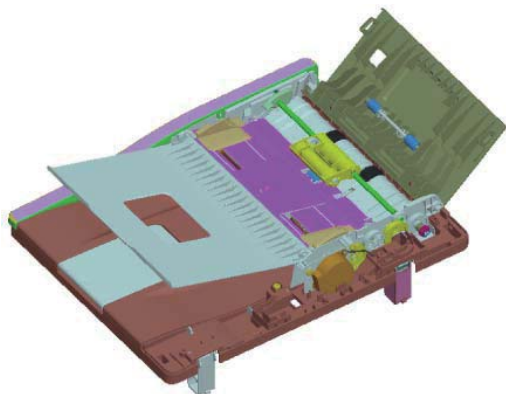
Parts	
1	Pick up roller
2	Paper feed roller
3	Paper exit roller
4	Transport roller
5	Transport auxiliary roller
6	Discharge brush
7	OC mat

(1) Pick up roller, Paper feed roller

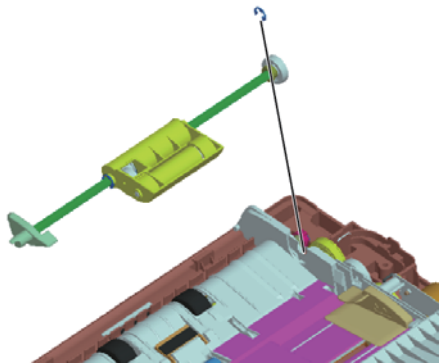
- 1) Open the upper door cabinet R and the paper tray R NE.



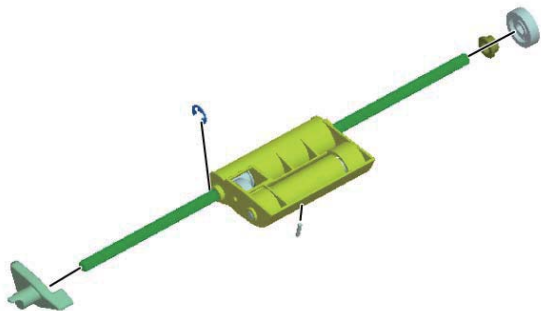
- 2) Remove the Rear cabinet R.



- 3) Remove the E ring, remove the paper feed shaft unit.



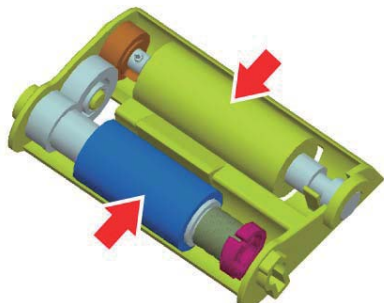
- 4) Remove the pressure release lever, bearings washers, stopper, the pin and Paper feed drive gear.



- 5) Remove the paper feed shaft.

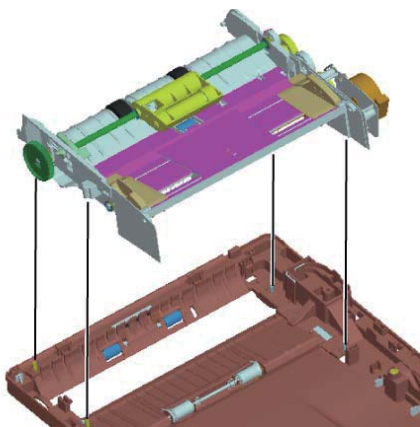


- 6) Remove the Paper feed roller and the Pick up roller.

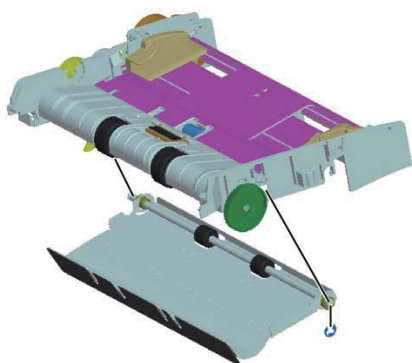


(2) Discharge brush, Paper exit roller

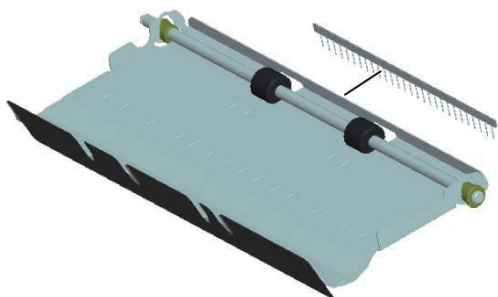
- 1) Remove the paper feed shaft unit.
- 2) Remove the transportation unit.



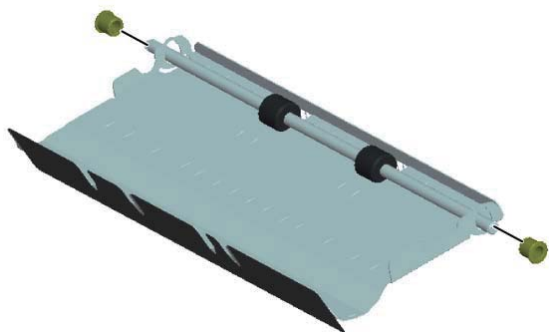
- 3) Remove the E-ring and the paper exit roller unit.



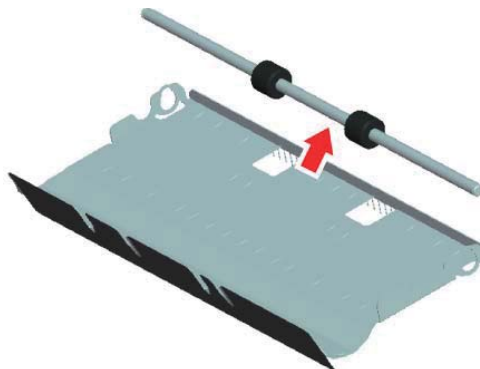
- 4) Remove the discharge brush.



- 5) Remove the couplings.

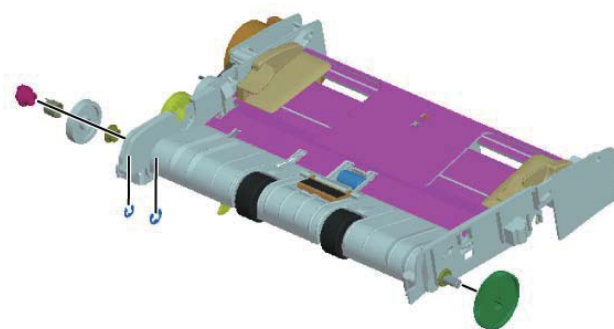


- 6) Remove the paper exit roller.

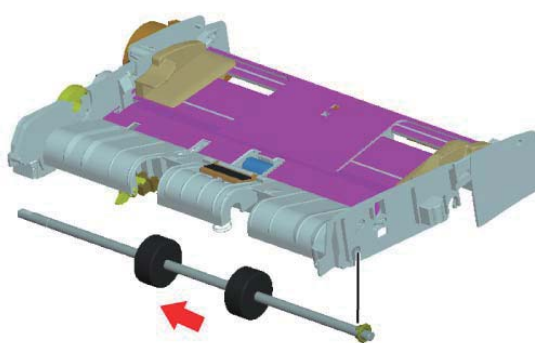


(3) Transport roller

- 1) Remove the paper feed shaft unit.
- 2) Remove the transportation unit.
- 3) Remove the E-rings, the pulley, the coupling and the bearing.

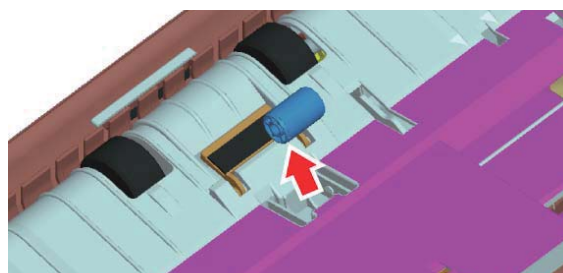


- 4) Remove the transport roller unit, and remove the transport roller.



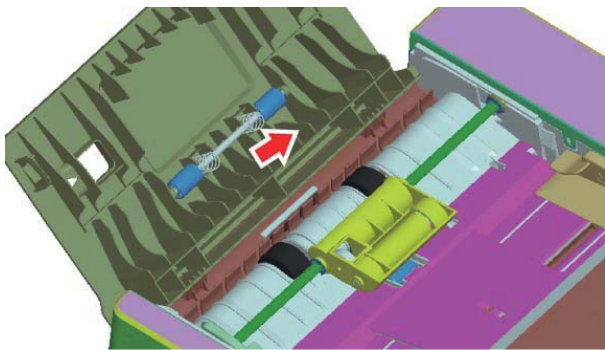
(4) Transport auxiliary roller

- 1) Remove the paper feed shaft unit.
- 2) Remove the transport auxiliary roller



(5)Transport auxiliary roller (Upper door cabinet)

- 1) Remove the rear cabinet of the SPF unit.

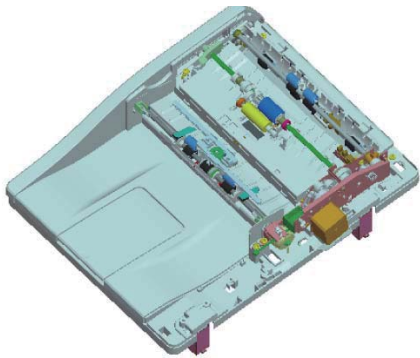


(6) OC mat

- 1) Open the SPF unit and clean the OC mat.



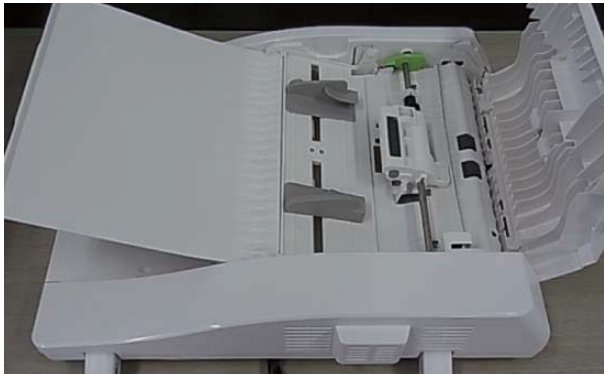
C.RSPF unit



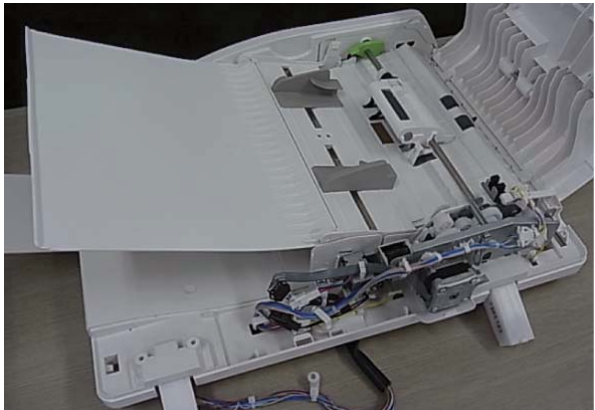
Parts	
1	Pick up roller
2	Paper feed roller
3	Upper transport roller
4	Lower transport roller
5	PS roller
6	Transport auxiliary roller
7	BC auxiliary roller
8	Transport auxiliary roller
9	Paper exit roller
10	BC paper exit roller
11	Discharge brush
12	OC mat

(1) Pick up roller, Paper feed roller

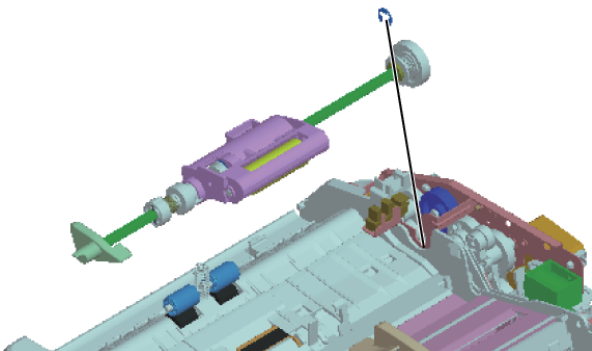
- 1) Open the upper door cabinet R and the paper tray R NE.



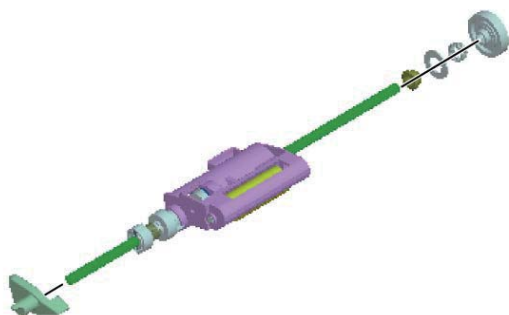
- 2) Remove the Rear cabinet R.



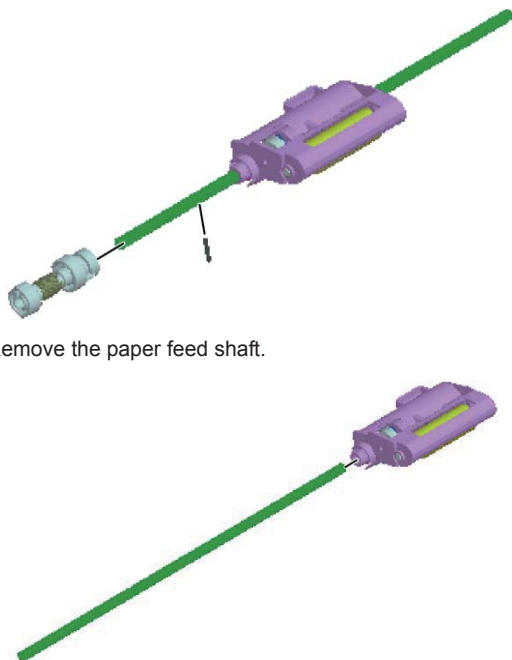
- 3) Remove the E ring, remove the paper feed shaft unit.



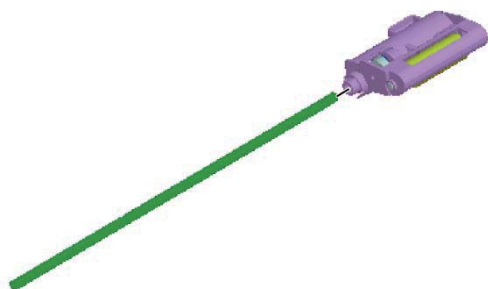
- 4) Remove the pressure release lever, bearings washers, stoppers and Paper feed drive gear.



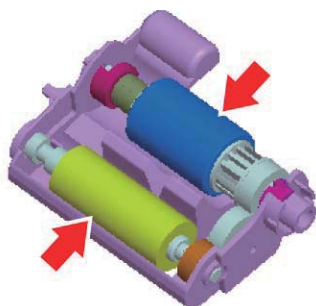
- 5) Remove the resin ring, remove the pin and the coupling assembly.



- 6) Remove the paper feed shaft.

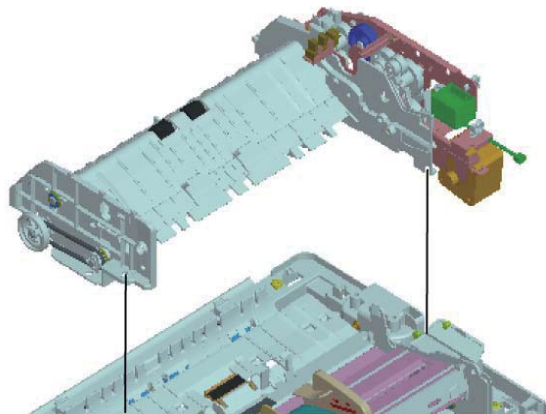


- 7) Remove the Paper feed roller and the Pick up roller.

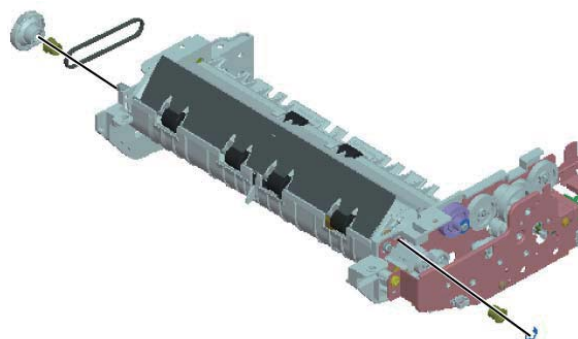


(2) PS roller, Upper transport roller, Lower transport roller

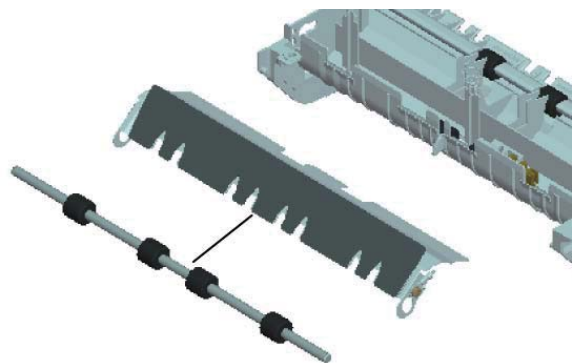
- 1) Remove the paper feed shaft unit.
- 2) Remove the transportation unit.



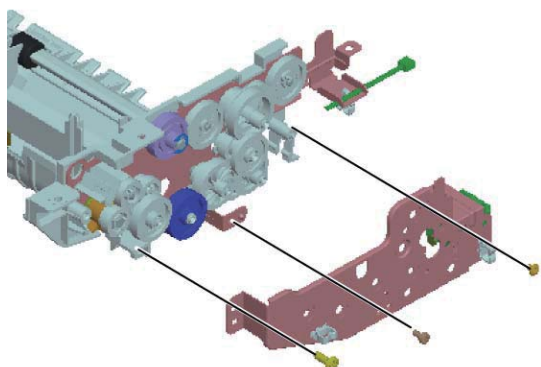
- 3) Remove the E-ring, the pulley, the belt and the bearing.



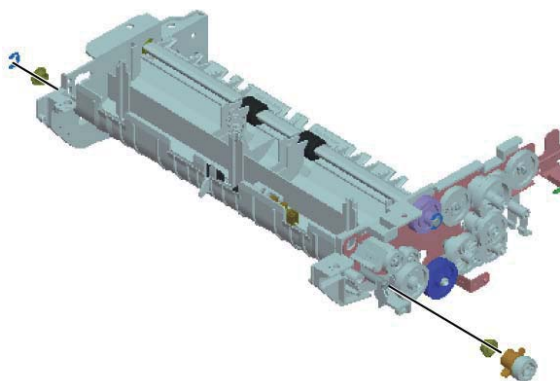
- 4) Remove the PS roller .



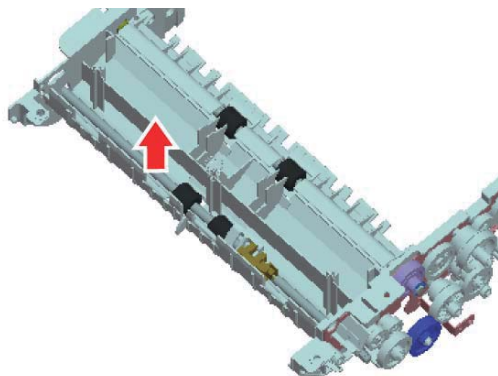
- 5) Remove the motor fixing plate.



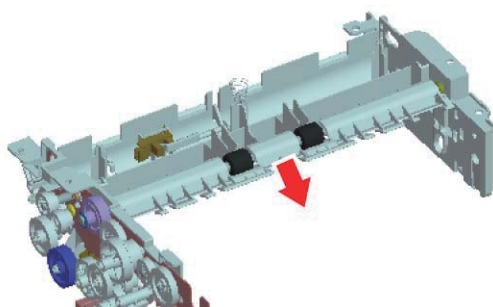
- 6) Remove the E ring, the gear and the bearing.



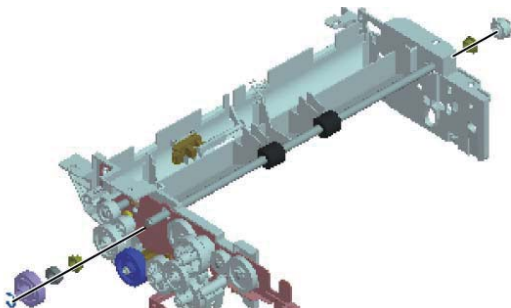
- 7) Remove the Upper transport roller.



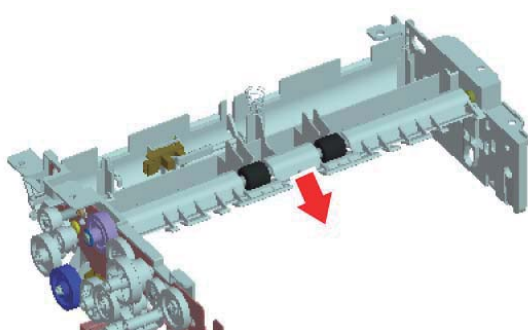
- 8) Remove the gate.



- 9) Remove the E ring, the gear and the bearing.

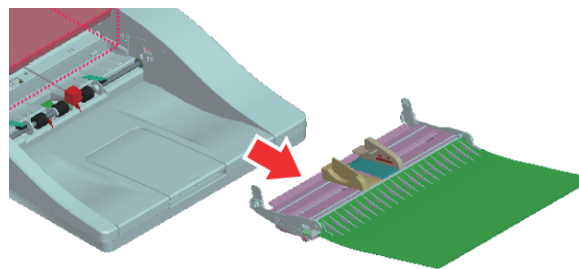


- 10) Remove the Lower transport roller

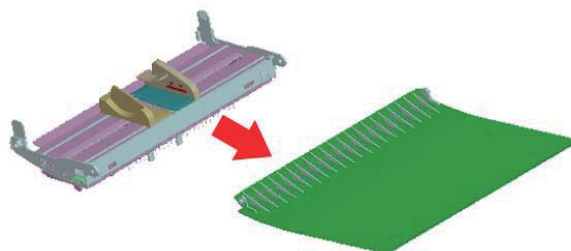


(3) BC auxiliary roller, discharge brush

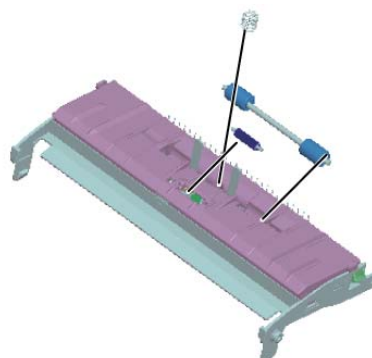
- 1) Remove the paper tray unit.



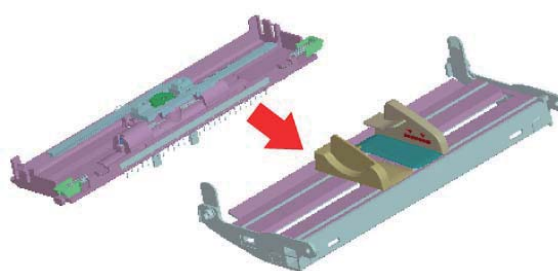
- 2) Remove the paper tray.



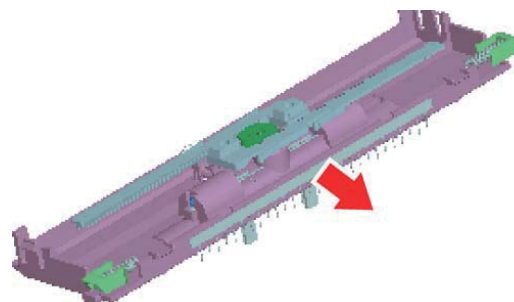
- 3) Turn the removed unit and remove the spring, transport auxiliary roller and the BC auxiliary roller.



- 4) Remove the paper fed cover unit.



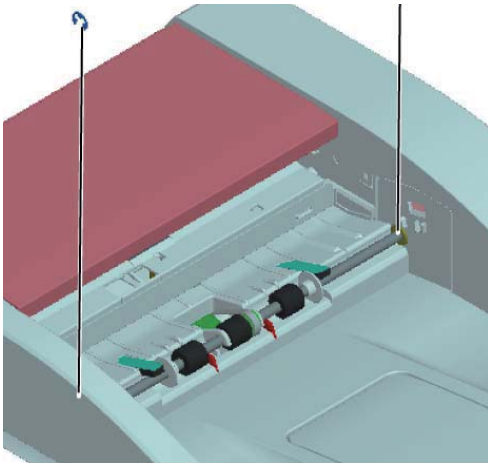
- 5) Remove the discharge brush.



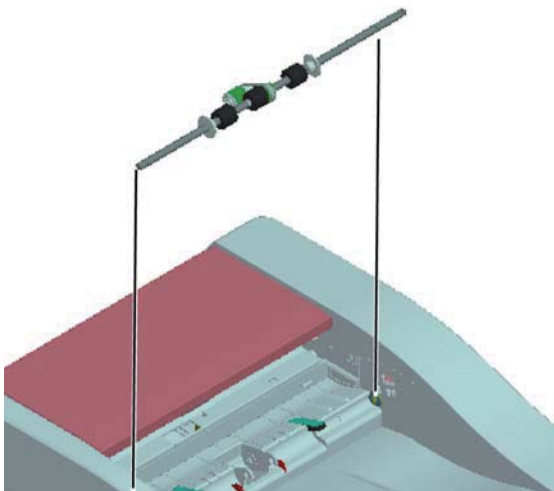
NOTE: When putting the discharge brush, put it with fitting to the alignment line.

(4) Paper exit roller, BC paper exit roller

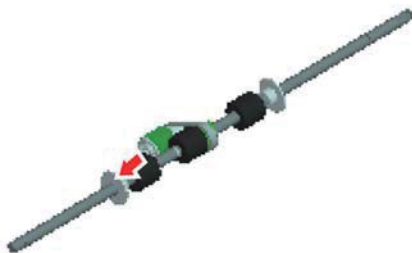
- 1) Remove the paper tray unit.
- 2) Remove the E ring.



- 3) Remove the Paper exit roller and the BC paper exit roller.

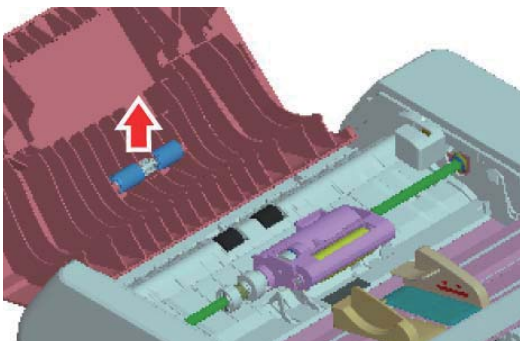


- 4) Remove the BC paper exit roller.



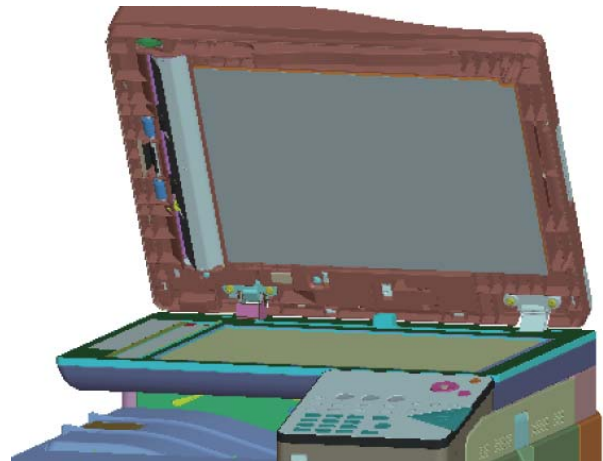
(5) Transport auxiliary roller (Upper door cabinet)

- 1) Remove the rear cabinet of the RSPF unit.



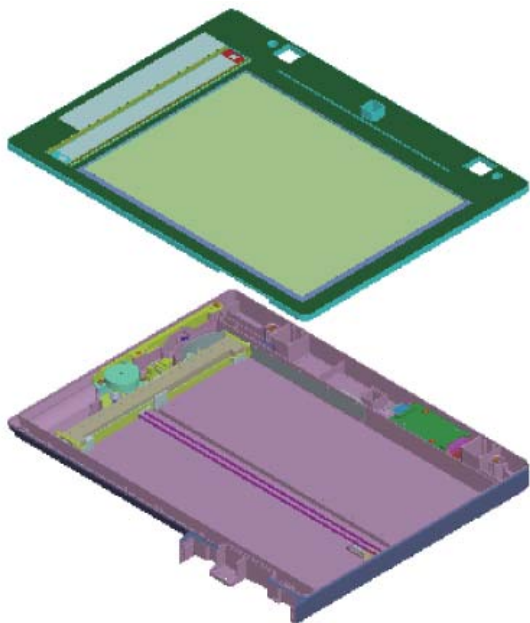
(6) OC mat

- 1) Open the RSPF unit and clean the OC mat.



D.Scanner unit

No.	Name
1	Drive belt
2	Glass
3	Rail
4	CIS unit

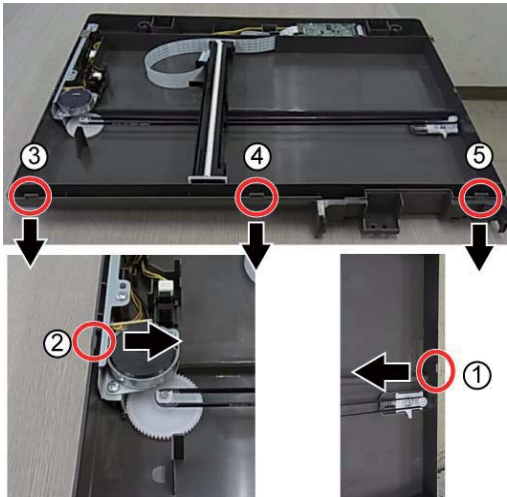


(1)Drive belt

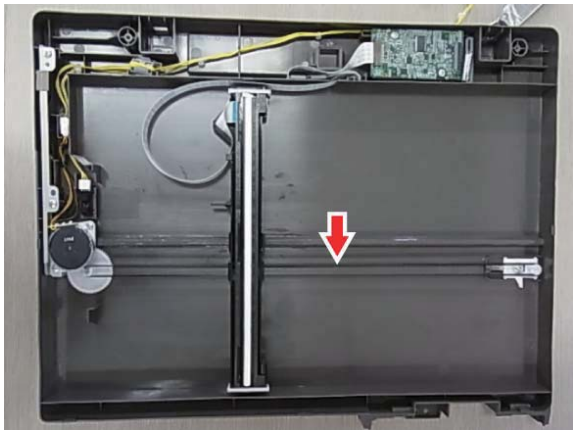
1) Remove the scanner upper cover NE. .



When removing the scanner upper cover, press No.1 and 2 pawls inside and slide no.3, 4 and 5 pawls outside.



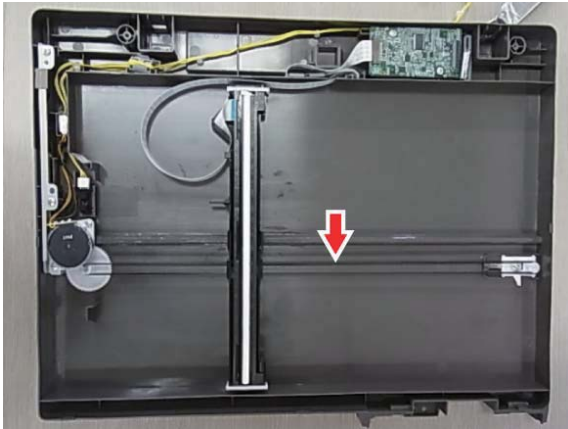
2) Check the tension and wear of the drive belt shown in the figure.



(2)Rail

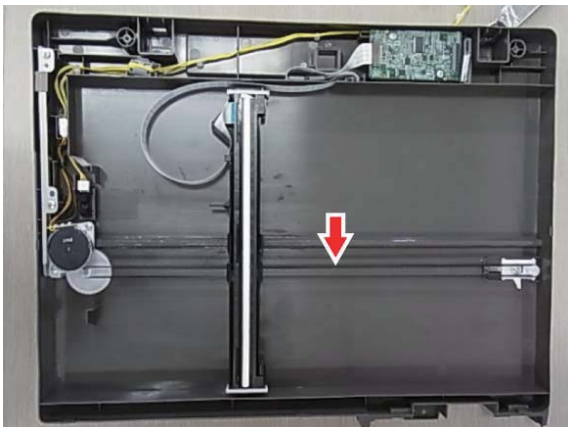
- 1) Remove the scanner upper cover.
- 2) Apply the grease on the rail.

NOTE: When applying the grease, be sure not to apply the grease on the drive belt. If the grease is put on the drive belt, clean the drive belt.



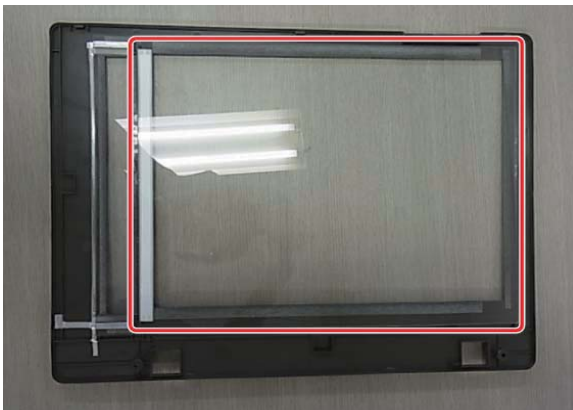
- 3) Apply grease on the rail.

NOTE: When applying the grease, be sure not to apply the grease on the drive belt. If the grease is put on the drive belt, clean drive the belt.



(3)Glass

- 1) Remove the glass from the upper cover by removing the double-sided tapes.
- 2) Remove the glass.

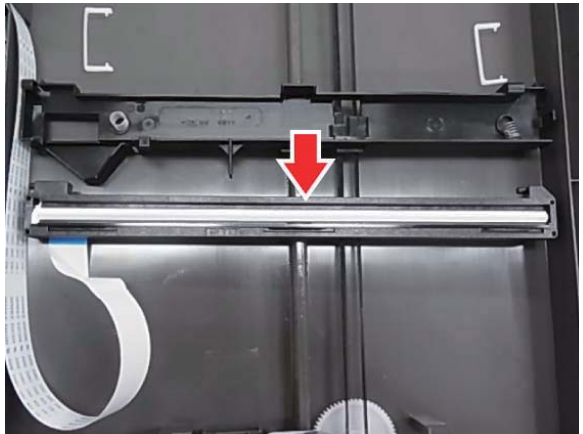


(4)CIS unit

- 1) Remove the scanner upper cover.
- 2) Remove the stoppers shown in the figure.



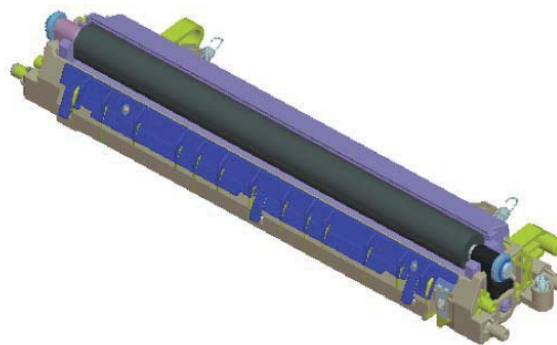
- 3) Remove the CIS unit from the case.



- 4) Remove the FFC from the CIS unit.



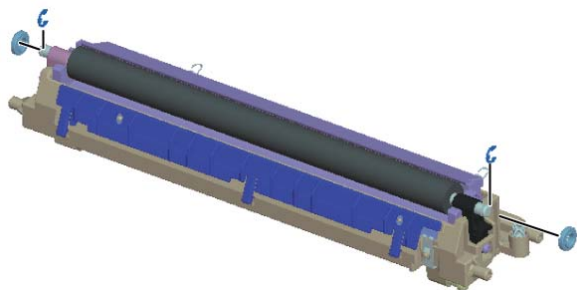
E.Transfer section



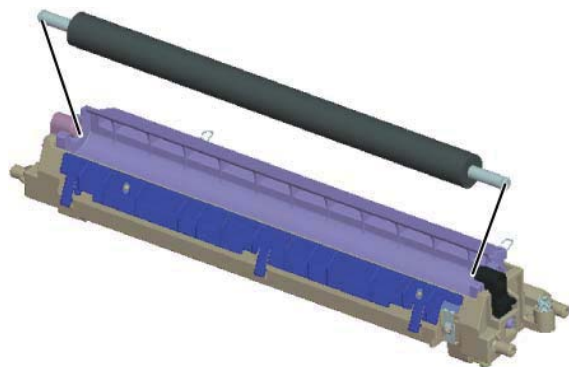
Parts	
1	Secondary transfer roller

(1) Secondary transfer roller

- 1) Remove the E ring and the roller collar.



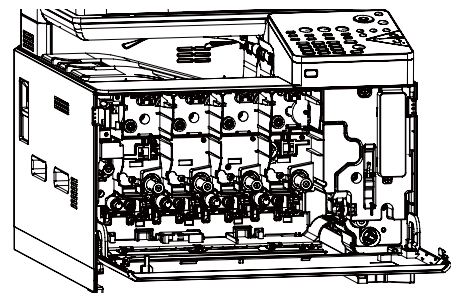
- 2) Remove the roller shaft, and remove the secondary transfer roller.



F. LSU section

(1)LSU cleaning stick

Parts	
1	LSU cleaning stick



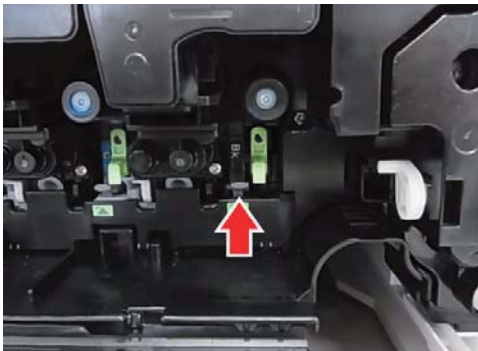
- 1) Remove the Toner collection container.
2) Remove the cleaning stick from the front cabinet.



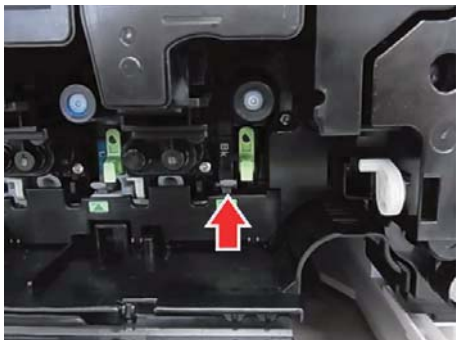
(2)Glass cleaning

Parts	
1	Glass

- 1) Remove the Toner collection container.
2) Move the lever of the OPC drum unit up.

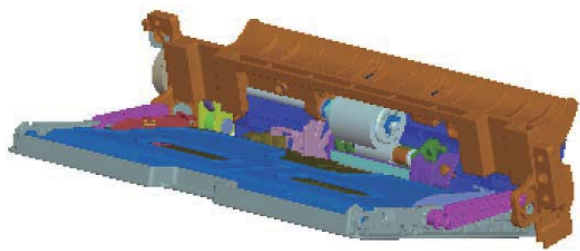


- 3) Turn the felt part of the cleaning stick downward and insert it to the space shown in the figure. Move the cleaning stick back and forth twice or third and clean the glass of the LSU unit.



G.Manual paper feed section

Parts	
1	Paper feed roller
2	Separation roller
3	Torque limiter

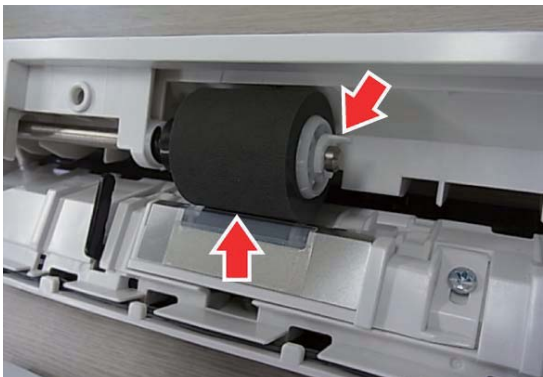


(1) Paper feed roller

- 1) Remove the maintenance cover.



- 2) Remove the E ring, and remove the paper feed roller.

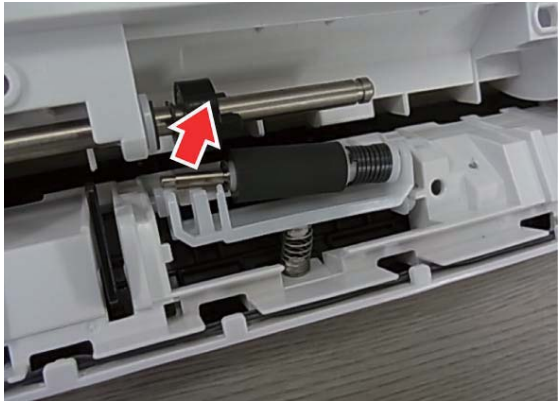


(2) Separation roller, Torque limiter

- 1) Remove the separation roller cover



- 2) Remove the separation roller assembly.



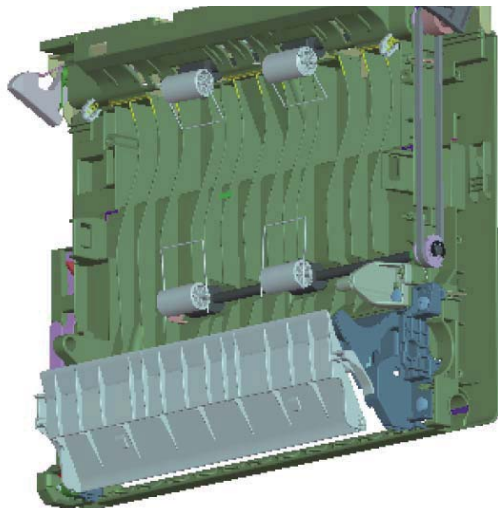
- 3) Remove the separation roller and the torque limiter.



H.Paper transport/Paper exit/Duplex unit

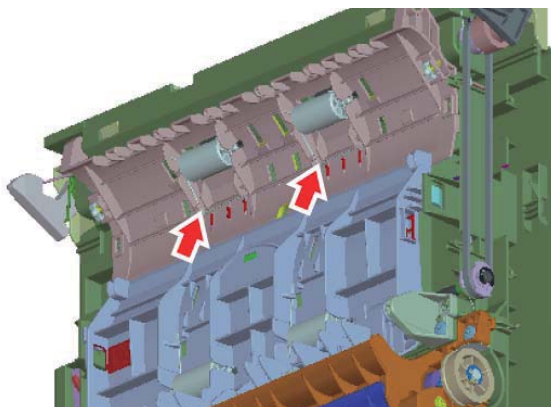
(1) Right door unit

Parts	
1	Transport auxiliary roller 1
2	Transport auxiliary roller 2
3	Right door paper in roller
4	Right door paper out roller

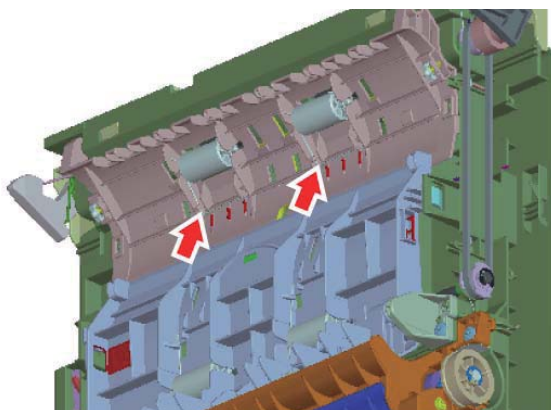


a. Transport auxiliary roller 1

- 1) Open the right door.
- 2) Remove the right door auxiliary roller pressure SP.

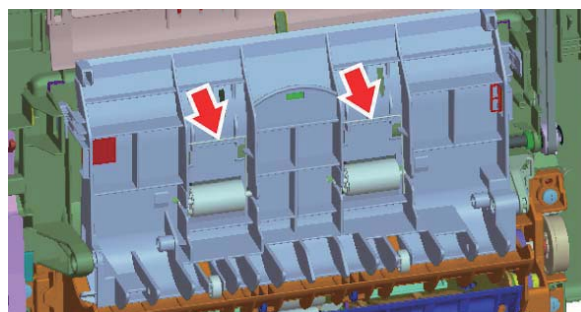


- 3) Remove the transport auxiliary roller 1 from the shaft.

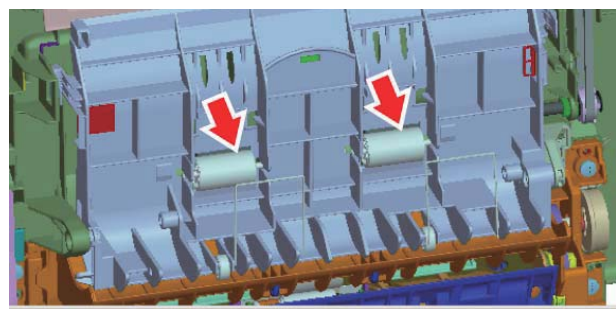


b. Transport auxiliary roller 1

- 1) Remove the right door.
- 2) Remove the paper out roller pressure SP.

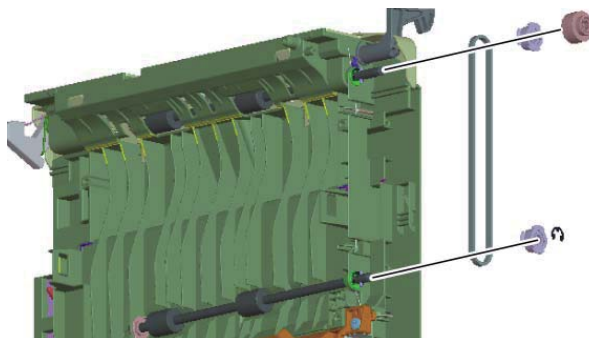


- 3) Remove the transport auxiliary roller 2 from the shaft.

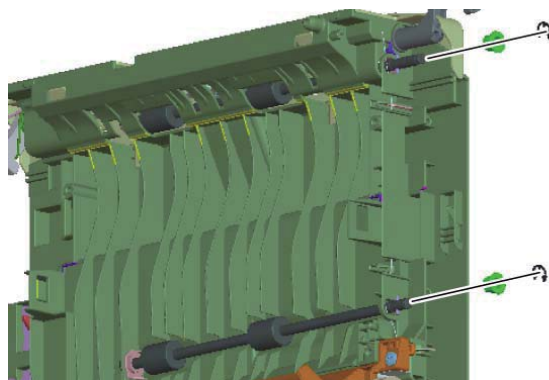


c. Right door paper in roller, Right door paper out roller

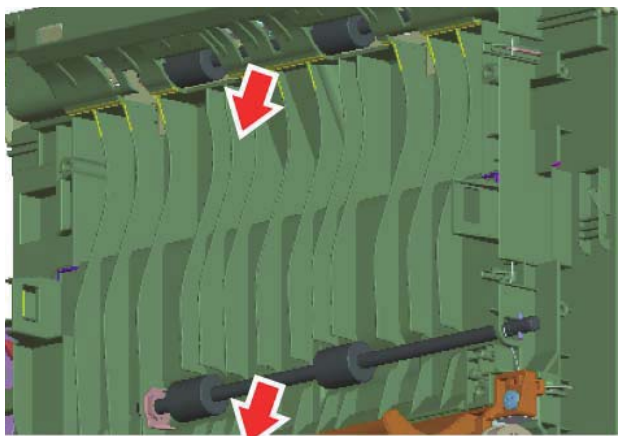
- 1) Open the right door.
- 2) Remove the E rings and the 25P pulleys, and remove the belt.



- 3) Remove the E rings and the belt idle bearings.

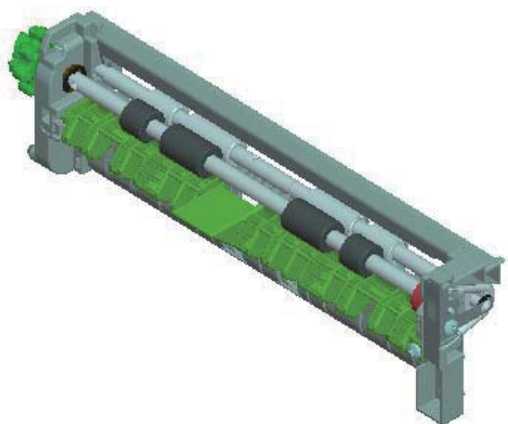


- 4) Remove the right door paper in roller and the right door paper out roller from the shafts.



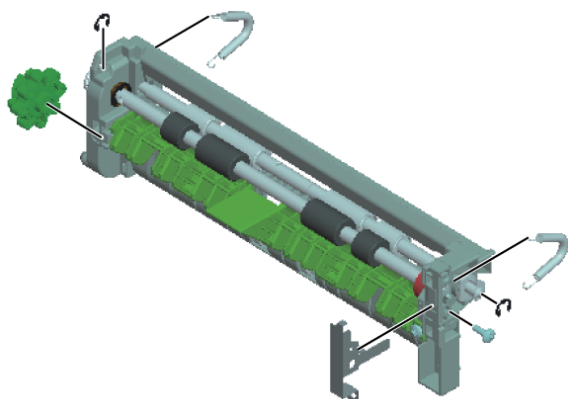
(2) Paper exit unit

Parts	
1	Paper exit auxiliary roller
2	Paper exit roller
3	Discharge brush

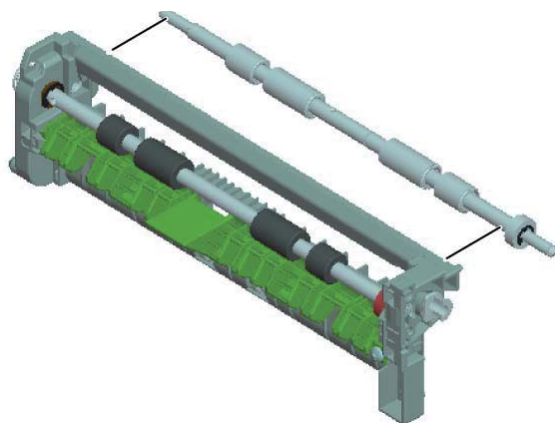


a. Paper exit auxiliary roller

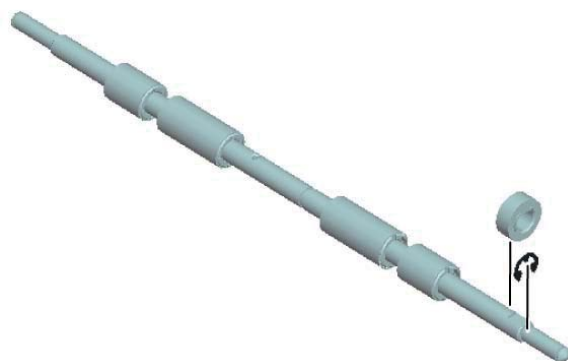
- 1) Remove the knob, the earth plate, E rings and pressure springs.



- 2) Remove the paper exit auxiliary roller unit.

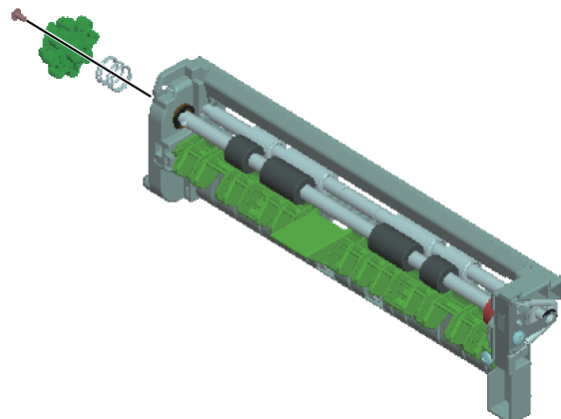


- 3) Remove the paper exit auxiliary roller.

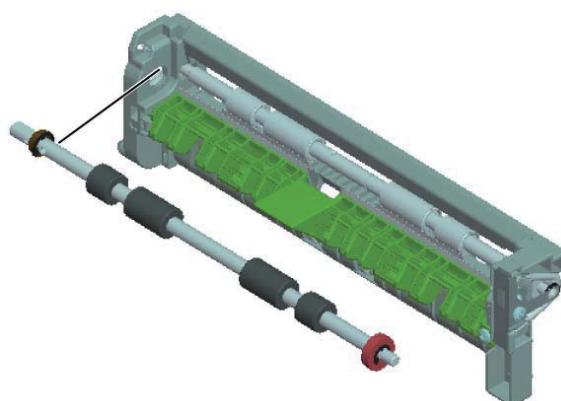


b. Paper exit roller

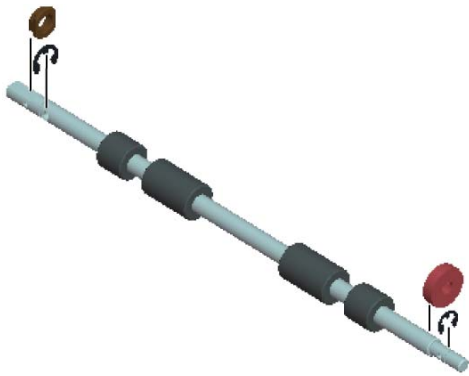
- 1) Remove the knob.



- 2) Remove the paper exit gear unit, and remove the paper exit roller unit.



- 3) Remove the paper exit roller.

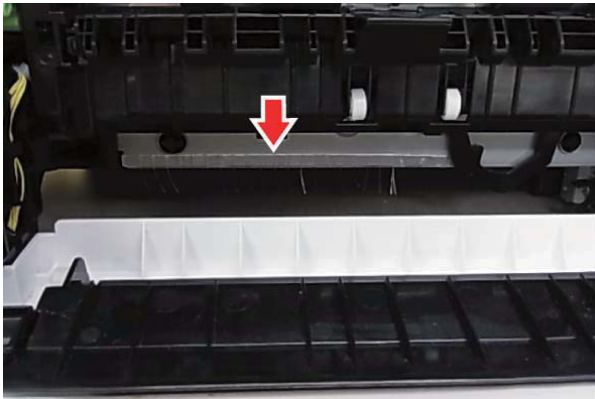


c. Discharge brush

- 1) Remove the knob.

NOTE: When replacing the discharge brush, put it with aligning the alignment line.

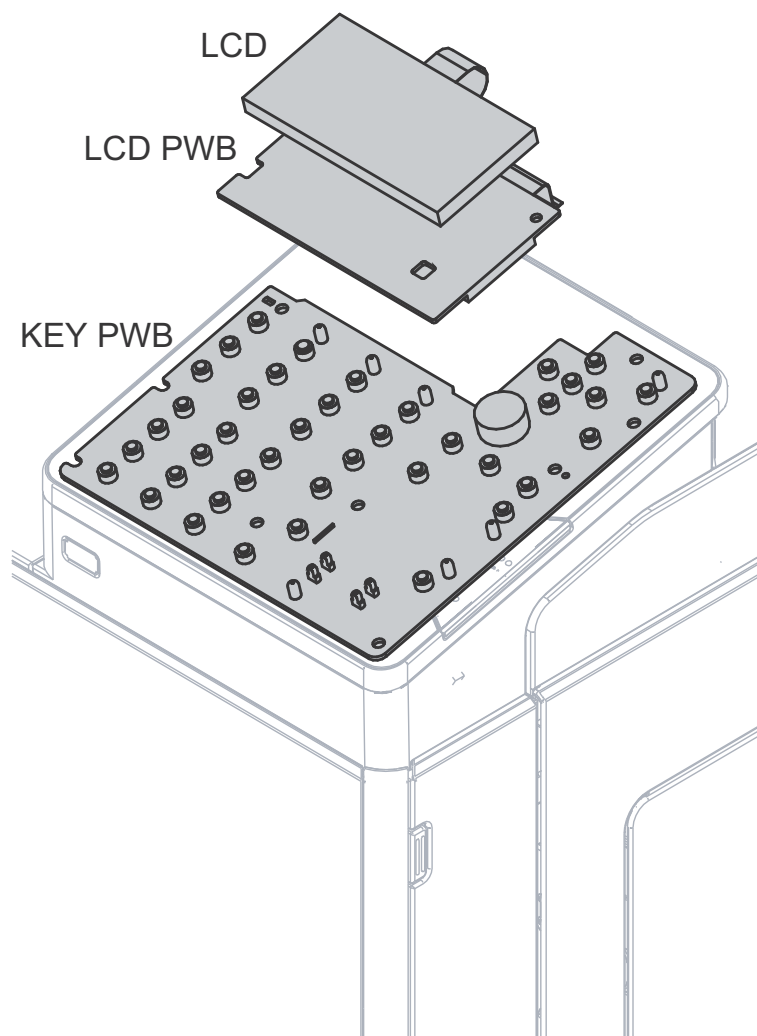
NOTE: When replacing the discharge brush, clean up dirt and adhesive material on the surface of the plate.



[11] OPERATIONAL DESCRIPTIONS

1.Operation panel

A.Electrical and mechanism relation diagram



B.Operational descriptions

The operation panel of this model is structured LCD with Back-light, LCD-PWB, KEY-LED PWB and operation keys. Because of the touch panel function is not equipped; the operation is executed by key on the operation panel.

And also, the adjustment of LCD brightness by hardware (volume and so on) is not equipped.

2. SPF/RSPF section

A.Operational descriptions

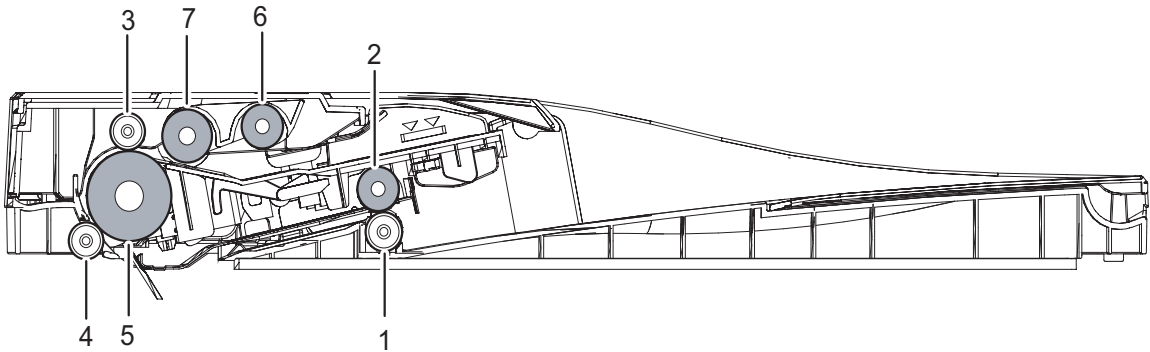
(1)Outline

Size detection on the document tray

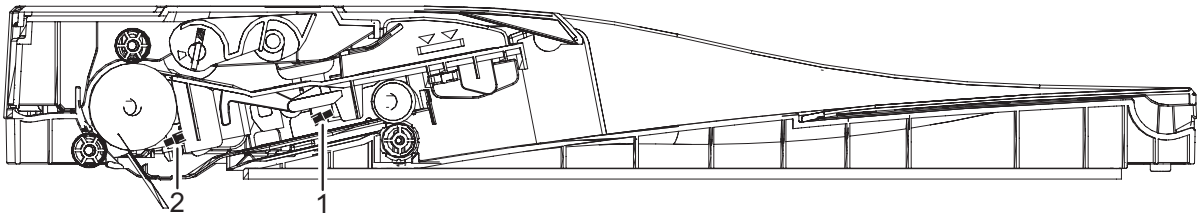
An RSPF or SPF is standard depending on the model.

This RSPF is able to load 50sheets of originals on the RSPF tray.

SPF unit

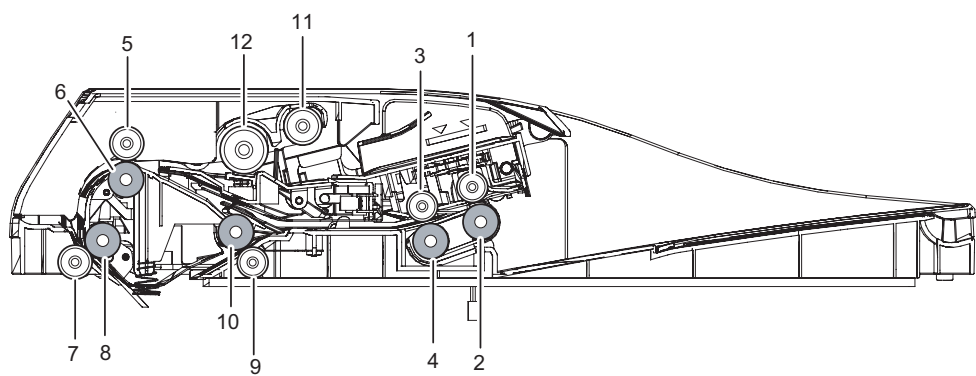


No.	Name	Function/ Operation
1	Paper exit pressure roller	Applies pressure to a document and the paper exit drive roller to transport paper into the exit tray.
2	Paper exit roller	Exit transport drive roller.
3	Transport pressure roller	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
4	Transport pressure roller	Applies pressure to document and drive roller to transport paper.
5	Transport drive roller	Transports documents.
6	Pickup roller	Picks up an original document and transports the lead edge to the Document Feed Roller.
7	Document Feed Roller	Picks up a document and feeds it to the document feed roller.

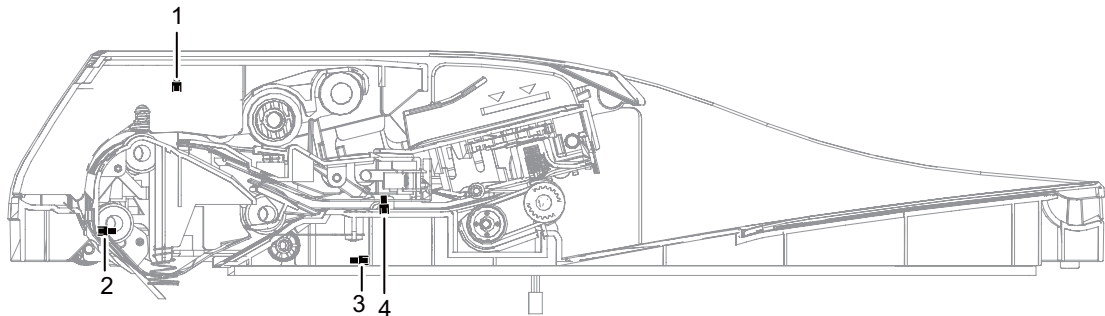


No.	Signal name	Name	Type	Function/Operation
1	SPED	Document sensor	Light transmission	Detects document empty
2	SPPD1	Paper transport detector 1	Light transmission	Detects paper pass

RSPF unit



Nao.	Name	Function/ Operation
1	Paper exit roller (Idle)	Pressure (Idle) roller used in conjunction with the drive roller to move paper in the exit section.
2	Paper exit roller (Drive)	Paper Exit Drive Roller used to transport paper into the exit tray or move paper in reverse for duplex scanning.
3	Paper exit roller (Idle)	Pressure (Idle) roller used in conjunction with the drive roller to move paper in the exit section.
4	Paper exit roller (Drive)	Paper Exit Drive Roller used to transport paper into the exit tray or move paper in reverse for duplex scanning.
5	Upper transport roller (Idle)	Pressure Roller used to assist the Drive Roller to transport paper to the PS Roller set.
6	Upper transport roller (Drive)	Drive transport Roller used to transport paper to the PS Roller set.
7	PS roller (Idle)	Registration pressure (Idle) roller used to assist PS Drive Roller to transport paper over scanner slit glass and move paper to the Lower Transport roller set.
8	PS roller (Drive)	Registration Drive roller used to perform paper buckle timing and transport paper over the scanner slit glass to the Lower Transport Roller set.
9	Lower transport roller (Idle)	Lower paper transport pressure (idle) roller used to assist in moving paper with the Drive Roller to the the exit section of the RSPF.
10	Lower transport roller (Drive)	Lower Transport Drive Roller used to transport paper to the exit section or move paper to the upper transport rollers when performing a duplex scan.
11	Paper Pickup Roller	Picks up the top sheet of paper from the original tray and transports it to the Paper Feed Roller.
12	Paper feed roller (RSPF)	Feeds a document to the transport section.



No.	Signal name	Name	Type	Function/Operation
1	SCOV	RSPF cover open/close detector	Transmission type	Detects open/close of the RSPF unit.
2	SPPD1	Document transport sensor 1	Transmission type	Detects paper pass.
3	SPPD2	Document transport sensor 2	Transmission type	Detects paper pass
4	SPED	Document sensor	Transmission type	Detects document empty in the RSPF paper feed tray.

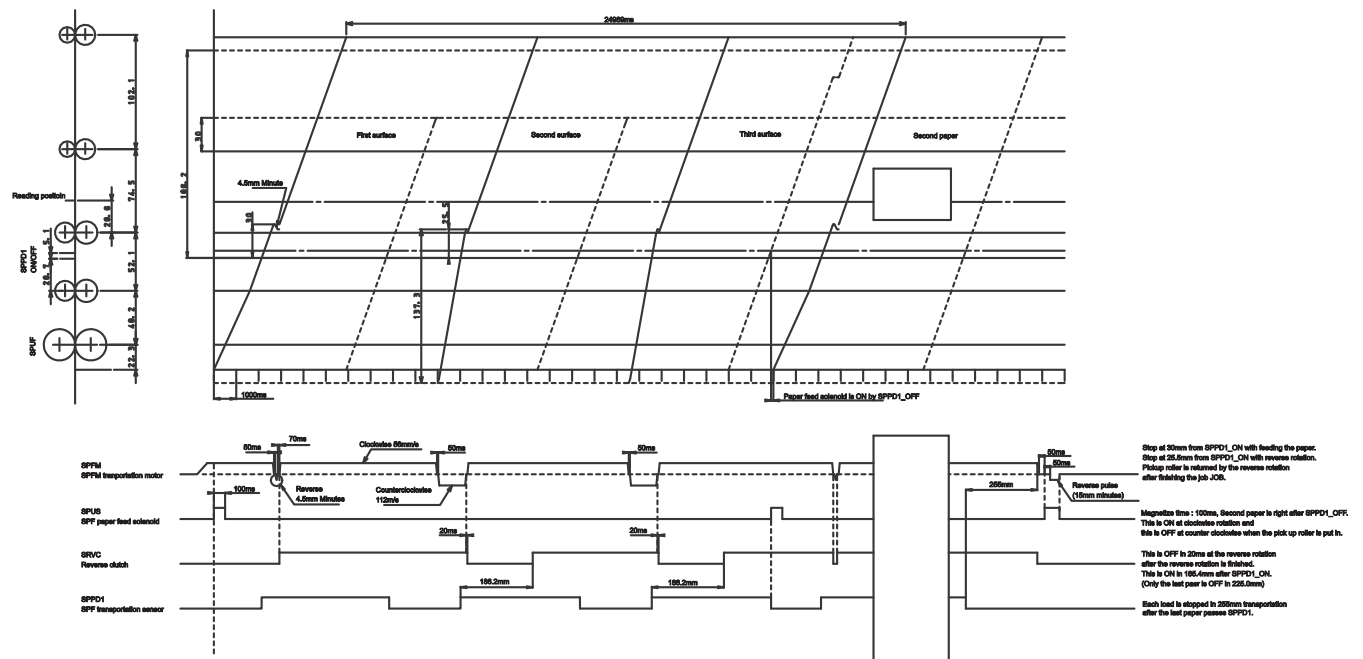
RSPF

SPF

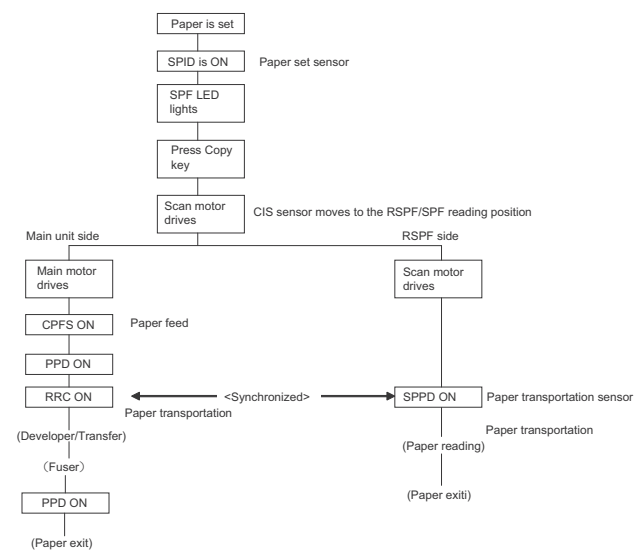
<Single scanning timing figure>



<2-sided scanning timing figure>



(2)Operation flow



(3)Original transportation

- 1) When the start button is pushed, the original is picked up from RSPF tray by pick up roller, and then, transported to image scanning position.
- 2) At this time, the CIS Unit is situated under the slit glass to scan the moving original document.
- 3) The image on the original is scanned by the CIS Unit while the document is moving over the slit glass.
- 4) For duplex original copy, after the original is scanned the original moves towards the exit tray but does not exit. A specific time after the lead edge of the original is detected (depending on paper size) the paper exit rollers reverse rotation (Switch back) and the original re-enters the paper path at the upper transport area. Side two of the original is now ready to be scanned.

The re-entered original (side two) is now passed over the slit glass and scanned.

- 5) The original which scan completed is switched back again, then through the original scanning position, but in this time the image on original is not scanned, transported and exited.
- 6) All originals in the set sitting in the document feed tray are scanned and exited in the same fashion as the first original.

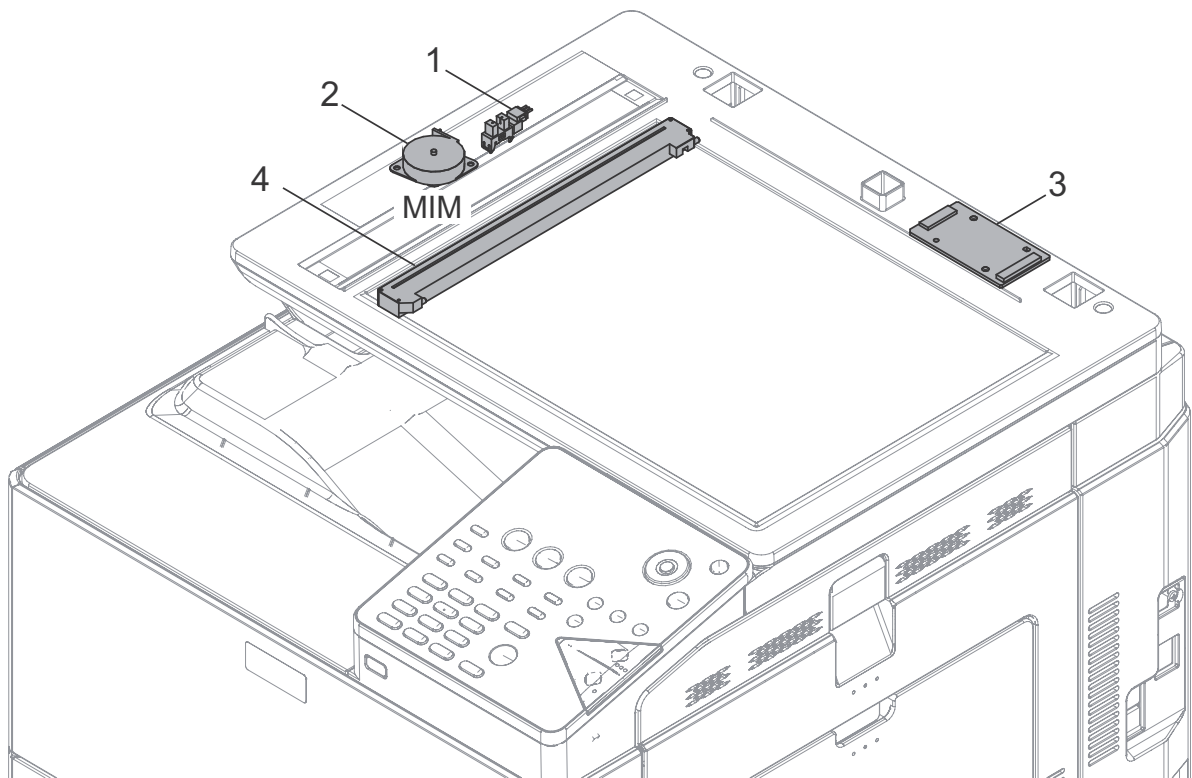
(4)Paper transportation (main body side)

- 1) The paper is picked up and transported to the PS roller set from paper cassette by pick-up roller and PS roller. After proper registration of paper timing, the image on the Primary Transfer Belt is then transferred to the front side of the paper.
- 2) After transfer, the paper is separated from the belt and transported to the fusing section. In the fusing section, toner is melted into the paper and the paper travels towards the exit section. In this moment, the paper is not exited completely.
- 3) When the paper is in the exit section, if a duplex print or copy is being produced, the paper does not exit into the paper exit tray. The exit rollers reverse paper direction into the duplex section where transport roller sets 4 and 5 move the paper to the Registration rollers. Side one of the original document previously scanned is now transferred on the paper as it passes the registration rollers (after correct timing) and moves upward past the Primary Transfer belt. The paper is separated from the Transfer Belt and moves to the fuser unit. The paper passes through the fuser unit where the transferred toner to the paper(side 1 of the original document) becomes melted into the paper by heat and pressure.

After the image is transferred to the paper, the two sided copy / print exits into the exit tray with side one facing face down allowing the rest of the copies / prints to exit in the same order the originals were placed in the document feed tray of the RSPF.

3.Scanner section

A. Electrical and mechanism relation diagram



Signal name	Name	Function/Operation
MIM	Scanner motor	Drives the carriage unit.

No.	Name	Function/Operation
1	Home position sensor	Detects the home position of the CIS
2	Scanner motor	Drives the carriage unit.
3	AFE PWB	Transfers the analog signal to the digital signal.
4	CIS unit	Scanner lamp and the light-receiving sensor

B. Outline

This section performs the following functions.

- 1) Light is radiated to the document by the scanner CIS lamp, and the contrast of the reflected light is read by the CIS elements into the image signal (analog).
- 2) The image signals (analog) are converted into 16bit digital signals by the A/D converter.
- 3) The image signals (digital) are sent to the image process section (scanner control PWB).

C. Optical section drive

The CIS unit in the optical section is driven by the scanner motor (MIM) through the belt.

The scanner motor (MIM) is controlled by the drive signal sent from the MFPC PWB.

D. Scanner lamp drive

R, G and B LEDs are mounted. These LEDs lights in order of R, G, B, R, G, B, with the color scanning. These LEDs light at the same time with the lighting ratio set in SIM63-12 with the monochrome scanning.

E. Image scan/color separation

Light is radiated to the document by the CIS unit, and the contrast of the reflected light is read by the on line CMOS elements to be converted into the image signal (analog).

The color components of document images are extracted to R, G, and B separately by the one line CMOS elements (R,G,B).

The inside of the LED element contains the R, G and B elements.

The document scan in the main scanning direction is performed by the CMOS element. The document scan in the sub scanning direction is performed by shifting the carriage unit with the scanner motor.

The scan resolution is 600 dpi.

F. Image signal A/D conversion

- 1) The image signal (analog) for each of R, G, and B is converted into 16bit digital signal by the A/D converter.
Each color pixel has 10bit information.
- 2) The 16bit digital image signals of R, G, B are sent to the image process section.

G. Zooming operation

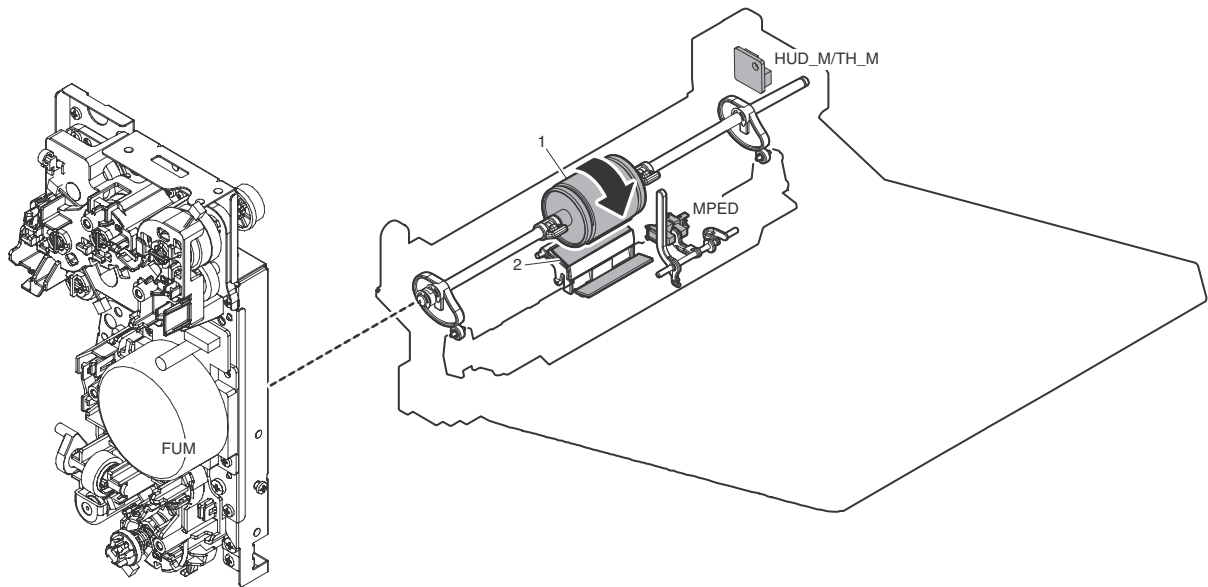
Zooming in the sub scanning direction is performed by changing the scanning speed in the sub scanning direction and using the image process technology (software).

Zooming in the main scanning direction is not performed optically, but performed with the image process technology (by the software).



4. Manual paper feed section

A. Electrical and mechanism relation diagram



Signal name	Name	Function and operation
FUM	Fusing drive motor	Drives the fusing unit, the paper feed section and Registration sections.
HUD_M/TH_M	Temperature/humidity sensor	Detects the temperature and the humidity. (For the process control)
MPED	Paper empty detector (Manual paper feed tray)	Detects paper empty. (Manual paper feed tray)

No.	Name	Function and operation
1	Paper feed roller	Feeds paper to the paper transport section.
2	Separation roller	Apply the pressure to the paper feed roller in reverse direction and prevents the paper from feeding it in layered condition.

B. Operational descriptions

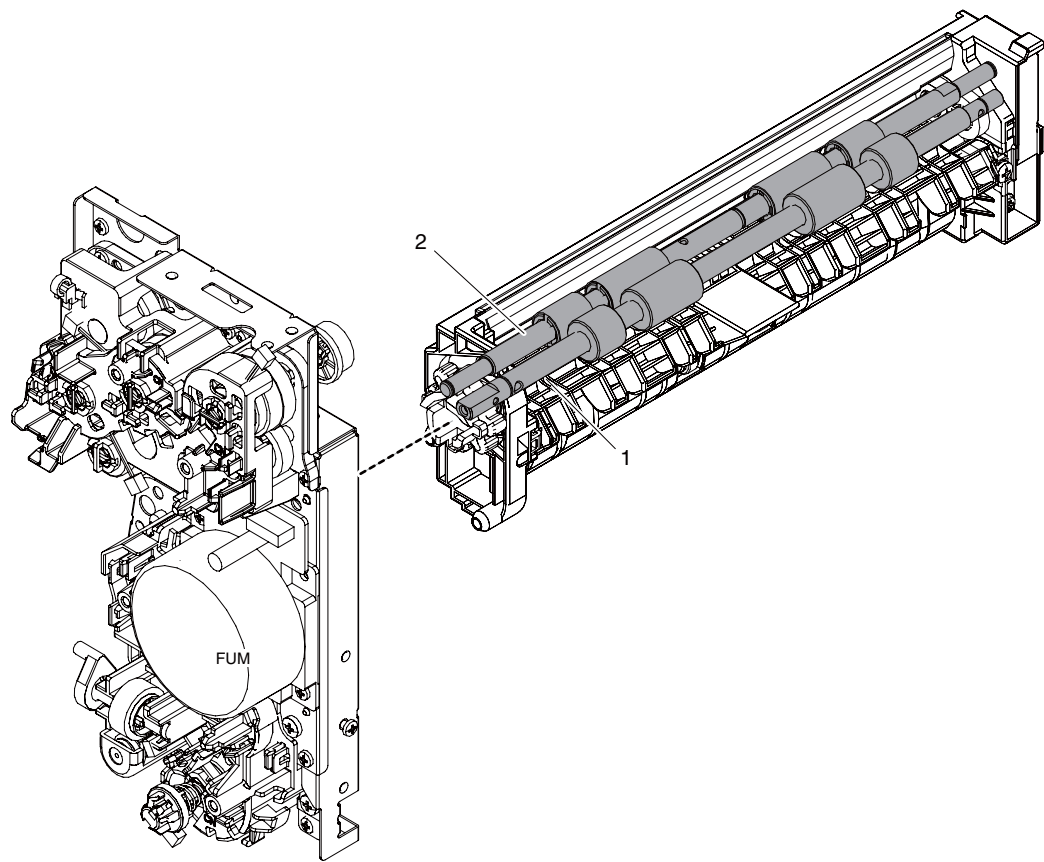
Only the top sheet of paper is fed from the paper stack on the manual bypass tray, the feed roller is pressed against the paper surface and sent to the transport section.

The feed roller transports paper to registration section. Against the paper, by applying a force in the direction opposite to the feed roller from below, separation rollers are prevented double feeding of the paper. On / OFF control of the feed roller is carried out by the Manual Feed Clutch

This model does not have an automatic paper size detection function in Multi-purpose tray.

5. Paper registration section

A. Electrical and mechanism relation diagram



Signal name	Name	Function and operation
FUM	Fusing drive motor	Drives the fusing unit, the paper feed section and Registration sections.

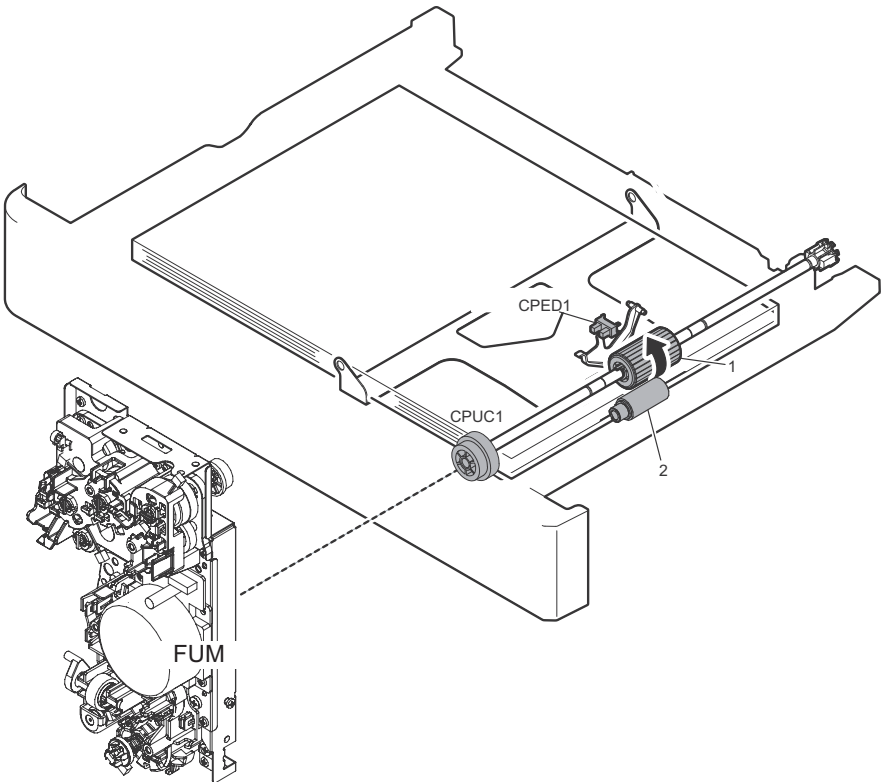
No.	Name	Function and operation
1	Resist roller (Drive)	The Resist Roller (Drive) synchronizes the paper timing to the image on the Transfer Belt. A buckle is created to eliminate any skew in the paper. The paper is then driven to the Transfer section where the image is correctly timed for transfer onto the paper.
2	Resist roller (Idle)	The Resist Roller (Idle) puts pressure on the back side of the paper allowing the Drive roller to move the paper to the transfer section after proper buckle timing has occurred.

B. Operational description

The resist roller set controls the synchronization of the Image on the Transfer Belt to the Timing of the paper making its way to the Primary and Secondary Transfer section. Start stop movement is controlled by the PS Clutch (RRC). Drive for the Registration roller comes from FUM, the Fusing Motor.

6. Paper feed tray section

A. Electrical and mechanism relation diagram



Signal name	Name	Function and operation
FUM	Fusing drive motor	Drives the fusing unit, the paper feed section and Registration sections.
CPUC1	Paper feed clutch (Paper feed tray 1)	ON / OFF control of the rollers (Pick-up roller, feed roller and separation roller) in the paper cassette section are carried out.
CPED1	Paper feed tray 1 paper empty detector	Sensor to detect paper empty in Paper feed tray 1

No.	Name	Function and operation
1	Paper feed roller (Paper feed tray 1)	Paper feed roller feeds the top piece of paper in the cassette to the registration roller set in the machine.
2	Paper separation roller (Paper feed tray 1)	By applying a force in the direction opposite to the feed roller, to prevent double feeding of paper in paper feeding.

B. Paper lifting operation

This model feeds paper from the top of the paper stack in the feed tray. The paper lift plate lifts the paper stack to the feed roller by way of a spring under the plate. A constant pressure of the top sheet of paper to the feed roller is maintained through use of this mechanism. This model also incorporates a paper empty detection sensor but does not have a paper remaining detection mechanism.

C. Paper size detection operation

This model does not have a function to detect the paper size in the cassette.

The paper size in the cassette is changed on operation panel.

D. Paper pick up operation

The fusing drive motor (FUM) is turned ON, and then the paper feed clutch (CPUC1) is turned ON.

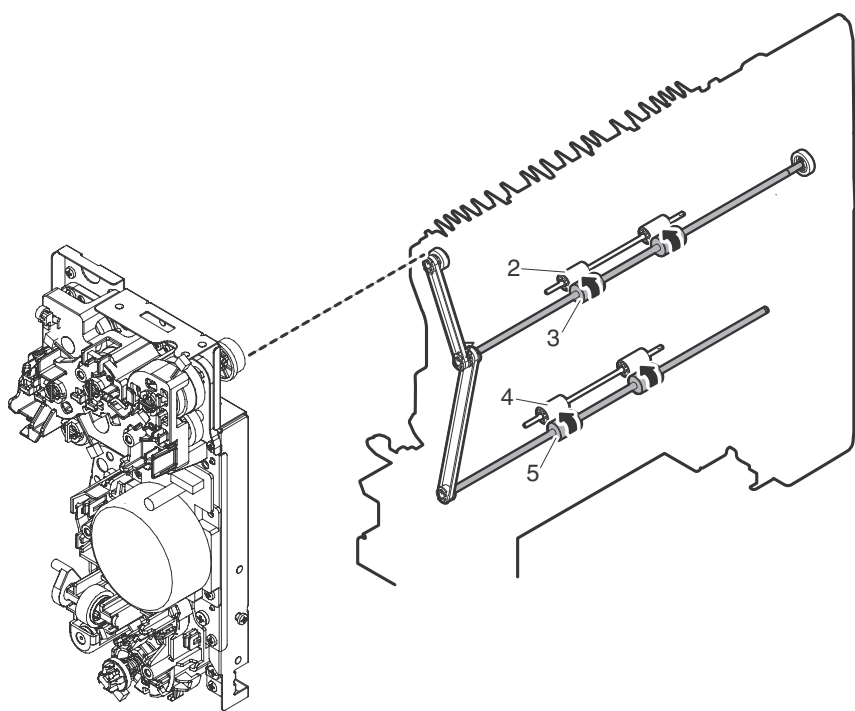
The power of fusing drive motor (FUM) is transmitted through the paper feed clutch (CPUC1) to the paper transport roller and the paper feed roller.

The paper feed roller feeds paper to the paper transport section. At that time, the separation roller rotates to prevent double-feed.

To prevent a double feeding, the separation roller apply counter force to the paper from bottom side.

8. Duplex section

A. Electrical and mechanism relation diagram



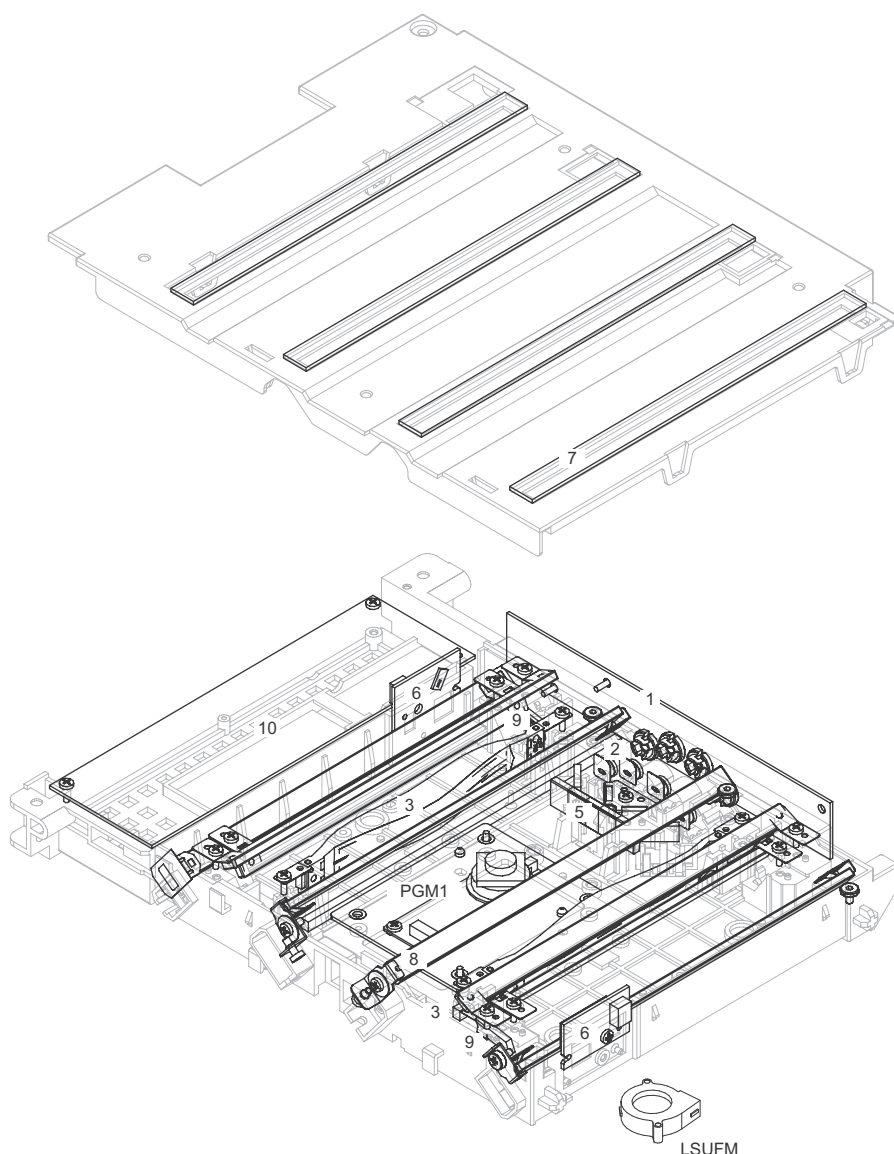
No.	Name	Function and operation
1	ADU gate guide	The paper which comes from fuser section passes the underside of ADU gate guide, and goes to the paper exit section. The switch back paper coming from the exit section is passed over the ADU Guide which drops by gravity.
2	Paper feed roller (Idle)	Applies pressure to the back of the paper for drive to the Lower Duplex Transport Rollers
3	Paper feed roller (Drive)	Drive Roller in upper Duplex section that transports paper to the Lower transport rollers in the Duplex Section.
4	Paper feed roller (Idle)	Applies pressure to the back of the paper for drive to the Registration Rollers.
5	Paper feed roller (Drive)	Drive roller to transport paper to the Registration Rollers.

B. Operational description

The paper which comes from fuser section passes the underside of ADU gate guide, and goes to the paper exit section. The switched back paper which comes from paper exit section is passed above the paper guide, and goes to ADU section. The ADU drive rollers are driven by the Fuser motor transporting the paper to the registration section

9. LSU section

A. Electrical and mechanism relation diagram



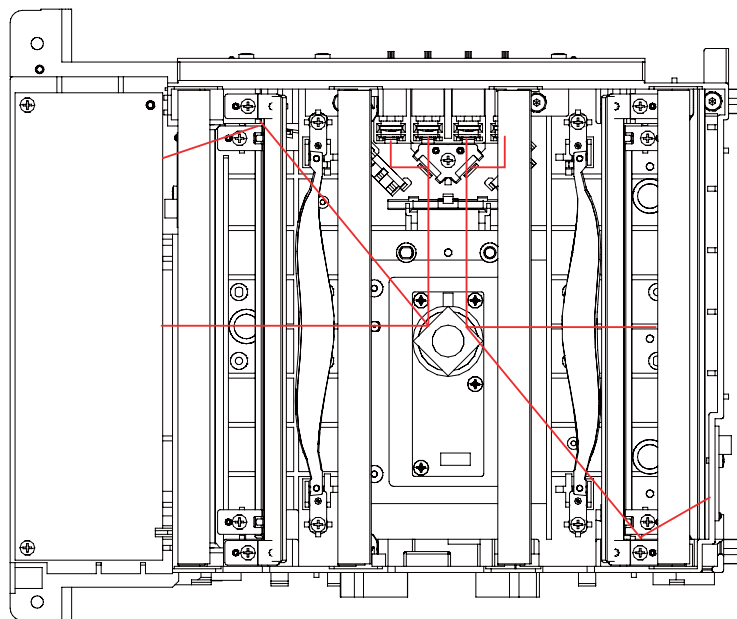
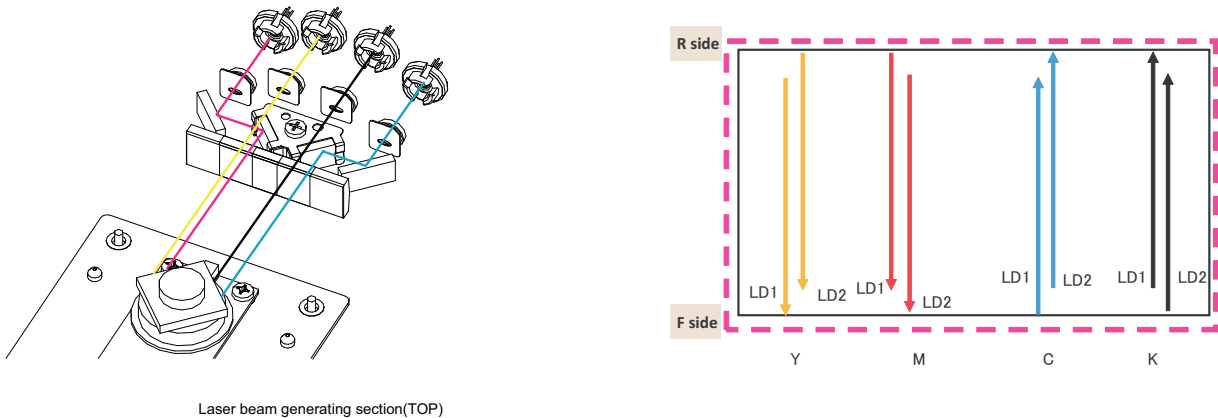
Signal name	Name	Function and operation
LSUFM	LSU fan	Cools the LSU PWB section.
PGM 1	Polygon motor	Rotates at a constant speed to scan laser beams. The polygon mirror motor rotates at a constant speed having four mirrored sides to reflect two laser beams per color.

No.	Name	Function and operation
1	LD PWB	To convert to a laser beam switching data sent from the LSU-PWB. And controlling a laser emission and laser power.
2	Collimator lens	Focuses laser beams.
3	f ϕ lens	To equalize main scanning direction laser beam dots distance. (To make laser dot distance of an end and the central part of the OPC drum the same). In addition, to condense a laser beam to BD (beam detector).
4	Mirror	Reflects laser beams to the OPC drum.
5	Incident cylindrical lens	Focuses laser beams.
6	BD PWB	To detect the laser scan timing. (Beam Detection)
7	Filter glass	Prevents dust and toner from entering inside the LSU cavity.
8	Laser skew adjustment plate	Adjusts laser skew in the main scanning direction for the OPC drum.
9	BD mirror	Guides laser beams to the BD (Beam Detector).
10	LSUcnt PWB	To convert the image data sent from MFPC-PWB to switching data and transfer it to LD-PWB.

B. Laser scan operation

The image data which sent from MFPC-PWB is converted to switching data in ASIC on LSU-PWB. After this, the switching data is changed to laser beam at LD-PWB. Its laser-beam makes electrostatic latent image on the OPC drum.

This model adopts 2-laser beam type.

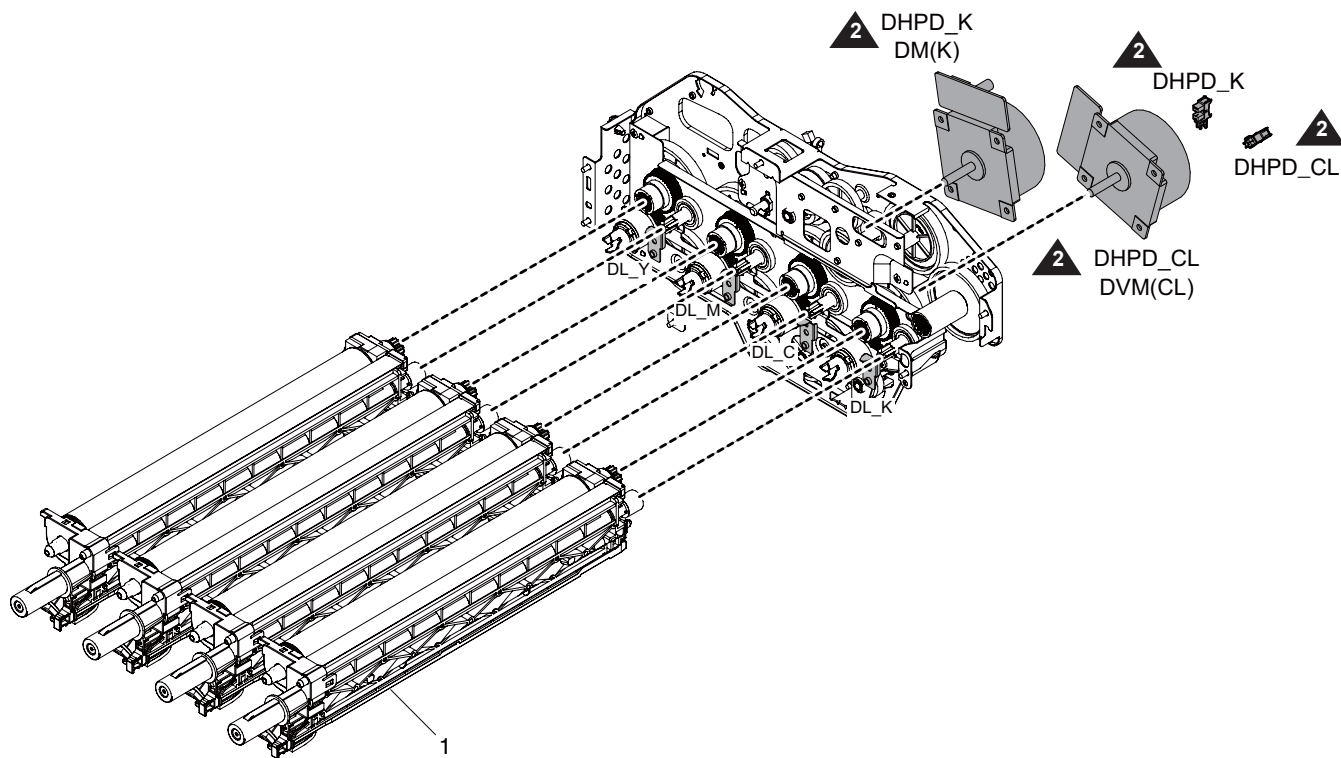


C. LSU specifications

Effective scan width	220mm
Resolution	600dpi
Beam diameter	Main / Sub scan = 50 - 80 μ m
Laser power	Max. 0.3mw
LD wavelength	780 - 800nm
Number of mirrors	4 surfaces
Rotation speed	32776rpm
2beam/color x4 colors	

10. OPC drum section

A. Electrical and mechanism relation diagram



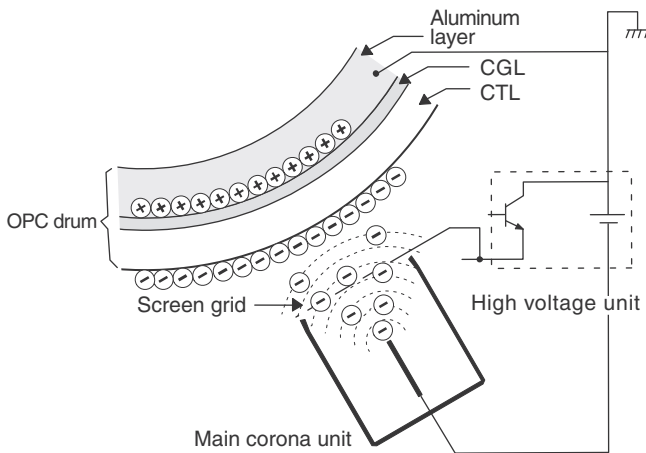
Signal name	Name	Function/Operation
DHPD_CL	OPC drum rotation sensor (CL)	Detects rotation and the phase of the OPC drum (CL).
DHPD_K	OPC drum rotation sensor (BK)	Detects rotation and the phase of the OPC drum (BK).
DL_BK	Discharge lamp (K)	Discharges electric charges on the OPC drum (K).
DL_C	Discharge lamp (C)	Discharges electric charges on the OPC drum (C).
DL_M	Discharge lamp (M)	Discharges electric charges on the OPC drum (M).
DL_Y	Discharge lamp (Y)	Discharges electric charges on the OPC drum (Y).
DVM	Developing motor (CL)	Drives the developing/OPC drum section (CL).
DM	Developing motor (K)	Drives the developing/black OPC drum (BK)/transfer section.
MC-CL	Main charger applying voltage (CL)	The main charger is charged to generate negative electric charges.
MC-K	Main charger applying voltage (K)	

No.	Name	Function/Operation
1	OPC drum unit (Y, M, C, K)	Latent electrostatic images are formed.

B. Operational descriptions

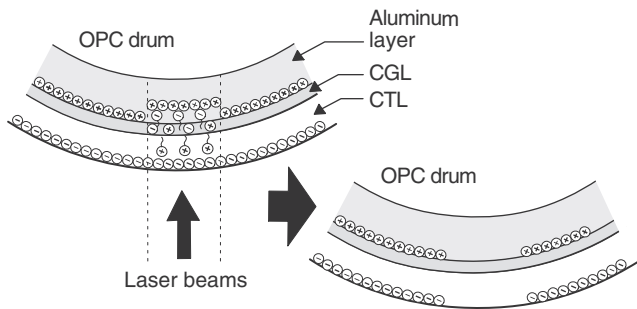
The OPC drum surface is negatively charged by the main charger, then laser image beams are radiated to the OPC drum surface by the laser (writing) unit to form electrostatic latent images.

- 1) The OPC drum surface is negatively charged by the main charger.



The main charger grid is provided with the screen grid. The OPC drum is charged at a voltage virtually same as the voltage applied to the screen grid.

- 2) Laser beams are radiated to the OPC drum surface by the laser (writing) unit to form electrostatic latent images.



When laser beams are radiated onto the CGL of the OPC drum, positive and negative charges are generated.

Positive charges generated in CGL are attracted to the negative charges on the OPC drum surface. On the other hand, negative charges are attracted to positive charges in the aluminum layer of the OPC drum.

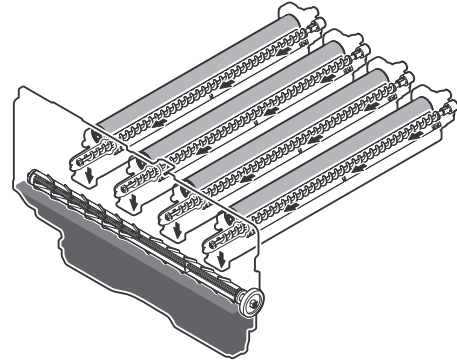
Therefore, positive charges and negative charges are balanced out on the OPC drum and in the aluminum layer, reducing positive and negative charges to decrease the OPC drum surface voltage.

Electric charges remain at a position where laser beam are not radiated.

As a result, latent electrostatic images are formed on the OPC drum surface.

- 3) After transfer operation, remaining toner is removed by the cleaning blade.

Toner removed from the OPC drum surface is transported to the waste toner section by the waste toner transport screw.



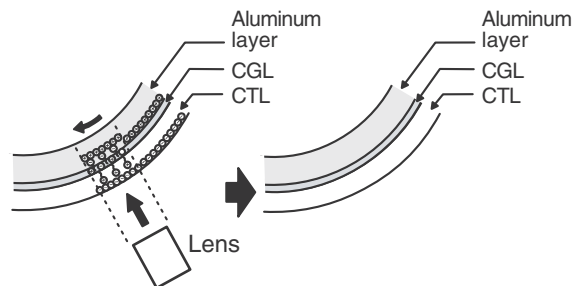
OPC drum rotation control

The OPC drum (K) is driven by the DV motor (DVM_K), and the rotation speed is monitored by the OPC drum rotation sensor (DHPD_K).

The color OPC drums (C, M, and Y) are driven by the DV motor (DVM_CL), and the rotation speed is monitored by the OPC drum rotation sensor (DHPD_CL).

Based on the signals monitored by the two sensors, the rotation speeds of K OPC drum and the color OPC drums and the rotation phase are controlled.

- 4) The whole surface of the OPC drum is discharged.

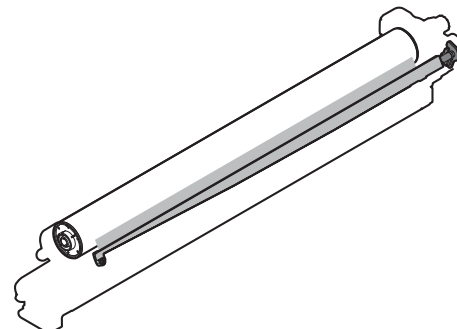


By radiating the discharge lamp light to the discharge lens, light is radiated through the lens to the OPC drum surface.

When the discharge lamp light is radiated to the OPC drum CGL, positive and negative charges are generated.

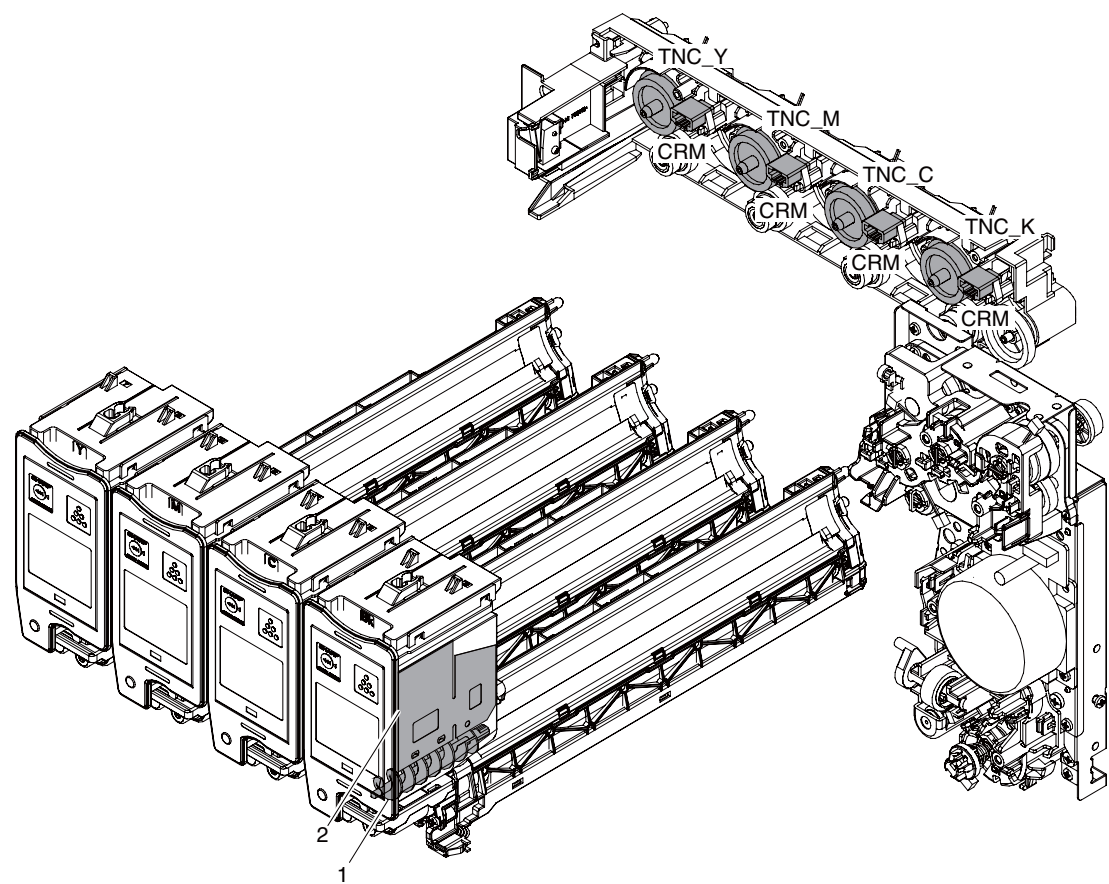
Positive charges generated in CGL are attracted to the negative charges on the OPC drum surface. On the other hand, negative charges are attracted to positive charges in the aluminum layer of the OPC drum.

Therefore, positive and negative charges are balanced out on the OPC drum surface and in the aluminum layer, reducing positive and negative charged to decrease the surface voltage of the OPC drum.



11.Toner supply section

A.Electrical and mechanism relation diagram



Signal name	Name	Function and operation
CRM (Y,M,C,K)	Crum	Stores data related to control of the toner cartridge. Detects a new toner cartridge.
TNC Y(Y)	Toner clutch (Y)	Drives the toner transport screw in the toner cartridge to supply toner (Y) to the developer car- tridge.
TNC M(M)	Toner clutch (M)	Drives the toner transport screw in the toner cartridge to supply toner (M) to the developer car- tridge.
TNC C(C)	Toner clutch (C)	Drives the toner transport screw in the toner cartridge to supply toner (C) to the developer car- tridge.
TNC K(K)	Toner clutch (K)	Drives the toner transport screw in the toner cartridge to supply toner (K) to the developer car- tridge.

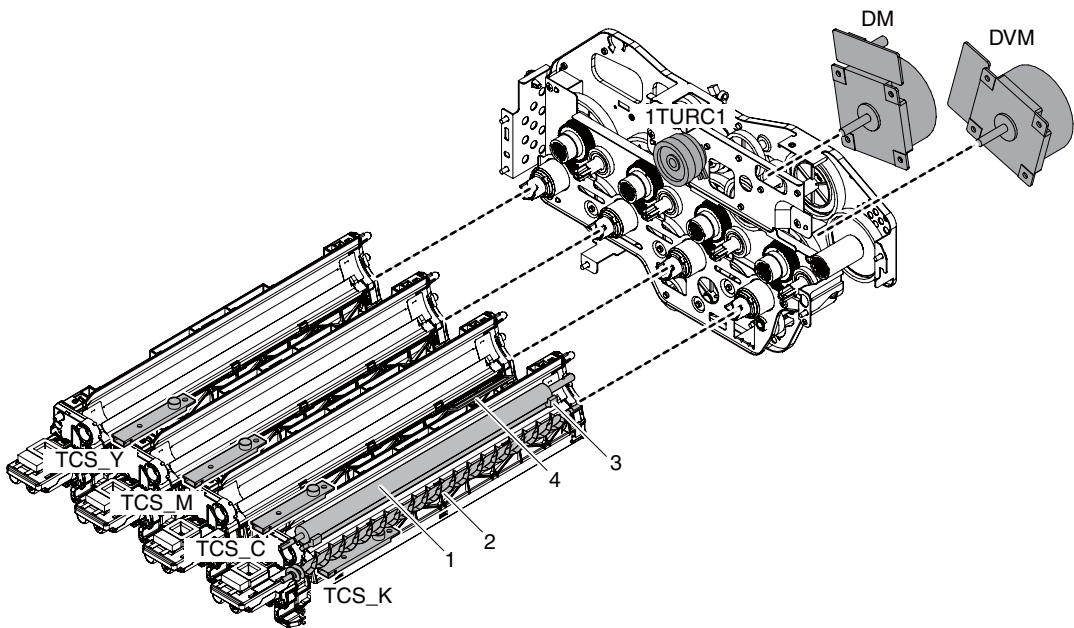
No.	Name	Function and operation
1	Toner transport screw	Transports toner in the toner cartridge.
2	Toner mixing sheet	Mixes toner in the toner cartridge.

B.Operational descriptions

This model is judging the toner supplying based on the print pixel counts and process control data.
When toner density is judged low, the toner clutch is activated supplying toner, by an auger, from the toner cartridge to the developer unit

12. Developing section

A. Electrical and mechanism relation diagram

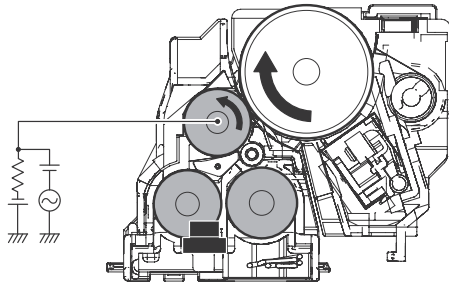


Signal name	Name	Function and operation
1TURC_1	Primary transfer separation clutch 1	Controls separation of the primary transfer unit
BS (K, M, C, Y)	Developing bias voltage (K, M, C, Y)	Voltage to form toner images on the OPC drum. Controls the developing density
DVM	Developing motor (CL)	Drives the developing/OPC drum section (CL).
DM	Developing motor (K)	Drives the developing/black OPC drum (BK)/transfer section.
TCS_C	Toner sensor (C)	Detects toner supply from the toner cartridge. Detects toner density only during Simulation 25-2 Developer Concentration setting (C).
TCS_K	Toner sensor (K)	Detects toner supply from the toner cartridge. Detects toner density only during Simulation 25-2 Developer Concentration setting (K).
TCS_M	Toner sensor (M)	Detects toner supply from the toner cartridge. Detects toner density only during Simulation 25-2 Developer Concentration setting (M).
TCS_Y	Toner sensor (Y)	Detects toner supply from the toner cartridge. Detects toner density only during Simulation 25-2 Developer Concentration setting (Y).

No.	Name	Function and operation
1	Developing roller	Converts electrostatic latent images on the OPC drum into visible images.
2	Mixing roller	Mixes and charges developer and toner.
3	Doctor	Maintains the quantities of toner and developer on the DV roller at constant crush height.
4	Toner filter (K, M, C, Y)	Prevents toner splash and vacuum.

B. Developing operations

Electrostatic latent images formed on the OPC drum surface by the laser (writing) unit (laser image beams) are converted into visible images by toner.



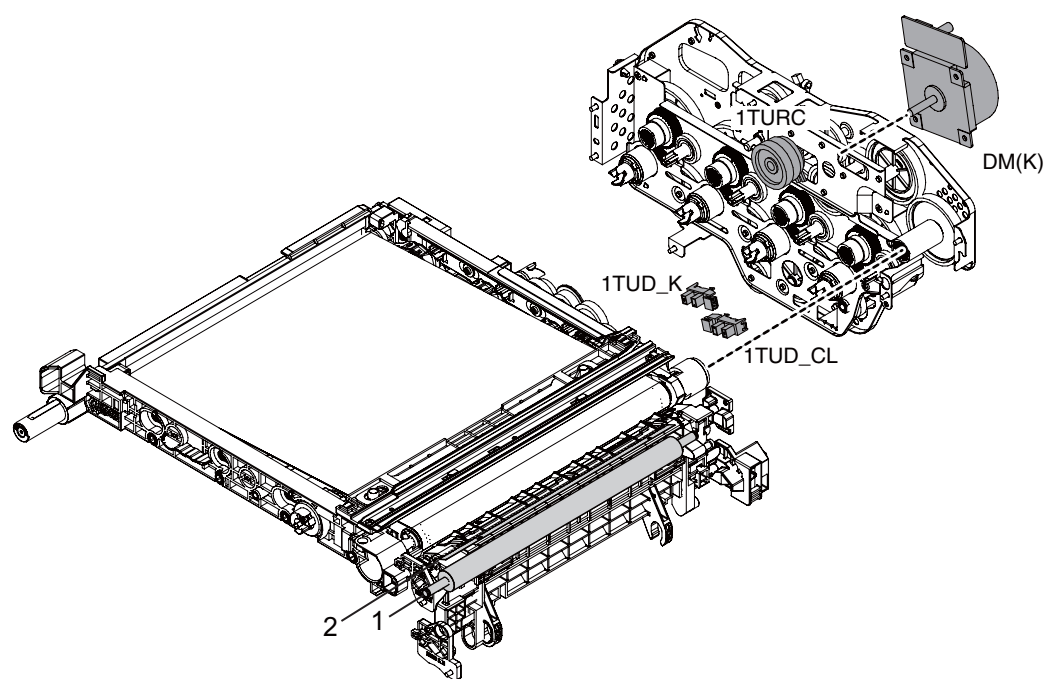
By stirring, toner and carrier are negatively charged by mechanical friction and chemical reaction.

The developing bias voltage (AC component and negative DC component) is applied to the developing roller.

Negatively charged toner is attracted to the exposed section on the OPC drum where the negative potential falls due to a higher developing bias. If the OPC drum is not exposed, the negative potential is higher than the developing bias voltage, and toner is not attracted. The toner sensor detects the toner supply state from the toner cartridge. In this machine, the toner density is detected by the toner sensor, but the toner supply operation is not controlled only by the toner density detection result. The toner density control is performed according to the process control data.

13. Transfer section

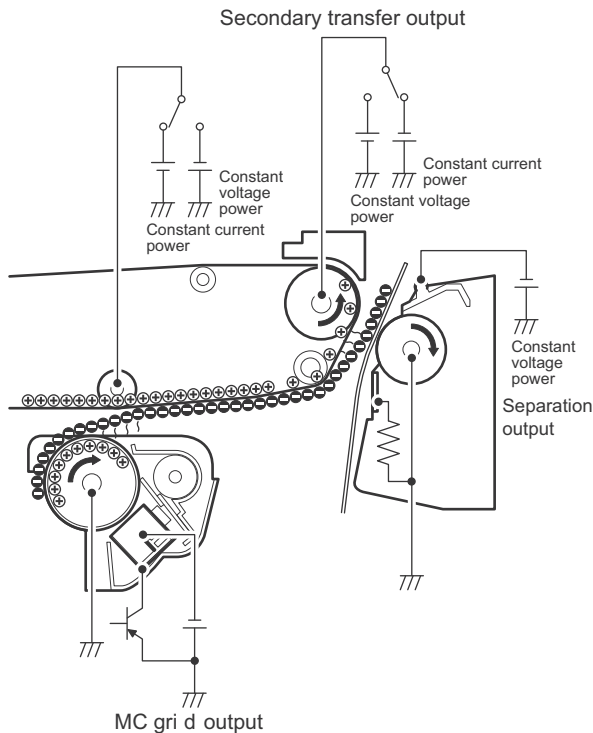
A. Electrical and mechanism relation diagram



Signal name	Name	Function and operation
1TUD_K	Primary transfer belt position sensor (BK)	Detects the primary transfer belt position (BK) in combination with the 1TUD_K output.
1TUD_CL	Primary transfer belt position sensor (CL)	Detects the primary transfer belt position (CL) in combination with the 1TUD_CL output.
1TURCd	Primary transfer mode select clutch	Transports the developing motor (K) power to the primary transfer mode select cam to select the primary transfer mode. (The primary transfer mode select cam is rotated counterclockwise.)
2TC	Secondary transfer output	Secondary transfer high voltage output
DM	Developing drive motor (K)	Drives the developing/black OPC drum (BK)/transfer section.

No.	Name	Function and operation
1	Secondary transfer roller	Transfers toner images on the transfer belt to paper. Connected to GND to flow the secondary transfer high current.
2	Paper separation electrode	Applies a high negative voltage to discharge paper which is positively charged after transfer operation.

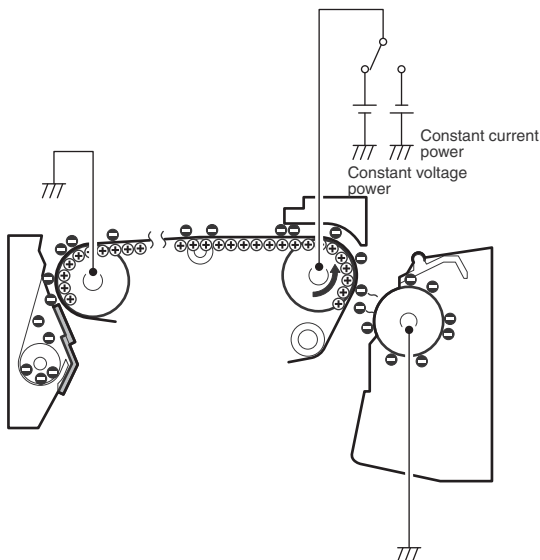
B. Transfer operation



Toner images on the OPC drum are transferred onto the primary transfer belt by applying a high positive voltage to the primary transfer roller. Then, a high transfer voltage is applied to the transfer belt drive roller to transfer toner imaged on paper. The secondary transfer roller is connected to GND to flow the secondary transfer current.

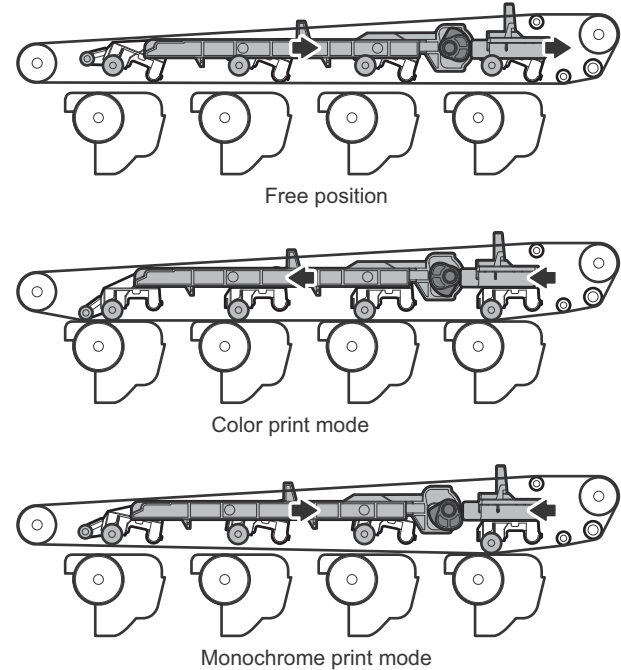
C. Secondary transfer roller cleaning operation

A high positive voltage is applied to the primary transfer belt drive roller to attach unnecessary toner of the primary transfer roller onto the transfer belt. The toner is cleaned with the transfer belt cleaning blade and transported to the waste toner section.



D. Transfer belt mode switch operation

The transfer belt is in the three modes: the free position, the color print mode, and the monochrome print mode. Free position: The OPC drums are separated from the transfer belt. Color print mode: All the OPC drums are in close contact with the transfer belt. Monochrome print mode: The K OPC drum is in close contact with the transfer belt. The mode is switched by the developing motor (K) and the mode switch clutches (1TURC 1, 1TURC 2). When the roller separation clutch (1TURC) is turned ON, the transfer cam is rotated to shift the primary transfer link and the primary transfer arm in the arrow direction in conjunction with the cam, separating the roller.

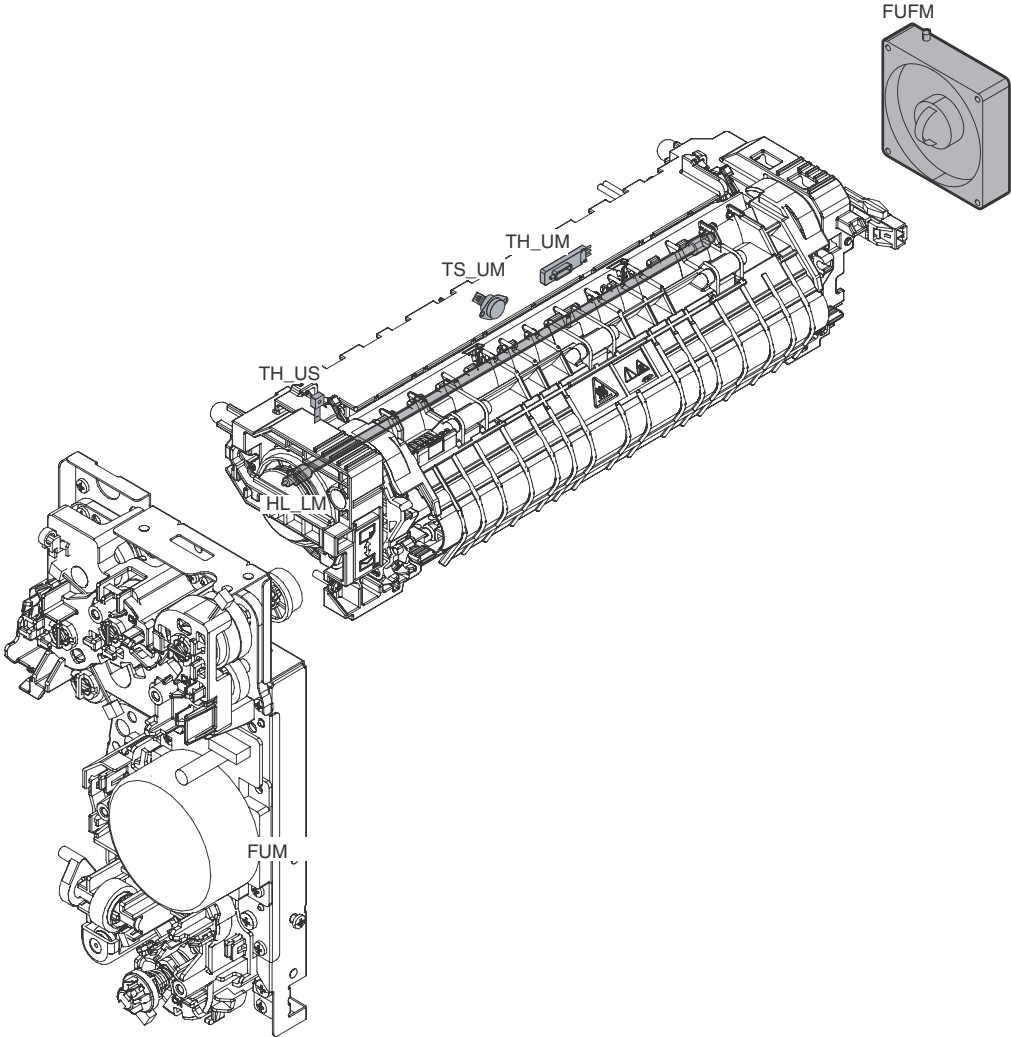


Relationship between the transfer belt mode (state) and the transfer belt mode sensor

Mode (State)	Sensor state	
	1TUD CL	1TUD K
Color print mode: All the OPC drums are in close contact with the transfer belt.	OFF	ON
Free position: All the OPC drums are separated from the transfer belt.	ON	OFF
Monochrome print mode: Only the K OPC drum is in close contact with the transfer belt.	ON	ON

14. Fusing section

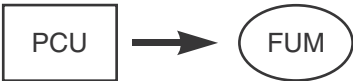
A. Electrical and mechanism relation diagram



Signal name	Name	Function and operation
FUFM	Fusing cooling fan motor	Cools the fusing unit.
FUM	Fusing drive motor	Drives the fusing unit.
HL_LM	Heater lamp (HL/LM)	Heats the fuser heat roller.
TH_UM	Thermistor UM	Regulates Heat Roller Temperature at center of the Heat Roller.
TH_US	Thermistor US	Regulates Heat Roller Temperature at the end of the Heat Roller.
TS_UM	Thermostat UM	Fusing roller overheat protection. Cuts off power supply to heat lamp when over heat condition is determined.

B. Fusing unit drive

The driving of fuser unit is; the driving force is transported to fuser roller, thru the fuser motor (FUM) and connection gears, based on the controlling signal from PCU.



C. Heater lamp drive

The temperature on the fuser roller which detected by fuser thermistor is transferred to PCU.

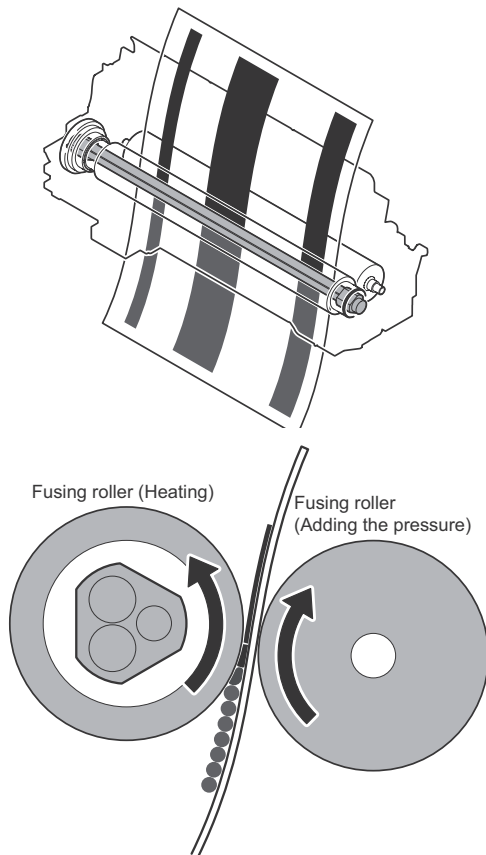
If above temperature is low than predetermined one, PCU sends the heater lamp signal to the heater lamp drive circuit in HL-PWB. The power triac in heater lamp drive circuit is turned ON, then AC-power is supplied to heater lamp. Finally the heater lamp is turned ON and fuser roller (heat roller) is heated up. If above temperature is higher than predetermined one, PCU stops send the heater lamp signal to the heater lamp drive circuit in HL-PWB.

In case of abnormal high temperature of fuser roller (heat roller) is occurred, the thermostat becomes OFF condition, physically cuts off the power line of heater lamp.

D. Fusing operation

This model has single heater lamp in the fuser roller (heater roller). The heater lamp heats a fuser roller (heat roller) and then, fixes (adhesion) the toner on the paper.

Due to below reasons, the fuser roller (pressure roller) adopts silicon-rubber as the material.



- 1) To increase the quantity of nip and raise heating capacity for the paper.
- 2) By pressurizing with a flexible roller, the shape of a multilayered toner on the paper is fixed without transforming.
- 3) For the irregularity (for multilayered structure) of the toner, pressure increases uniformly.

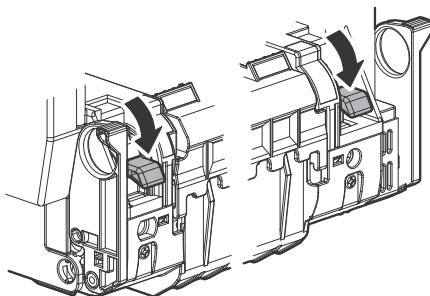
E. Fusing temperature control

The temperature sensor is provided at the center of the fusing roller (heating).

The roller temperature is detected by the thermistor sensor, and the heater lamp is controlled so that the temperature is maintained at the specified level.

F. Manual pressure release

The pressure of the heat roller is reduced by lowering the levers of the fusing unit. When running envelopes and during long periods of machine non use, the levers should be lowered.



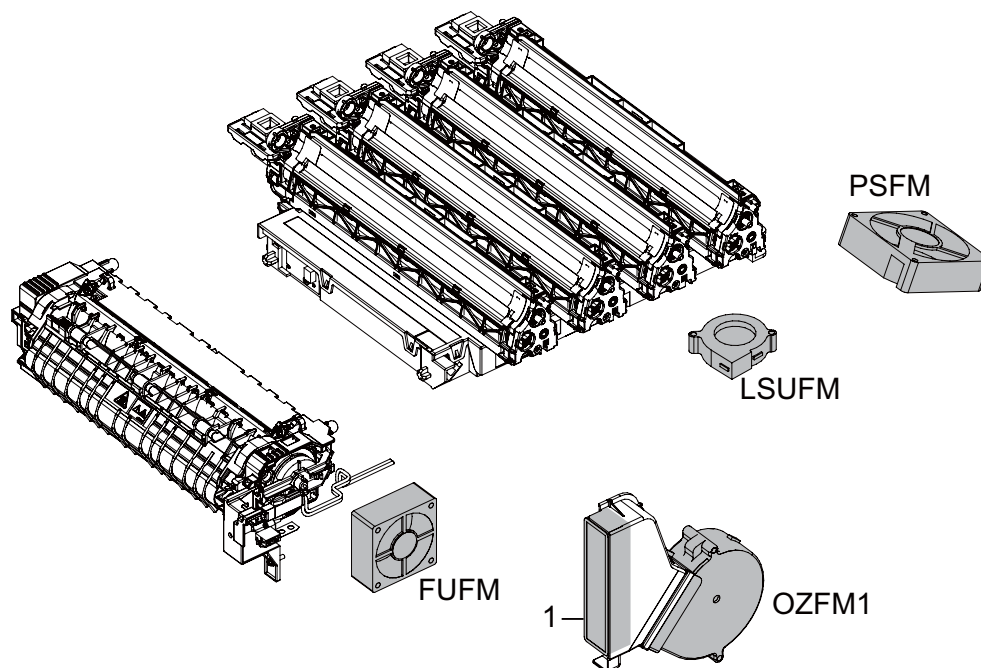
15. Fan and Filter section

The machine is provided with the following fan to discharge air from the process section and cool the fusing section and the power unit.

Signal name	Name	Function/Operation
FUFM	Fusing cooling fan	Cools the fusing section.
OZFM1	Ozone fan 1	Cools the developing unit generates the ozone from the main charger unit.
PSFM	Power cooling fan motor	Cools the power unit.
LSUFM	LSU cooling fan	Cools the LSU.

The machine is provided with the following filter to remove ozone generated in the process section.

No.	Name	Function/Operation
1	Ozone filter	Absorbs ozone generated in the image process section.



A. FAN Control

The temperature in the machine is detected by the thermistor. When the temperature in the machine reaches to more than some temperature under the high temperature environment, etc, the FAN exhausts heat by the high speed rotation.

During preheating, the Fusing cooling fan can be stopped with the following procedure when the operation sound is kept hearing.

<Procedure>:

Set "HL_UM E-STAR"(Warm-up TH_E set value) to "50".

SIM No.43-1 No.7:HL_UM E-STAR "50"

<Operating details>:

Under the following all system requirements, the FAN stops the operation of the FUFM during preheating.

- Fusing target temperature is the threshold value or under the threshold value
(The threshold value is 50 degrees C.)
- The temperature of the duct thermistor in the machine is under 40 degrees C.

<Warning>:

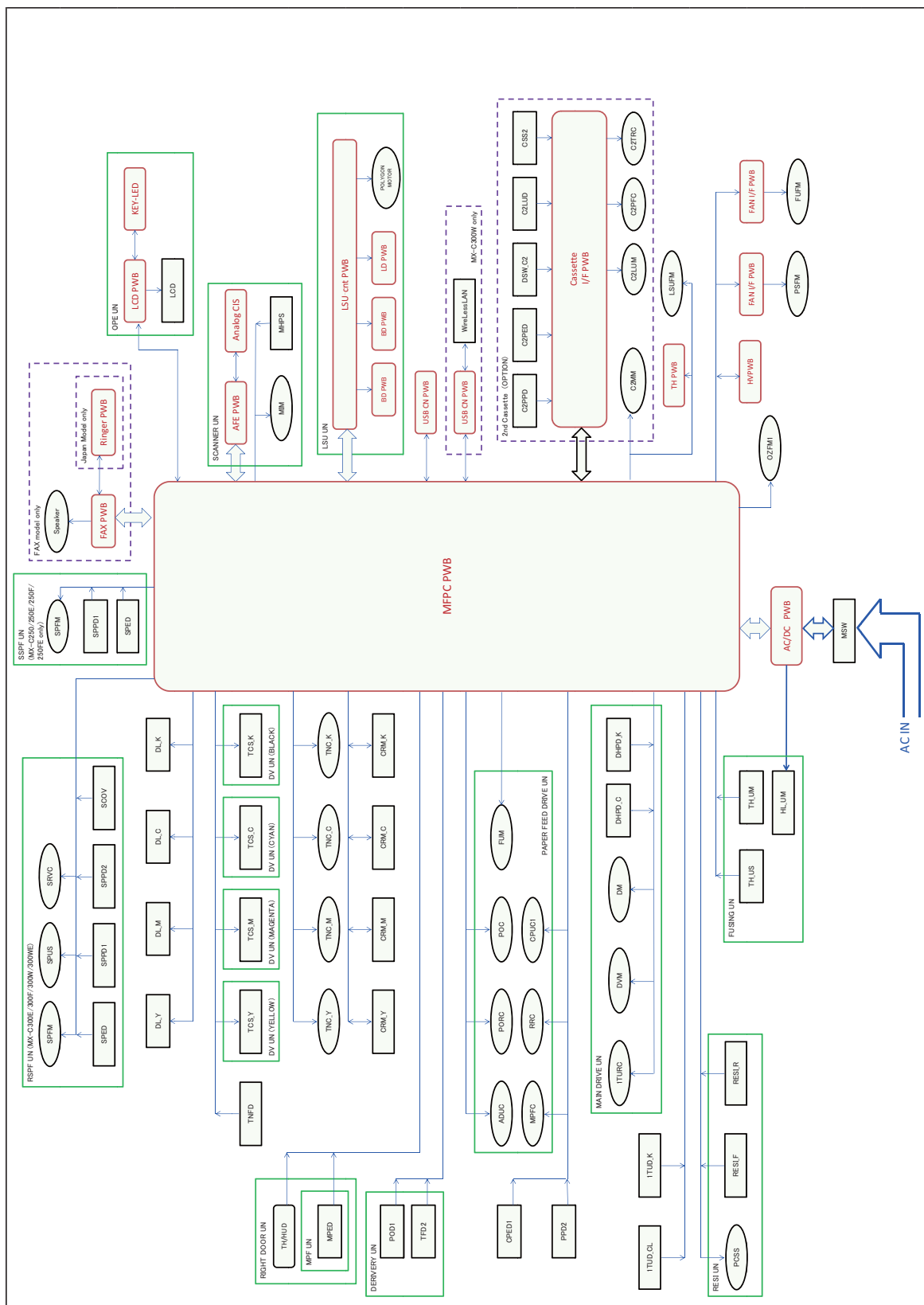
Perform this setting when the operation sound is kept hearing.

The speed of starting up the machine becomes slow from the preheating state depending on the operating environment due to decrease the fusing target temperature.

[12] ELECTRICAL SECTION

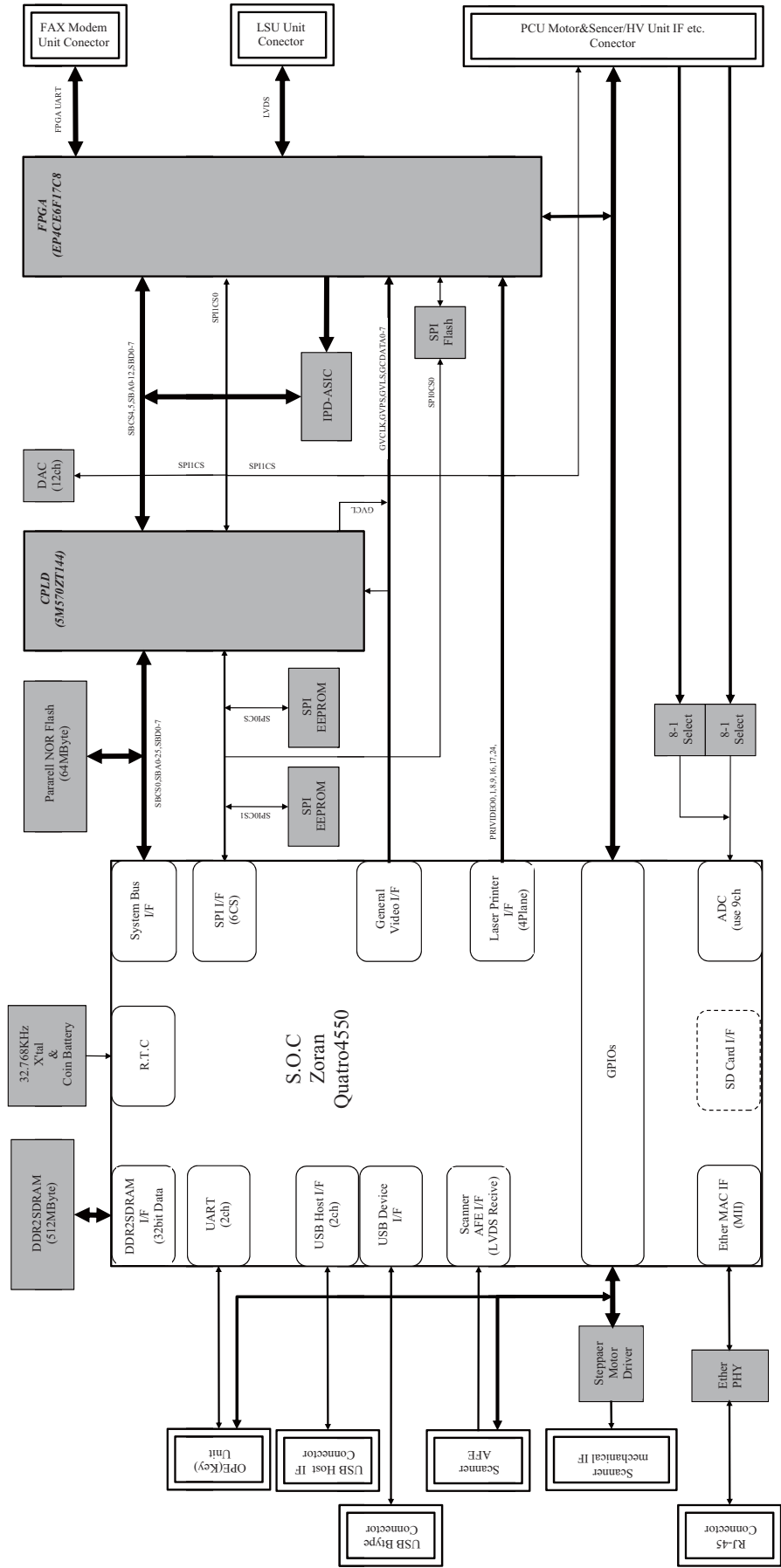
1. Block diagram

A. System block diagram

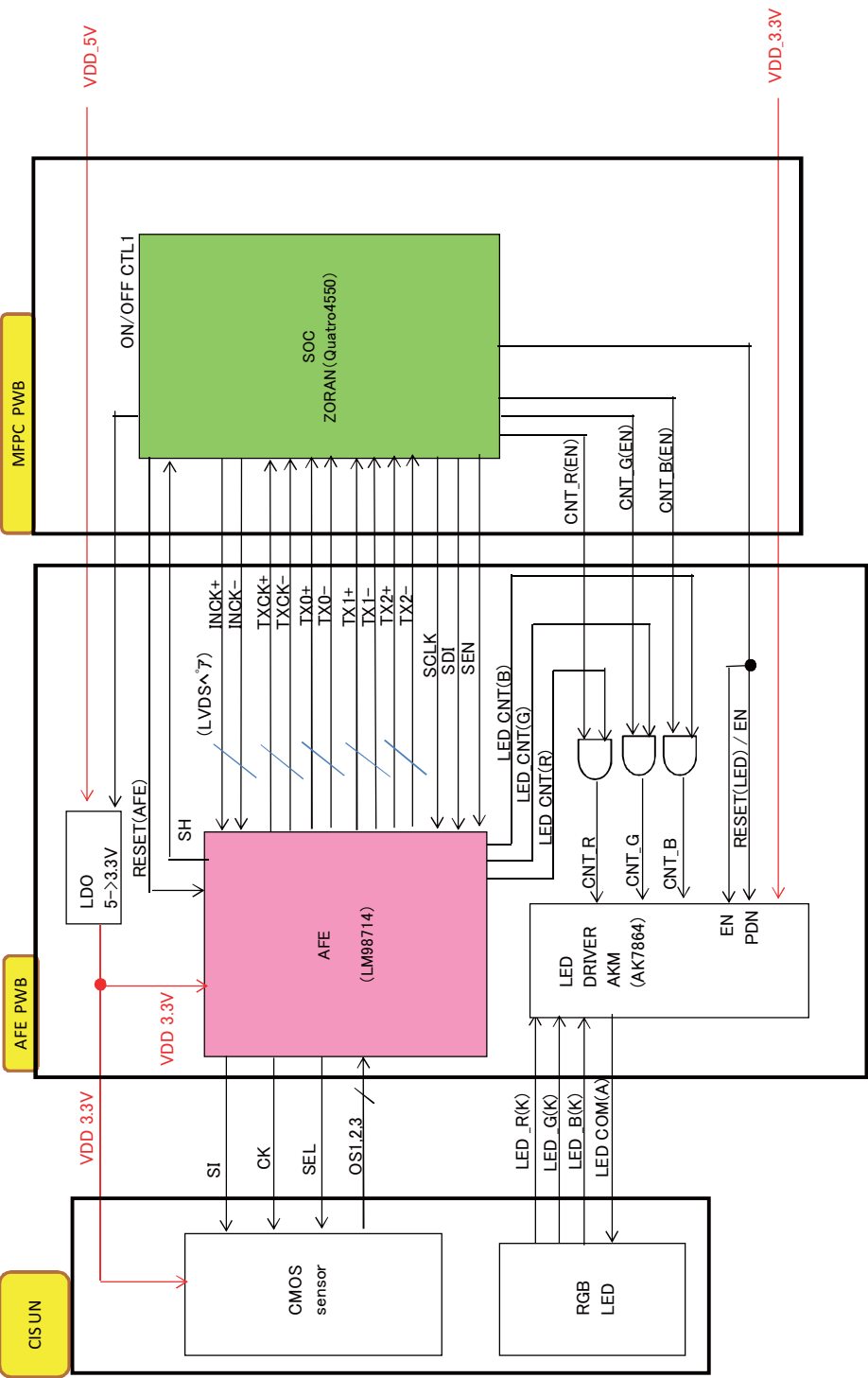


B. MFPC PWB

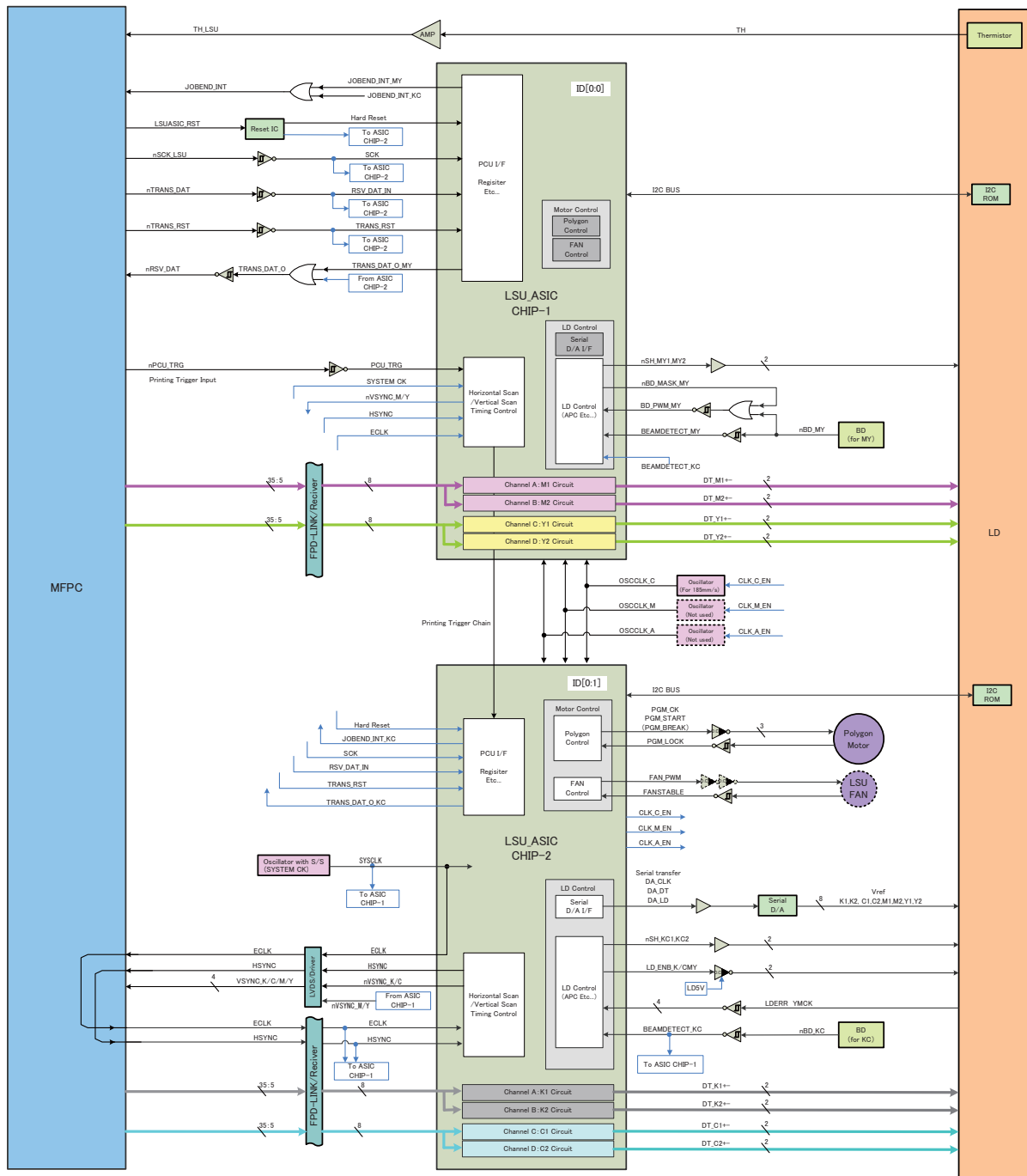
[Neo MFPC Board Block Diagram]



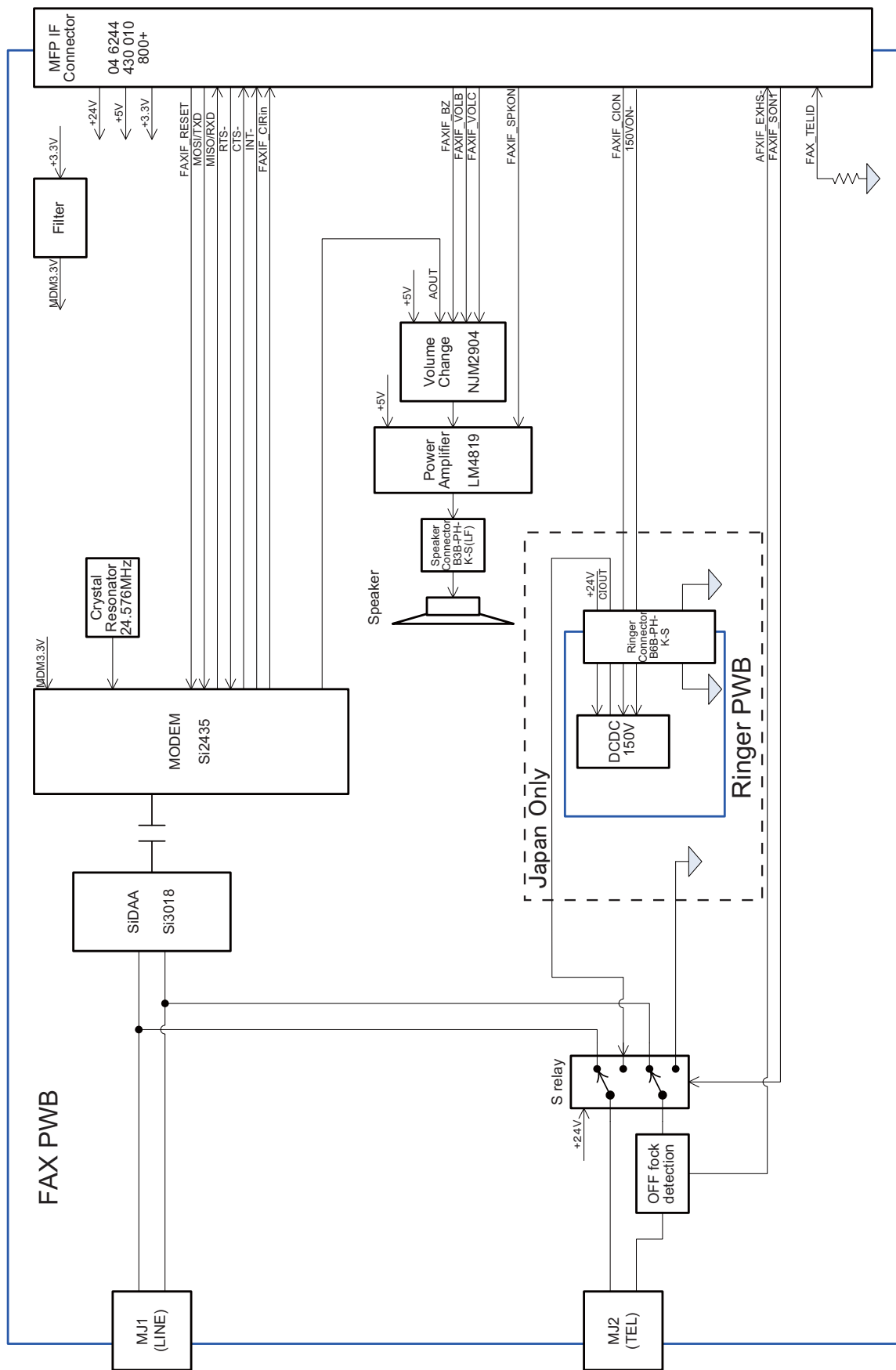
C. SCN PWB



D. LSUcnt PWB



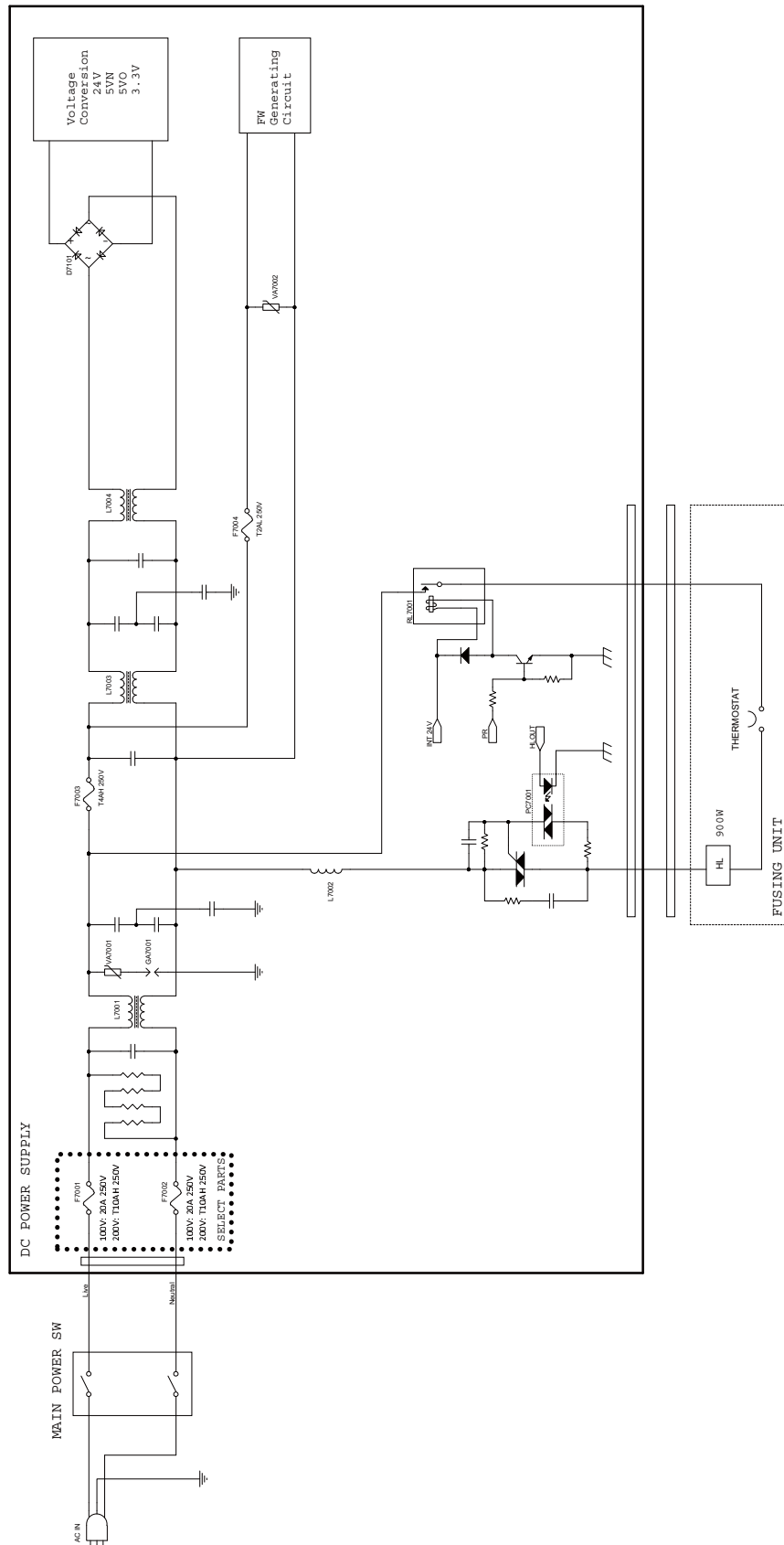
Neo FAX Block Diagram



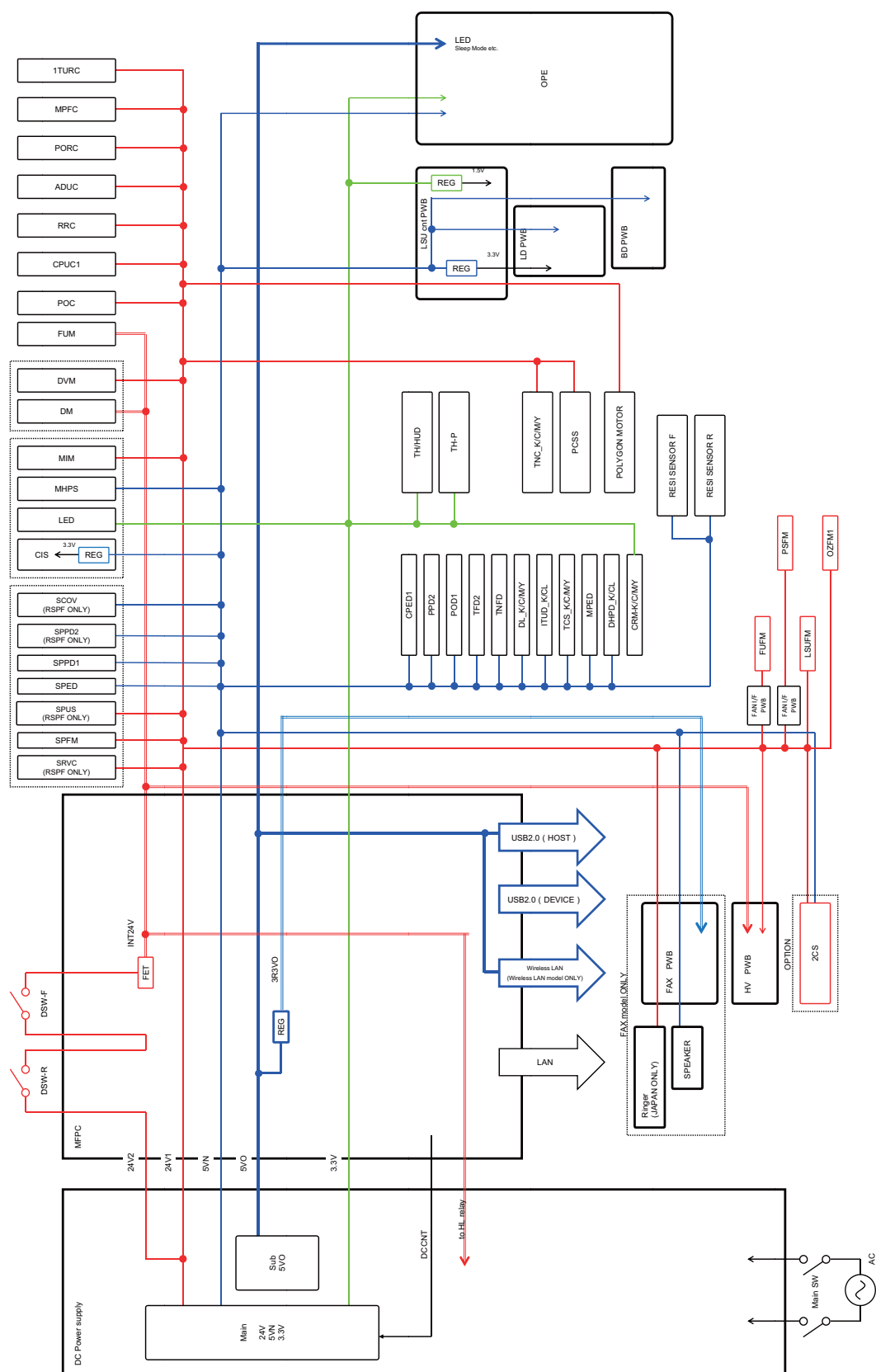
2. Power line diagram

A. AC power line diagram

1



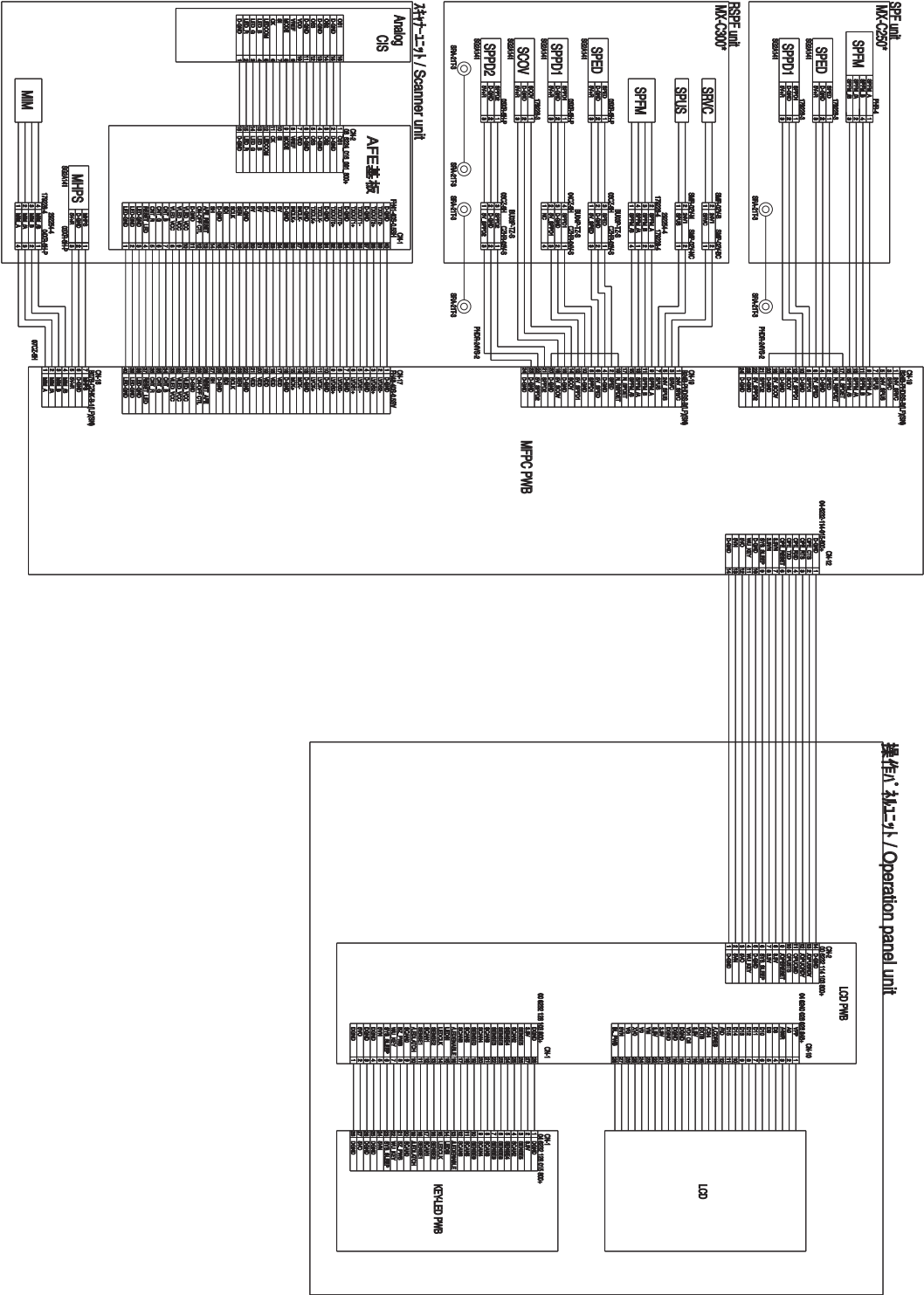
B. AC power system diagram



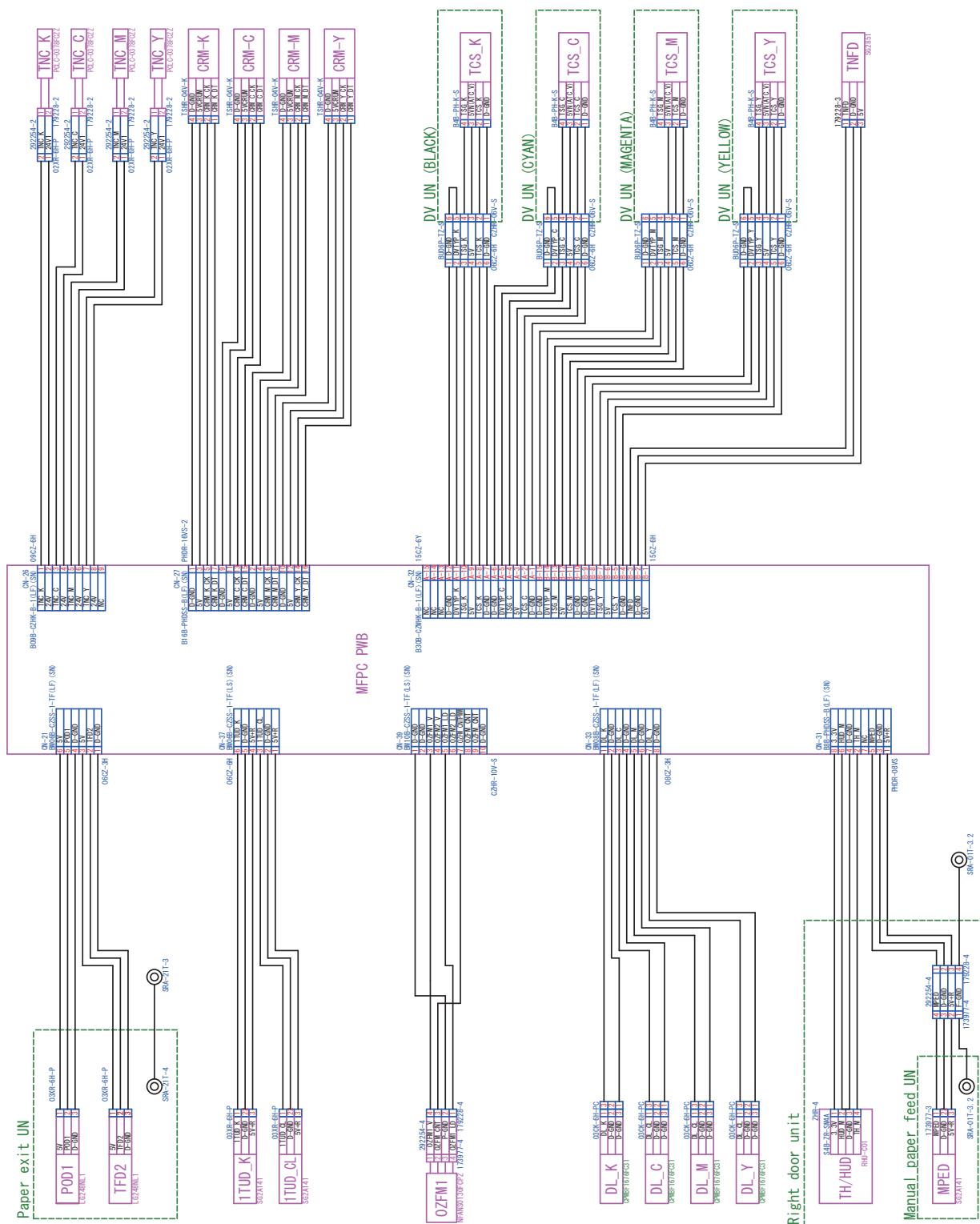
A. MFPC, LSU, FAX, USB



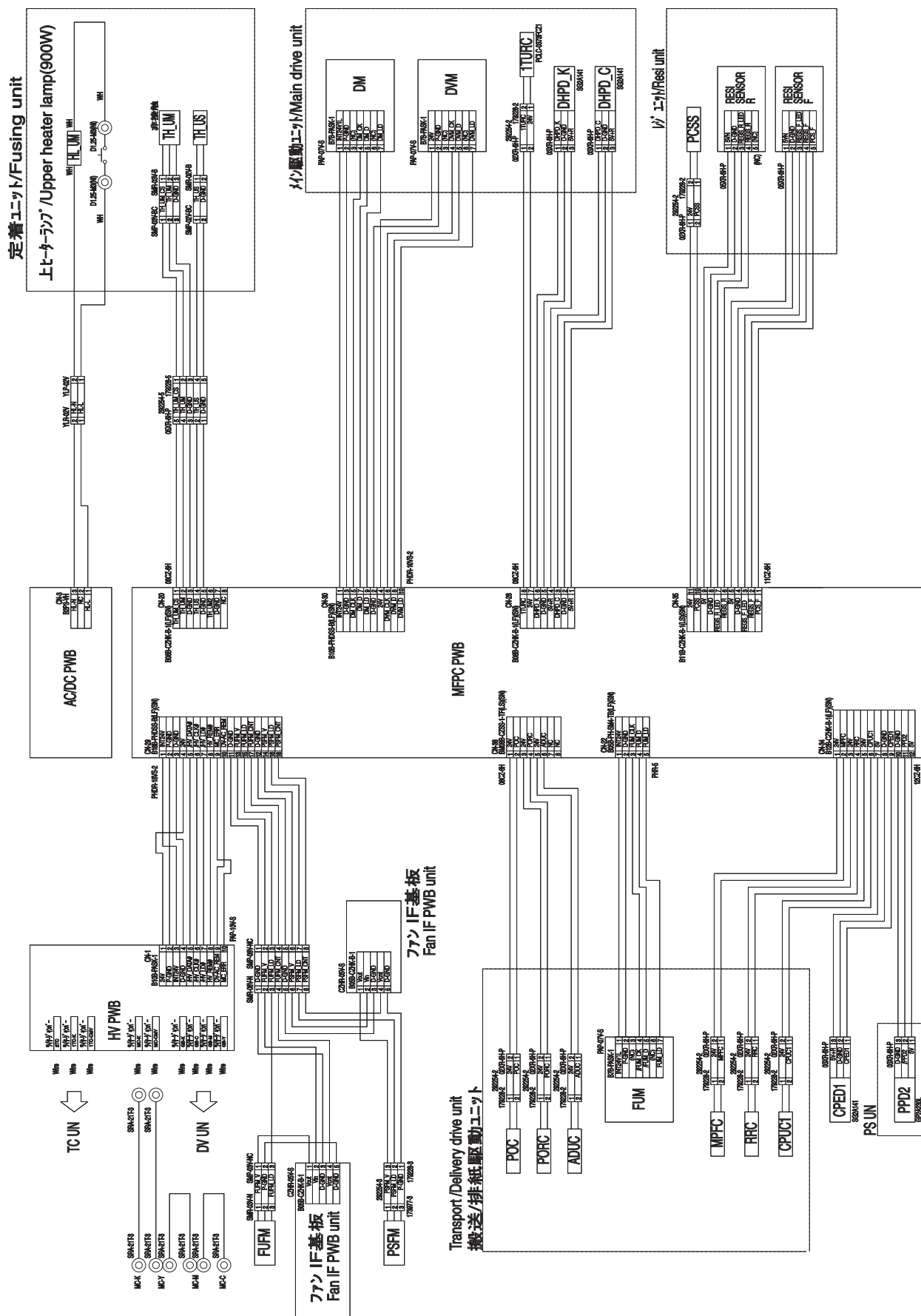
B. Scanner, RSFP/SFP, Operational panel



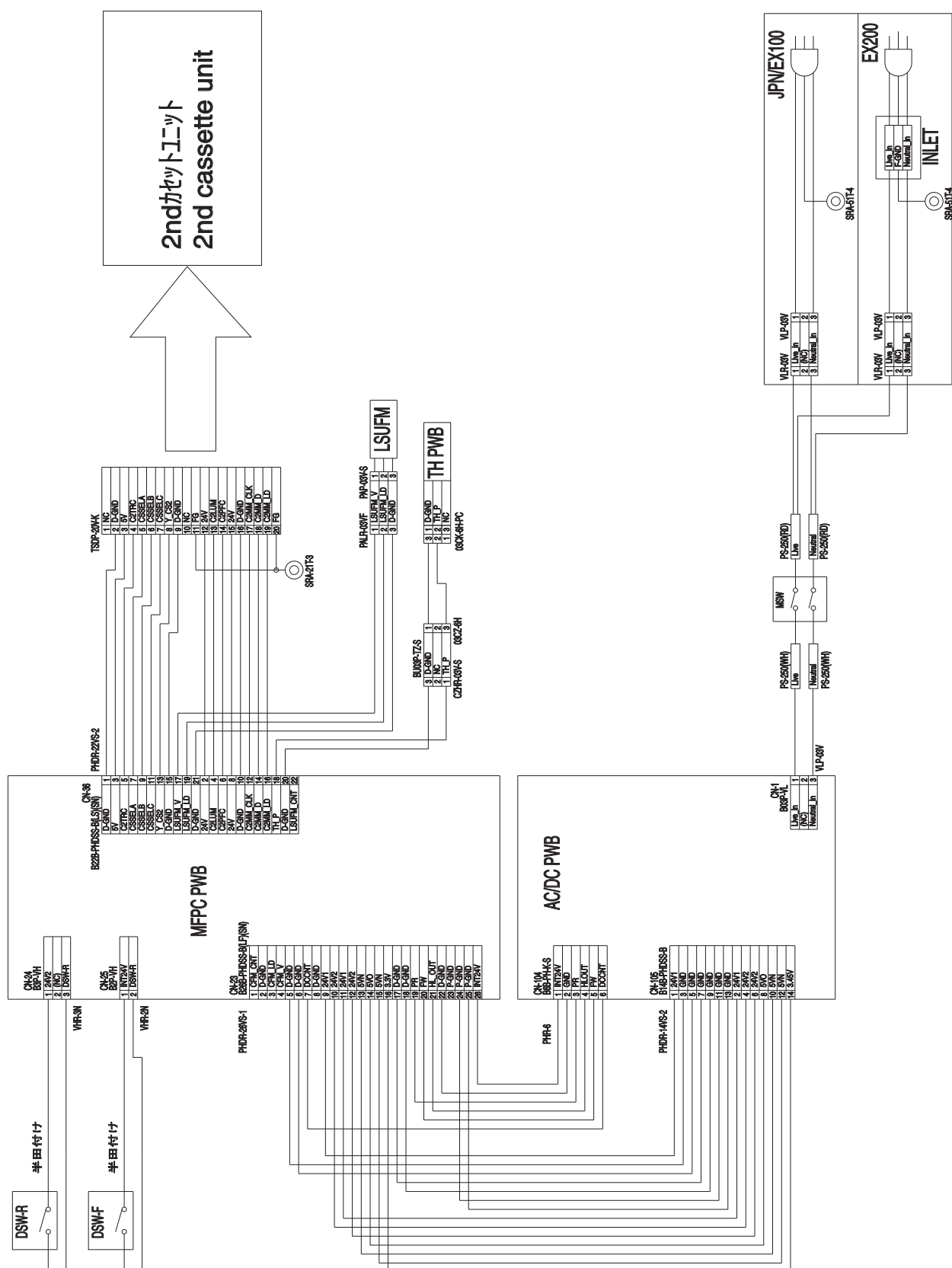
C. Process, Developer, Right door, Paper feed, Paper exit



D. Drive unit, Paper feed, HV, Fusing unit



E. Power supply (AC, DC)



4. Signal list

Signal Name	Description	Connector Level		Connector number	Pin number	PWB	NOTE
		L	H				
1TUD_CL	Detect CL Transfer belt Contact/ Separates	-	-	CN37	3	MFPC	1TUD_CL
1TUD_K	Detect K Transfer belt Contact/ Separates	-	-	CN37	6	MFPC	1TUD_K
1TURC	Transfer belt Contact/Separates Clutch Control	Clutch On		CN28	8	MFPC	Main Drive Unit:1TURC
ADUC	ADU Conveyance Clutch Control	Clutch On		CN38	6	MFPC	ADUC
C2LUM	Tray2 Lift Up Motor Control		Motor On	CN36	4	MFPC	2nd Cassette(Optional):C2LUM
C2MM_CLK	Tray2 Main Motor Clock	(Clock)		CN36	12	MFPC	2nd Cassette(Optional):C2MM
C2MM_D	Tray2 Main Motor Drive	Motor On		CN36	14	MFPC	2nd Cassette(Optional):C2MM
C2MM_LD	Detect Tray2 Main Motor Lock		Detect:Lock	CN36	16	MFPC	2nd Cassette(Optional):C2MM
C2PFC	Tray2 Feed Clutch Control		Clutch On	CN36	6	MFPC	2nd Cassette(Optional):C2PFC
C2TRC	Tray2 Conveyance Clutch Control		Clutch On	CN36	5	MFPC	2nd Cassette(Optional):C2TRC
CPED1	Detect Tray1 Paper		Detect:Non Paper	CN34	9	MFPC	CPED1
CPUC	Tray1 Feed Clutch Control	Clutch On		CN34	6	MFPC	CPUC1
CRM_C_SCL	Cyan Toner CRM I2C I/F Clock	(Clock)		CN27	7	MFPC	Cyan Toner CRM
CRM_C_SDA	Cyan Toner CRM I2C I/F Serial Data	(Serial Data)		CN27	8	MFPC	Cyan Toner CRM
CRM_K_SCL	Black Toner CRM I2C I/F Clock	(Clock)		CN27	3	MFPC	Black Toner CRM
CRM_K_SDA	Black Toner CRM I2C I/F Serial Data	(Serial Data)		CN27	4	MFPC	Black Toner CRM
CRM_M_SCL	Magenta Toner CRM I2C I/F Clock	(Clock)		CN27	11	MFPC	Magenta Toner CRM
CRM_M_SDA	Magenta Toner CRM I2C I/F Serial Data	(Serial Data)		CN27	12	MFPC	Magenta Toner CRM
CRM_Y_SCL	Yellow Toner CRM I2C I/F Clock	(Clock)		CN27	15	MFPC	Yellow Toner CRM
CRM_Y_SDA	Yellow Toner CRM I2C I/F Serial Data	(Serial Data)		CN27	16	MFPC	Yellow Toner CRM
CSSELA	Tray2 Sensor Data Select Code A	(Select Code)		CN36	7	MFPC	2nd Cassette(Optional)
CSSELB	Tray2 Sensor Data Select Code B	(Select Code)		CN36	9	MFPC	2nd Cassette(Optional)
CSSELC	Tray2 Sensor Data Select Code C	(Select Code)		CN36	11	MFPC	2nd Cassette(Optional)
DHPD_CL	Detect CL Drum phase	-	-	CN28	3	MFPC	Main Drive Unit:DHPD_C
DHPD_K	Detect K Drum phase	-	-	CN28	6	MFPC	Main Drive Unit:DHPD_K
DL_C	Cyan Discharge LED Lamp Light volume Control	(PWM)		CN33	3	MFPC	DL_C
DL_K	Black Discharge LED Lamp Light volume Control	(PWM)		CN33	1	MFPC	DL_K
DL_M	Magenta Discharge LED Lamp Light volume Control	(PWM)		CN33	5	MFPC	DL_M
DL_Y	Yellow Discharge LED Lamp Light volume Control	(PWM)		CN33	7	MFPC	DL_Y
DM_CLK	Drum Motor Clock	(Clock)		CN30	3	MFPC	Main Drive Unit:DM
DM_D	Drum Motor Drive Control	Motor On		CN30	4	MFPC	Main Drive Unit:DM
DM_LD	Detect Drum Motor Lock		Detect:Lock	CN30	5	MFPC	Main Drive Unit:DM
DSW_F	Detect Front Door Switch Close		Door Close(24V)	CN25	1	MFPC	Front Door Switch
DSW_R	Detect Right Door Switch Close		Door Close(24V)	CN24	3	MFPC	Right Door Switch
DSW_R	Detect Right Door Switch Close		Door Close(24V)	CN25	2	MFPC	Right Door Switch
DV_AC_REM	DV Remote Control		Remote On	CN29	10	MFPC	HV-PWB I/F
DVM_CLK	Development Motor Clock	(Clock)		CN30	8	MFPC	Main Drive Unit:DVM
DVM_D	Development Motor Drive Control	Motor On		CN30	9	MFPC	Main Drive Unit:DVM
DVM_LD	Detect Development Lock		Detect:Lock	CN30	10	MFPC	Main Drive Unit:DVM
DVTYP_C	Detect Cyan Developer tank discernment	Detect		CN32	A5	MFPC	DV Unit
DVTYP_K	Detect Black Developer tank discernment	Detect		CN32	A11	MFPC	DV Unit
DVTYP_M	Detect Magenta Developer tank discernment	Detect		CN32	B14	MFPC	DV Unit
DVTYP_Y	Detect Yellow Developer tank discernment	Detect		CN32	B8	MFPC	DV Unit
FUFM_CNT	Fixing Cooling FAN Speed Control	(PWM)		CN29	14	MFPC	FUFM
FUFM_LD	Detect Fixing Cooling FAN Lock		Detect:Lock	CN29	13	MFPC	FUFM
FUFM_V	Fixing Cooling FAN Drive Control		FAN Power On(24V)	CN29	12	MFPC	FUFM
FUM_CLK	Fixing Motor Clock	(Clock)		CN22	3	MFPC	Fixing Motor
FUM_D	Fixing Motor Drive Control	Motor On		CN22	4	MFPC	Fixing Motor
FUM_LD	Detect Fixing Motor Lock		Detect:Lock	CN22	5	MFPC	Fixing Motor
HUD_M_ANI	Humidity of Manual bypass	(Analog)		CN31	6	MFPC	Right Door Unit:HUD_M

Signal Name	Description	Connector Level		Connector number	Pin number	PWB	NOTE
		L	H				
HV_DAC_CLK	HV-PWB DAC Setting Clock Signal	(Clock)		CN29	6	MFPC	HV-PWB I/F
HV_DAC_DT	HV-PWB DAC Setting Serial Data Signal	(Serial Data)		CN29	5	MFPC	HV-PWB I/F
HV_DAC_LD	HV-PWB DAC Setting Load Signal	Load		CN29	7	MFPC	HV-PWB I/F
HV_REM	HV Remote Control		Remote On	CN29	8	MFPC	HV-PWB I/F
LSUFM_LD	Detect LSU FAN Lock		Detect:Lock	CN36	19	MFPC	LSUFM
LSUFM_V	LSU FAN Control		FAN Power On(24V)	CN36	17	MFPC	LSUFM
MC_ERR	Detect MC Error		Error	CN29	9	MFPC	HV-PWB I/F
MHPS	Detect Scanner Home Position	Detect:Home Position		CN18	7	MFPC	Scanner Unit MHPS
MIM_A	Scanner Mirror Stepper Motor Control Phase A	phase /A OFF	phase /A ON	CN18	1	MFPC	Scanner Unit MIM
MIM_B	Scanner Mirror Stepper Motor Control Phase B	phase /B OFF	phase /B ON	CN18	3	MFPC	Scanner Unit MIM
MIM_XA	Scanner Mirror Stepper Motor Control Phase XA	phase /A OFF	phase /A ON	CN18	2	MFPC	Scanner Unit MIM
MIM_XB	Scanner Mirror Stepper Motor Control Phase XB	phase /B OFF	phase /B ON	CN18	4	MFPC	Scanner Unit MIM
MPED	Detect Paper Manual bypass	Detect: Paper exists		CN31	5	MFPC	Manual bypass Unit:MPED
MPFC	Manual feed Clutch Control	Clutch On		CN34	2	MFPC	MPFC
OZFM_CNTPWM	Ozone exhaust FAN Speed Control	(PWM)		CN39	7	MFPC	OZFM1
OZFM1_LD	Detect Ozone exhaust FAN Lock		Detect:Lock	CN39	5	MFPC	OZFM1
OZFM1_V	Ozone exhaust FAN Control		FAN Power On(24V)	CN39	3	MFPC	OZFM1
PCS_F	Detect Process Control Light volume	(Analog)		CN35	1	MFPC	PCS_F
PCSS	Process Control Shutter Solenoid Control	Solenoid On		CN35	10	MFPC	PCSS
POC	Delivery clutch normal rotation Control	Clutch On		CN38	2	MFPC	POC
POD1	Detect After-fixing paper		Detect:On Paper	CN21	5	MFPC	Delivery Unit:POD1
PORC	Delivery clutch reversal Control	Clutch On		CN38	4	MFPC	PORC
PPD2	Detect Regist transport		Detect:Non Paper	CN34	11	MFPC	PPD2
PSFM_CNT	Power Supply Cooling FAN Speed Control	(PWM)		CN29	18	MFPC	PSFM
PSFM_LD	Detect Power Supply Cooling FAN Lock		Detect:Lock	CN29	17	MFPC	PSFM
PSFM_V	Power Supply Cooling FAN Drive Control		FAN Power On(24V)	CN29	16	MFPC	PSFM
REGS_F	Detect Front Regist Light volume	(Analog)		CN35	2	MFPC	REGS_F
REGS_F_LED	Front Regist LED Light volume Control	(Analog)		CN35	3	MFPC	REGS_F_LED
REGS_R	Detect Rear Regist Light volume	(Analog)		CN35	6	MFPC	REGS_R
REGS_R_LED	Rear Regist LED Light volume Control	(Analog)		CN35	7	MFPC	REGS_R_LED
RRC	Resist Roller Clutch Control	Clutch On		CN34	4	MFPC	RRC
RSPDET	Detect Scanner RSPF Unit	Detect:RSPF Unit		CN19	19	MFPC	Scanner SSPF/RSPF Unit
SCU_SCOV	Detect SPF Cover Open/Close	Open	Close	CN19	14	MFPC	Scanner RSPF Unit:SCOV
SCU_SPED	Detect SPF Nothing Manuscript		Detect:Nothing	CN19	2	MFPC	Scanner SSPF/RSPF Unit SPED
SCU_SPPD1	Detect paper pass	Detect:Paper		CN19	8	MFPC	Scanner SSPF/RSPF Unit:SPPD1
SCU_SPPD2	Detects paper jam	Detect:Paper		CN19	21	MFPC	Scanner RSPF Unit:SPPD2
SCU_SPUS	SPF Feed roller Clutch Control	Clutch On		CN19	7	MFPC	Scanner SSPF/RSPF Unit:SPUS
SCU_SRVC	SPF Delivery roller Clutch Control	Clutch On		CN19	3	MFPC	Scanner SSPF/RSPF Unit SRVC
SPDET	Detect Scanner SSPF Unit	Detect:SSPF Unit		CN19	17	MFPC	Scanner SSPF/RSPF Unit
SPFM_A	Scanner xSPF Stepper Motor Control Phase A	phase /A OFF	phase /A ON	CN19	9	MFPC	Scanner SSPF/RSPF Unit:xSPF Motor
SPFM_B	Scanner xSPF Stepper Motor Control Phase B	phase /B OFF	phase /B ON	CN19	11	MFPC	Scanner SSPF/RSPF Unit:xSPF Motor
SPFM_XA	Scanner xSPF Stepper Motor Control Phase XA	phase /A OFF	phase /A ON	CN19	13	MFPC	Scanner SSPF/RSPF Unit:xSPF Motor
SPFM_XB	Scanner xSPF Stepper Motor Control Phase XB	phase /B OFF	phase /B ON	CN19	15	MFPC	Scanner SSPF/RSPF Unit:xSPF Motor
TCS_C	Detect Cyan Toner Concentration	(Analog)		CN32	A2	MFPC	DV Unit
TCS_K	Detect Black Toner Concentration	(Analog)		CN32	A8	MFPC	DV Unit

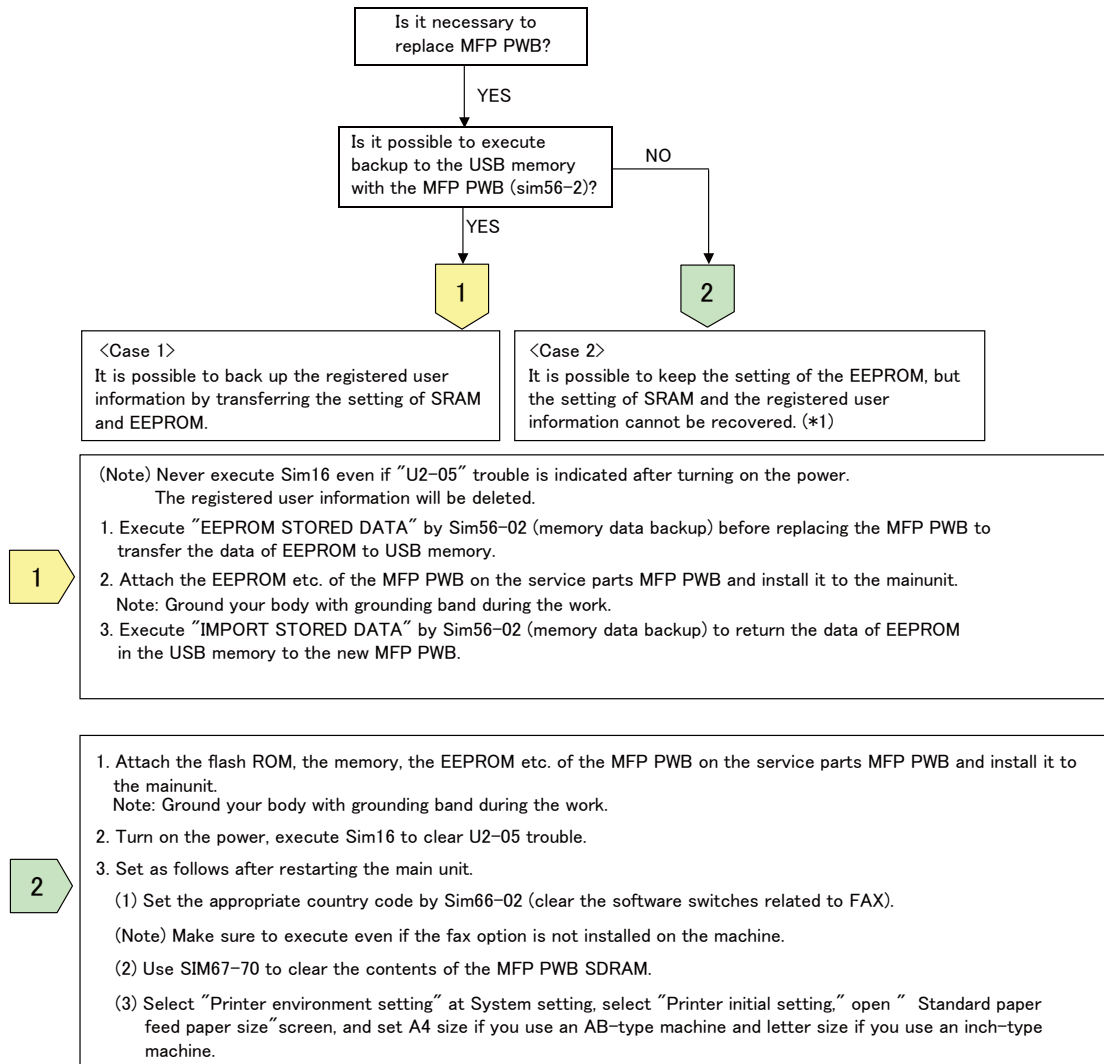
Signal Name	Description	Connector Level		Connector number	Pin number	PWB	NOTE
		L	H				
TCS_M	Detect Magenta Toner Concentration	(Analog)		CN32	B11	MFPC	DV Unit
TCS_Y	Detect Yellow Toner Concentration	(Analog)		CN32	B5	MFPC	DV Unit
TFD2	Detect Delivery Full		Detect:Full	CN21	2	MFPC	Delivery Unit:TFD2
TH_M_ANI	Thermal of Manual bypass	(Analog)		CN31	2	MFPC	TH_M
TH_P	Thermal of Ozone Duct	(Analog)		CN36	18	MFPC	TH PWB
TH_UM	Thermal of Fixing Unit(Main)	(Analog)		CN20	2	MFPC	Fixing Unit:TH_UM
TH_UM_CS	Thermal of Fixing Unit(Main)	(Analog)		CN20	1	MFPC	Fixing Unit:TH_UM_CS
TH_UM2	Thermal of Fixing Unit(Sub)	(Analog)		CN20	6	MFPC	Fixing Unit:TH_UM2
TH_US	Thermal of Fixing Unit(Sub)	(Analog)		CN20	4	MFPC	Fixing Unit:TH_US
TNC_C	Cyan Toner Clutch Control	Clutch On		CN26	3	MFPC	TNC_C
TNC_K	Black Toner Clutch Control	Clutch On		CN26	1	MFPC	TNC_K
TNC_M	Magenta Toner Clutch Control	Clutch On		CN26	5	MFPC	TNC_M
TNC_Y	Yellow Toner Clutch Control	Clutch On		CN26	7	MFPC	TNC_Y
TNFD	Detect Waste Toner Full		Detect:Full	CN32	B3	MFPC	TNFD Sensor
TSG_C	Cyan Toner Concentration Sensor Control	(Analog)		CN32	A4	MFPC	DV Unit
TSG_K	Black Toner Concentration Sensor Control	(Analog)		CN32	A10	MFPC	DV Unit
TSG_M	Magenta Toner Concentration Sensor Control	(Analog)		CN32	B13	MFPC	DV Unit
TSG_Y	Yellow Toner Concentration Sensor Control	(Analog)		CN32	B7	MFPC	DV Unit
Y_CS2	Tray2 Sensor Data(CSSELA,B,C Code Select)	(Select Sensor Data)		CN36	13	MFPC	2nd Cassette(Optional)

[13] OTHERS

1.Necessary steps when replacing the PWB and the HDD

A.MFP substrate replacement procedure (work flow)

(Note) Registered user information will not be recovered if the MFP PWB is affected by U2-05 trouble. (*1)



(*1) If you have backed up the data by storage backup (WEB) or device cloning during normal use before the failure of MFP PWB, it is possible to return to the state when the data was backed up even if Sim16 is executed.

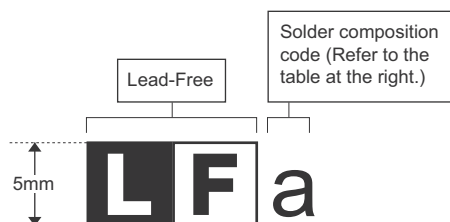
2. TOOL LIST

Name	Part code	Note
Color copy test chart	UKOG-0326FCZZ/UKOG-0326FC11	
SIT chart	UKOG-0280FCZZ/UKOG-0280FCZ1	
Gray test chart	UKOG-0162FCZZ	
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 – Eksplosionsfare 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)

VARNING

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 inkorrektter 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”

CE PRODUIT CONTIENT UNE PILE DE SAUVEGARDE DE
MÉMOIRE LITHIUM PRIMAIRE (DIOXYDE DE MANGANÈSE)
QUI DOIT ÊTRE TRAITÉE CORRECTEMENT. ENLEVEZ LA
PILE DU PRODUIT ET PRENEZ CONTACT AVEC VOTRE
AGENCE ENVIRONNEMENTALE LOCALE POUR DES
INFORMATIONS SUR LES MÉTHODES DE RECYCLAGE ET
DE TRAITEMENT.

SHARP

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