SHARP SERVICE MANUAL

CODE: 00ZMXC301/S2E



DIGITAL FULL COLOR MULTIFUNCTIONAL SYSTEM

MODEL MX-C301/C301W

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

SHARP CORPORATION

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NOTE FOR SERVICING

1. Precautions for servicing

- When servicing, disconnect the power plug, the printer cable, the network cable, and the telephone line from the machine, except when performing the communication test, etc. It may cause an injury or an electric shock.
- There is a high temperature area inside the machine. Use extreme care when servicing. It may cause a burn.
- 3) There is a high voltage section inside the machine which may cause an electric shock. Be careful when servicing.
- Do not disassemble the laser unit. Do not insert a reflective material such as a screwdriver in the laser beam path.
 It may damage eyes by reflection of laser beams.
- When servicing with the machine operating, be careful not to 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.
- When servicing, do not breathe toner, developer, and ink excessively. Do not get them in the eyes.
 If toner, developer, or ink enters you 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 ATTENTION. Double pôle/fusible sur le neutre

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.

 If there is any abnormality such as a smoke or an abnormal smell, interrupt the job and disconnect the power plug.
 It may cause a fire or an electric shock.

 Be sure to connect the grounding wire. If an electric leakage occurs without grounding, a fire or an electric shock may result.
 For proper machine functionality, the machine must be

- grounded.
- 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.

 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 with a lot of 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 with 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 with excessive 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.

- 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 repairing/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.
- 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.
- 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)

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

(Developer unit)

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

[1] PRODUCT OUTLINE

1. System configuration



2. Machine configuration

Product	cpm*	Panel	HDD	NIC	Wireless	Сору		Print		NW	Fax	iFAX	DF	OSA	Standard
Name					LAN		SAPL	PCL	PS	Scan					Security
MX-C301		7 inch			No						No	No	OTD	US:Std	
MX-C300W	30cpm	Color Touch LCD	STD	STD	STD	STD	No	STD	STD	STD	STD	OPT	RSPF	Other:Opt	STD

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

3. Option list

	Model name	Name F		Std/Opt	Pomarke
	Model fiame			Fax: N/A	Remarks
Feeding equipment	MX-CS11	500-SHEET PAPER FEED UNIT	Opt	Opt	
Brinter expansion	MX-PUX1	XPS EXPANSION KIT	Opt	Opt	*1
Phinter expansion	MX-PF10	BARCODE FONT KIT	Opt	Opt	
Image Send	MX-FWX1	INTERNET FAX EXPANSION KIT	Opt		
Authoptication/Security	MX-FR46U	DATA SECURITY KIT	Opt	Opt	*2
Authentication/Security		HID Card Reader	Local	Local	
	MX-USX1	SHARPDESK 1 LICENSE KIT	Opt	Opt	
	MX-USX5	SHARPDESK 5 LICENSE KIT	Opt	Opt	
	MX-US10	SHARPDESK 10 LICENSE KIT	Opt	Opt	
	MX-US50	SHARPDESK 50 LICENSE KIT	Opt	Opt	
	MX-USA0	SHARPDESK 100 LICENSE KIT	Opt	Opt	
	MX-AMX1	APPLICATION INTEGRATION MODULE	Opt	Opt	
Application	MX-AMX2	APPLICATION COMMUNICATION MODULE	Opt	Opt	*4
	MX-AMX3	EXTERNAL ACCOUNT MODULE	Opt	Opt	*4
	MX-UN01A	Sharp OSA Network Scanner Tool 1 License Kit	Opt	Opt	*3
	MX-UN05A	Sharp OSA Network Scanner Tool 5 License Kit	Opt	Opt	*3
	MX-UN10A	Sharp OSA Network Scanner Tool 10 License Kit	Opt	Opt	*3
	MX-UN50A	Sharp OSA Network Scanner Tool 50 License Kit	Opt	Opt	*3
	MX-UN1HA	Sharp OSA Network Scanner Tool 100 License Kit	Opt	Opt	*3
Other		Expansion Memory	Local	Local	

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

*1 Expansion Memory is required.

*2 Not for China/Russia.

*3 Application Communication Module (MX-AMX2) is required.

*4 Application Communication Module (MX-AMX2) and External Account Module are standard for North America.

[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
First Transfer	Mid-Transfer (Belt)
Second Transfer	Transfer Roller
Cleaning	Counter Blade
Fusing	Heat Roller
Waste toner disposal	No toner recycling system/Waste toner BOX system
Continuous toner supply	Not available
Appearance color	Neo White

B.Engine speed (ppm)

(1)Tray 1, 2

Paper size (short edge feed)	Monochrome	Color
A4	30	30
8.5x11, 7.25x10.5, B5, 16K	30	30
A5, 5.5x8.5	30	30

(2) Bypass tray

Paper size (short edge feed)	Monochrome	Color
8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5	16	16
A4	21	21
8.5x11, 7.25x10.5, B5, 16K	21	21
A5, 5.5x8.5	21	21
Extra	16	16
OHP(A4,8.5x11)	9	9
Envelope (Monarch,Com-10,DL,C5)	9	9
Heavy paper (A4, A5, 8.5x11, 8.5x5.5, 16K)	9	9
Heavy paper (other than above size)	9	9

C.Printable area

A4	202x289 mm
B5	176x249 mm
A5	140x202 mm
Executive	176x249 mm
Postcard	92x140 mm
16K	187x262 mm
A6	97x140 mm
8.5x14	208x348 mm
8.5x13.5	208x335 mm
8.5x13.4	208x342 mm
8.5x13	208x322 mm
8.5x11	208x271 mm
5.5x8.5	132x208 mm

Void area	Top/Rear: Total 8mm or less (Top4+/-1mm) R Total: 8mm or less
Image loss	Top:4+/- 1mm, Top/Rear: Total 8mm or less R Total: 8mm or less
Loss width	Top:4+/- 1mm Top/Rear total 8mm or less R Total: 8mm or less

* No margin print function not provided.

D.Engine resolution

Population *1	Сору	<writing> 600 x 600dpi 9,600(equivalent)x 600dpi</writing>
Resolution	Print (PCL/PS)	<writing> 600 x 600dpi 9,600(equivalent)x 600dpii</writing>
Smoothing Function	Yes	
Tone	Сору	<writing> 600 x 600dpi x 4bit 9,600(equivalent) x 600dpi</writing>
(Equivalent to 256 levels *2)	Print (PCL/PS)	<pre><writing> 600 x 600dpi x 1bit 600 x 600dpi x 4bit 9,600(equivalent) x 600dpi</writing></pre>

*1 Default resolution is 600dpi.

*2 The Dither and Error Diffusion methods using 8 bit input will be performed.

E.Scanner section

(1)Resolution/Gradation

		Monochrome	Color		
Scan Resolution for	Doc- umenet Glass	600x600dpi (default)	600x600dpi (default)		
	RSPF 600x600dpi (default)		600x600dpi (default)		
Transmission Resolu- tion (dpi)	Refer to Image Transmission Feature.				
Exposure Lamp	White LED				
Scan Levels	10 bit				
Output Levels	Monochrome : 1bit 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

٦	Туре				
Scan Speed		LTR (8.5x11) short edge feed		A4 short edge feed	
		Mono- chrome	Color	Mono- chrome	Color
Copy Target value)	Single side 600x300dpi	37ipm	37ipm	35 ipm	35 ipm
	Single side 600x600dpi	18ipm	18ipm	17.5ipm	17.5ipm
	Double side 600x300dpi	15ipm	15ipm	14ipm	14ipm
	Double side 600x600dpi	8ipm	8ipm	8ipm	8ipm
Fax/Inter-	Single side 600x200dpi	37ipm	No	35 ipm	No
net FAX	Double side 600x200dpi	15ipm	No	14ipm	No
Soon	Single side 600x200dpi	37ipm	37ipm	35 ipm	35 ipm
Scall	Double side 600x200dpi	15ipm	15ipm	14ipm	14ipm
Document Setting Direc- tion		Upward sta (1toN feedin dard)	ndard ng stan-		
Standard Location of Original Document		Center stan	dard		

Туре			
Document Feeding	Sheet-through		
Method	method		
Document Size	Standard Type	<single si<br="">Horizontal 216mm Vertical so 356mm <double s<br="">Horizontal 216mm Vertical so 356mm</double></single>	de> scanning: 140mm- anning: 140mm- ide> scanning: 140mm- anning: 140mm-
	Long Paper	Max.500m only)	nm (Monochrome: 1bit
	Business Card*1	Horizontal 55mm Vertical so *Single sig	scanning: 51mm- canning: 89mm-91mm de feed only
Mix Paper Feeding		Yes	
Random Paper Feeding		No	
Document Weight		<single si<br="">Plain pape Ib.bond Buisiness 0.1mm-0.2 <double s<br="">Plain pape Ib.bond</double></single>	de> er: 50-105g/m2, 13-28 card: Thickness 2mm .ide> er: 50-105g/m2, 13-28
Document Capacity		Max. 50 p Bond)	ages (80g/m2, 21 lbs
Type of document that may not be used		The follow NOT allow OHP, seco tracing pa mal paper wrinkled/b document document bon, and p except 2-punchec rated docu allowed.).	ring documents are yed; ond original drawing, per, carbon paper, ther- , roken/torn document, with cuts and pastes, s printed by an ink rib- perforated document d/3-punched (Perfo- ument by punch unit is
Paper size detection		No	
Paper Feeding Direction		Right hand feeding	
Stamp		No	

G.Paper feed section

(1)Basic specifications

Form	Std: 1-Paper Tray / Multi Bypass Tray Max: 2-Paper Tray / Multi Bypass Tray
Heater	No

Item		Tray1	Multi bypass		
Paper Capacity	Standard paper (80g/m2)	250 sheets	50 sheets		
Paper size detection		No			
Method to change paper size		Changed by Users			
Default paper size setting		AB systems: A4 Inch systems: 8.5x11	AB systems: A4 Inch systems: 8.5x11		
Detection of remaining paper	f remaining paper Only detect if any paper remains or not		not		

(2)Other paper type capacities

Paper Type	Bypass Tray
Postcard	10 sheets
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

			Pa	aper Feeding Sectio	n
			Main Unit	Optional Drawer (MX-CS11)	Multi Bypass
	8.5x14 (Legal)	216x356mm	No	No	Yes
	8.5x13.5 (Asian Legal)	216x343mm	No	No	Yes
	8.5x13.4 (Mexican Legal)	216x340 mm	No	No	Yes
	8.5x13 (Foolscap)	216x330 mm	No	No	Yes
	8.5x11 (Letter)	216x279 mm	Yes	Yes	Yes
	5.5x8.5 (Invoice)	140x216 mm	Yes	Yes	Yes
Deper Size	7.25x10.5(Executive)	184x266 mm	Yes	Yes	Yes
Paper Size	A4	210x297 mm	Yes	Yes	Yes
	B5	182x257 mm	Yes	Yes	Yes
	A5	148x210 mm	Yes	Yes	Yes
	A6	105x148mm	No	No	Yes
	16K	195x270 mm	Yes	Yes	Yes
	Envelope*1		No	No	Yes
	Custom*2		No	No	Yes
	Thin Paper	55-59g/m2 13-16lb bond	No	No	Yes
		60-105g/m2 16-28lb bond	Yes	Yes	Yes
		Recycled Paper	Yes	Yes	Yes
		Color Paper	Yes	Yes	Yes
	Plain Paper	Letter Head	Yes	Yes	Yes
		Pre-Printed Paper	Yes	Yes	Yes
		Pre-Punched Paper	Yes	Yes	Yes
Paper Type		106-220g/m2 16 lb bond -28 lb Cover	No	No	Yes
	neavy paper	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		Yes	Yes	Yes

*1 Envelope Type

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

*2 Custom Size

		AB System (mm)		Inch System (inch)	
		Min.	Max.	Min.	Max.
Multi Dungan Trov	Х	140	356	5_1/2	14
wuuu bypass Iray	Y	90	216	3_5/8	8_1/2

H.Paper exit section

(1) Duplex

Method	Non-stack
Logo paper support*1	Yes

*1 Printing on letterhead paper with two different textures front and back is appropriately controlled.

(2) Exit Capacity

Ejection part	Center part of the main unit
Ejection method	Face-down ejection
Paper capacity for ejection	150 sheets (for A4, 8.5x11)
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

(3)Size of paper which can be discharged

			Duplex Section	Paper Ejection Section (Center Tray)
	8.5x14 (Legal)	216x356mm	Yes	Yes
	8.5x13.5 (Asian Legal)	216x343mm	Yes	Yes
	8.5x13.4 (Mexican Legal)	216x340 mm	Yes	Yes
	8.5x13 (Foolscap)	216x330 mm	Yes	Yes
	8.5x11 (Letter)	216x279 mm	Yes	Yes
	5.5x8.5 (Invoice)	(Invoice) 140x216 mm		Yes
Danas Oisa	7.25x10.5(Executive)	184x266 mm	No	Yes
Paper Size	A4	210x297 mm	Yes	Yes
	B5	182x257 mm	Yes	Yes
	A5	148x210 mm	Yes	Yes
	A6	105x148mm	No	Yes
	16K	195x270 mm	Yes	Yes
	Envelope*1		No	Yes
	Custom*2		Yes*2	Yes
	Thin Paper	55-59g/m2 3-16 lb.bond	No	Yes
		60-105g/m2 6-28 lb.bond	Yes	Yes
		Recycled paper	Yes	Yes
	Plain Paper	Color paper	Yes	Yes
		Letter head	Yes	Yes
		Pre-printed paper	Yes	Yes
Paper Type		Pre-punched paper	Yes	Yes
		106-220g/m2 16 lb bond -28 lb Cover	No	Yes
	Heavy paper	221 g/mor more 81lb Cover or more	No	No
	Envelope	75-90g/m2	No	Yes
	Transparency	Transparency		Yes
	Label	Label		Yes
	Tab paper		No	No
	Glossy paper		No	Yes
	User setting 1-7		Yes	Yes

*1 Envelope Type

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

*2 Custom Size

-		AB System (mm)		Inch System (inch)	
		Min.	Max.	Min.	Max.
Multi Dunana Travi	Х	140	356	5_1/2	14
wulu bypass Tray	Y	90	216	3_5/8	8_1/2

		AB System (mm)		Inch System (inch)	
		Min.	Min. Max.		Max.
Duplex section	Х	210	356	8_3/8	14
	Y	140	216	5 1/2	8 1/2

I.Operation panel

(1)Display Device

Size	7 inch
Form	Dot matrix LCD, touch panel
Number of Dots in display	800x480 dots (WVGA)
Color display	Yes
LCD Drive Display Area (WxD)	152.4x91.44
LCD Back Light	LED backlight method
LCD Contrast Adjust	Yes
Angle/Position Adjustment	Yes

(2)Key

Basic Entry	Color start key, Monochrome start key, Clear key, Clear all key, Stop key, 10 key, Power saving key*1, Power source key
Mode Selection	Job status, System settings, Home
LED Display Item	Printer LED: Ready, Data Image Send LED: Line, Data Main power LED*2 Home LED, Start LED (Color/Monochrome) Power save LED
Support Languages of Operation panel	Silk print: English with symbol, Japanese, Chinese, Taiwanese

*1 Icon of power saving key to be changed to crescent moon to meet new BA regulation.

*2 Green blinking while the power switch unoperatable right after the main power on and receiving the print data.

J.Controller board

Interface				
IEEE1284 Parallel	N	lo		
	1 port			
Ethernet	Interface	10Base-T, 100Base- TX, 1000Base-T		
	Support Protocol	TCP/IP (IPv4, IPv6), IPX/SPX, EtherTalk		
USB 2.0 (Host) *1	2 port (Fr	ont, Rear)		
USB 2.0 (Device)	1 p	oort		
Acquisition of USB valida- tion	Ν	lo		
ACRE expansion I/F	No			
Ir-Simple I/F	No			
Video I/F (for panel PC BOX)	N	lo		
Serial I/F (for coin vender) *2	1 p	port		
Memory	Refer to Memory / Ha	rd disc		
Memory Slot	Main unit: Onboard Processing section fo vacant slot x 1/ Stand	r printing (PCL/PS): ard memory on board.		
Acquisition of Windows Premium Logo	Yes			
WHQL acquisition	Y	es		

*1 USB device to be disabled through Sim setting.

*2 UL authentication for SIICA vendor cable is required.

K.Memory/Hard disk

SD Card	ICU	Printing processing (PCL/PS)		HDD*1
	On board	On board	Slot	
4GB	2GB (Std)	1GB (Std)	2GB (Opt)*2	250GB (Std)

- *1 HDD capacity may vary depending on the procurement condition.
- *2 Memory to be added to use XPS Expansion Kit.

L.SD Card Memory

Utilized memory area Boot/Program area Fax data storage area: 1GB
--

M.Warm-up time

	Main power SW
Warm up time	18 sec
Preheat	Yes

2. Copy functions

A. First copy time

	Monochrome	Color
Original Glass	6.3sec	7.4sec
RSPF	7.6sec	11.0sec

Measurement condition

* Portrait feeding of A4/8.5x11 paper.

* Result may change depending on machine's condition.

3. Printer function

A. Printer driver supported OS

B. Job Speed

	Monochrome	Color
S to S	30 cpm	17.5 cpm
	100%	58.3%

* Defines the copy speed at the combination of the main unit and a document feeder.

* S to S, Portrait feeding of A4/8.5x11 document, 11 pages and 1 copy (not including the first copy).

* Monochrome: 600x300dpidpi (default) Color: 600x600dpi (default)

		-					
	OS	Custom PCL6 SPDL2-c	Custom PCL5c	Custom PS	PPD	PC-Fax*1	TWAIN
	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
Windows	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
	Windows8.1	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows8.1 x64	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
	Server 2012 R2 x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	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	CD-ROM	No	No	No
Mac	X 10.5	No	No	CD-ROM	No	Web*2	No
	X 10.6	No	No	CD-ROM	No	Web*2	No
	X 10.7	No	No	CD-ROM	No	Web*2	No
	X 10.8	No	No	CD-ROM	No	Web*2	No
	X 10.9	No	No	CD-ROM	No	Web*2	No

*1: For fax model only

*2: Timing is to be determined

B. PDL emulation/Font

PDL (command)	Font installed	Option font
PCL6 compatible	European outline font =80 font types Line printer font (BMP) =1 font types	Barcode font =28 font types
Postscrpt3 compatible	European outline font =136 font types	

4.Scanner/Fax function

A.Transmission method

Mode	Fax	
Transmission Time	Approx. 2 seconds Approx. 6 seconds	
Modem Speed	33.6 kbps -> 2.4kbps Auto-fallback	
Intercommunication	Super G3 / G3	
Communication line	Public switched telephone network (PSTN), private branch exchange (PBX), F-net SEGA:R-key for PBX setting	

Mode	Fax
ECM	Yes
Support the digital line network (Sending level)	No

B.Number of Support Line

Standard	1 line
Expansion	Not provided

C.Transmission Mode

RSPF/OC transmission switching X

D.Image Quality/Image Process

(1)Color Mode

	Scanner	Internet Fax/ Direct SMTP	Fax
B&W	Yes	Yes	Yes
Grayscale	Yes	No	No
Full color	Yes	No	No
Auto Color Selection (ACS)	Yes	No	No

(2)Resolution

Level	Scanner	Internet Fax/ Direct SMTP	Fax
1	100x100 dpi	200x100 dpi (Half Tone: No)	Standard: 203.2x97.8 dpi (Half Tone: No)
2	200x200 dpi	200x200 dpi	Fine (203.2x195.6 dpi)
3	300x300 dpi	200x400 dpi	Super Fine (203.2x391 dpi)
4	400x400 dpi	400x400 dpi	Ultra Fine (406.4x391 dpi)
5	600x600 dpi	600x600 dpi	No

(3)Exposure/Original Type

Mode	e	Scanner	Internet Fax/ Direct SMTP	Fax
Halftone repro	duction	Equivalent to 256 gradations	Equivalent to 256 grada- tions	Equivalent to 256 grada- tions
Exposure	Auto	Yes	Yes	Yes
Adjustment	Manual	5 levels	5 levels	5 levels
	Text	Yes	No	No
Original doc- ument type (Selectable	Text / Photo	Yes	No	No
	Text / Printed photo	Yes	No	No
mode)	Photo	Yes	No	No
mode)	Printed photo	Yes	No	No
	Мар	Yes	No	No
Magical Scan division + Sup Background)	(Area press	Yes	No	No
Selection of Im Quality	lage	No	Halftone (B&W only) ON/OFF	Halftone (B&W only) ON/OFF

(4)Other Image Processing Functions

	Scanner	Internet Fax/ Direct SMTP	Fax
CPT(notes' security)	Yes	No	No
Scanning QR codes	No	No	No

E.Send Functions

(1)Original

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Auto detection		No	

Mode		Scanner	Internet Fax/ Direct SMTP	Fax
Destine	Manual set- ting	Yes AB system : A5, B5, A4, 216x330*2, 216x340*2, 216x343*2, 16K, long paper*2, Size input*3 inch system : 5 1/2x8 1/2, 8 1/2x11, 8 1/ 2x13*2, 8 1/2x13 2/5*2, 8 1/2x14*2, long paper*2,Size input*3		
size	Size input setting ange*3	X direction (AB system:25-356 mm; inch sys- tem:1-14 inches) direction (AB system:25-216 mm; inch sys- tem:1-81/ inches)		
	Non stan- dard size registration	No		
Sending size	Automatic setting magnifica- tion sending)	Yes Send by the selected reading size)		
	Fixed size Manual set- ting (Zoom sending)	Yes*1*4 B system : A5, B5, A4, B4, 216x330, 216x340, 216x343, 16K, 8K inch system : 5 1/2x8 1/2, 8 1/2x11, 8 1/2x13, 8 1/2x13 2/5, 8 1/2x14, 11x17 (Sent with zooming selected sending size)		
	Non standard size No Manual set- ting			
	Non stan- dard size registration	No		
Sending Long Size origi- nals		Yes ax. 500 mm (1-sided copy/only B <fms- data>[amp]W 2 grada- tion)</fms- 	Yes ax. 500 mm (1- sided copy/ only B <fms- data>[amp]W 2 gradation)</fms- 	Yes ax. 500 mm (1-sided copy/only B <fms- data>[amp]W 2 grada- tion)</fms-
2-sided Scan*2		Yes	Yes	Yes

*1: Neo IT is A4 machine, so the standard size will be the short size paper feed all and it doesn't show the "R" like A3 models in the operation panel.

- *2: Readable from only DF
- *3: By size setting, readable "from both DF and platen" or "from only DF" or "from only platen".
- *4:If the reading size is non standard size, zoom sending is not available.

(2)Fax Send

Memory transmission	Yes (Max. 94 in total in the image send mode.)	
Speaker	Yes	
Quick online transmission	Yes	
Direct transmission (Switching: Memory trans- mission <-> Direct transmis- sion)	Yes	

(3)Special Functions

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Job Build	Yes	Yes	Yes
Mixed Size Original	Yes (only using RSPF)	Yes (only using RSPF)	Yes (only using RSPF)
Original Count (Available to both DF/OC scanning)	Yes	Yes	Yes
Edge Erase (Edge/ Edge+Center/Cen- ter/Side)	Yes (Only for Edge/Side)	Yes (Only for Edge/Side)	Yes (Only for Edge/Side)
Card Shot	Yes (Ratio: 63-400%)	Yes (Ratio: 63- 400%)	Yes (Ratio: 63- 400%)
Business Card Scan	Yes	No	No
Time Specified send	Yes	Yes	Yes
Own Number Send- ing (Sender's name is included in outbound mes- sage)	No	Yes	Yes
Printing Page Num- ber at receiver (can be switched in the System Settings)	No	Yes	Yes
Date Print (can be switched in the System Settings)	No	Yes	Yes
Own Name Select	No	Yes	Yes
Transaction Report (The print method of the transaction report can be selected at the time of sending)	No	Yes	Yes
Memory Box	No	No	Yes
Supress Back- ground	Yes	No	No
Blank Page Skip Available to both DF/OC scanning)	Yes	No	No
Filing	Yes	Yes	Yes
Quick File	Yes	Yes	Yes
Preview	Yes	Yes	Yes

(4)Other Send Functions

Mode		Scanner	Internet Fax/ Direct SMTP	Fax
Auto Reduction Sending Setting		No	No	Yes
Rotation Send	ding	No	Yes	Yes
Recall mode		No	Yes (D-SMTP)	Yes
	Error	No	Yes (D-SMTP)	Yes
	Busy	No	Yes (D-SMTP)	Yes
Change of the number of pages for each file		Yes	No	No
Restriction on transmis- sion size		Yes	Yes (I-FAX)	No
Reception Report		No	Yes Timeout min240 hrs. et in increments of 1 min. Direct SMTP: No)	No
Keeping address for a certain time after sending		Yes	Yes	Yes

F.Receive Functions

(1)Receive method

	Internet Fax/ Direct SMTP	Fax
Automatic reception	Yes	Yes
Manual reception	Yes (I-Fax)	Yes
Switching from manual reception to auto reception	N/A	Yes (SEF only)

(2)Print Functions for Received Data

Mode	Internet Fax/ Direct SMTP	Fax
Auto Receive Reduce Setting	Yes	Yes
Rotated reception	Yes	Yes
Setting of received data print con- dition (Setting of Print Actual Size or Reduction Print)	No	Yes
2-sided copy reception	Yes	Yes
Auto Reduction Sending Setting when letter size is received (for only the places of destination of the fax with the AB system)	Yes	Yes
Received data bypass output	Yes	Yes
Body Text Print Select Setting	Yes	No
Number of copies of received data	No	Yes
Foot Print	Yes	Yes

(3)Inbound Routing of Received Data

Format	PDF, Single TIFF, Multi TIFF, XPS	
Destination	E-mail, FTP, SMB, Desktop, Fax, Inter- net-Fax	
File name setting when inbound routing Attached TSI informa- tion)	Yes	
Information about the MFP that transfers the data is added to the transferred data	Yes	
Timetable	Yes	
Inbound routing by line type	Yes	
Alternative mode for destination error	Yes	

(4)Other Receive Functions

Mode	Internet Fax/ Direct SMTP	Fax
Allowing specified address/domain reception	Yes (50 addresses)	No
Rejecting specified address/domain reception	Yes (50 addresses)	No
Allowing reception from specific numbers	No	Only specified numbers (50 num- bers/20 digits)
Rejecting reception from specific numbers	No	Only specified numbers (50 num- bers/20 digits)
Rejecting reception from fax numbers without a TSI value	No	Yes (by the Soft- SW)
External phone connec- tion remote	No	Yes
Reception Check Interval Setting	Yes (I-Fax) 0-8 hours in increments of 1 min.)	No
POP3 Communication Timeout Setting	Yes (I-Fax) 30-300 seconds in increments of 30 sec.)	No
Data Forwarding in case of trouble of output	Yes	Yes
Auto wake up print	Yes	Yes
Alternative reception	400 messages (includ- ing fax and Internet Fax)	400 messages (including fax and Internet Fax)

(5)Received Data Preview

Mode	Internet Fax/ Direct SMTP	Fax
Print Hold Setting for received data	Yes	Yes
Image check (Preview)	Yes	Yes
Forwarding from preview	Yes	Yes

(6)Document Administration Function

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Forwarding sent/ received Data. (Document Admin)	The formats of fc TIFF/ Multi TIFF/ Scan to e-mail/ F PC- Fax/ Fax/ I-F Folder setting by ported.	orwarding data can be s / PDF / XPS) FTP/ SMB/ Desktop/ PC Fax are also supported r each of sending and r	selected. (Single C-Internet Fax/) eceiving is sup-

(7)Recording Size

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Maximum recording width	No	216mm	216mm
Record size	No	AB system: A4-A5 Inch system: 8 1/ 2x11-5 1/2x8 1/2	AB system: A4-A5 Inch system: 8 1/ 2x11-5 1/2x8 1/2

G.Scanner/Fax function

(1) Support image

Mode	Format / Compres- sion method		Support
		TIFF	Yes
		PDF	Yes
	File format (Mono 2	PDF/A	Yes
	gradation)	Encrypted PDF	Yes
		XPS	Yes
		Color TIFF	Yes
		JPEG	Yes
	File format (Color /	PDF	Yes
	Gray scale)	PDF/A	Yes
Scanner		Encrypted PDF	Yes
		XPS	Yes
		Non-compression	Yes
	Compression method (Mono 2 gradation)	G3 (1- dimen- tional) = MH (Modified Huff- man)	Yes
		G4 = MMR (Modi- fied MR)	Yes
	Compression method (Color / Gray scale)	JPEG (High / Middle / Low)	Yes
	File format (Mono- chrome)	TIFF-FX (TIFF-F / TIFF-S)	Yes
Internet Fax Direct SMTP	Compression method (Monochrome)	G3 (1- dimen- tional) = MH (Modified Huff- man)	Yes
		G4 = MMR (Modi- fied MR)	Yes
Fax	Compression method (Monochrome)	MH / MR / MMR / JBIG	Yes
File per page (Setting of the number of pages available)		Yes	

(2) Address Specifying Method

One-touch	Yes
Group key	Yes
Direct input (Entry from the soft key- board, externally-connected key- board or 10 keypad)	Yes (e-mail/SMB/ Internet Fax (including Direct SMTP)/fax) Addresses of FTP/Desktop cannot be input directly.
Selection from the LDAP server	Yes

(3) Address Specifying Method

Function	Support
Setting of the default address	Yes
Apply E-mail address of the user for login (Scan to Me)	Yes
Prohibit the broadcast transmission of Scan to me	Yes
Permit "!!" at folder designation of Scan to SMB	Yes
Disabling of sending to domains that are not specified	Support separately
Resend	Yes

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Chain dial	No	No	Yes (by the Pause key)
Destination Confirma- tion	No	No	Yes
CC/BCC sending	Yes	No	No

(4) Address Book Registration

Max. number of registrations	Total: 1000 keys FTP/Desktop/SMB addresses shall be the same as those for other modes. Maximum 1000 addresses shall be able to be registered.
Number of addresses can be regis- tered in one Group key	Max. 500 addresses
Number of addresses can be regis- tered by inputting directly in Group keys	5000 addresses (included in the 1000 keys)
Registration using the LDAP search results	Yes
Registration of a sending line to fax individuals when a line is installed.)	Yes
Speed dial (quick key)	Yes (Call by inputting a registration number from the 10-key pad)

(5) Address Registration Method

Address Type	Registration in the operation panel	Registration in the ending his- tory	Registration on the Web age
E-mail address	Yes	No	Yes
FTP address	No	No	Yes
Desktop address	No	No	Yes or NST (registration from Network Scanner Tool)
SMB address	No	No	Yes
Fax address	Yes	No	Yes
Internet Fax address	Yes	No	Yes
Direct SMTP address	Yes	No	Yes

(6) Address Book Functions

Cloning Address book	No (Main unit: No, Web: Yes)
Import/export of the address book	Yes (by the storage backup function)
Readout/read-in of date regis- tered in other models	Yes (by the address book conversion util- ity)
Linkage with the PC-FAX address book	Yes

(7) Specification of Multiple Addresses

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Broadcast Trans- mission	Yes	Yes	Yes
Number of destina- tions of broadcast transmission	500	500	500

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Sequential Broad- cast Transmission request	No	No	Yes

(8) Settings to Disable Address Specication/Registeration

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Disable Registering Destina- tion from Operation Panel	Yes	Yes	Yes
Disable Registering Destina- tion on Web Page	Yes	Yes	Yes
Disable Registration Using Network Scanner Tool	Yes	No	No
Disable [Resend] on Fax/ Image Send Mode	Yes	Yes	Yes
Disable Selection from Address Book	Yes	Yes	Yes
Disable Direct Entry	Yes	Yes	Yes
Disable Broadcast Setting	No	No	No
Disable PC-I-Fax Transmis- sion	No	Yes	No
Disable PC-Fax Transmis- sion	No	No	Yes

(9) Information to Be Sent

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Subject	Select from the list Direct entry (80 on characters; Number	No	
File name	Select from the list Match the subject Direct entry (80 on characters; Number	No	
Outbound message (message body)	Yes Yes		No
Outbound message selection	Select from the list. Direct entry		No
Number of letters in an outbound message	1800 one-byte characters (900 two- byte characters)		No
Pre-Setting Mail Sig- nature*2	Yes	Yes	No

*1: N/A for USB Memory Scan

*2: A text message can be set to be automatically added in the body of outbound messages. It cannot be edited at the time of sending.

(10) Registration/Selection of Sender/Reply-to

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Reply-to	Select from the list. direct entry elect from the LDAP server.	No (One Own Name is fixed as default)	No
Number of destinations registered in Reply-to	1,000 addresses (used for user authen- tication as well)	No	No
Sender regis- tration	No	1 sender (up to 20 two-byte/40 one-byte characters) Only one set of sender informa- tion can be registered, and I-Fax addresses are registered in the name part.	1sender (up to 20 two-byte/40 one- byte characters) Only one set of sender information can be registered, and Fax numbers are registered in the name field.

(11) F-code Transmission

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Sub-address	No	No	Yes (20 digits)
Pass code	No	No	Yes (20 digits)

(12) F-code Memory Box (Fax Functions)

Fax Polling Security	Yes
Passcode Number Setting	Yes (10 numbers/20 digits)
Polling Memory Send	Yes 100 memory boxes can be registered for Polling Memory, Confidential and Relay Broadcast in all (Public Box: 1). Setting the number of times the public box may be polled: once/unlimited num- ber of times
Confidential transmission	Yes (F-code Method)
Relay Broadcast transmission request	Yes (F-code Method)
Relay Broadcast Send Fax to e-mail/ Internet Fax/ Fax (F-code))*	Yes
Number of characters can be registered in the memory box	18 one-byte/two-byte characters

(13) Telephone Functions

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
Speaker	No	No	Yes
Pause Time Setting	No	No	Yes (1-15 sec.)
Telephone call during power outage	No	No	No External telephone calls are possible.)
Switching between tone and pulse	No	No	10/20/TONE/Auto Select Availability of setting or the default value varies depending on the destination of the product.

(14) Sound settings

Mode	ltem	Scanner	Internet Fax/ Direct SMTP	Fax
Speaker	Speaker Vol- ume Setting	No	No	Yes *1 *2
Calling	Speaker Vol- ume Setting	No	No	Yes *1 *6
Ring tone	Speaker Vol- ume Setting	No	No	No
Line moni- tor	Speaker Vol- ume Setting	No	No	Yes *1 *2
Reception	Speaker Vol- ume Setting	No	Yes *1	No
Destin	Speaker Vol- ume Setting	No	No	Yes *1 *6
Receive	Tone Pattern	No	No	Yes *1 *3
Signal	Transmission Complete Sound Time Setting	No	No	Yes *1 *4
	Speaker Vol- ume Setting	No	No	Yes *1 *6
Send Com-	Tone Pattern	No	No	Yes *1 *3
plete Signal	Transmission Complete Sound Time Setting	No	No	Yes *1 *4
0	Speaker Vol- ume Setting	No	No	Yes *1 *6
Sena/	Tone Pattern	No	No	Yes *1 *3
error signal	Transmission Complete Sound Time Setting	No	No	Yes *1 *5

Mode	Item	Scanner	Internet Fax/ Direct SMTP	Fax
Communi- cation Error Signal	Speaker Vol- ume Setting	No	Yes *1	No
Setting of Original Scan Com- plete Sig- nal (Image send)	Speaker Vol- ume Setting	Yes *1	Yes *1	Yes *1

*1: Set up in the System Settings.

*2: 9 levels

- *3: PATTERN 1, 2, 3, 4. Setting of different sounds for each of the receive signal, send complete signal and send/receive error signal shall be available.
- *4: 5 levels from 2.0 to 4.0 sec.
- *5: 2 levels of 0.3 and 0.7 sec.
- *6: 10 levels including mute.

(15) Others

Mode	Scanner	Internet Fax/ Direct SMTP	Fax
PC-Internet Fax	No	Yes	No
PC-Fax	No	No	Yes
FAST	No	No	No
Network FAST	No	No	No
Distinctive ring detection	No	No	Settings vary depending on the area.
Trial mode	Scanner: No Metadata: Yes	No	No
Linearized PDF	Yes Supported by the network scanner tool.	No	No
Support the format of data for line name	 Yes (Supported by soft SW) 1. File name of send job for scanner / internet fax. 2. File name of received data transfer (Support to save the received data to HDD of MFP) 3. File name of received data when automatically document filling 		
Sharpdesk Mobile support	Yes No No		

H.PC-Internet Fax / PC-Fax Function Overview

(1) Operation Environment

Interface	USB 2.0, 10/100BASE-TX, 1000BASE-T
Communication protocol	LPR/lp, Port9100(RAW), IPP, USB2.0

(2) Function

PC-Internet Fax send	Yes (Required op kit) ax. I-Fax address	otion: Internet Fax	x expansion
PC-Fax send	Yes (with fax equipped) ax. fax number length: 64 digits (including sub- address and passcode)		
Resolution	200x100 dpi / 20 400x400 dpi / 60	0x200 dpi / 200x4 0x600 dpi*2	400 dpi /
Original sizes	A3 / B4 / A4 / A5 / B5 / 11x17 / 8.5x14 / 8.5x11 / 5.5x8.5 / 8.5x13 / 8k / 16k		
Compression method	MH / MMR		
Broadcast transmission	Yes (Mix of fax and I-Fax is available. Max. des- tinations: 500)		
E codo transmission	Yes	Sub-address	Yes: Up to 20 digits
		Passcode	Yes: Up to 20 digits
Phone book registration / transmission function	Yes		
Letter of transmittal attaching function*1	Yes (Not allowed for broadcast transmission)		

Letter of transmittal cre- ating function			Yes
	Entering address directly	Yes	
Own N	umber Send	Yes Own Number is printed at all times.)	
Previev	v function		Yes
Recept fying Po he NJR	ion Report (Noti- C by !)		Yes
		Filing	Yes
Docum	ent filing function	Quick File	Yes
PC-Fax	transmission log		Yes
User au	uthentication	Yes	
Timer		Yes	
R-KEY	(SEGA only)	Yes	
Importing MFP's address book		Yes	

*1: The use of letters of transmittal made by applications shall be available.

*2: Only for PC-Internet Fax

I.Remote PC Functions (Network TWAIN)

Pull	Scan (TWAIN) Spe	ecifications
Interfere	NIC	Yes
Interface	USB	No
WHQL validated OS	Windows XP/ Vista/ 7/8/8.1	
	System	Must satisfy the operational conditions of each OS.
Hardware environment	HDD	10 MB or more: 100 MB or more is recommended.
That dware environment	Monitor	800x600 dots or more; 256 or more colors must be avail- able.
	Other	Network support
2-sided scan		Yes
Color mode	Mono 2 gradation Full Color	/ Mono Diffusion / Grayscale /
Resolution	75dpi/ 100dpi/ 150 600dpi Or Custom: 50-96	0dpi/ 200dpi/ 300dpi/ 400dpi/ :00 dpi
Scanning range	DF: A4/A5/B5/Letter/Executive/Foolscap/Invoice/ Legal/ Mexican Legal/Asian Legal/Postcard/16K/Busi- ness Card/Custom laten:A4/A5/B5/Letter/Executive/Invoice/Post- card/16K/Business Card/Custom	
Preview function	Yes	
Zoom preview function	Yes	
Rotated scan	Yes (90 degrees/ 180 degrees/ 270 degrees)	
Brightness/contrast adjustment	Auto / Manual (-100 to +100)	
Gamma adjustment	Yes	
Color matching	None /For Printer	/ For CRT / For LCD / ICM
Edge emphasis	None / Normal / S	harp / Blur
B/W reverse		Yes
Selection of illuminant color	Yes (Red/ Green/	Blue/ White)
Selection of threshold value	Auto / Manual (1-2	254)
Addition of void area	Allowed (4 sides;	2.5 mm for each)
Save settings		Yes
Save preview image		Yes
Display unit of scan- ning range	Pixel/ mm/ inch	
CPT (notes' security)		Yes
Image acquisition method from the main unit	Non-compression	

5. Image send 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.Send Functions

(1)Original

M	lode	Scanner	Internet Fax/ Direct SMTP	Fax
Auto detection		No		
Reading	Manual set- ting	Yes AB system : / I Inch system :	A5, B5, A4, 216x3 216x340*2, 216x3 ong paper*2, Size 5 1/2x8 1/2, 8 1/2 8 1/2x13 2/5*2, 8 long paper*2,Size	30*2, 43*2, 16K, input*3 x11, 8 1/2x13*2, 1/2x14*2, e input*3
size	Size input setting ange*3	X direction (AB system:25-356 mm; inch sys- tem:1-14 inches) direction (AB system:25-216 mm; inch sys- tem:1-81/ inches)		mm; inch sys- nm; inch sys-
	Non stan- dard size registration	No		
	Automatic setting magnifica- tion sending)	Yes Send by the selected reading size)		ize)
Sending size	Fixed size Manual set- ting (Zoom sending)	Yes*1*4 AB system : A5, B5, A4, B4, 216x330, 216x340, 216x343, 16K, 8K Inch system : 5 1/2x8 1/2, 8 1/2x11, 8 1/2x13, 8 1/2x13 2/5, 8 1/2x14, 11x17 (Sent with zooming selected sending size)		
	Non standard size Manual set- ting	No		
	Non stan- dard size registration	No		
Sending Long Size origi- nals		Yes ax. 500 mm (1-sided copy/only B <fms- data>[amp]W 2 grada- tion)</fms- 	Yes ax. 500 mm (1- sided copy/ only B <fms- data>[amp]W 2 gradation)</fms- 	Yes ax. 500 mm (1- sided copy/ only B <fms- data>[amp]W 2 grada- tion)</fms-
2-sided Scan*2		Yes	Yes	Yes

*1: Neo IT is A4 machine, so the standard size will be the short size paper feed all and it doesn't show the "R" like A3 models in the operation panel.

- *2: Readable from only DF
- *3: By size setting, readable "from both DF and platen" or "from only DF" or "from only platen".
- *4: If the reading size is non standard size, zoom sending is not available.

(2)Fax Send

	Scanner	Internet Fax/ Direct SMTP	Fax
B&W	Yes	Yes	Yes

	Scanner	Internet Fax/ Direct SMTP	Fax
Grayscale	Yes	No	No
Full color	Yes	No	No
Auto Color Selection (ACS)	Yes	No	No

(3)Color Mode

	Scanner	Internet Fax/ Direct SMTP	Fax
B&W	Yes	Yes	Yes
Grayscale	Yes	No	No
Full color	Yes	No	No
Auto Color Selection (ACS)	Yes	No	No

C.Number of Support Line

Standard	1 line
Expansion	Not provided

D.Transmission Mode

RSPF/OC transmis-	v
sion switching	^

E.Image Quality/Image Process

(1)Color Mode

	Scanner	Internet Fax/ Direct SMTP	Fax
B&W	Yes	Yes	Yes
Grayscale	Yes	No	No
Full color	Yes	No	No
Auto Color Selection (ACS)	Yes	No	No

(2)Resolution

Level	Scanner	Internet Fax/ Direct SMTP	Fax
1	100x100 dpi	200x100 dpi (Half Tone: No)	Standard: 203.2x97.8 dpi (Half Tone: No)
2	200x200 dpi	200x200 dpi	Fine (203.2x195.6 dpi)
3	300x300 dpi	200x400 dpi	Super Fine (203.2x391 dpi)
4	400x400 dpi	400x400 dpi	Ultra Fine (406.4x391 dpi)
5	600x600 dpi	600x600 dpi	No

(3)Exposure/Original Type

Mode	•	Scanner	Internet Fax/ Direct SMTP	Fax
Halftone reproduction		Equivalent to 256 gradations	Equivalent to 256 grada- tions	Equivalent to 256 gradations
Exposure	Auto	Yes	Yes	Yes
Adjustment	Manual	Yes : 5 levels	Yes : 5 levels	Yes : 5 levels
Original doc-	Text	Yes	No	No
ument type (Selectable	Text / Photo	Yes	No	No
mode)	Photo	Yes	No	No
Magical Scan division + Sup Background)	(Area press	No	No	No
Selection of In Quality	nage	No	Halftone (B&W only) ON/OFF	Halftone (B&W only) ON/OFF

(4)Other Image Processing Functions

	Scanner	Internet Fax/ Direct SMTP	Fax
CPT(notes' security)	Yes	No	No
Scanning QR codes	No	No	No

F.Scanner/Fax function

(1) Support image

Mode	Format / Compres- sion method		Support
		TIFF	Yes (1 page to 1 file, All pages to 1 file)
	File format (Mono 2 gradation)	PDF	Yes (All page to 1 file)
		PDF/A	No
		Encrypted PDF	No
		Color TIFF	Yes (1 page to 1 file, All pages to 1 file)
	File format (Color /	JPEG	Yes (All page to 1 file)
	Gray scale)	PDF	Yes (All page to 1 file)
Scanner		PDF/A	No
		Encrypted PDF	No
Compression met (Mono 2 gradatio		Non-compression	Yes
	Compression method (Mono 2 gradation)	G3 (1- dimen- tional) = MH (Modified Huff- man)	Yes
		G4 = MMR (Modi- fied MR)	Yes
		JPEG(High / Middle / Low)	Yes
	(Color / Gray scale)	BK Letter Empha- sis	No
		2-Color PDF	No
Fox	File format (Mono- chrome)		No
	Compression method (Monochrome)	MH / MR / MMR / JBIG	Yes
File per pa able)	age (Setting of the numb	er of pages avail-	No

(2) Specification of Addresses

Mode		Support		
		Scanner	Fax	
Direct input from 10 keypad, # key, * key		Yes	Yes	
Speed Dial key)	(quick	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 fr	om the er	Yes	No	
USB memo	ry Scan	Yes	No	
Chain Dial		No	Yes (by the Pause key)	
Destination mation	Confir-	No	Yes (Available when broadcasting to destina- tions including Individu- als.)	
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

Mode	Scanner	Fax
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 transmis- sion <-> Direct transmission)	Yes
Manual transmission setting	Yes

(5) Special Functions of Send function

	Mode	Scanner	Fax
Job Build		No	No
Slow Scar	n Mode	No	No
Mixed Siz	e Original	No	Yes Only Single feed.
Original C DF/OC sc	count (Available to both canning)	No	No
Edge Eras Center/Sid	se (Edge/Edge+Center/ de)	No	No
Book Divi	de	No	No
Card Shot	t	No	No
Time Spec	cified send	No	Yes
Own Num	ber Sending	No	Yes
	Own Number Send- ing	No	No
	Date Print	No	Yes
	Own Name sending	No	Yes
	Own Number sending	No	Yes
	Printing Page Num- ber at Receiver	No	Yes
Suppress	Background	Yes	No
Blank Pag both DF/C	ge Skip (Available to DC scanning)	No	No
Drop Out	Color	No	No
Sharpnes	s	Yes	No
Contrast		No	No
Stamp		No	No
Watermar	k	No	No
Filing		No	No
Quick File		No	No
Multi shot		No	No
Verificatio	n Stamp	No	No
Preview		No	No
Job divide pages	by recognizing blank	No	No
Dual Page	e Scan send	No	No
Combined	l pages send	No	No
Divide ser	nd by size limit	No	No
Covers		No	No
Outbound	message	No	No
Special Se	end (Polling / F-code)	No	Refer to 4.9 Memory box/ Polling / F-code
Memory b	NOX	No	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

Mode		Scanner	Fax
Recall Mode		No	Yes
	Error	No	Yes
	Busy	No	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 dis- play		No	No

(7) Receive function

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

Mode	Fax
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 individ-	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 R	eception	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
	Speaker Volume Setting	No	Yes
Receive Complete	Tone Pattern	No	Yes
Signal	Transmission Complete Sound Time Setting	No	Yes

Mode	Item	Scanner	Fax
	Speaker Volume Setting	No	No
Send/Receive error	Tone Pattern	No	No
signal	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

6. Power Source

	Overseas 100V	Overseas 200V
Voltage	100-127V 12A	220-240V 5A
Frequency	50/60Hz	50/60Hz
Power code Sharp model	Fixed Type (Direct)	Inlet
Power Switch	2 switch	

7. Power consumption

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

	Overseas 100V	Overseas 200V	
Max. Rated Power	1.25 kW	1.3 kW	
Preheat mode transition time	1min	1min:Europe 3min:Other	
Recovery time from Pre- heat mode	10sec	10sec	
Sleep mode transition time	3min	30min:Europe 15min:Other	
	Printer mode: 10 sec (default)		
Recovery time from Sleep mode	20sec	20sec	

8. Dimensions and Weight

Outer dim	ensions (WxDxH)	429 x 569 x 474 mm
Footprint		429 x 569 mm
Dimensior	ns occupied by the machine	663 x 569 mm
Waight	Main unit (developer/photoreceptor not included)	33kg
vveight	Main unit (developer/photoreceptor included)	36kg

9. 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, 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	

C. 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	

D.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	

E.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-C33FU	Fusing unit (Heater lamp 120V)	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. Germany/Italy/Australia/New Zealand

0% color ratio
0% color r

C. Middle East

ltem	Model name	Content		Life	Quantity in collective package	Remarks
Fusing unit	MX-C33FU	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

ltem	Model name	Content		Life	Quantity in collective package	Remarks
Fusing unit	MX-C33FU	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 seizes, 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 SIM22-13.

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

5. Environmental conditions

4. Production number identification

A. Toner cartridge

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



- □: Unit code/Model name
- ◇: Color code (Black: BK /Cyan: CY /Magenta: MA /Yellow: YE)
- ▲: Destination
- ♦: Skating
- Production place
- O: Production date (YYYYMMDD)
- ©: Serial number
- riangle: Version

B. Developing unit



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



Standard environmental	Temperature	20 - 25 degree C	
conditions	Humidity	65 +/- 5 %RH	
Usage environmental	Temperature	10 - 35 degree C	
conditions	Humidity	20 - 85 %RH	
Storage period	Toner/Developer: 24 months from the		
	manufactured i	month (Production lot) under	
	unsealed state		
	Drum: 36 months from the manufactured month		
	under unsealed	d state	

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

[4] EXTERNAL VIEW AND INTERNAL STRUCTURE

A.External view





No.	Name	function/Operation
1	Handle	Grasp them when moving the machine.
2	Power switch	This is used to power on the machine.
3	Output tray extension	When you eject the paper, you can open to the outside.
4	Automatic document feeder	This automatically feeds and scans multiple originals.
5	Front cover	Open this cover to replace a toner cartridge.
6	Output tray	Output is delivered to this tray.
7	Operation panel	This is used to select functions and enter the number of copies.
8	USB connector (A type)	Supports USB 2.0 (Hi-Speed). This is used to connect a USB device such as USB flash drive to the machine. For the USB cable, use a shielded cable.
9	Side cover handle	Pull to open the side cover.
10	Tray 1	This holds paper.
11	Tray 2 (when a paper feed unit is installed)	This holds paper.
12	Bypass tray	Use this tray to feed paper manually. When loading a large sheet of paper, be sure to pull out the bypass tray extension.

B.Internal view



No.	Name	function/Operation
1	Toner cartridges	These contain toner for printing. When the toner runs out in a cartridge, the cartridge of the color that ran out must be replaced.
2	Fusing unit paper guide	Open to remove misfed paper.
3	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.
4	Toner collection container	This collects excess toner that remains after printing.
5	Right cover of paper feed unit	Open this to remove a paper misfeed in tray 2. (when a paper feed unit is installed)
6	Side cover	Open this cover to remove a misfeed.
7	Roller rotating knob	Rotate to remove misfed paper.
8	Duplex conveyor cover	Open this cover to remove a misfeed.

C.Document feeder and document glass



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

D.Side and back



No.	Name	function/Operation
1	USB connector (A type)	Supports USB 2.0 (Hi-Speed). This is used to connect a USB device such as USB flash drive to the machine.
2	Extension phone jack	When the fax function of the machine is used, an extension phone can be connected to this jack.
3	Telephone line jack	When the fax function of the machine is used, the telephone line is connected to this jack.
4	Service-only connector	The cable connected to the service connector must be less than 118" (3 m) in length.
5	LAN connector	Connect the LAN cable to this connector when the machine is used on a network. For the LAN cable, use a shielded type cable.
6	USB connector (B type)	Supports USB 2.0 (Hi-Speed). A computer can be connected to this connector to use the machine as a printer. For the USB cable, use a shielded cable.
7	Handle	Grasp them when moving the machine.

E.Operation panel



No.	Name	Function/Operation
1	[SYSTEM SETTINGS] key	Press this key to display the system settings menu screen. The system settings are used to configure paper tray settings, store addresses for transmission operations, and adjust parameters to make the machine easier to use.
2	[HOME] key	Press this key to display the home screen. Frequently used settings can be registered in the home screen to enable quick and easy operation of the machine.
3	[JOB STATUS] key	Press this key to display the job status screen. The job status screen is used to check information on jobs and to cancel jobs. For details, see the chapters for each of the functions in this manual.
4	Touch panel	Messages and keys appear in the touch panel display. Touch the displayed keys to perform a variety of operations. When a key is touched, a beep sounds and the selected item is highlighted. This provides confirmation as you perform an operation.
5	Numeric keys	These are used to enter the number of copies, fax numbers, and other numerical values. These keys are also used to enter numeric value settings (except for the system settings).
6	PRINT mode indicators	 READY indicator Print jobs can be received when this indicator is lit. DATA indicator This blinks while print data is being received and lights steadily while printing is taking place.
7	IMAGE SEND mode indicators	 LINE indicator This lights up during transmission or reception of a fax or Internet fax. This also lights during transmission of an image in scan mode. DATA indicator This blinks when a received fax or Internet fax cannot be printed because of a problem such as out of paper. This lights up when there is a transmission job that has not been sent.
8	[STOP] key	Press this key to stop a copy job or scanning of an original.
9	[CLEAR] key	Press this key to return the number of copies to "1".
10	[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.
11	[#] key	When using the copy function, press this key to use a job program. When using the fax function, this key can be used when dialing.
12	[CLEAR ALL] key	Press this key to return to the initial operation state. Use this key when you wish to cancel all settings that have been selected and start operation from the initial state.
13	[POWER SAVE] key / indicator	Use this key to put the machine into auto power shut-off mode to save energy. The [POWER SAVE] key blinks when the machine is in auto power shut-off mode.
14	[POWER] key	Use this key to turn the machine power on and off.
15	Main power indicator	This lights up when the machine's main power switch is in the "on" position.
16	[BLACK & WHITE START] key	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.
17	[COLOR START] key	Press this key to copy or scan an original in color. This key cannot be used for fax or Internet fax.

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 scan- ning.
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 scan- ning.
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	Туре	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	Туре	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 con- trol)
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 den- sity sensor)	Light reflection	Detects color shift. (F side) / Detects the CMY toner patch den- sity.
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(KC))	Photo diode	Detects the timing of the laser beams.
18	BD_MY	Laser beam sensor (MY) (on BD PWB(MY))	Photo diode	Detects the timing of the laser beams.

No.	Signal name	Name	Туре	Function/Operation
19	TH_LSU	LSU thermistor (on LD PWB)	Thermistor	Detects the temperature in the LSU. (Used for correction of dis- tortion.)
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 fus- ing roller.
24	TH_US	Fusing temperature sensor (Sub)	Thermistor	Detects the surface temperature at the edge section of the fus- ing roller.



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	Туре	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	Туре	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	RSPFM	RSPF transport motor	HB Stepping motor	Drives the RSPF unit.
5	SPFM	Polygon motor	DC brush-less motor	Scans the laser beam.
6	MIM	SCN motor	Stepping Motor	Drives the Scanner 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.



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)



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	CFM1	Power cooling fan motor	Cools the power supply.
6		Ozone Filter	Absorbs ozone being discharged from the image process unit.
N.PWB



No.	Name	Function/Operation
1	HDD	Stores the MFP PWB program data, the filing data, the e-manual data, the watermark data, the log data, and the authentication data. Also used as a work area.
2	LIU PWB	Controls telephone line interface.
3	MFPC PWB	Controls image data and machine functionality.
4	FAX MAIN PWB	Controls FAX transmission / reception.
5	DC DC PWB	Controls DC voltage.
6	HV PWB	Generates the high voltages for the following components: main charger units, primary transfer unit and DV Units.
7	PCU PWB	Controls the engine section.
8	FAN I/F PWB	Controls the two-speed CFM1(Cooling fan motor).
9	FAN I/F PWB	Controls the three-speed FUFM (Fusing cooling fan).
10	SCU PWB	Controls the scanner section.
11	CCD UN	Reads the original image.
12	AC DC PWB	Controls the primary side power source and outputs the secondary side voltage.
13	70 LVDS HN PWB	Converts the display data signal to the LCD display signal. Controls the touch panel. The buzzer is equipped.
14	KEY-LED PWB	The LED for the machine condition and the Key for the input are equipped.
15	USB I/F PWB	Connects with the USB port on the front of the machine.
16	LSU UN	Exposes the laser to the drum unit.
17	Wireless LAN PWB	Connects the network with the wireless connection. (Only wireless LAN model)
18	USB CN PWB	Connects Wireless LAN PWB. (Only wireless LAN model)

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	T10AH 250V	AC/DC power PWB
F7002	Fuse	T10AH 250V	AC/DC power PWB
F7003	Fuse	T4AH 250V	AC/DC power PWB
F7004	Fuse	T2AL 250V	AC/DC power PWB
F7201	Fuse	3.15A DC450V	AC/DC power PWB
F7501	Fuse	T6.3AL 250V	AC/DC power PWB
F7502	Fuse	T6.3AL 250V	AC/DC power PWB
F7503	Fuse	T2AL 250V	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.

2. Adjustment item list

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.

Job No.		Adjustment item list					
	1-A		Adjust the main charger grid voltage				
ADJ 1	Adjusting high voltage values	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 R) adjustment	e regist	ration sensor F), black image density sensor (image	44-2	
ADJ 3	Image skew adjustment (LSU unit)				61-4	
	Print image position, image		Print image magnification ratio ad (Manual adjustment)	justmei	nt (main scanning direction) (Print engine)	50-10	
ADJ 4	off-center adjustment (Print	4B	Print image print area adjustment	(Print e	engine) (Manual adjustment)	50-10/50/1	
	engine) (Manual adjustment)	4C	Print image off-center adjustment	50-10			
	Print engine image distortion adjustment / OPC drum phase		Print engine image distortion adjustment (Manual adjustment) / OPC drum phase adjustment (Automatic adjustment) / Color registration adjustment (Automatic adjustment)			50-22	
ADJ 5	adjustment / Color registration adjustment (Print engine sec-	5B	Print engine image skew (LSU skew) adjustment (Manual adjustment) (No need to adjust normally)				
	tion)	5C	Color registration offset adjustmen	nt (No r	need to adjust normally)	50-20	
		6A	Scan image magnification ratio ac (Document table mode)	ljustme	nt (main scanning direction) (Manual adjustment)	48-1	
	Scan image magnification ratio	6B	Scan image magnification ratio ac (Document table mode)	ljustme	nt (sub scanning direction) (Manual adjustment)	48-1/48-5	
1.000	adjustment (Manual adjustment)	6C	Scan image magnification ratio ac (RSPF mode)	ljustme	nt (main scanning direction) (Manual adjustment)	48-1	
		6D	Scan image magnification ratio ac (RSPF mode)	ljustme	nt (sub scanning direction) (Manual adjustment)	48-1	
	Scan image off-center adjust-	7A	A Scan image off-center adjustment (Manual adjustment) (Document table mode)		al adjustment) (Document table mode)	50-12	
NB0 I	ment (Manual adjustment)	7B	3 Scan image off-center adjustment (Manual adjustment) (RSPF mode)		al adjustment) (RSPF mode)	50-12/50-6	
ADJ 8	Copy image position, image loss		Copy image position, image loss, (Document table mode)	50-1			
	adjustment (Manual adjustment)	8B	Copy image position, image loss, void area adjustment (Manual adjustment) (RSPF mode)				
ADJ 9	Copy image position, image loss		Copy image position, image loss, void area adjustment (Manual adjustment) (Document table mode)				
		9B	Copy image position, image loss, void area adjustment (Manual adjustment) (RSPF mode)				
			Note before execution of the imag	e quali	ty adjustment		
			Copy image quality check				
		404	Printer image quality check			00.0 (00.5)	
		TUA	A Scanner calibration (CCD calibration)		63-3 (63-5)		
		5E1	setup	1R	Printer color balance adjustment target setup	67-26/27/28	
		10B	Copy/Printer color balance and density adjustment (Automatic adjustment) (Basic adjustment)		46-74		
			Copy image quality adjustment	10C (1)	Copy color balance and density adjustment (Auto- matic adjustment)	46-24	
		10C	(Basic adjustment)	10C (2)	Copy color balance and density adjustment (Man- ual adjustment)	46-21	
ADJ 10/ SET1	Color balance and density adjustment			10D (1)	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)	46-1	
			Copy / Image send / EAX image	10D (2)	Monochrome copy density adjustment (for each monochrome copy mode) (separately for the low- density area and the high-density area) (No need to adjust normally)	46-2	
		10D	DD quality adjustment (Individual adjustment)	10D (3)	Color copy color balance, gamma adjustment (for each color copy mode) (No need to adjust normally)	46-10	
					Monochrome copy density, gamma adjustment (for each monochrome copy mode) (No need to adjust normally)	46-16	
				10D (5)	Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)	46-19	

Job No.			Adjustment item I	ist		Simulation	
				10D (6)	Document low density image density reproduction adjustment in the automatic monochrome (Copy/ Scan/FAX) mode (No need to adjust normally) (Background density adjustment in the scanning section)	46-32	
				10D (7)	Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally)	46-63	
				10D (8)	Color copy, text, line image reproduction adjust- ment (edge gamma, density adjustment) (Text, Map mode) (No need to adjust normally)	46-27	
				10D (9)	Monochrome (Copy/Scan/FAX) mode color docu- ment reproduction adjustment (No need to adjust normally)	46-37	
		10D	Copy / Image send / FAX image quality adjustment (Individual	10D (10)	Color copy mode dark area gradation (black com- ponent quantity) adjustment (No need to adjust normally)	46-38	
			adjustment)	10D (11)	Color (Copy/Scan) mode sharpness adjustment (No need to adjust normally)	46-60	
	Color balance and density adjustment				10D (12)	Copy high density image density reproduction setting (Normally unnecessary to the setting change)	46-23
AD.I 10/				10D (13)	Copy color balance adjustment (Single color copy mode) (No need to adjust normally)	46-25	
SET1				10D (14)	RSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally	46-9	
				10D (15)	Automatic color balance adjustment by the user (Copy color balance automatic adjustment ENABLE setting and adjustment)	26-53	
				10D (16)	Copy gamma, color balance adjustment for each dither (Automatic adjustment)	46-54	
		105	Printer image quality adjust-	10E (1)	Printer color balance adjustment (Automatic adjustment)	67-24	
		IUE	ment (Basic adjustment)		Printer color balance adjustment (Manual adjustment)	67-25	
				10F (1)	Printer density adjustment (Low density section density adjustment) (No need to adjust normally)	67-36	
		10F		10F (2)	Printer high density image density reproduction setting (Supporting the high density section tone gap) (No need to adjust normally)	67-34	
			Printer image quality adjustment (Individual adjustment)	10F (3)	Printer gamma adjustment for each dither (Auto- matic adjustment) (No need to adjust normally) (Except for GDI printers)	67-54	
					Automatic color balance adjustment by the user(Printer color balance automatic adjustment ENABLE setting and adjustment) (Normally unnecessary to the setting change)	26-53	
ADJ 11	Touch panel coordinate setting					65-1	
ADJ 12	2 Eusing paper quide 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.



Enter the adjustment value (specified value) in the middle speed mode, and press [OK] key.

2) 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	MIDDLE SPEED_GB_K	K charging/grid bias set value at middle speed	150 - 850
2	MIDDLE SPEED_GB_C	C charging/grid bias set value at middle speed	150 - 850
3	MIDDLE SPEED_GB_M	M charging/grid bias set value at middle speed	150 - 850
4	MIDDLE SPEED_GB_Y	Y charging/grid bias set value at middle speed	150 - 850
5	LOW SPEED_GB_K	K charging/grid bias set value at low speed	150 - 850
6	LOW SPEED_GB_C	C charging/grid bias set value at low speed	150 - 850
7	LOW SPEED_GB_M	M charging/grid bias set value at low speed	150 - 850
8	LOW SPEED_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 ...



Enter the adjustment value (specified value) in the middle speed mode, and press [OK] key.

- 2) 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	MIDDLE SPEED DVB_K	K developing bias set value at middle speed	0-600
2	MIDDLE SPEED DVB_C	C developing bias set value at middle speed	0-600
3	MIDDLE SPEED DVB_M	M developing bias set value at middle speed	0-600
4	MIDDLE SPEED DVB_Y	Y developing bias set value at middle speed	0-600
5	LOW SPEED DVB_K	K developing bias set value at low speed	0-600
6	LOW SPEED DVB_C	C developing bias set value at low speed	0-600
7	LOW SPEED DVB_M	M developing bias set value at low speed	0-600
8	LOW SPEED 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.





) 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				Default value
Α	TC1 LOW SPEED CL K			K	Low speed	51 - 255	95
В	TC1 MIDDLE SPEED CL K		0.1	ĸ	Middle speed	51 - 255	146
С	TC1 LOW SPEED CL CMY	Primary transfer bias	Color	CMAY	Low speed	51 -255	139
D	TC1 MIDDLE SPEED CL CMY	adjustment value			Middle speed	51 - 255	186
Е	TC1 LOW SPEED BW K		Dis als AMIs its	K	Low speed	51 - 255	95
F	TC1 MIDDLE SPEED BW K		Black/white	ĸ	Middle speed	51 - 255	146
G	TC2 PLAIN CL SPX		Color		Front surface	51 - 255	103
Н	TC2 PLAIN CL DPX		Color	Plain	Back surface	51 - 255	96
Ι	TC2 PLAIN BW SPX		Dis als/M/bits	paper	Front surface	51 - 255	90
J	TC2 PLAIN BW DPX		Diack/white		Back surface	51 - 255	83
K	TC2 HEAVY CL SPX		Color		Front surface	51 - 255	83
L	TC2 HEAVY CL DPX		Color	Heavy	Back surface	51 - 255	76
М	TC2 HEAVY BW SPX		Dis als/M/bits	paper	Front surface	51 - 255	76
Ν	TC2 HEAVY BW DPX	Secondary transfer bias	Diack/white		Back surface	51 - 255	69
0	TC2 OHP CL	adjustment value	Color			51 - 255	69
Р	TC2 OHP BW		Black/White		UHP	51 - 255	69
Q	TC2 ENVELOPE CL		Color		nuclene	51 - 255	69
R	TC2 ENVELOPE BW		Black/White		invelope	51 - 255	69
S	TC2 THIN CL		Color	т		51 - 255	96
Т	TC2 THIN BW		Black/White		nin paper	51 - 255	90
U	TC2 GLOSSY CL		Color			51 - 255	83
V	TC2 GLOSSY BW		Black/White	G	oss paper	51 - 255	76
W	TC2 CLEAN LOW SPD		Low speed p	orint mode	(positive pole)	0 - 255	0
Х	TC2 CLEAN MIDDLE SPD	Secondary transfer	Middle speed	print mode	(positive pole)	0 - 255	0
Y	TC2 CLEAN -	cleaning bias	Cleaning	g bias (nega	ative pole)	0 - 255	59
Ζ	TC2 CLEAN +	adjustment value	Cleanin	g bias (pos	tive pole)	0 - 255	119
AA	TC2 COUNTER		Counter volt	age output	(positive pole)	0 - 255	119

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:

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 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.

SINULATION NO. 44						
EST DEMOLATION NU. 44	-02					CLOSE
ROCON GAIN ADJUSTMENT						Canal
PCS_CL LED ADJ		21	REG_R LED ADJ		56	
PCS_K LED ADJ		21	REG_R DARK		0	
PCS_CL DARK		0	REG_R GRND		0	
PCS_K DARK		0				
PCS_K GRND		0	REG_F BELT MAX		0	
PCS_K BELT MAX		0	REG_F BELT MIN		0	企
PCS_K BELT MIN		0	REG_F BELT DIF		0	
PCS_K BELT DIF		0				Ŧ
REG_F LED ADJ		56	REG_R BELT MAX		0	
REG_F DARK		0	REG_R BELT MIN		0	
REG_F GRND		0	REG_R BELT DIF		0	
					EXE	CUTE 1/2
EXECU	TE					
EXECU	TE					
EXECU	TE					- D 0
EXECU SINULATION NO.44	-02					CLOSE
EXECU	-02					CLOSE
EXECU SINULATION NO. 44 SINULATION ADJUSTMENT PCS_CL. LED ADJ	-02 :	21	REG_R LED ADJ	;	56	CLOSE 0
EXECU SINULATION NO.44 JOON GAIN ADJUSTWENT PCS_CL LED ADJ PCS_K LED ADJ	-02 :	21 21	REG_R LED ADJ REG_R DARK	:	56 0	CLOSE
SINULATION NO. 44 SINULATION NO. 44 ROBIN CAIN ADJISTWENT PCS_K LED ADJ PCS_K LED ADJ PCS_CL DARK	-02 : :	21 21 0	REG_R LED ADJ REG_R DARK REG_R GEND		56 0 0	CLOSE
EXECU SIMULATION NO.44 PCS_CL LED ADJ PCS_CL LED ADJ PCS_CL DARK	-02 -02	21 21 0 0	REG_R LED ADJ REG_R DARK REG_R GEND		56 0 0	CLOSE
EXECU- SIMULATION NO.44 CON CARN ADJISTMENT PCS_K LED ADJ PCS_K LED ADJ PCS_K CL BARK PCS_K GARK PCS_K GARN	-02 : : :	21 21 21 0 0 0	RES, X LED ADJ RES, X DARK RES, X GRO RES, F BELT MAX		56 0 0	C O
EXECU- EXECU- EXECUTION NO.44 POS.4 LEB ADJ POS.4 LEB ADJ POS.4 LEB ADJ POS.4 LEB ADJ POS.4 LEB ADS POS.4 REB HAX	-02 : : :	21 21 0 0 0 0 0	855, 8 LED ADJ 855, 8 DAS 855, 8 GRD 855, 9 BRT MA 855, 9 BRT MA 855, 9 BRT MA		56 0 0 0	C O CLASE
EXECUTION NO.44 PCS_CLED ADJ PCS_CLED ADJ PCS_KLED ADJ PCS_K CLD ADK PCS_K GRND PCS_K GRND PCS_K BELT MAX PCS_K BELT MAX	-02	21 21 0 0 0 0 0 0	RES, F. LED. ADJ RES, J. DARK RES, F. BELT, MAR RES, F. BELT, MAR RES, F. BELT, MAR RES, F. BELT, DI F.		56 0 0 0 0 0 0	CLASE
EXECU- SIMULATION NO.44 TOS. ACLED ADJ PCS.4. LED ADJ PCS.4. LED ADJ PCS.4. CLE ADA PCS.4. BARK PCS.4. BELT MAX PCS.4. BELT MAX PCS.4. BELT MAX PCS.4. BELT MAX		21 21 0 0 0 0 0 0 0 0 0	RES_R LED ADJ RES_R DAKK RES_R GRD RES_F BELT MAT RES_F BELT DIF		56 0 0 0 0 0 0	Const Const
EXECUTION NO. 44 TOS, G. LED ADJ PCS, LED ADJ PCS, LED ADJ PCS, LED ADJ PCS, LED ADJ PCS, LED ADJ PCS, RELT MAX PCS, RELT MAX PCS, RELT MAX PCS, RELT MAX	02	21 21 0 0 0 0 0 0 0 0 56	RES, R LED ADJ RES, F DARK RES, F GARD RES, F BELT MAX RES, F BELT MAX RES, F BELT MAX		56 0 0 0 0 0 0 0	C O Cost
EXECU- SINULATION NO.44 OCON GAIN ADJUSTNENT PCS, LED ADJ PCS, LED ADJ PCS, K BELT MAX PCS, R BELT MAX		21 21 21 0 0 0 0 0 0 56 0	REG, R. LED. ADJ REG., R. DARK REG., F. GERD REG., F. BELT, WAX REG., F. BELT, WAX REG., F. BELT, WAX REG., R. BELT, WAX REG., R. BELT, WAX REG., R. BELT, WAX		56 0 0 0 0 0 0 0 0 0 0 0	Case

2) Press [EXECUTE] 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 [USER SETTING] key returns to the normal display.

	Item/Display	Content
A	PCS_F_CL_KA	Color image sensor light emitting quantity adjustment value
В	PCS_F LED ADJ	Image sensor light emitting quantity adjustment value F
С	PCS_R LED ADJ	Image sensor light emitting quantity adjustment value R
D	PCS_F_CL_DARK	Dark voltage of color image sensor
Е	PCS_F DARK	Dark voltage of image sensor F
F	PCS_R DARK	Dark voltage of image sensor R
G	PCS_F GRND	Transfer belt substrate detection level when the item B adjustment is completed
Н	PCS_F BELT MAX	Transfer belt substrate input max. value F
1	PCS_F BELT MIN	Transfer belt substrate input min. value F
J	PCS_F BELT DIF	Transfer belt substrate input difference F (Item H - Item I)
К	PCS_R GRND	Transfer belt substrate detection level when the item C adjustment is completed
L	PCS_R BELT MAX	Transfer belt substrate input max. value R
М	PCS_R BELT MIN	Transfer belt substrate input min. value R
N	PCS_R BELT DIF	Transfer belt substrate input difference R (Item L - Item M)
0	REG_F LED ADJ	Registration sensor light emitting quantity adjustment value F
Р	REG_F DARK	Registration sensor dark voltage F
Q	REG_F GRND	Transfer belt substrate detection level when the item B adjustment is completed
R	REG_R LED ADJ	Registration sensor light emitting quantity adjustment value R
S	REG_R DARK	Registration sensor dark voltage R
Т	REG_R GRND	Transfer belt substrate detection level when the item R adjustment is completed
U	REG_F BELT MAX	Transfer belt substrate detection level max. value (F side)
V	REG_F BELT MIN	Transfer belt substrate detection level min. value (F side)

	Item/Display	Content
W	REG_F BELT DIF	Transfer belt substrate detection level difference (Item U - Item V)
Х	REG_R BELT MAX	Transfer belt substrate detection level max. value (R side)
Y	REG_R BELT MIN	Transfer belt substrate detection level min. value (R side)
Z	REG_R BELT DIF	Transfer belt substrate detection level difference (Item X - Item Y)
AA	REG_F PATCH (K)	Toner patch detection level R (K) in the registration adjustment
AB	REG_F PATCH (C)	Toner patch detection level R (C) in the registration adjustment
AC	REG_F PATCH (M)	Toner patch detection level R (M) in the registration adjustment
AD	REG_F PATCH (Y)	Toner patch detection level R (Y) in the registration adjustment
AE	REG_R PATCH (K)	Toner patch detection level R (K) in the registration adjustment
AF	REG_R PATCH (C)	Toner patch detection level R (C) in the registration adjustment
AG	REG_R PATCH (M)	Toner patch detection level R (M) in the registration adjustment
AH	REG_R PATCH (Y)	Toner patch detection level R (Y) in theregistration adjustment

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.

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

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.
- 4
- 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.



- 2) 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.
- 3) Remove the paper tray.
- 4) 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_Y : +/-20

- 5) Fix the paper tray.
- 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.

EST SIMULATION NO. 61-04	CLOS
SU POSITION ADJUSTMENT(SELF PRINT)	
A: 1 : MULTI COUNT	
A: 1 B. 2 : PAPER : CS1	
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	1
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- 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_Y: +/-20



- 6) Fix the paper tray.
- 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.



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_Y : +/-20



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



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

Normally if the adjustment is executed by ADJ 4 (automatic adjustment), there is no need to execute this adjustment.

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

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 4).

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.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.
- 1) Enter the SIM 50-10 mode.



- 2) Set A4 (11" x 8.5") paper in the paper feed tray.
- 3) Select the paper feed tray set in procedure 2) with the scroll key.
- 4) Press [EXECUTE] key.

The check pattern is printed out.

 Check that the inside dimension of the printed halftone is 240 +/- 0.5mm.



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.

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.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

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.



- 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 "O" to select the paper feed tray which is to be used for executing test printing.
- 3) Press [EXECUTE] key.

The adjustment pattern is printed.

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

	Content	Standard adjustment value
Х	Lead edge void area	4.5 - 5.0 mm
Y	Rear edge void area	2.0 - 3.5 mm
Z1/Z2	FRONT/REAR void area	Total less than 8mm



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.



 Select an adjustment item with the scroll key, enter the adjustment value, and press [OK] key.

	Item/Display	Content	Setting range	Default value
A	BK-MAG	Main scan print magnification ratio BK	60 - 140	100
В	MAIN-MFT	Print off center adjustment value (Manual paper feed)	1 - 99	50
С	MAIN-CS1	Print off center adjustment value (Tray 1)	1 - 99	55
D	MAIN-CS2	Print off center adjustment value (Tray 2)	1 - 99	55

Item/Display			Content		Settir rang	ng e	Default value
E	E MAIN-ADU Print off center adjustment value (Duplex) Important If the adjustment items A - G are not properly adjusted, this adjustment cannot be executed properly.		1 - 9	9	50		
F	SUB-MFT		Registration motor ON timing	Manual paper feed	1 - 9	9	25
G	SUB-CS1		adjustment	Standard cassette	1 - 9	9	25
Н	SUB-DSK			DESK	1 - 9	9	25
Ι	SUB-ADU			ADU	1 - 9	9	25
J	MULTI COL	JNT	Number of print		1 - 99	99	1
К	PAPER	MFT CS1	Tray selection	Manual paper feed Tray 1	1-3	1	2 (CS1)
		CS2	1	Tray 2		3	
L	DUPLEX	YES	Duplex print	Yes	0 - 1	0	1 (NO)
		NO	selection	No		1	

When the adjustment value of "MAIN-**" is increased, the printing position is moved to the rear direction. When the adjustment value of "SUB-**" is increased, the printing position is moved to the rear direction of the paper transportation.

When the adjustment values of the DENA, the DENB and the Front/Rear of SIM50-01 are increased, the void area is increased. When the adjustment values of the DENA, the DENB and the Front/Rear of SIM50-01 are decreased, the void area is decreased.

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

Note

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

Adjustment value/10 = Actual void area

Note

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

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

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

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

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

Repeat the above procedures until a satisfactory result is obtained.

4-C Print image off-center adjustment (Print engine) (Manual adjustment)

This adjustment must be performed in the following cases:

- * When the LSU is replaced or removed.
- * When a paper tray is replaced.
- * When the paper tray section is disassembled.
- * When ADJ 4A 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.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

Note

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

- * The print image magnification ration adjustment (ADJ 4A) (main scanning direction) (Print engine) (Manual adjustment) has been properly adjusted.
- 1) Enter SIM 50-10 mode.



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

Display/Item	Content	Setting range
NO	Not select	1

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

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



RV: REAR VOID AREA

FV: FRONT VOID AREA

RV + FV □4.0mm

RV = 2.0 +/- 2.0mm

FV = 2.0 +/- 2.0mm

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

6) Change the adjustment value.

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

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

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

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

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

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

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



Note

Normally if the adjustment is executed by ADJ 4 (automatic adjustment), there is no need to execute this adjustment.

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

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 4).

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 4A] 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 [EXECUTE] key.

The image registration automatic adjustment is started. (It takes about 15 sec to complete the adjustment.)

3) When the adjustment is completed, the value of the adjustment result is displayed.

The current skew level for each color is displayed on the SKEW display section.

								r 🖸
TEST SIMULAT	ION NO.	50-22						CLOSE
AUTO ADJUSTM	ENT OF RE	GISTRATION&DRU	M POSITION					
	MAIN F	MAIN R	SUB		SKEW	PHASE		
C	105.0(0.2) 110.0(-0.1) 103.0(0.4)	+500 (-1200)	1(7)		
М	100.0(0.0) 99.0(-0.2) 99.0(0.2)	+800 (-1000)			
Y	98.0(0.3) 98.0(0,1) 105.0(0.0)	+900 (-500)			
			ALL.	ROTATE	+55.5			۳
							EVEC	712
							EAEUU	1E 1/1

	Item/Display		Content	Setting range (unit)
MAIN F	-	REG_M_F (VALUE)	Registration adjustment correction	1.0 - 199.0 (+/ -0.1)
			amount main scanning direction F	
	()	REG_M_F (DIF)	Registration value correction amount from the previous one, main scanning F	-199.0 - 199.0 (+/-0.1)
MAIN R	-	REG_M_R (VALUE)	Registration adjustment correction value, main scanning direction R	1.0 - 199.0 (+/ -0.1)
	()	REG_M_R (DIF)	Registration value correction amount from the previous one, main scanning R	-199.0 - 199.0 (+/-0.1)
SUB	-	REG_SUB (VALUE)	Registration adjustment correction value, sub scanning direction	1.0 - 199.0 (+/ -0.1)
	()	REG_SUB (DIF)	Registration value correction amount from the previous one, sub scanning	-199.0 - 199.0 (+/-0.1)
SKEW	CMY	SKEW_CLC	SKEW adjustment rotating direction and the number of clicks (CMY)	L99.9 - R99.9 (+/-0.1)
	ALL_ ROTA TE		SKEW adjustment rotating direction and the number of clicks (K)	
PHASE		PHASE_ADJ	Phase adjustment value (1: Value of this time, 2: Value of the previous time) Angle step 0 degrees (1) -> 45 degrees (2) -> 90 degrees (3) -> 135 degrees (4) -> >180 degrees (5) -> 225 degrees (6) -> 270 degrees (7) -> 315 degrees (8)	1 - 8 (+/-1)

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

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.
- Select the paper feed tray with A4(11"x8.5") paper in it, and press [START] key.
- 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 = 0.8mm

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.

 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.





C: Main scan sub scan fine adjustment scale

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.

 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 aide 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.

	ltem/D	isplay	Content	Setting range (unit)
MAIN F	-	REG_M_F (VALUE)	Registration adjustment correction amount main scanning direction F	1.0 - 199.0 (+/ -0.1)
	()	REG_M_F (DIF)	Registration value correction amount from the previous one, main scanning F	-199.0 - 199.0 (+/-0.1)
MAIN R	-	REG_M_R (VALUE)	Registration adjustment correction value, main scanning direction R	1.0 - 199.0 (+/ -0.1)
	()	REG_M_R (DIF)	Registration value correction amount from the previous one, main scanning R	-199.0 - 199.0 (+/-0.1)
SUB	-	REG_SUB (VALUE)	Registration adjustment correction value, sub scanning direction	1.0 - 199.0 (+/ -0.1)
	()	REG_SUB (DIF)	Registration value correction amount from the previous one, sub scanning	-199.0 - 199.0 (+/-0.1)

Item/Display			Content	Setting range (unit)
SKEW	CMY	SKEW_CLC	SKEW adjustment rotating direction and the number of clicks (CMY)	L99.9 - R99.9 (+/-0.1)
	ALL_ ROTA TE		SKEW adjustment rotating direction and the number of clicks (K)	
PHASE		PHASE_ADJ	Phase adjustment value (1: Value of this time, 2: Value of the previous time) Angle step 0 degrees (1) -> 45 degrees (2) -> 90 degrees (3) -> 135 degrees (4) - > 180 degrees (5) -> 225 degrees (6) -> 270 degrees (7) -> 315 degrees (8)	1 - 8 (+/-1)

ADJ 6 Scan image magnification ratio adjustment (Manual adjustment)

Note

Normally if the adjustment is executed by ADJ 4 (automatic adjustment), there is no need to execute this adjustment.

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

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 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 ration 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.
- * When the SCN PWB is replaced.

* When the EEPROM of the scanner control PWB is replaced.

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

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



2) Enter the SIM 48-1 mode.



- 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.
- 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.

 Change the CCD (MAIN) adjustment value of Simulation 48-1. When the adjustment value is increased, the copy magnification ratio is increased.

When the adjustment value is changed by 1, the copy magnification ratio is changed by about 0.02%.

Repeat the procedures 3) - 5) until the copy magnification ratio is within the specified range (100 + - 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 SCNPWB is replaced.
- * When the EEPROM of the scanner control PWB is replaced.
- 1) Place a scale on the document table as shown in the figure below.



2) Enter the SIM 48-1 mode.

		🛡 <u>0</u>
TEST SIMULATION NO. 4	8-01	CLOSE
MAGNIFICATION ADJUSTME	NT	
	50 : CCD (MAIN)	
A: <u>50</u> B.	50 : CCD (SUB)	
[1 ~ 99] C:	50 : SPF(MAIN)	
D:	50 : SPF (SUB)	
E:	50 : SPFB(MAIN)	
F:	50 : SPFB (SUB)	1
		4
		OK

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



 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 CCD (SUB) adjustment value of Simulation 48-1.

When the adjustment value is increased, the copy magnification ratio in the sub scanning direction is increased.

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

Repeat the procedures 3) - 5) until the copy magnification ratio is within the specified range (100 +/- 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 SCN PWB is replaced.
- * When the EEPROM on the scan control PWB is replaced.
- * When U2 trouble occurs.
- * When the copy magnification ratio of the RSPF mode copy image in the main scanning direction is not proper.
- * When the RSPF is disassembled.

a. Adjustment procedures

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

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



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



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

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.



RSPF

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

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

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

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

7) Enter an adjustment value with 10-key, and press [OK] key. When the adjustment value is increased, the image magnification ratio is increased. When the adjustment value is changed by 1, the image magnification ratio is changed by 0.02%.

8) Make a normal copy and obtain the copy magnification ratio.

Repeat the procedures of 1) - 8) until a satisfactory result is obtained.

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

- Paper pass direction 10mm Paper pass direction 10mm
- 2) Make a duplex copy at the normal ratio on A4 paper.

 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 pro-

5) Enter the SIM 48-1 mode.

cedures.



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

6) Select an adjustment item with the scroll key.

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

 Enter an image magnification ratio adjustment value with 10key, 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

Normally if the adjustment is executed by ADJ 4 (automatic adjustment), there is no need to execute this adjustment.

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

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 4).

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.
- * When the SCN PWB is replaced.
- * When the EEPROM on the scanner control PWB is replaced.
- 1) Make a copy of the adjustment chart (made by yourself) in the adjustment mode (document table).



2) Check the copy image center position.
If A - B = +/- 1.0mm, the adjustment is not required.



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

3) Enter the SIM 50-12 mode.



- 4) Select the adjustment mode OC with the scroll key.
- 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 SCN PWB is replaced.
- * When the EEPROM on the scan control PWB is replaced.
- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) section is replaced.
- * When U2 trouble occurs.
- * When the RSPF section is disassembled.
- * When the RSPF unit is replaced.

Important

To execute this adjustment, it is required that the ADJ 7A 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 +/- 2.7mmm there is no need to perform the adjustment.

If the adjustment is required, perform the following procedures.

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





(SIM50-6)



SIM50-12

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

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

1step = 0.1mm

SIM50-6

Item/Display		Content	Setting range	Default value
A	SIDE1	Front surface document scan position adjustment (CCD)	1 - 99	50

	ltem/Display		Content	Setting range	Default value
В	SIDE2		Back surface document scan position adjustment (CCD)	1 - 99	50
С	Image loss amount	LEAD_EDGE (SIDE1)	Front surface lead edge image loss amount setting	0 - 99	35
D	setting SIDE1	FRONT_REAR (SIDE1)	Front surface side image loss amount setting	0 - 99	20
E		TRAIL_EDGE (SIDE1)	Front surface rear edge image loss amount setting	0 - 99	40
F	Image loss amount	LEAD_EDGE (SIDE2)	Back surface lead edge image loss amount setting	0 - 99	20
G	setting SIDE2	FRONT_REAR (SIDE2)	Back surface side image loss amount setting	0 - 99	20
Н		TRAIL_EDGE (SIDE2)	Back surface rear edge image loss amount setting	0 - 99	40
I	OFFSET	_SPF1	RSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET	_SPF2	RSPF back surface document off-center adjustment	1 - 99	50
к	SCAN_SPEED_SPF1		RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
L	SCAN_S	PEED_SPF2	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

* Item A, B: When the adjustment value is increased, the scan timing is delayed.

- * Item C H: When the adjustment value is increased, the image loss is increased.
- * Item A H: 1 step = 0.1mm change
- * The SPF rear edge image loss setting is provided for countermeasures against the case when shades are produced.
- 5) Select an adjustment mode with the scroll key.

(SIM50-12)

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

(SIM50-6)

OFFSET SPF1 Front surface mode OFFSET SPF2 Back surface mode

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

Normally if the adjustment is executed by ADJ 4 (automatic adjustment), there is no need to execute this adjustment.

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

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 4).

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 PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.
- * The SCN PWB has been replaced.
- * The EEPROM on the SCN PWB has been 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.



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

Item/Display		Co	Content		Default value	
A	Lead edge adjust- ment value	RRCA	Documen edge refe position (Document lead edge reference position (OC)		50
В		RRCB-CS1	Regis- tration	Standard Tray	1 - 99	20
С		RRCB-DSK	motor	Desk	1 - 99	20
D		RRCB-MFT	ON timing adjust-	Manual paper feed	1 - 99	25
Е		RRCB-ADU	ment	ADU	1 - 99	25
F	Image loss area	LEAD	Lead edg loss area	e image setting	0 - 99	40
G	setting value	SIDE	Side imag area adju	ge loss stment	0 - 99	20
н	Void area adjust-	DENA	Lead edge void area adjustment		1 - 99	40
I	ment	DENB	Rear edge void area adjustment		1 - 99	30
J		FRONT/ REAR	FRONT/F area adju	REAR void stment	1 - 99	35
К	Off-center adjust- ment	OFFSET_ OC	OC document off- center adjustment		1 - 99	50
L	Magnificati on ratio correction	SCAN_ SPEED_ OC	SCAN sub scanning magnification ratio adjustment (CCD)		1 - 99	50
М	Sub scanning	DENB-MFT	Manual feed correction value		1 - 99	50
Ν	direction print area	DENB-CS1	Tray 1 correction value		1 - 99	50
0	correction value	DENB-CS2	Tray 2 co value	rrection	1 - 99	50
Ρ		DENB-ADU	ADU corr value	ection	1 - 99	50
Q		DENB-HV	Heavy pa correction	per value	1 - 99	50

 Perform the image lead edge reference position adjustment. Shift to the copy mode, and make a copy at each of 100% 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% 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.

Paper lead edge

	Copy area	n ratio · 400%
	Iviagirinicatio	11 Talio . 400 /8
1 2 3	4 5mm	10mm

Void area: 4.0mm, Image loss: 4.0mm

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

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

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

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

a. Adjustment procedures

1) Prepare the adjustment chart.

The adjustment chart can be made by the following procedures.

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

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





2) Enter the SIM 50-6 mode.

			© 0
TESTSIMULATION NO. 5	0-06		CLOSE
LEAD EDGE ADJUSTMENT V	ALUE (SI	F)	
$(1, \dots)$	50 :	SIDE1	
50	50 :	SIDE2	
$[1 \sim 99]$ C.	20 :	LEAD_EDGE (SIDE1)	
D:	20 :	FRONT_REAR(SIDE1)	
E:	40 :	TRAIL_EDGE (SIDE1)	
F:	30 :	LEAD_EDGE (SIDE2)	
G:	20 :	FRONT_REAR (SIDE2)	
H:	40 :	TRAIL_EDGE (SIDE2)	Ŧ
Ι:	50 :	OFFSET_SPF1	
J:	50 :	OFFSET_SPF2	
К:	50 :	SCAN_SPEED_SPF1	
			OK

Item/Display		Display	Content	Setting range	Default value
A	SIDE1		Front surface document scan position adjustment (CCD)	1 - 99	50
В	SIDE2		Back surface document scan position adjustment (CCD)	1 - 99	50
С	Image loss amount	LEAD_EDGE (SIDE1)	Front surface lead edge image loss amount setting	0 - 99	20
D	setting SIDE1	FRONT_REAR (SIDE1)	Front surface side image loss amount setting	0 - 99	20
E		TRAIL_EDGE (SIDE1)	Front surface rear edge image loss amount setting	0 - 99	40
F	Image loss amount	LEAD_EDGE (SIDE2)	Back surface lead edge image loss amount setting	0 - 99	20
G	setting SIDE2	FRONT_REAR (SIDE2)	Back surface side image loss amount setting	0 - 99	20
Н		TRAIL_EDGE (SIDE2)	Back surface rear edge image loss amount setting	0 - 99	40
I	OFFSET	_SPF1	SPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2		SPF back surface document off-center adjustment	1 - 99	50
К	SCAN_SPEED_SPF1		RSPF document front surface magnification ratio (Sub scan)	1 - 99	50
L	SCAN_S	PEED_SPF2	RSPF document back surface magnification ratio (Sub scan)	1 - 99	50

- * Item A, B: When the adjustment value is increased, the scan timing is delayed.
- * Item C H: When the adjustment value is increased, the image loss is increased.
- * Item 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)

 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 +/- 1.0mm 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.

 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)

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



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

 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)

 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 +/- 2.0mm 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

2 Copy image position and image loss adjustment (Manual adjustment)

Note

Normally if the adjustment is executed by ADJ 4 (automatic adjustment), there is no need to execute this adjustment.

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

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 4).

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

This adjustment must be performed in the following cases:

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





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

	Item/Display		C	ontent	Setting range	Default value
A	Lead edge adjust-	RRCA	Docume edge rel position	Document lead edge reference position (OC)		50
В	ment value	RRCB-CS1	Regis- tration	Standard Tray	1 - 99	20
С		RRCB-DSK	motor	Desk	1 - 99	20
D		RRCB-MFT	ON timing	Manual paper feed	1 - 99	25
Е		RRCB-ADU	adjust- ment	ADU	1 - 99	25
F	Image loss area	LEAD	Lead ed loss are	ge image a setting	0 - 99	40
G	setting value	SIDE	Side ima area ad	age loss ustment	0 - 99	20
Н	Void area adjust-	DENA	Lead ed area ad	ge void ustment	1 - 99	40
I	ment	DENB	Rear ed adjustm	ge void area ent	1 - 99	30
J		FRONT/ REAR	FRONT area ad	REAR void	1 - 99	35
к	Off-center adjust- ment	OFFSET_ OC	OC doc center a	ument off- djustment	1 - 99	50
L	Magnifi- cation ratio correction	SCAN_ SPEED_OC	SCAN s magnific adjustm	ub scanning cation ratio ent (CCD)	1 - 99	50
М	Sub scanning	DENB-MFT	Manual feed correction value		1 - 99	50
Ν	direction print area	DENB-CS1	Tray 1 correction value		1 - 99	50
0	correction value	DENB-CS2	Tray 2 c value	orrection	1 - 99	50
Ρ		DENB-ADU	ADU co value	rrection	1 - 99	55
Q		DENB-HV	Heavy p correction	aper on value	1 - 99	50

4) Perform the image lead edge reference position adjustment.

Shift to the copy mode, and make a copy at each of 100% and 200% in the document table mode.

When the adjustment value of RRCA is proper, the lead edge image from 4.0mm is not copied in either of 100% 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.

Paper lead edge



Void area: 4.0mm, Image loss: 4.0mm

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

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

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

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

This adjustment must be performed in the following cases:

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



Item/Display			Content	Setting range	Default value
А	SIDE1		Front surface	1 - 99	50
			position		
			adjustment (CCD)		
В	SIDE2		Back surface	1 - 99	50
			document scan		
			position		
		-	adjustment (CCD)		
С	Image	LEAD_EDGE	Front surface lead	0 - 99	20
	loss	(SIDE1)	edge image loss		
	amount		amount setting		
D	setting	FRONT_REAR	Front surface side	0 - 99	20
	SIDE1	(SIDE1)	image loss amount		
			setting		
Е		TRAIL_EDGE	Front surface rear	0 - 99	40
		(SIDE1)	edge image loss		
			amount setting		

Item/Display		Content	Setting range	Default value	
F	Image loss amount	LEAD_EDGE (SIDE2)	Back surface lead edge image loss amount setting	0 - 99	20
G	setting SIDE2	FRONT_REAR (SIDE2)	Back surface side image loss amount setting	0 - 99	20
Н		TRAIL_EDGE (SIDE2)	Back surface rear edge image loss amount setting	0 - 99	40
I	OFFSET_SPF1		RSPF front surface document off- center adjustment	1 - 99	50
J	OFFSET_SPF2		RSPF back surface document off-center adjustment	1 - 99	50
К	SCAN_SPEED_SPF1		RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
L	SCAN_SPEED_SPF2		RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

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

(Lead edge image loss adjustment)

 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 +/- 1.0mm 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.

 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)

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



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

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)

 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 +/- 2.0mm 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 10 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
ADJ 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.)

Job No	Adjustment item			Simulation
ADJ 2	Adjusting high voltage values	ADJ 2A	Adjust the main charger grid voltage	8-2
		ADJ 2B	Adjust the developing bias voltage	8-1
		ADJ 2C	Transfer current and voltage adjustment	8-6
ADJ @	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 (When a printer option is installed)
- 2) When a periodic maintenance is performed.
- When a repair, an inspection, or a maintenance is performed. (When a consumable part is replaced.)
- 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.



Patch 1 is not copied.

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.


b. Monochrome 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) The resolution of 4.0 can be seen.

- 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.



(Method 2)

Use SIM46-21 to print the color balance adjustment sheet, and check each process (CMY) black patch color balance and the black patch in order to confirm that the color balance adjustment is proper or not more precisely.



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. If the color balance of the adjustment pattern printed in this mode is slightly shifted to Magenta, it is converted into the natural gray color balance by the color table in an actual copy mode. (When the color balance target is DEF 1.)

(4) Printer color balance/density check

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)

(Method 1)

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.

(Method 2)

Use SIM 67-25 to print the color balance adjustment sheet and compare each process (CMY) black patch color balance and the black patch to check the color balance.



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.)

10-A Scanner calibration (CCD calibration)

This adjustment must be performed in the following cases:

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

(1) Note before adjustment

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

If they are dirty, clean them.

If they are scratched or streaked, replace with new one.

(2) Adjustment procedures

 Set the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) to the reference position on the left rear frame side of the document table.

Set the chart so that the lighter density side of the patch is on the left side.





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

Important

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

Note

2)

UKOG-0280FCZZ is equivalent to UKOG-0280FCZ1.

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

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

TEST SIMULATION NO. 63-03 SCANNER COLOR BALANCE AUTO ADJUSTMENT SET THE CHART ON DSPF AND TOUCH [EXECUTE]	LOSE
SCANNER COLOR BALANCE AUTO ADJUSTMENT SET THE CHART ON DSPF AND TOUCH [EXECUTE]	
SET THE CHART ON DSPF AND TOUCH [EXECUTE]	
	4
EXECUTE	1/1

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.

SET 1 Color balance adjustment target setup

a. General

When the automatic color balance adjustment is executed, a certain color balance (gamma) is used as the target.

There are following three kinds of the target.

- * Factory color balance (gamma) target
- * Service color balance (gamma) target
- * User color balance (gamma) target

In the above three, only the service color balance target can be set to a desired level.

This setting is required in the following cases.

- * When the color balance and density adjustments are executed manually (SIM46-21) (SIM67-25)
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.
- * When the EEPROM on the MFP PWB is replaced.
- * The SCN PWB has been replaced.
- * The EEPROM on the SCN PWB has been replaced.
- * When the user requests for customizing the color balance.
- * When the service color balance target gamma is judged as improper.

SET 1A Copy color balance adjustment target setup

* Each color balance target for the copy color balance adjustment

	Туре	Descriptions
A	Factory color balance (gamma) target	There are three kinds of the color balance target, and each of them is specified according to the machine design. Use SIM 63-11 to select one of them as the factory target. The default setting (factory setting) is the color balance (DEF1) which emphasizes color reproduction.
В	Service color balance (gamma) target	This target is used when the user requests to customize the color balance to user's desired level. In advance, the user's unique color balance must be registered as the service color balance target. The above registration (setting) is made by the serviceman with SIM 46-21 to adjust the color balance and with SIM 63-7 to register it. This color balance target is used when the user executes the color balance adjustment. When, therefore, the service color balance target of the user's color balance adjustment is also changed. When, however, SIM 63-8 is executed, the color balance target set with SIM 63-11. The default setting (factory setting) of the color balance target. (Emphasized on color reproduction (DEF1)) If the user does not request for customizing the color balance, be sure to use SIM 63-8 to set the color balance target.
С	User color balance (gamma) target	Same color balance as the service color balance (gamma) target When the service color balance target is changed, this color balance target is also changed accordingly.

* Relationship between the factory target and the service target and the color balance target for the user color balance adjustment in the copy color balance adjustment (Automatic adjustment) (SIM 46-74/46-24)



* Service color balance target in the copy color balance adjustment ((Automatic adjustment) SIM 46-74/46-24).

For the service color balance target, an optional color balance can be adjusted with SIM 46-21 and registered with SIM 63-7. When, however, SIM 63-8 is executed, the color balance is set to the same balance as the factory color balance target set with SIM 63-11.

⁷ Color balance target in the user color balance adjustment This color balance is same as the service color balance target in the copy color balance adjustment (Automatic adjustment) (SIM 46-74/46-24). When, therefore, the service color balance target is changed, this target is also changed accordingly. (Meaning of the service color balance target gamma data and the purpose of registration)

This procedure must be executed only when the color balance is customized with SIM 46-21.

If the color balance is not customized, this procedure is not required.

After completion of the customized color balance adjustment (Manual) with SIM 46-21 according to the user's request, use SIM 63-7 to register the service color balance target data by using adjustment pattern that was printed in this mode.



In this case, be sure to use A4 or 11" x 8.5" paper for printing the adjustment pattern by SIM 46-21. The paper size is fixed as follows.

Inch type destination : LTR (North America)

AB type destination : A4R (Europe, etc.)

By this procedure, the service color balance target is revised.

It is recommended to keep the printed adjustment pattern created with SIM 46-21. This adjustment pattern can be used to register the same color balance target to another machine.

It is also useful to register the service color balance target data. Do not fold it and keep it under the circumstances which protect it from discoloration and dirt.

The service color balance target data is registered immediately after the color balance adjustment (Manual) with SIM 46-21.

If a considerable time has passed after completion of the color balance adjustment (Manual) with SIM 46-21, the color balance of the adjustment pattern at the time of adjustment differs from the color balance of the adjustment pattern printed after a considerable time. Never use such a pattern for the adjustment.

The accuracy of the service color balance target data can be judges as follows.

When result of the color balance adjustment (Auto) with selecting the service color balance target in SIM 46-74/46-24 is unsatisfactory or abnormal.

In that case, the registered service target data for the color balance adjustment (Auto) may be improper.

This may be caused when an improper or abnormal color balance adjustment pattern was used to register the service color balance target data for the color balance adjustment with SIM 63-7.

The color balance adjustment pattern used in registration was made and printed by the color balance adjustment (Manual) with SIM 46-21. This procedure may have been executed erroneously

a. Setting procedure

(Setting procedure of an optional color balance (gamma) as the service color balance target)

 Use SIM 46-21 (Copy color balance adjustment (manual adjustment) mode) to print two sheets of the color patch image (adjustment pattern).



In this case, be sure to use A4 or 11" x 8.5" paper for printing the adjustment pattern by SIM 46-21. The paper size is fixed as follows.

Inch type destination : LTR (North America) AB type destination : A4R (Europe, etc.)

If the color balance is shifted from the standard, an adjustment is required. If not, an adjustment is not required. When an optional color balance is requested by the user, make an

2) Enter the SIM 63-7 mode.

adjustment.



3) Press [SETUP] key.

 Set the color patch image (adjustment pattern) correctly adjusted and printed in the copy color balance adjustment (Manual adjustment) (SIM 46-21) (ADJ 10C (2)) on the document table.

The color patch image (adjustment pattern) printed with SIM 64-7 can be used instead. In this case, however, check that the printed pattern is normal.

(When the color patch image (adjustment pattern) is printed by SIM 64-7, set the item B (PROC ADJ) to "0 (YES)" and press [EXECUTE] key to print.)

A color patch image (adjustment pattern) printed by another machine can be used.

Set the pattern so that the light density side is on the left side. Place 5 sheets of white paper on the color patch image (adjustment pattern).

If the color balance could not be adjusted satisfactorily with SIM 46-21 (Color balance adjustment (Manual)), do not execute SIM 63-7 to register the service color balance target data.

5) Press [EXECUTE] key.



The color patch image (adjustment pattern) is read.

 Press [REPEAT] key, set the second color patch image (adjustment pattern), and execute the procedure 5) again.



The color balance (gamma) target set level of each color (KCMY) can be checked with K/C/M/Y keys.

Check that the set level is increased in the sequence of B - Q (MAX). If there is no variation or variation is reversed, it is judged as abnormal.

In case of an abnormality, repair the problem and try again.

7) Press [OK] key.

The color balance (gamma) of the color patch image (adjustment pattern) used in the procedure 5) is set as the service target.

(Procedures to set the service color balance target and the color balance target for the user color balance adjustment to the same color balance as the factory color balance target)



This procedure must not be executed when the copy color balance was adjusted with SIM 46-21 to a unique color balance requested by the user and it was registered as the service color balance target with SIM 63-7.

When the factory color balance target is changed with SIM 63-11, be sure to execute this procedure.

1) Enter the SIM 63-8 mode.

					¢	
TEST SIMULATION NO. 63	3-08				CL	.0S
TANDARD SCANNER TARGET	SETTING:SERVICE					
	ARE YOU SURE?	YES	NO	-	EXECUTE	

- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

SET 1B Printer color balance adjustment target setup

* Color balance target for the printer color balance adjustment

	Туре	Descriptions
A	Factory color balance (gamma) target	There are three kinds of the color balance targets, and each of them is specified according to the machine design. Use SIM 67-26 to select one of them as the factory target. The default setting (factory setting) is the color balance (DEF1) which emphasizes color reproduction.
В	Service color balance (gamma) target	This target is used when the user requests to customize the color balance to user's desired level. In advance, the user's unique color balance must be registered as the service color balance target. The above registration (setting) is made by the serviceman with SIM 67-25 to adjust the color balance and with SIM 67-27 to register it. This color balance target is used when the user executes the color balance adjustment. When, therefore, the service color balance target is changed, the color balance target of the user's color balance adjustment is also changed. When, however, SIM 67-28 is executed, the color balance is set to the factory color balance target set with SIM 67-26. The default setting (factory setting) of the color balance is same as the factory color balance target. (Emphasized on color reproduction (DEF1)) If the user does not request for customizing the color balance, be sure to use SIM 67-28 to set the color balance to the factory color balance.
С	User color balance (gamma) target	Same color balance as the service color balance (gamma) target When the service color balance target is changed, this color balance target is also changed accordingly.

* Relationship between the factory target and the service target and the color balance target for the user color balance adjustment in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/76-24)



* Factory target in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/67-24)
 By use of SIM 67-26, one of the following color balances can be set as the factory color balance target.
 Each of the three color balances cannot be changed. (Fixed)



* Service color balance target in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/67-24).

For the service color balance target, an optional color balance can be adjusted with SIM 67-25 and registered with SIM 67-27. When, however, SIM 67-28 is executed, the color balance is set to the same balance as the factory color balance target set with SIM 67-26.

* Color balance target in the user color balance adjustment This color balance is same as the service color balance target in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/67-24). When, therefore, the service color balance target is changed, this target is also changed accordingly.

(Meaning of the service color balance target gamma data and the purpose of registration)

This procedure must be executed only when the color balance is customized with SIM 67-25.

If the color balance is not customized, this procedure is not required.

After completion of the customized color balance adjustment (Manual) with SIM 67-25 according to the user's request, use SIM 67-27 to register the service color balance target data by use of the printed adjustment pattern.

Important

In this case, be sure to use A4 or $11" \times 8.5"$ paper for printing the adjustment pattern by SIM 67-25. The paper size is fixed as follows.

Inch type destination : LTR (North America)

AB type destination : A4R (Europe, etc.)

By this procedure, the service color balance target is revised.

It is recommended to keep the printed adjustment pattern created with SIM 67-25. This adjustment pattern can be used to register the same color balance target to another machine.

It is also useful to register the service color balance target data. Do not fold it and keep it under the circumstances which protect it from discoloration and dirt. The service color balance target data is basically registered immediately after the color balance adjustment (Manual) with SIM 67-25.

If a considerable time has passed after completion of the color balance adjustment (Manual) with SIM 67-25, the color balance of the adjustment pattern at the time of adjustment differs from the color balance of the adjustment pattern printed after a considerable time. Never use such a pattern for the adjustment.

The correctness of the service color balance target data can be judged as follows.

When result of the color valance adjustment (Auto) with selecting the service color balance target in SIM 67-24 is unsatisfactory or abnormal.

In that case, the registered service target data for the color balance adjustment (Auto) may be improper.

This may be caused when an improper or abnormal color balance adjustment pattern was used to register the service color balance target data for the color balance adjustment with SIM 67-27.

The color balance adjustment pattern used in registration was made and printed by the color balance adjustment (Manual) with SIM 67-25. This procedure may have been executed erroneously.

a. Setting procedure

(Setting procedure of an optional color balance (gamma) as the service color balance target)

 Use SIM 67-25 (Printer color balance adjustment (manual adjustment) mode) to print two sheets of the color patch image (adjustment pattern).



In this case, be sure to use A4 or $11" \times 8.5"$ paper for printing the adjustment pattern by SIM 67-25. The paper size is fixed as follows.

Inch type destination : LTR (North America) AB type destination : A4R (Europe, etc.)

If the color balance is shifted from the standard, an adjustment is required. If not, an adjustment is not required. When an optional color balance is requested by the user, make an adjustment.

2) Enter the SIM 67-27 mode.

SCANNER	TARG	ET OF PR	INTE	COLOE	CALI	B SETUP:	SERV	ICE				
	#B:	91,	#C:	2944,	#D :	3227,	#E:	5822,	#F:	8500,		
	#G:	28935,	#H:	54344,	#I:	86968,	#J:	122678,	#K:	151198,		
	#L:	169731,	#M:	195950,	#N:	201249,	#0:	207112,				

- 3) Press [SETUP] key.
- Set the color patch image (adjustment pattern) correctly adjusted and printed in the printer color balance adjustment (Manual adjustment) (SIM 67-25) (ADJ 10E (2)) on the document table.

A color patch image (adjustment pattern) printed by another machine can be used.

Set the pattern so that the light density side is on the left side. Place 5 sheets of white paper on the color patch image (adjustment pattern).

This procedure must not be executed when the copy color balance (manual) was adjusted with SIM 67-25 to a unique color balance requested by the user and it was registered as the service color balance target with SIM 67-27.

5) Press [EXECUTE] key.

	© 0
TEST SIMULATION NO. 67-27	CLOSE
SCANNER TARGET OF PRINTER COLOE CALIB SETUP:SERVICE	
NOW CHART PATCH READING	
	EXECUTE

The color patch image (adjustment pattern) is read.

 Press [REPEAT] key, set the second color patch image (adjustment pattern), and execute the procedure 5) again.

												¢	0
TEST SIN	ULAT:	LON NO). 67-	27								CI	LOSE
SCANNER	TARG BAS	ET OF PR E:8800	INTE	R COLOE	CALI	B SETUP:	SERV	ICE					
	#B:	227,	#C:	624,	#D :	908,	#E:	1249,	#F:	2074,			
	#G:	3298,	#H:	18951,	#I:	76117,	#J:	128495,	#K:	165225,			
	#L:	184155,	#M:	189254,	#N:	194377,	#0:	197276,					
													٢
													₽
	_							_					
К	L	c 🔤	M	JL	Y	J			REPE	AT	OK		1/1

The color balance (gamma) target set level of each color (K, C, M and Y) can be checked with K/C/M/Y keys.

Check that the set level is increased in the sequence of B - Q (MAX). If there is no variation or variation is reversed, it is judged as abnormal.

In case of an abnormality, repair the problem and try again.

7) Press [OK] key.

The color balance (gamma) of the color patch image (adjustment pattern) used in the procedure 5) is set as the service target.

(Procedures to set the service color balance target and the color balance target for the user color balance adjustment to the same color balance as the factory color balance target)

Important

This procedure must not be executed when the copy color balance was adjusted with SIM 67-25 to a unique color balance requested by the user and it was registered as the service color balance target with SIM 67-27.

When the factory color balance target is changed with SIM 67-26, be sure to execute this procedure.

1) Enter the SIM 67-28 mode.

													C (
TEST	LATION	NO. 67	-28										CLOSE
TANDARD	SCANNER	TARGET	OF PR	INTER C	OLOR	CALIB: SE	RVICE						
			_						_				_
			ARE	YOU SU	RE?	YES		NO	J	+	1	EXECUTE	

- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

10-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 CCD 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.
- * When the EEPROM on the MFP PWB is replaced.
- * The SCN PWB has been replaced.
- * The EEPROM on the SCN PWB has been replaced.

a. General

SIM46-74 is used to perform the automatic copy color balance and density adjustment (SIM46-24) and the automatic printer color balance and density adjustment (SIM67-24) continuously.

Since it is desirable to perform the copy color balance adjustment (automatic adjustment) before the automatic printer color balance and density adjustment, it is advisable to perform the adjustment in this mode.

This mode is also advisable to effectively perform both of the automatic copy color balance and density adjustment (SIM46-24) and the automatic printer color balance and density adjustment (SIM67-24). It saves considerable time when compared with performing each of the auto copy/printer color balance and the density adjustment individually.

The color balance adjustment (automatic adjustment) is used to adjust the copy 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

(Auto color balance adjustment by the serviceman)



*1 -

When the color balance and density are customized and registered as the SERVICE target, select the SERVICE target. *2:

If the initial setting of the halftone image correction is not properly adjusted, satisfactory color balance and density cannot be obtained. In this case, check the print engine for any problems.

If satisfactory color balance and

density are not obtained with ADJ10C(2) (Copy color balance and density adjustment) (Manual adjustment) (SIM46-21/44-21), check the print engine for any problems.

*3.

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

1) Enter the SIM46-74 mode.



2) Press [EXECUTE] key.

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

	© 0
TEST SIMULATION NO. 46-74	CLOSE
ENGINE AUTO ADJUSTMENT (SERVICE)	
PROCON EXECUTING	
E	VECUTE

3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.

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



4) Select [FACTORY] target, and press [EXECUTE] key.

When the color balance is customized by the manual color balance adjustment (SIM 46-21) according to the user's request, and the color balance is registered with SIM63-7 as the service target, if the color balance is required to be adjusted, select the [SERVICE] target.

	© 0
TEST SIMULATION NO. 46-74	CLOSE
ENGINE AUTO ADJUSTMENT (SERVICE)	
PLEASE SELECT THE MODE (FACTORY) OR (SERVICE) AND PLACE	
THE PRINTED TEST PATCH ON DOCUMENT GLASS THEN PRESS [EXECUTE].	
*LIGHT AREA AT LEFT SIDE ON DOCUMENT GLASS.	
FACTORY SERVICE	EXECUTE

The copy 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 [EXECUTE] key.

The printer color patch image (adjustment pattern) is printed out. (A4/11" x 8.5" paper is automatically selected.)

	¢	0
TEST SIMULATION NO. 46-74	C	LOSE
ENGINE AUTO ADJUSTMENT (SERVICE)		
CONFIRM THE ADJ PATCH AND PRESS [EXECUTE] TO ADJ OF REGISTRATION EXE.		
AND PRINT THE TEST PATCH.		
(PLEASE USE SPECIFIED TYPE OF A3 OR $11'' \times 17''$ SIZE PAPER		
FOR THIS ADJUSTMENT)		
	EXECUTE	

6) Set the color patch image (adjustment pattern) printed in the procedure 5) on the document table.

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

Printer Calibration	+
	+
+	+

7) Select [FACTORY] target, and press [EXECUTE] key. When the color balance is customized with the manual color balance adjustment (SIM 67-25) according to the user's request and the color balance is registered as the service target with SIM 67-27, if the color balance is adjusted to that color balance, select the [SERVICE] target.

	₪ 0
TEST SIMULATION NO. 46-74	CLOSE
ENGINE AUTO ADJUSTMENT (SERVICE)	
PLEASE SELECT THE MODE(FACTORY) OR (SERVICE) AND PLACE	
THE PRINTED TEST PATCH ON DOCUMENT GLASS THEN PRESS [EXECUTE].	
+LIGHT AREA AT LEFT SIDE ON DOCUMENT GLASS.	
FACTORY SERVICE EXECU	TE

The printer color balance adjustment (step 1) is automatically performed and the color balance check patch image is printed out.

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



 The initial setting menu of the halftone image correction is displayed. Press [OK] key. The initial setting of the halftone image correction is performed.



 Wait until [EXECUTE] key is displayed. When it is displayed, press it.

The halftone image correction is performed.

 When "COMPLETED THIS PROCEDURE" is displayed, the adjustment operation is completed. Cancel SIM46-74.

		D 0
TEST SIMULATION NO. 46-74		CLOSE
ENGINE AUTO ADJUSTMENT (SERVICE) COMPLETE THIS PROCEDURE.		
PLEASE QUIT THIS MODE.		
ОК		
	RESULT	RETRY

Important

The adjustment result becomes valid only when the both adjustments in the copy mode and in the printer mode are completed.

For example, if the copy color balance adjustment (automatic adjustment) is performed and the simulation is canceled, the adjustment result is invalid.

11) Check the copy color balance and density.

(Refer to the item of the copy color balance and density check.)

When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 4), change the factory color balance target with SIM 63-11 and repeat the procedures from 1).

If a satisfactory result is not obtained with the above procedure, perform the manual color balance adjustment (ADJ 10C (2)).

Also when the service target is selected in procedure 4) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment (ADJ 10C (2)).

12) Check the printer color balance and density.

(Refer to the item of the printer color balance and density check.)

When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 7), change the factory color balance target with SIM 67-26 and repeat the procedures from 1).

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 10E (2)).

Also when the service target is selected in procedure 7) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment (ADJ 10E (2)).

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.

10-C Copy quality adjustment (Basic adjustment)

This adjustment must be performed in the following cases:

- * When a consumable part (developer, OPC drum, transfer belt) is replaced.
- * The CCD unit has been 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.
- * When the EEPROM on the MFP PWB is replaced.
- * The SCN PWB has been replaced.
- * The EEPROM on the SCN PWB has been replaced.

10-C (1)

Copy color balance and density adjustment (Automatic adjustment)

a. General

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

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

There are following two modes in the auto color balance adjustment.

- 1) Auto color balance adjustment by the serviceman (SIM 46-24 is used.)
- Auto color balance adjustment by the user (The user program mode is used.) (The color balance target is the service target.) The auto color balance adjustment by the user is provided to reduce the number of service calls.

If the copy color balance is lost for some reason, the user can use this color balance adjustment to recover the balance.

When, however, the machine has a fatal problem or when the machine condition is greatly changed, this function does not work effectively.

If the machine condition is dramatically changed, a fatal problem occurs, or the normal color targets cannot be obtained, service must recalibrate the machine to specification.

To perform the adjustment, the above difference must be fully understood.

b. Adjustment procedure

(Auto color balance adjustment by the serviceman)



1) Enter the SIM 46-24 mode.



2) Press [EXECUTE] key. (A4/11" x 8.5" is automatically selected.)

The color patch image (adjustment pattern) is printed out.

3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.

Place the printed color patch image (adjustment pattern) paper on the document table so that the thin lines on the paper are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern) paper.



4) Select [FACTORY] target, and press [EXECUTE] key.

When the color balance is customized with the manual color balance adjustment (SIM 46-21) according to the user's request and the color balance is registered as the service target with SIM 63-7, if the color balance is adjusted to that color balance, select the service target.

		0
TEST SIMULATION NO. 46-24	CL	.OSE
ENGINE HALFTONE AUTO ADJUSTMENT MODE (REGULAR)		
PLEASE SELECT THE MODE(FACTORY) OR (SERVICE) AND PLACE		
THE PRINTED TEST PATCH ON DOCUMENT GLASS THEN PRESS [EXECUTE].		
+LIGHT AREA AT LEFT SIDE ON DOCUMENT GLASS.		
FACTORY SERVICE	EXECUTE	

The copy color balance adjustment is automatically executed to print the color balance check patch image. Wait until the operation panel shown in procedure 5) is displayed.



5) Press [OK] key on the operation panel.

According to data of this adjustment, the initial setting of the halftone image correction is performed.

	0 🗇
TEST SIMULATION NO. 46-24	CLOSE
ENGINE HALFTONE AUTO ADJUSTMENT MODE (REGULAR)	
CONFIRM THE ADJUSTED PATCH AND PRESS [OK] TO REGISTER THIS PATCH DATA	
01	

Note

After pressing [OK] key, the initial setting of the halftone image correction is started. During the operation, "NOW REGISTER-ING THE NEW TARGET OF HALFTONE PROCON." is displayed. This operation takes several minutes.

After completion of the operation, "PLEASE QUIT THIS MODE" is displayed.

Do not cancel the simulation until "PLEASE QUIT THIS MODE" is displayed.

	0 🗇
TEST SIMULATION NO. 46-24	CLOSE
ENGINE HALFTONE AUTO ADJUSTMENT MODE(REGULAR)	
COMPLETED THIS PROCEDURE	
PLEASE QUIT THIS MODE.	

6) Check the color balance and density.

(Refer to the item of the copy color balance and density check.)

7) Use SIM44-26 to execute the halftone image correction. (Forcible execution)

Enter the SIM44-26 mode and press [EXECUTE] key. [EXECUTE] key is highlighted and the operation is started.

	0 🗇
TEST SIMULATION NO. 44-26	CLOSE
HALF TONE DENSITY CORRECT EXECUTION	
TOUCH [EXECUTE] THEN EXECUTION START.	
EXECUT	TE

It takes several minutes to complete the operation. After completion of the operation, "COMPLETE" is displayed.

(Normal end (Auto transition))

	D	0
TEST SIMULATION NO. 44-26	CI	.0SE
HALF TONE DENSITY CORRECT EXECUTION RESULT		
COMPLETE		
RESULT EXECUTE		

(Abnormal end (Auto transition))



After completion of the operation, the simulation is canceled.

 Use the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) in the Text/Photo mode (Manual) to check the copy color balance and density. (Refer to the item of the copy color balance and density check.)

If the copy color balance and density are not satisfactory, perform the following procedures.

- 9) Execute the initial setting of the halftone image correction. (SIM 44-21)
- 10) Execute the halftone image correction. (Forcible execution) (SIM44-26)

 Use the servicing color test chart (UKOG-0317FCZZ/UKOG-0317FC11) in the Text/Printed Photo mode (Manual) to check the copy color balance/density. (Refer to the item of the copy color balance and density check.)

Though the above procedures 9) - 11) are performed, the copy color balance and density are not in the specified range, there may be another cause.

Troubleshoot the cause, repair or perform necessary works, and repeat the adjustment from the beginning.

When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 4), change the factory color balance target with SIM 63-11 and repeat the procedures from 1).

If a satisfactory result on the color balance and the density is not obtained with the automatic adjustment, execute the manual adjustment (SIM 46-21) (ADJ 10C (2)).

Also when the service target is selected in procedure 7) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment (ADJ 10C(2)).

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.

10-C (2)

Copy color balance and density adjustment (Manual 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)





2) Press [EXECUTE] key. (A4/11" x 8.5" paper is automatically selected.)

The color balance adjustment pattern is printed.

 Check that the following specification is satisfied or the color balance is satisfactory.

If not, execute the following procedures.



The patch density is identical between patches or not reversed.
 The patch density is changed gradually.

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.

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. If the color balance of the adjustment pattern printed in this mode is slightly shifted to Magenta, it is converted into the natural gray color balance by the color correction table in an actual copy mode. (When the color balance target is DEF 1.)

- Select the color to be adjusted with the color select key, and select the adjustment point with the scroll key.
- 5) Enter the adjustment value with 10-key and press [OK] key.

The adjustment value is set in the range of (1 - 999). When SIM 46-24 is used to adjust the automatic color balance and density, all the set values of this simulation are set to 500.

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.

When the overall density is low, or when the density is high and patch A is copied, use the arrow key to adjust all the adjustment values of A - Q (MAX) to a same level collectively. Then, adjust each patch density individually. This is an efficient way of adjustment.

Referring to the black/gray patches, adjust so that each process (CMY) black/gray patch color balance of A - Q (MAX) approaches the black/gray patch level as far as possible.

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.)

	© 0
TEST SIMULATION NO. 44-21	CLOSE
HALF TONE PROCON STANDARD VALUE REGISTER	
TOUCH [EXECUTE] THEN EXECUTION START.	
	EXECUTE

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

		© 0
TEST SIMULATION NO. 44-21		CLOSE
HALF TONE PROCON STANDARD VALUE REGISTER		
RESULT		
COMPLETE		
	RESULT	EXECUTE
•		

(Abnormal end (Auto transition))



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 10C (2) (Color balance adjustment, Manual) with SIM 46-21, be sure to execute this procedure.

When ADJ 10C (1) (Color balance adjustment, Auto) is executed with SIM 46-24, this procedure is automatically executed.

8) Use SIM 44-26 to execute the halftone image correction. (Forcible execution)

Enter the SIM 44-26 mode and press [EXECUTE] key.

[EXECUTE] key is highlighted and the operation is started.

	C 0
TEST SIMULATION NO. 44-26	CLOSE
HALF TONE DENSITY CORRECT EXECUTION	
TOUCH [EXECUTE] THEN EXECUTION START.	
	EXECUTE

It takes several minutes to complete the operation. After completion of the operation, "COMPLETE" is displayed.

(Normal end (Auto transition))

			© 0
TEST SIMULATION	N0. 44-26		CLOSE
HALF TONE DENSITY	CORRECT EXECUTION		
RESULT			
COMPLETE			
	[RESULT	EXECUTE

(Abnormal end (Auto transition))

TEST SIMULATION NO. 44-26	CLOSE
HALF TONE DENSITY CORRECT EXECUTION	
ERROR SENSOR ADJUSTMENT	
	EXECUTE

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.



If the color balance is customized, use SIM 63-7 to register the color balance as the service target.

If the color balance is not customized, this procedure is not required.

If the customized color balance is registered as the service target, the automatic color balance adjustment can be made in the next color balance adjustment.

10-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.

			Сору	MODE		IMAGE SEND(SCAN) MODE		_			
		Colo	or mode	Mono	ochrome	Colo	or mode	Mono	ochrome		
		Auto	Manual	Auto	Manual	Auto	Manual	Auto	Manual	FAX	Printer
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)	0	0	-	-	-	-	-	-	-	-
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)	-	-	0	0	-	-	-	-	-	-
46-04	Color image send mode image density adjustment (for each mode) (No need to adjust normally)	-	-	-	-	0	0	-	-	-	-
46-05	Monochrome image send mode image density adjustment (for each mode) (No need to adjust normally)	-	-	-	-	-	-	0	0	-	-
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)	-	-	-	-	0	0	-	-	-	-
46-09	RSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)	0	0	0	0	0	0	0	0	0	-
46-10	Color copy color balance, gamma adjustment (for each color copy mode) (No need to adjust normally)	0	0	-	-	-	-	-	-	-	-
46-16	Monochrome copy density, gamma adjustment (for each monochrome copy mode) (No need to adjust normally)	-	-	0	0	-	-	-	-	-	-
46-19	Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)	-	-	0	-	-	-	0	-	0	-
46-21	Copy color balance and density adjustment (Manual adjustment)	0	0	0	0	-	-	-	-	-	-
46-23	Copy high density image density reproduction setting (Normally unnecessary to the setting change)	0	0	0	0	-	-	-	-	-	-
46-24	Copy color balance and density adjustment (Automatic adjustment)	0	0	0	0	-	-	-	-	-	-
46-25	Copy color balance adjustment (Single color copy mode) (No need to adjust normally)	-	0	-	-	-	-	-	-	-	-
46-26	Single color copy mode color balance default setting	-	0	-	-	-	-	-	-	-	-
46-27	Color copy, text, line image reproduction adjustment (edge gamma, density adjustment) (Text, Map mode) (No need to adjust normally)	0	0	-	-	-	-	-	-	-	-
46-30	Copy mode sub scanning direction resolution setting	0	0	-	-	-	-	-	-	-	-
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)	-	-	0	-	-	-	0	-	0	-
46-36	2-color (red, black) copy mode fine color adjustment (No need to adjust normally)	-	۵	-	-	-	-	-	-	-	-
46-37	Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)	-	-	0	0	-	-	0	0	0	O (*3)(*5)
46-38	Color copy mode dark area gradation (black component quantity) adjustment (No need to adjust normally)	0	0	-	-	-	-	-	-	-	-
46-39	FAX send image sharpness adjustment	-	-	-	-	-	-	-	-	0	-
46-40	FAX send image density adjustment (Collective adjustment of all the modes)	-	-	-	-	-	-	-	-	0	

			Сору	MODE		IMA	GE SEND	(SCAN)	MODE		
		Colo	or mode	Mono	ochrome node	Colo	or mode	Mono m	ochrome node		
		Auto	Manual	Auto	Manual	Auto	Manual	Auto	Manual	FAX	Printer
46-41	FAX send image density adjustment (Normal text mode)	-	-	-	-	-	-	-	-	0	-
46-42	FAX send image density adjustment (Fine text mode)	-	-	-	-	-	-	-	-	0	-
46-43	FAX send image density adjustment (Super fine mode)	-	-	-	-	-	-	-	-	0	-
46-44	FAX send image density adjustment (Ultra fine mode)	-	-	-	-	-	-	-	-	0	-
46-45	FAX send image density adjustment (600dpi mode)	-	-	-	-	-	-	-	-	0	-
46-47	Copy image, image send image, FAX send image (JPEG) compression ratio setting (Normally unnecessary to the setting change)	0	0	0	0	0	0	0	0	O (*3)	O (*3)
46-51	Gamma manual adjustment for the copy mode heavy paper and the image process mode (dither) (No need to adjust normally)	0	0	0	0	-	-	-	-	-	-
46-52	Gamma default setting for the copy mode heavy paper and the image process mode (dither)	0	0	0	0	-	-	-	-	-	O (*4)
46-54	Copy gamma, color balance adjustment for each dither (Automatic adjustment) (No need to adjust normally)	0	0	0	0	-	-	-	-	-	O (*4)
46-58	Pseudo resolution UP function setting	0	0	0	0	-	-	-	-	-	-
46-59	Pseudo resolution UP function adjustment	0	0	0	0	-	-	-	-	-	0
46-60	Color (Copy/Scan) mode sharpness adjustment (No need to adjust normally)	0	O (1 copy)	-	-	0	-	-	-	-	0
46-61	Area separation recognition level adjustment (No need to adjust normally)	0	O (*1)	0	O (*1)	0	O (*1)	0	O (*1)	-	-
46-62	ACS, area separation, background image process, automatic exposure mode operation conditions setting (Normally unnecessary to the setting change)	0	0	0	0	0	0	0	0	-	-
46-63	Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally)	0	0	0	0	0	0	0	0	-	-
46-65	Color correction table setting	0	0	-	-	-	-	-	-	-	0
46-74	Printer/Copy color balance and density adjustment (Automatic adjustment) (Basic adjustment)	0	0	0	0	-	-	-	-	-	0

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

*2: Printer RGB save -> FAX resend only

*3: Printer RGB save only

*4: Only the watermark is related.

10-D (1)

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.



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

	Display/Item	Content		Setting range	Default
А	AUTO	Auto	LOW	1 - 99	50
			HIGH	1 - 99	50
В	TEXT	Text	LOW	1 - 99	50
			HIGH	1 - 99	50
С	TEXT/PRINTED	Text/Printed	LOW	1 - 99	50
	PHOTO	Photo	HIGH	1 - 99	50
D	TEXT/PHOTO	Text/Photograph	LOW	1 - 99	50
			HIGH	1 - 99	50
Е	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
			HIGH	1 - 99	50
F	PHOTOGRAPH	Photograph	LOW	1 - 99	50
			HIGH	1 - 99	50
G	MAP	Мар	LOW	1 - 99	50
			HIGH	1 - 99	50
н	LIGHT	Light document	LOW	1 - 99	50
			HIGH	1 - 99	50
1	TEXT	Text (Copy	LOW	1 - 99	50
	(COPY TO COPY)	document)	HIGH	1 - 99	50
J	TEXT/PRINTED	Text/Printed	LOW	1 - 99	50
	PHOTO	Photo (Copy	HIGH	1 - 99	50
	(COPY TO COPY)	document)			
ĸ	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
		(Copy document)	HIGH	1 - 99	50
L	TEXT	Text	LOW	1 - 99	50
	(COLOR TONE ENHANCEMENT)	(Color tone enhancement)	HIGH	1 - 99	50
м	TEXT/PRINTED	Text/Printed	LOW	1 - 99	50
	PHOTO	Photo	HIGH	1 - 99	50
	(COLOR TONE	(Color tone			
	ENHANCEMENT)	enhancement)			
Ν	TEXT/PHOTO	Text/Photograph	LOW	1 - 99	50
	(COLOR TONE	(Color tone	HIGH	1 - 99	50
_	ENHANCEMENT)	enhancement)	1.014		= 0
0		Printed Photo	LOW	1 - 99	50
	(COLOR TONE ENHANCEMENT)	(Color lone	HIGH	1 - 99	50
Р		Photograph	LOW	1 - 99	50
•	(COLOR TONE	(Color tone	HIGH	1 - 99	50
	ENHANCEMENT)	enhancement)	THOM	1-33	50
Q	MAP	Мар	LOW	1 - 99	50
	(COLOR TONE	(Color tone	HIGH	1 - 99	50
	ENHANCEMENT)	enhancement)			
R	SINGLE COLOR	Single color	LOW	1 - 99	50
			HIGH	1 - 99	50
S	SINGLE COLOR	Single color	LOW	1 - 99	50
	(COPY TO COPY)	(Copy document)	HIGH	1 - 99	50
Т	TWO COLOR	Two-color	LOW	1 - 99	50
		(Red/Black) copy	HIGH	1 - 99	50
U	TWO COLOR	Two-color	LOW	1 - 99	50
	(COPY TO COPY)	(Red/Black) copy	HIGH	1 - 99	50
		(Copy document)			

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.

10-D (2)

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

The density is adjusted in each copy mode individually.

This adjustment must be performed in the following cases:

- * When there is necessity to change the copy density of the low density and high density part at each copy density individually.
- * When there is necessity to change the density gradient of the copy by each the copy mode individually.
- * When there is necessity to change all copy density by each the copy mode individually.
- * When there is request from the user.
- 1) Enter the SIM 46-2 mode.



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

	Item/Display	Content		Setting range	Default value
Α	AUTO1	Auto 1	LOW	1 - 99	50
			HIGH	1 - 99	50
В	AUTO2	Auto 2	LOW	1 - 99	50
			HIGH	1 - 99	50
С	TEXT	Text	LOW	1 - 99	50
			HIGH	1 - 99	50
D	TEXT/PRINTED	Text/Printed	LOW	1 - 99	50
	PHOTO	Photo	HIGH	1 - 99	50
Е	TEXT/PHOTO	Text/	LOW	1 - 99	50
		Photograph	HIGH	1 - 99	50
F	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
			HIGH	1 - 99	50
G	PHOTOGRAPH	Photograph	LOW	1 - 99	50
			HIGH	1 - 99	50
н	MAP	Мар	LOW	1 - 99	50
			HIGH	1 - 99	50
Ι	TEXT (COPY TO	Text (Copy	LOW	1 - 99	50
	COPY)	document)	HIGH	1 - 99	50
J	TEXT/PRINTED	Text/Printed	LOW	1 - 99	50
	PHOTO (COPY TO COPY)	Photo (Copy document)	HIGH	1 - 99	50
К	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
	(COPY TO COPY)	(Copy document)	HIGH	1 - 99	50
L	LIGHT	Light document	LOW	1 - 99	50
			HIGH	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.

10-D (3)

Color copy color balance, gamma adjustment (for each color copy mode) (No need to adjust normally)

This adjustment is used to execute the color balance adjustment for each density level in each color copy mode.

This adjustment must be performed in the following cases:

- * When there is necessity to change the color balance and gamma by each the copy mode individually.
- * When there is request from the user.

1) Enter the SIM 46-10 mode.



- 2) Select the copy mode to be adjusted with the mode key.
- Select a color to change the adjustment value with the color key.
- 4) Select the density level (point) to be adjusted with the scroll key.

	Item/Display	Density level (Point)	Setting range	Default value
Α	POINT1	Point 1	1 - 999	500
В	POINT2	Point 2	1 - 999	500
С	POINT3	Point 3	1 - 999	500
D	POINT4	Point 4	1 - 999	500
Е	POINT5	Point 5	1 - 999	500
F	POINT6	Point 6	1 - 999	500
G	POINT7	Point 7	1 - 999	500
Η	POINT8	Point 8	1 - 999	500
Ι	POINT9	Point 9	1 - 999	500
J	POINT10	Point 10	1 - 999	500
к	POINT11	Point 11	1 - 999	500
L	POINT12	Point 12	1 - 999	500
Μ	POINT13	Point 13	1 - 999	500
Ν	POINT14	Point 14	1 - 999	500
0	POINT15	Point 15	1 - 999	500
Ρ	POINT16	Point 16	1 - 999	500
Q	POINT17	Point 17	1 - 999	500

5) Enter the adjustment value with 10-key and press [OK] key. When the adjustment value is increased, the density is increased. When the adjustment value is decreased, the density is decreased.

When the arrow key is pressed, the color densities selected with the color keys are collectively adjusted.

That is, all the density levels (points) from the low density point to the high density point can be adjusted collectively.

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

This adjustment pattern can be used to check the color balance and the density for each density level (point).

6) 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.

10-D (4)

Monochrome copy density, gamma adjustment (for each monochrome copy mode) (No need to adjust normally)

This adjustment is used to execute the density adjustment for each density level in each monochrome copy mode.

This adjustment must be performed in the following cases:

- * When it is required to change the gamma in each copy mode.
- * When there is request from the user.



2) Select the density level (point) to be adjusted with the scroll key.

	Item/Display	Density level (Point)	Setting range	Default value
А	POINT1	Point 1	1 - 999	500
В	POINT2	Point 2	1 - 999	500
С	POINT3	Point 3	1 - 999	500
D	POINT4	Point 4	1 - 999	500
Е	POINT5	Point 5	1 - 999	500
F	POINT6	Point 6	1 - 999	500
G	POINT7	Point 7	1 - 999	500
Н	POINT8	Point 8	1 - 999	500
1	POINT9	Point 9	1 - 999	500
J	POINT10	Point 10	1 - 999	500
К	POINT11	Point 11	1 - 999	500
L	POINT12	Point 12	1 - 999	500
М	POINT13	Point 13	1 - 999	500
Ν	POINT14	Point 14	1 - 999	500
0	POINT15	Point 15	1 - 999	500
Ρ	POINT16	Point 16	1 - 999	500
Q	POINT17	Point 17	1 - 999	500

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

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

When the arrow key is pressed, the densities are collectively adjusted.

That is, all the density levels (points) from the low density point to the high density point can be adjusted collectively.

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

The density at each density level (point) can be checked by referring to this printed adjustment pattern. However, it is more practical to make a copy and check it.

This adjustment pattern can be used to check the color balance and the density for each density level (point).

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.

10-D (5)

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

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

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

This setting is required in the following cases.

- * When a proper density copy is not obtained in the monochrome automatic copy mode.
- * When a document with images near its lead edge is copied.
- * When a document with colored background is copied.
- 1) Enter the SIM 46-19 mode.

					© 0
TEST SIMULATION	NO. 46-19				CLOSE
EXPOSURE MODE SET	TUP (B/W-AE)				
AE_MODE	· ·	MODE 1	MODE2		
AE_STOP_COPY	· [REALTIME	STOP	PRESCAN	
AE_STOP_FAX	· [OFF	ON		
AE_STOP_SCAN	· [REALTIME	STOP	PRESCAN	
AE_FILTER	· [SOFT	NORMAL	SHARP	
AE_WIDTH		FULL	PART		
					R
					_
					I,

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

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

Note

MODE1: High gamma (Improves the image contrast)

MODE2: Normal gamma

STOP:

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

REALTIME:

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

PRESCAN:

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

AE WIDTH FULL:

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

AE WIDTH PART:

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

Operation in monochrome auto copy mode:

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



10-D (6)

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

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

This adjustment is required in the following cases.

- * When there is a desire not to reproduce the background of the document. When there is a desire to reproduce the low density image of the document.
- * When there is request from the user.
- 1) Enter the SIM 46-32 mode.



2) Select the adjustment mode with the scroll key.

3) Enter the adjustment value with 10-key and press [OK] key. When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

[RSPF]

	Item/Display	Content	Setting range	Default value
Α	COPY : OC	Copy mode (for OC)	1 - 250	196
В	COPY : RSPF	Copy mode (for RSPF)	1 - 250	196
С	SCAN : OC	Scanner mode (for OC)	1 - 250	196
D	SCAN : RSPF	Scanner mode (for RSPF)	1 - 250	196
Е	FAX : OC	FAX mode (for OC)	1 - 250	196
F	FAX : RSPF	FAX mode (for RSPF)	1 - 250	196

10-D (7)

Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally)

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

This adjustment is required in the following cases.

- * When there is a desire not to reproduce the background of the document. When there is a desire to reproduce the low density image of the document.
- * When there is request from the user.
- 1) Enter the SIM 46-63 mode.



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

	Item/Display	Content	Setting range	Default value
A	COLOR COPY : TEXT/PRINTED PHOTO	Text print (color copy)	1 - 9	3
В	COLOR COPY : TEXT	Text (color copy)	1 - 9	3
С	COLOR COPY : PRINTED PHOTO	Printed photo (color copy)	1 - 9	5
D	COLOR COPY : PHOTOGRAPH	Photograph (color copy)	1 - 9	5
Е	COLOR COPY : TEXT/PHOTO	Text/Photograph (color copy)	1 - 9	3
F	COLOR COPY : MAP	Map (color copy)	1 - 9	5
G	COLOR COPY : LIGHT	Light document (color density)	1 - 9	6
Н	COLOR COPY : TEXT/PRINTED PHOTO (COPY TO COPY)	Copy document, Character print (color copy)	1 - 9	5
I	COLOR COPY : TEXT (COPY TO COPY)	Copy document, Character (color copy)	1 - 9	5
J	COLOR COPY : PRINTED PHOTO (COPY TO COPY)	Copy document, Printed photo (color copy)	1 - 9	5
К	COLOR PUSH : TEXT/PRINTED PHOTO	Text print (color PUSH)	1 - 9	3

	Item/Display	Content	Setting range	Default value
L	COLOR PUSH : TEXT	Text (color PUSH)	1 - 9	3
М	COLOR PUSH : PRINTED PHOTO	Printed photo (color PUSH)	1 - 9	5
Ν	COLOR PUSH : PHOTOGRAPH	Photograph (color PUSH)	1 - 9	5
0	COLOR PUSH : TEXT/PHOTO	Text/Photograph (color PUSH)	1 - 9	3
Р	COLOR PUSH : MAP	Map (color PUSH)	1 - 9	5

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.

10-D (8)

Color copy, text, line image reproduction adjustment (edge gamma, density adjustment) (Text, Map mode) (No need to adjust normally)

Adjustment 1

By changing Text/Printed Photo, Text/Photograph, automatic copy mode Text, line image edge section gamma and the density, the reproducibility of text and line profile can be varied optionally.

With this adjustment, the density and the thickness of fine text and lines can be varied.

Check the result of this adjustment by text/printed photo copy mode (manual).

This adjustment is required in the following cases.

- * When the reproducibility of text and line copy image is to be changed.
- * When there is request from the user.
- 1) Enter the SIM 46-27 mode.



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

	Item/Display (Copy mode)	Content	Setting range	Default value
A	BLACK TEXT (SLOPE)	Black character edge gamma skew adjustment	1 - 99	50
В	BLACK TEXT (INTERCEPT)	Black character edge density adjustment	1 - 99	50
С	COLOR TEXT (SLOPE)*1	Color character edge gamma skew adjustment	1 - 99	50
D	COLOR TEXT (INTERCEPT)	Color character edge density adjustment	1 - 99	50
Е	ED TEXT (SLOPE)	Text/Map mode gamma adjustment (Text/Map mode)	1 - 99	50
F	ED TEXT (INTERCEPT)	Text/Map mode density adjustment (Text/Map mode)	1 - 99	50

3) Enter the adjustment value with 10-key.

When the adjustment values of item A and C are changed, the gamma at the line edge section is changed.

When the adjustment value is increased, the image contrast of character edge and line edge is increased. When the adjustment value is decreased, the image contrast of character and line edge is decreased.

When the adjustment value of the adjustment item B and D are increased, the image density at the line edge section is increased, and vice versa.

- 4) Press [OK] key.
- 5) Make a copy in color text/printed photo copy mode (manual), check the copy.

When checking, use a copy of the document with a thin character and line image.

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.

Adjustment 2

This adjustment is used to change the gamma and the density in the Text/Map copy mode.

This adjustment is required in the following cases.

- * To change the contrast and the density of the Text/Map copy mode images.
- * When there is request from the user.

1) Enter the SIM 46-27 mode.



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

Item/Display (Copy mode)		Content	Setting range	Default value
А	BLACK TEXT	Black character edge	1 - 99	50
	(SLOPE)	gamma skew adjustment		
В	BLACK TEXT	Black character edge	1 - 99	50
	(INTERCEPT)	density adjustment		
С	COLOR TEXT	Color character edge	1 - 99	50
	(SLOPE)*1	gamma skew adjustment		
D	COLOR TEXT	Color character edge density	1 - 99	50
	(INTERCEPT)	adjustment		
Е	ED TEXT	Text/Map mode gamma	1 - 99	50
	(SLOPE)	adjustment (Text/Map mode)		
F	ED TEXT	Text/Map mode density	1 - 99	50
	(INTERCEPT)	adjustment (Text/Map mode)		

3) Enter the adjustment value with 10-key.

When the adjustment value of the adjustment item E is changed, the gamma (contrast) is changed.

When the adjustment value is increased, the contrast is increased, and vice versa.

When the adjustment value of the adjustment item F is increased, the image density is increased, and vice versa.

- 4) Press [OK] key.
- 5) Make a copy in the Text/Map copy mode (manual), and check the output print.

If a satisfactory result is not obtained, use SIM46-27 to change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

10-D (9) Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)

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

This adjustment is required in the following cases.

- * When there is desire to change reproducibility of yellow/red image in case of making a color copy of the color document in monochrome copy mode.
- * When there is request from the user.
- 1) Enter the SIM 46-37 mode.



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

lte	em/Display	Content	Setting range	Default value
Α	R-Ratio	Gray making setting (R)	0 - 1000	145
В	G-Ratio	Gray making setting (G)	0 - 1000	805

3) Enter the adjustment value with 10-key.

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

- 4) Press [OK] key.
- Make a copy in monochrome text/printed photo copy mode (manual), check the copy.

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

Repeat the above procedures until a satisfactory result is obtained.

10-D (10)

Color copy mode dark area gradation (black component quantity) adjustment (No need to adjust normally)

Use to adjust the black ingredient amount in the color copy mode. (except character and line image)

As a result of this adjustment, the gradation of the shade part changes.

This adjustment is required in the following cases.

- * When reproduction as solid of black image is required.
- * To make the black background and the dark area darker
- * When change of gradation of the shade part is required.
- * When there is request from the user.
- 1) Enter the SIM 46-38 mode.



TEST SIMULATION	NO. 46-38				CLOSE
BLACK IMAGE CREATE	ADJUSTME	NT			
TEXT PRT		(-) LUT2	(-) LUT1	NOMAL)
	C	(+) LUT1	(+) LUT2		
TEXT	: [(-) LUT2	(-) LUT1	NOMAL)
	C	(+) LUT1	(+) LUT2		
PRINTED PHOTO	: [(-) LUT2	(-) LUT1	NOMAL	1
	C	(+) LUT1	(+) LUT2		
PHOTO	: [(-) LUT2	(-) LUT1	NOMAL	
	C	(+) LUT1	(+) LUT2		
TEXT PHOTO	: [(-) LUT2	(-) LUT1	NOMAL)
	C	(+) LUT1	(+) LUT2		
MAP	: [(-) LUT2	(-) LUT1	NOMAL)
	C	(+) LUT1	(+) LUT2		
MANUAL	Ū	AUTO			1/

- Select the AUTO MODE or the MANUAL MODE with the mode key.
- 3) Select the mode to be adjusted with the scroll key.

Item/Display		Select	Content	Default
(Сор	y mode)	button	Tout print	Value
MANUAL	TEATPRI	(-) LUT2	(Manual)	NORIVIAL
			(Maridal)	
		(+) UT1		
		(+) LUT2		
	TEXT	(-) LUT2	Text (Manual)	NORMAL
		(-) LUT1		
		NOMAL	-	
		(+) LUT1		
		(+) LUT2		
	PRINTED	(-) LUT2	Printed photo	NORMAL
	PHOTO	(-) LUT1	(Manual)	
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	РНОТО	(-) LUT2	Photograph/Text	NORMAL
		(-) LUT1	photograph (Manual)	
			(Maridal)	
		(+) LUT1		
	TEXT		Text/Photograph	NORMAL
	РНОТО	(-) UT1	(Manual)	NOTINIAL
		NOMAI	(,	
		(+) LUT1		
		(+) LUT2	-	
	MAP	(-) LUT2	Map (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	CP ORG/	(-) LUT2	Copy document/	NORMAL
	TEXT PRT	(-) LUT1	Text printed	
		NOMAL	(iviariual)	
		(+) LUT1	-	
		(+) LUT2	Copy document/	
	TEXT	(-) LUT2	Text (Manual)	NORMAL
	,	NOMAI	ion (manual)	
		(+) LUT1		
		(+) LUT2	-	
	COPY ORG/	(-) LUT2	Copy document/	NORMAL
	PHOTO	(-) LUT1	Printed photo	
		NOMAL	(Manual)	
		(+) LUT1		
		(+) LUT2		
	LIGHT	(-) LUT2	Light document	NORMAL
	ORIGINAL	(-) LUT1	(Manual)	
		NOMAL	-	
		(+) LUT1	-	
		(+) LU12	Auto modo	NODMAL
AUTO	AUTOU	(-) LUT2	iudament 0	NORIVIAL
			Judgment	
			-	
		(+) LUT2	-	
	AUTO1	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	judgment 1	
		NOMAL	1 -	
		(+) LUT1	1	
		(+) LUT2]	
	AUTO2	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	judgment 2	
		NOMAL		
		(+) LUT1		
1	1	(+) UT2		

ltem/Display (Copy mode)		Select button	Content	Default value
UTO	AUTO3	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	judgment 3	
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO4	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	judgment 4	
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO5	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	judgment 5	
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO6	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	judgment 6	
		NOMAL		
		(+) LUT1		
		$(+) T_2$		

4) Press the black ingredient amount select button.

When reproduction as solid of black image is required: Selects + button

When there is desire to darken copy of black image: Selects + button

When a dark color image is reproduced in the black: Selects - button

5) Make a copy in color copy mode and check the copy.

If a satisfactory result is not obtained, return to the SIM 46-38 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

10-D (11)

A

Color (Copy/Scan) mode sharpness adjustment (No need to adjust normally)

Use for sharpness adjustment of the high density image in color copy mode.

This adjustment changes smoothness (asperity) in the image shade part.

This adjustment is required in the following cases.

- * When changing the sharpness of copy image in copy mode. (obtain crispy image) (decreases moire)
- * When there is desire to improving smoothness in the image shade part (for decrease of asperity)
- * To make the black background and the dark area darker.
- * To reproduce the gradation change in the dark area.
- * When there is request from the user.

1) Enter the SIM 46-60 mode.

			0
TEST	NO. 46-60		CLOSE
COLOR AUTO MODE F	ILTER ADJU	STMENT	
	A: 3 [:]	SCREEN FILTER LEVEL : AUTO	
n: <u>3</u>	B: 2 :	AUTOMODE FILTER LEVEL : CENTER	
[1~3]	C: 1	COLOR COPY:CMY : ON	
	D: 1:	COLOR COPY:K : ON	
	E: 1:	SINGLE COLOR: CMY : ON	
	F: 1:	2 COLOR COPY:CMY : ON	1
	G: 1 :	2 COLOR COPY:K : ON	
	H: 1:	B/W COPY : ON	•
	I: 1:	COLOR PUSH:RGB : ON	
	J: 1:	B/W PUSH : ON	
			OK
		10-key	
	N0.46-60	10-key OK	© 0
	NO. 46-60	10-key	CLOSE
TEST SIMULATION COLOR AUTO MODE F	NO. 46-60 ILTER ADJU	10-key OK STMENT STMENT	CLOSE
TEST SIMULATION COLOR AUTO MODE F	NO.46-60 ILTER ADJU A: 2: B: 2:	10-key OK STNEXT SCREEN FILTER LEVEL : L ATTOMOGE FILTER LEVEL : CENTER	CLOSE
$\frac{11557}{COLOR} SIMULATION$ $A: 2$	NO. 46-60 ILTER ADJU B: 2 : C. 1 :	10-key OK OK STMENT SCREEN FILTER LEVEL : L AITOMORE FILTER LEVEL : CENTER COLOR COPY: CON : ON	CLOSE
INVESTIGATION COLOR AUTO MODE A: 2 [1~3]	NO. 46-60 ILITER ADJU R: 2 : C: 1 : D: 1 :	10-key OK STUENT SCREEN FILTER LEVEL : L AITOMOGE FILTER LEVEL : CENTER COLOR COPY: CW : ON	C cose
TEST SIMULATION COLOR AUTO NODE F A: 2 [1 ~ 3]	NO. 46-60 ILITER ADJU B: 2 : C: 1 : D: 1 : E: 1 :	TU-key UCK SCREN FILTER LEVEL : L AITOMOGE FILTER LEVEL : CENTER COLOR COPY: CWY : ON COLOR COPY: K: ON	C cost
Impose SINULATION COLOR AUTO NODE Impose A: 2 [1 ~ 3] Impose	NO. 46-60 ILTER ADJU B: 2 : C: 1 : D: 1 : E: 1 : E: 1 :	10-key OK STNEXT SCREEN FILTER LEVEL : L ALTOMODE FILTER LEVEL : CENTER COLOR COPY: KY : ON SINGLE COLOR: CAY : ON SINGLE COLOR: CAY : ON	CLOSE
TINE SIMULATION COLOR AUTO MODE F A: 2 [1 ~ 3]	NO. 46-60 ILTER ADJU B: 2 : C: 1 : D: 1 : E: 1 : F: 1 : G: 1 :	10-key CONTRACTORY STREMT SCREEN FILTER LEVEL : L AITOMODE FILTER LEVEL : CENTER COLOR COPT:CNT : ON SINCLE COLOR:CUTY : ON 2 COLOR COPT:CNT : ON 2 COLOR COPT:CNT : ON	C O CLOSE
INTERSIDE SIMULATION COLOR AUTO MODE A: 2 [1 ~ 3]	NO. 46-60 ILITER ADJU R: 2 : C: 1 : D: 1 : E: 1 : F: 1 : G: 1 : G: 1 :	IO-key OK STHENT SCREIN FILTER LEVEL : L AUTOMODE FILTER LEVEL : CENTER COLOR COPY: WY : ON 2 COLOR COPY: K: ON 2 COLOR COPY: K: ON 2 COLOR COPY: K: ON 2 COLOR COPY: K: ON	Cost
TISE SIMULATION COLOR AUTO NODE A: [1 ~ 3]	NO. 46-60 ILTER ADJU C. 1 : D: 1 : E: 1 : F: 1 : G: 1 : H: 1 : I: 1 :	THENT SCREEN FILTER LEVEL : L AITOMODE FILTER LEVEL : CENTER COLOR COPY:CHY : ON COLOR COPY:K : ON 2 COLOR COPY:K : ON 2 COLOR COPY: N KINEE COLOR:CHY : ON 2 COLOR COPY: N K : ON	Cose Cose
$\begin{array}{c} \underline{1155} \text{SINULATION} \\ \hline \underline{1155} \text{SINULATION} \\ \hline \textbf{A: 2} \\ \hline 1 & 2 \\ \hline 1 & 3 \\ \end{array}$	NO. 46-60 ILTER ADJU B: 2 : C: 1 : C: 1 : F: 1 : F: 1 : G: 1 : H: 1 : J: 1 :	10-key UCK STNEXT SCREEN FILTER LEVEL : L AUTOMODE FILTER LEVEL : CENTER COLOR COPY:K : ON SINGLE COLOR:CUY : ON 2 COLOR COPY:K : ON 2 COLOR COPY:K : ON E/V COPY : ON COLOR PUBLICRB : ON	CLOSE
TEST SIMULATION COLOR AUTO MODE F A: 2 [1 ~ 3]	NO. 46-60 IIITER ADJU B: 2 : C: 1 : D: 1 : E: 1 : G: 1 : H: 1 : I: 1 : J: 1 :	ID-key DOL AND	C CLOSE
$\begin{array}{c} \hline \underline{1557} & \text{SIMULATION} \\ \hline \text{COLOR AITO KODE F} \\ \hline \textbf{A: 2} \\ \hline \hline 1 & 2 \\ \hline 1 & 2 \\ \hline \end{array}$	NO.46-60 ILTER ADJU B: 2 : C: 1 : C: 1 : C: 1 : F: 1 : H: 1 : I: 1 : J: 1 :	IO-Key UC-Key UC-Key STIENT SCREIN FILTER LEVEL :: L AUTOMODE FILTER LEVEL :: CENTER COLOR COPY: CW :: ON COLOR COPY: K: ON 2 COLOR COPY: K: ON 2 COLOR COPY: K: ON 2 COLOR COPY: K: ON 2 COLOR COPY: K: ON BUT OPISH :: ON	

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

Item/Display			Content	Setting range	Default value	
Α	SCREEN FILTER LEVEL	Н	Sharpness (filter) adjustment of dot pattern image in auto	Strong emphasis	1	3 (Auto)
		L	copy mode	Soft emphasis	2	
		AUTO		Auto	3	
В	CPY CL AUTO FILTER	SOFT	Sharpness (filter) adjustment for the automatic copy mode	SOFT	1	2 (CENTER)
	LEVEL	CENTER	(Text, Printed Photo / Printed Photo images)	CENTER	2	
		HIGH		HIGH	3	
С	CPY PUSH AUTO	SOFT	Sharpness (filter) adjustment for the automatic push scan	SOFT	1	2 (CENTER)
	FILTER LEVEL	CENTER	mode (Text, Printed Photo / Printed Photo images)	CENTER	2	
		HIGH		HIGH	3	
D	COLOR COPY : CMY	OFF	Soft filter applying setting to C, M, Y image in color copy	OFF	0	1 (ON)
		ON	mode	ON	1	
Е	COLOR COPY : K	OFF	Soft filter applying setting to K image in color copy mode	OFF	0	1 (ON)
		ON		ON	1	
F	SINGLE COLOR : CMY	OFF	Soft filter applying setting to C, M, Y image in single color	OFF	0	1 (ON)
		ON	copy mode	ON	1	
G	2 COLOR COPY : CMY	OFF	Setting of YES/NO of applying the soft filter to C/M/Y	OFF	0	1 (ON)
		ON	images of the 2-color copy mode	ON	1	
н	2 COLOR COPY : K	OFF	Setting of YES/NO of applying the soft filter to K images of	OFF	0	1 (ON)
		ON	the 2-color copy mode	ON	1	
1	B/W COPY	OFF	Soft filter applying setting in monochrome copy mode	OFF	0	1 (ON)
		ON		ON	1	
J	COLOR PUSH : RGB	OFF	Soft filter applying setting to image in push scan color	OFF	0	1 (ON)
		ON	mode	ON	1	
К	B/W PUSH	OFF	Soft filter applying setting to image in push scan	OFF	0	1 (ON)
		ON	monochrome mode	ON	1	

Item/Display			Content		Setting range	Default value
L	COLOR PRINT: CMY	OFF	Setting of ON/OFF of soft filter application to color print C,	OFF	0	0 (OFF)
		ON	M, Y images	ON	1	
Μ	COLOR PRINT: K	OFF	Setting of ON/OFF of soft filter application to color print K	OFF	0	0 (OFF)
		ON	images	ON	1	
Ν	B/W PRINT	OFF	Setting of ON/OFF of soft filter application to monochrome	OFF	0	0 (OFF)
		ON	print images	ON	1	

- Input numeric value corresponding to sharpness level (filter process mode).
 - * Adjustment item A:

When selecting AUTO, filter is selected according to dot pattern state automatically and adjusts sharpness.

Input small numeric value to obtain crispy image. Input large numeric value to decrease moire.

- Adjustment item B: Select HIGH to obtain clear images. Select SOFT to reduce moire.
- * Adjustment item C J:

When setting ON, smoothness in the image shade part improves by applying soft filter. (asperity decreases)

- 4) Press [OK] key.
- 5) Make a copy and check the copy image.

If a satisfactory result is not obtained, return to the SIM 46-60 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

10-D (12)

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.



	Item/Display Content		Setting range	Default value	
A	CMY (0: ENABLE 1: DISABLE)	0	CMY engine highest density correction mode: Enable	0 - 1	0
		1	CMY engine highest density correction mode: Disable		
В	K (0: ENABLE	0	K engine highest density correction mode: Enable	0 - 1	1
	1: DISABLE)	1	K engine highest density correction mode: Disable		
С	CYAN MAX TARGET	Scanner target value for CYAN maximum density correction		0 - 999	500
D	MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction		0 - 999	500
E	YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction		0 - 999	500
F	BLACK MAX TARGET	Sca BLA corr	nner target value for .CK maximum density ection	0 - 999	500

* 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.

Important

Do not change the setting values of item C, D, E and F. 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)

10-D (13)

Copy color balance adjustment (Single color copy mode) (No need to adjust normally)

This adjustment is used to set the color balance and the density in the single color copy mode to the user's request.

The adjustment is made by changing Y, M, C components of each color.

This adjustment is not required normally, but executed when there is a request from the user.

When the default adjustment value is changed, this adjustment is required in the following cases.

- * When it is required to change the color balance in the single color copy mode.
- * When there is request from the user.

a. Adjustment procedure

1) Enter the SIM 46-25 mode.



- 2) Select the color to be adjusted with the scroll key.
- 3) Select the color (YMC) to be adjusted with the color key.
- 4) Enter the adjustment value with 10-key.

Itom/Display		Sotting range	Default value		
	item/Display	Setting range	c	М	Y
А	RED	0 - 255	0	255	200
В	GREEN	0 - 255	255	0	255
С	BLUE	0 - 255	255	150	0
D	CYAN	0 - 255	255	0	0
ш	MAGENTA	0 - 255	0	255	0
F	YELLOW	0 - 255	0	0	255

5) Press [OK] key.

6) Make a copy in the single color copy mode and check the copy.

If a satisfactory result is not obtained, return to the SIM 46-25 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

10-D (14)

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

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

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

a. Adjustment procedure

1) Enter the SIM 46-9 mode.



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

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

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

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.

10-D (15)

Automatic color balance adjustment by the user (Copy 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.



- Select ENABLE or DISABLE with 10-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 (automatic adjustment of copy color balance and density) is not displayed in the user program mode.

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



This adjustment is based on the service target color balance set with SIM 63-7 and SIM 63-8. If, therefore, the above settings are not properly performed, this adjustment cannot be made properly.

- 1) Enter the system setting mode.
- 2) Enter the copy setting mode.
- 3) Press the auto color calibration key.
- 4) Press [EXECUTE] key.

The color patch image (adjustment pattern) is printed out.

5) Set the color patch image (adjustment pattern) printed in procedure 4) on the document table.

Set the patch image so that the thin line 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).



6) Press [EXECUTE] key, and the copy color balance adjustment is executed automatically. After completion of the adjustment, the display returns to the original operation screen.

To execute the printer color balance adjustment successively, perform the procedures same as the above.

10-D (16)

Copy gamma, color balance adjustment for each dither (Automatic adjustment)

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 [EXECUTE] 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 thin lines 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 [EXECUTE] 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
HEAVYPAPER*1	Copier/gamma for heavy paper
BLACK EDGE	Black edge
COLOR EDGE	Color edge
COLOR ED	Color error diffusion
B/W ED	Monochrome error diffusion
B/W 600	Monochrome dither 600dpi

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

7) Press [EXECUTE] 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 thin lines 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 [EXECUTE] 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.

(Refer to the item of the printer color balance and density check.)



Use SIM46-52 to reset the adjustment values to the default values.
10-E Printer image quality adjustment (Basic adjustment)

Requisite condition before execution of the printer color balance/density adjustment

Before execution of the printer color balance/density adjustment, the copy color balance/density adjustment must have been completed properly.

This adjustment is required in the following cases.

- * Basically same as when the copy color balance/density adjustment is required.
- * After the copy color balance/density adjustment.

10-E (1)

Printer color balance adjustment (Automatic adjustment)

a. General

The color balance adjustment (auto adjustment) is used to adjust the print density of each color (Cyan, Magenta, Yellow, Black) automatically with SIM 67-24 or the user program.

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

There are following two modes in the auto color balance adjustment.

- 1) Auto color balance adjustment by the serviceman (SIM 67-24 is used.)
- Auto color balance adjustment by the user (The user program mode is used.) (The color balance target is the service target.) The auto color balance adjustment by the user is provided to reduce the number of service calls.

If the print color balance is lost for some reasons, the user can use this color balance adjustment to recover the balance.

When, however, the machine has a fatal problem or when the machine condition is greatly changed, this function does not work effectively.

On the other hand, the auto color balance adjustment by the serviceman functions to recover the normal color balance though the machine condition is greatly changed. If the machine has a fatal problem, repair and adjust it for obtaining the normal color balance.

To perform the adjustment, the above difference must be fully understood.

b. Adjustment procedure

(Auto color balance adjustment by the serviceman)

Printer color balance and density adjustment (Automatic adjustment) procedure flowchart (SIM67-24)



1) Enter the SIM 67-24 mode.



2) Press [EXECUTE] key. (A4/11" x 8.5" paper is automatically selected.)

The color patch image (adjustment pattern) is printed out.

3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.

Place the printed color patch image (adjustment pattern) paper on the document table so that the thin lines on the paper are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern) paper.



4) Select [FACTORY] key, and press [EXECUTE] key.

When the color balance is customized with the manual color balance adjustment (SIM 67-25) according to the user's request and the color balance is registered as the service target with SIM 67-27, if the color balance is adjusted to that color balance, select the service target.

	© 0
TEST SIMULATION NO. 67-24	CLOSE
PRINTER ENGINE HALFTONE AUTO ADJUSTMENT MODE(REGULAR) PLEASE SELECT THE MODE(FACTORY) OR (SERVICE) AND PLACE	
TEST PRINTED TEST PATCH ON DOCUMENT GLASS THEN PRESS [EXECUTE]	
*LIGHT AREA AT LEFT SIDE ON DOCUMENT GLASS	
FACTORY SERVICE	EXECUTE

The copy color balance adjustment is automatically executed and prints the color balance check patch image. Wait until the operation panel shown in the procedure 5) is displayed.



5) Press [OK] key on the operation panel.

TEST SIM	ULATION	NO. 67-24						CLOS
PRINTER	ENGINE HA	LFTONE AUTO .	ADJUSTMENT	MODE (REGU	LAR)			
	CONFIRM	THE ADJUSTED	PATCH AND	PRESS [OK]	TO REGISTER	R THIS PATCH D	ATA	

Note

After pressing [OK] key, the initial setting of the halftone image correction is started. During the operation, "NOW REGISTER-ING THE NEW TARGET OF HALFTONE" is displayed. This operation takes several minutes.

After completion of the operation, "PLEASE QUIT THIS MODE" is displayed.

Do not cancel the simulation until "PLEASE QUIT THIS MODE" is displayed.

	© 0
TEST SIMULATION NO. 67-24	CLOSE
PRINTER ENGINE HALFTONE AUTO ADJUSTNENT MODE(REGULAR) CONPLETED THIS PROCEDURE.	
PLEASE QUIT THIS MODE.	

After completion of the operation, the simulation is canceled.

6) Check the color balance and density.

(Refer to the item of the printer color balance and density check.)

When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 4), change the factory color balance target with SIM 67-26 and repeat the procedures from 1).

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 10E (2)).

Also when the service target is selected in procedure 4) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment (ADJ 10E (2)).

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.

10-E (2)

Printer color balance adjustment (Manual adjustment)

a. General

The color balance adjustment (Manual adjustment) is used to adjust the printer density of C, M, Y and K. 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.

In this manual adjustment, adjust only 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







2) Press [EXECUTE] key. (A4/11" x 8.5" paper is automatically selected.)

The color balance adjustment pattern is printed.

 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.

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.)

- Select the color to be adjusted with the color select key, and select the adjustment point with the scroll key.
- 5) Enter the adjustment value with 10-key and press [OK] key.

The adjustment value is set in the range of (1 - 999). When SIM 67-24 is used to adjust the automatic color balance and density, all the set values of this simulation are set to 500.

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.

When the overall density is low, or when the density is high and patch A is copied, use the arrow key to adjust all the adjustment values of A - Q (MAX) to a same level collectively.

Then, adjust each patch density individually. This is an efficient way of adjustment.

Referring to the black/gray patches, adjust so that each process (CMY) black/gray patch color balance of A - Q (MAX) approaches the black/gray patch level as far as possible. 6) Check the color balance and density.

(Refer to the item of the printer color balance and density check.)



If the color balance is customized, use SIM 67-27 to register the color balance as the service target.

If the color balance is not customized, this procedure is not required.

If the customized color balance is registered as the service target, the automatic color balance adjustment can be made in the next color balance adjustment.

10-F Printer 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 10E (1) and ADJ 10E (2) or there is a request from the user. Normally there is no need to execute this adjustment.

This must be well understood for execution of the adjustment.

10-F (1)

Printer density adjustment (Low density section density adjustment) (No need to adjust normally)

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

Adjust to reproduction setting of the low density image.

This adjustment is required in the following cases.

- * When it is required not to reproduce images in the low density section, or to reproduce low-density images.
- * When there is request from the user.
- 1) Enter the SIM 67-36 mode.



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

10-F (2)

Printer high density image density reproduction setting (Supporting the high density section tone gap) (No need to adjust normally)

When a tone gap is generated in the high density section in the printer mode, the setting is changed to lower the density in the high density section.

This setting is normally not required, however, in the following cases, a change of setting must be made.

- * When a tone gap occurs on part of high density.
- * To lower the density in the high density section.
- a. Adjustment procedure
- 1) Enter the SIM 67-34 mode.



2) Select the item A, B with the scroll key.

	Item/Display		Content		Default value
A	CMY (0: ENABLE 1: DISABLE)	0	CMY engine highest density correction mode: Enable	0 - 1	0
		1	CMY engine highest density correction mode: Disable		
В	K (0: ENABLE	0	K engine highest density correction mode: Enable	0 - 1	1
	1: DISABLE)	1	K engine highest density correction mode: Disable		
С	CYAN MAX TARGET	Sca max	Scanner target value for CYAN maximum density correction		500
D	MAGENTA MAX TARGET	Sca MAC corr	nner target value for GENTA maximum density ection	0 - 999	500
E	YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction		0 - 999	500
F	BLACK MAX TARGET	Sca BLA corr	nner target value for CK maximum density ection	0 - 999	500

* 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.

Important

If the setting values of item C, D, E and F are changed, density of the high density part is changed.

When these values are changed, be sure to perform the printer color balance and density adjustment. (Automatic adjustment)

10-F (3)

Printer gamma adjustment for each dither (Automatic adjustment) (No need to adjust normally)

a. General

This adjustment is used to adjust the color balance and the density in the monochrome mode, the heavy paper mode, and the gloss paper mode.

This simulation is used to improve image quality in these modes and images.

b. Adjustment procedures

- 1) Enter the SIM67-54 mode.
- 2) Press [EXECUTE] key.

A4/11" x 8.5" paper is automatically selected. The color patch image (adjustment pattern) is printed out.

3) Set the color patch image (adjustment pattern) printed in the procedure 2) 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).



4) Press [EXECUTE] key.

The color balance adjustment is automatically performed. 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)	Content
Heavy Paper	Adjustment item to improve the color balance in the heavy paper mode
B/W	Adjustment item to improve the density and gradation in the monochrome mode

7) Press [EXECUTE] key.

A4/11" x 8.5" paper is automatically selected. The color patch image (adjustment pattern) is printed out. 8) Set the color patch image (adjustment pattern) printed in the procedure 7) 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).



9) Press [EXECUTE] key.

The color balance adjustment is automatically performed, and the machine goes to the state of procedure 6).

10) When [OK] 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] key, and the adjustment results are registered.

 Make a print, and check the print image quality. (Refer to the item of the printer color balance and density check.)

Note

Use SIM67-52 to reset the adjustment values to the default values.

10-F (4)

Automatic color balance adjustment by the user (Printer color balance automatic adjustment ENABLE setting and adjustment) (Normally unnecessary to the setting change)

a. General

In the user program mode, the user can execute the auto color calibration (auto adjustment of the printer 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 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.



- - 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 (automatic adjustment of printer color balance and density) is not displayed in the user program mode.

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



This adjustment is based on the service target color balance set with SIM 67-27 or SIM 67-28. If, therefore, the above settings are not properly performed, this adjustment cannot be made properly.

- 1) Enter the system setting mode.
- 2) Enter the printer setting mode.
- 3) Press the auto color calibration key.
- 4) Press [EXECUTE] key.
 - The color patch image (adjustment pattern) is printed out.
- Set the color patch image (adjustment pattern) printed in pro-5) cedure 4) on the document table.

Set the patch image so that the thin line 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).



Press [EXECUTE] key, and the printer color balance adjust-6) ment is executed automatically.

To execute the copy color balance adjustment successively, perform the procedures same as the above.

ADJ 11 Touch panel coordinate setting

This adjustment must be performed in the following cases:

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



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

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

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

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

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

ADJ 12 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.



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

- Machine in Copy mode: Select Program key -> Asterisk (*) key
 -> Clear key -> Asterisk (*) key -> Ready for input of main code of simulation.
- 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.
- 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	Lised to check the operation of the scanner (reading) unit and the control circuit	Scapper (reading)
	2	Used to check the operation of the scanner (reading) and and the related circuits	Scappor (reading)
	2	Used to check the sensors in the scamer (reading) section and the related circuits.	
2	5	Used to check the operation of the suite desument feed unit and the control circuit.	
2	1	Used to check the operations of the approximated unit and the desument feed unit exertise and the	
	2	control circuits	KOPF
	3	Lised to check the operations of the loads in the auto document feed unit and the control circuit	RSPE
5	1	Used to check the operation of the display I CD in the operation panel, and control circuit	Operation panel
Ŭ	2	Used to check the operation of the heater lamp and the control circuit	Fusing
·	3	Used to check the operation of the scapper lamp and the control circuit	Scapper (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	Paper transport/Paper exit
Ũ		control circuits.	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.	
	8	Used to display the warm-up time.	
	9	Color setting in the color copy test mode (Used to check the copy operation and the image quality for each	
	10	COIOF).	DODE
٥	12	The document reading number of sheets setting (for aging operation)	ROFF Process (Developing)
0	1	* 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	Process (Charging)
		circuit.	
		* When the middle speed is adjusted, the low speed are also adjusted simultaneously.	
	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)
13	-	Used to cancel the self-diag "U1" trouble.	
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	RSPF
	12	Insided to check the operating time of the process spatian (OPC drum, DV unit, topor cartridge)	Broose
	13	Lead to display the use status of the tener certridge	Broose
	14	Used to display the bistory of toner usage	FIDCESS
	13	Used to display the history of clear data	
	19	Used to check the values of the counters related to the scan - image send	
	40	Used to display the error code list and the contents.	
	42	Used to check the JAM/trouble data.	
	43	JAM data details display	
	90	Used to output the various set data lists.	
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.)	
	80	Used to check the operation of paper feed and paper transport in the paper feed section and the paper	Paper feed, Paper transport
		transport section. Used to output the list of the operation status of the sensor and the detectors in the paper	
		feed section and the paper transport section.	
	81	Used to check the operation of paper feed and paper transport in the paper feed section and the paper	Paper feed, Paper transport
		transport section. Used to receive the list of the operation status of the sensor and the detectors in the paper	

Main	Sub	Functions	Section
24	1	Used to clear the jam counter, and the trouble counter. (After completion of maintenance, clear the counters.)	
	2	Used to clear the number of use (the number of prints) of each paper feed section.	
	- 3	Used to clear the finisher SPE/RSPE and the scan (reading) unit counter	
	3	Used to clear the maintenance counter, the printer counters of the transport unit and the fusing unit	
	7	(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	
	0	Used to clear the copy counter.	
	10	Light to clear the FAX counter (Only when FAX is installed)	
	10	Used to clear the FAX counter: (Only when FAX is instaned)	
	12	Used to clear the document ming counter.	
	10	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	Image process (Photoconductor/
		voltage, developer adjustment area and sensitivity adjustment value by driving the all drum	Developing/Transfer/Cleaning)
		motors.(Automatic adjustment)	6
	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
26	2	Set the paper size of the Tandem LCC	Paper exit
		(When the paper size is changed, this simulation must be executed to change the paper size in software.)	
	3	Used to set the specifications of the auditor.	Auditor
		(Setting must be made according to the auditor use conditions.)	
	6	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.	
	7	Used to set the machine ID.	
	10	Used to set the trial mode of the network scanner.	
	18	Used to set Disable/Enable of the toner save mode operation. (For the Japan and the UK versions.)	
	30	Used to set the operation mode corresponding to the CE mark (Europe safety standards). (For slow start to	
		drive the fusing heater lamp)	
	32	Used to set the specifications of the fusing cleaning operation.	Fusing
	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.	
	41	Used to set Enable/Disable of the magnification ratio automatic select function (AMS) in the center binding	
		mode.	
	49	Used to set the print speed of postcards mode.	
	50	Used to set functions.	
	52	Used to set whether non-printed paper (insertion paper, cover paper) is counted up or not.	
	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.	
	74	Used to set the OSA trial mode.	
	78	Used to set the password of the remote operation panel.	
	79	Used to set YES/NO of the pop-up display of user data delete result.	
27	1	Used to set non-detection of communication error (U7-00) with RIC. (FSS function)	
	2	Used to set the sender's registration number and the HOST server telephone number. (FSS function)	
	4	Used to set the initial call and toner order auto send. (FSS function)	
	5	Used to set the machine tag No. (This function allows the host computer to check the machine tag No.) (ESS	Communication (RIC/MODEM)
	-	function)	
	6	Used to set of the manual service call. (FSS function)	
	7	Used to set of the enable, alert call out, (FSS function)	
	9	Used to set the paper transport time recording YES/NO threshold value and shading gain adjustment retry	
	ĩ	number. (FSS function)	
	10	Used to clear the trouble prediction history information. (FSS function)	
	11	Used to check the serial communication retry number and the scanner gain adjustment retry number history	
		(FSS function)	
	12	Used to check the high density, halftone process control and the automatic registration adjustment error	
		history. (FSS Function)	
	14	Used to set the FSS function connection test mode.	
	15	Used to display the FSS connection status.	
	16	Lised to set the FSS alert send	
	17	Used to set the ESS paper order alert	
	18	Used to clear the FSS paper feed retry counter	
30	1	Used to check the operations of the sensors and the detectors in other than the paper feed section and the	
30		control circuits	
	2	Used to check the operations of the sensors and the detectors in the paper feed section and the control	
	2	osed to check the operations of the sensors and the detectors in the paper reed section and the control circuite	
13	1	lised to set the fusing reference temperature of each operation mode	
	2	Fusing temperature setting	
	2 20	Tuoing temperature setting.	
	20	temperature setting (SIM 43-1) in each paper mode	
	21	Temporation setting (University in each paper fillude.	
	21	temperature setting (SIM 43-1) in each paper mode	
	24	Used to set the correction of the temperature adjustment value of SIM /3-1 and /3-/	
1	27	ous to set the concettent of the temperature aujustment value of only 45" I and 45"4.	

Main	Sub	Functions	Section
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.	Developing system
	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
	43	Used to display the identification information of the developing unit	Developing system
	43 62	Used to display the identification minormation of the developing dmit.	Developing system
46	1	Used to adjust the copy density in the color copy mode	
10	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.	
	8	Used to adjust the image send mode color balance RGB.	
	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 plack component amount in the color copy mode.	
	39	Used to adjust the Sharphess of FAA send Intages.	
	40	Used to adjust the FAX send image density. (Collective adjustment of all the modes)	
	42	Used to adjust the FAX send image density. (Normal)	
	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.	
	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)	
	E	Uled to correction the scan image magnification ratio (in the sub according direction)	Scappor socian
	5 6	Used to solvestion the scan image magnification ratio (in the sub scanning direction).	Scanner Section
	Ö	Used to adjust the rotation speed of each motor.	

Main	Sub	Functions	Section
49	1	Used to perform the firmware update.	
	3	Used to update the operation manual in the HDD.	
	5	Used to perform the watermark update.	
50	1	Copy image position, image loss adjustment	
	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)	
	22	Used to adjust the image registration. (Main scan direction, sub scan direction)	
		(Auto adjustment)/OPC drum phase adjustment (Auto adjustment)	
	23	Used to adjust the temperature correction value (Registration correction).	
	24	Used to display the detail data of SIM 44-2, 50-20 and 22.	
	27	Used to perform the image loss adjustment of scanned images in the FAX or image send mode.	
51	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.	
		(I his adjustment is performed when there is a considerable variation in the print image position on the paper	
52	0	Used to adjust the desument lead edge reference and the SDE mode desument even position	
55	0	Used to dejust the document lead edge reference and the SFT mode document scan position.	
	9	Used to detect the dirt of the dirt detection position of the SDE	
55	10	Used to set the approximations of the appring control operations (SOFT SW)	
55	1	Used to set the specifications of the engine control operations. (SOFT SW)	
	2	Used to set the appointations of the scatteller operation. (SOFT SW)	
	10	Used to set the specifications of the controller operation. (SOFT SW)	
56	10	Used to set the special stamp text. (Talwari only)	
50	2	Used to transport data between HDD - MFF FWB SKAW/EEFROM. (Used to repair the FWB.)	
	2	memory (Corresponding to the device cloping and the storage backup.)	
	3	Lised to backup the document filing data to the LISB memory	
	4	Used to backup the JOB log data to the USB memory	
	5	Used to print out the each data and simulation list	
	6	Used to import the SIM23-2 data into a LISB memory in the TEXT format	
	7	Used to import SYSLOG data into a USB memory	
60	1	Used to check the operations (read/write) of the MEP PWB memory	
61	1	Used to check the LSU polygon motor rotation and laser detection	I SU
0.	3	Used to set the laser power	
	4	Used to print the print image skew adjustment pattern. (LSU unit)	
62	1	Used to format the hard disk/SD Card. (HDD: Excluding the Operation manual and the watermark data) (SD	
	-	Card: User data)	
	2	Used to check read/write of the hard disk (partial).	
	3	Used to check read/write of the hard disk (all areas).	
	6	Used to perform the self diagnostics of the hard disk.	
	7	Used to print the hard disk self diagnostics error log.	
	8	Used to format the hard disk/SD Card. (HDD: Excluding the Operation Manual, the watermark data, and the	
		system area) (SD Card: User data)	
	10	Used to clear the job completion list data.	
	11	Used to delete the document filing data.	
	12	Used to set Enable/Disable of auto format in a hard disk trouble.	
	13	Used to format the hard disk. (Operation Manual, watermark data only)	
	14	Used to delete the document filing management data.	HDD
63	1	Used to display the shading correction result.	Scanner
	2	Used to perform shading.	
	3	Used to perform scanner (CCD) color balance and gamma auto adjustment.	Scanner
ļ	5	Used to perform the scanner (CCD) color balance and gamma default setting.	
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)	
	7	Used to print the adjustment pattern of the test print .(Self print).	
		(The adjustment pattern of SIM46-21 is printed.)	

Main	Sub	Functions	Section
66	1	Used to display the FAX-related soft SW (2 - 150) on the LCD to allow changing the soft SW while checking	FAX
		with the LCD.	
	2	Used to enter a country code and set the default value for the country code.	FAX
	3	Used to check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result.	FAX
	4	Used to send the selected signals to the line and the main unit speaker.	FAX
	5	Used to send the selected signal to the line and the main unit speaker. (Send level: Soft SW setting) (For the kinds of send signals, refer to SIM66-04.)	FAX
	6	Used to print the confidential registration check table (BOX NO., BOX name, passcode. (If there is no confidential registration, no print is made.)	FAX
	7	Used to output all image data saved in the image memory of FAX part.	FAX
	8	Used to send the selected sound messages to the line and the speaker.	FAX
	9	Used to send the selected sound message to the line and the speaker. (Send level: Soft SW setting) * For details of sound messages, refer to the sound message table of SIM66-08.	FAX
	10	Used to clear the FAX image data.	FAX
	11	Used to send the selected signal at 300bps to the line and the speaker.	FAX
	12	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Soft SW setting) * For the kings of send signals at 300bps, refer to SIM66-11, 300bps send signal table.	FAX
	13	Used to execute the dial send test.	FAX
	14	Used to execute the dial pulse (10PPS) send test and to adjust the make time.	FAX
	15	Used to execute the dial pulse (20PPS) send test and to adjust the make time.	FAX
	16	Used to execute the DTFM signal send test and to adjust the send level.	FAX
	17	Used to send the DTMF signal to the line and the speaker.	FAX
	18	Used to send the DTMF signal to the line and the speaker. (Send level: Soft SW setting)	FAX
	21	Used to print the selected items (FAX setting list, software SW list, protocol monitor).	FAX
	22	Used to set the handset sound volume. (This simulation can be executed even though the handset setting is set to NO. When, however, the handset is not installed, the sound volume cannot be checked.) (Japan model	FAX
	24	Unity)	EAX
	24	Used to clear the talenhone back data (the one tauch registration table, the ETD/Deckton expansion table	FAX
	29	the group expansion table, the program registration table, the interface memory box table, the meta data, InboundRouting, and the DocumentAdmin table).	FAA
	30	Used to display the TEL/LIU status change. The display is highlighted by status change.	FAX
	31	Used to set ON/OFE 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
	36	Used to check send and receive data from the MODEM controller to the MFP controller or the data line or the command line individually.	FAX
	39	Used to check and change the destination setting saved in EEPROM of the FAX BOX.	FAX
	42	Used to rewrite the program to power control installed in the FAX BOX.	FAX
	43	Used to write the adjustment value into the power control installed in the FAX BOX.	FAX
	61	Used to display the FAX-related soft SW (151 - 250) on the LCD to allow changing the soft SW while checking with the LCD.	FAX
	62	Used to import the FAX receive data into a USB memory in PDF file type.	FAX
67	17	Printer reset	Printer
	24	Printer color balance adjustment (Auto adjustment)	Printer
	25	Printer color balance adjustment (Manual adjustment)	Printer
	26	Used to set the target color balance of the printer mode auto color balance adjustment.	Printer
	27	Used to set the service target of the printer mode auto color balance adjustment.	Printer
	28	Used to set the default of the service target of the printer mode auto color balance 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
	41	Used to set the threshold value for the printing judgement in the black color of the black and white printing or the selected color.	Printer
	42	Used to change the gradation by increasing or decreasing the amount of the black color in the black and white printing or the selected color.	Printer
	43	Used to adjust the color balance of the black and white printing finely.	Printer
	45	Used to adjust the printer image filter and trapping.	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.)	
	54	Printer color balance adjustment (Automatic adjustment for each dither)	Printer

3. Details of simulation Gemini

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

Operation/Procedure

1) Select the operation speed with the touch panel key.

2) Press [EXECUTE] key.

> Scanning is once performed at the speed corresponding to the scan resolution (operation speed).

Item	Display	Operation mode	Default value
OC	300DPI	300DPI (220.0 mm/s)	300DPI
SCAN	400DPI	400DPI (165.0 mm/s)	(220.0 mm/s)
	600DPI	600DPI (110.0 mm/s)	

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

Section **Operation/Procedure**

The operating status of the sensor is displayed.

When "MHPS" is highlighted, the scanner unit is in the home position.

Scanner (reading)

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

Section Scanner (reading)

Operation/Procedure

- 1) Select the operation speed with the touch panel key.
- 2) Press [EXECUTE] key.

Scanning is repeated at the speed corresponding to the scan resolution (operation speed).

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

ltem	Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (220.0 mm/s)	300DPI
	400DPI	400DPI (165.0 mm/s)	(220.0 mm/s)
	600DPI	600DPI (110.0 mm/s)	

2-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the auto- matic document feeder and the control cir- cuit.
Section	RSPF

Operation/Procedure

Select the operation mode and the speed with the touch panel 1) key.

2) Press [EXECUTE] key.

The RSPF repeats paper feed, transport, and paper exit operations at the speed corresponding to the scan resolution (operation speed).

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

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

2-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sen- sors and the detectors in the automatic document feeder section and the control circuits.
Section	RSPF
Operation/Procedure	

The operating conditions of the sensors and detectors are displayed.

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

Display	Content
SSET	SPF installation detection
SCOV	RSPF cover open/close detector
SPED	Document sensor
SPPD1	Document transport sensor 1
SPPD2	Document transport sensor 2

2-3	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the automatic document feeder and the control circuit.
Section	RSPF

Operation/Procedure

1) Select a target item of the operation check with the touch panel key.

Press [EXECUTE] key. 2)

The selected load performs the operation.

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

Display	Content
SPFM_F	RSPF transport motor (normal rotation)
SPFM_R	RSPF transport motor (reverse rotation)
SPUS	Paper feed roller pressure control solenoid (RSPF)
SRVC	Registration roller clutch (RSPF)

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

Operation panel

Operation/Procedure

Section

The LCD is changed as shown below.

The contrast changes every 2sec from the current level to MAX -> MIN -> the current level. During this period, each LED is lighted. The LCD display contrast change and the LED lighting status are

checked.

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

Operation/Procedure

frame fusing section.

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

The selected heater lamp operates ON/OFF.

When [EXECUTE] key is pressed, the operation is terminated. Heater lamp operation check method:

Remove the front cabinet upper and the paper exit tray, and the lighting status of each heater lamp can be checked through the clearance between the fusing pressure release drive gear and the

HL_LM	Heater lamp (MAIN) (Paper surface heat roller)

5-3	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the scanner lamp and the control circuit.
Section	Scanner (reading)

Operation/Procedure

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

The scanner lamp lights up for 10 sec.

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

5-4	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the dis- charge lamp and the control circuit.
Section	Process

Section F Operation/Procedure

- Select a target of the operation check with the touch panel key. When [ALL] key is pressed, all the items are selected.
- 2) Press [EXECUTE] key.

The selected discharge lamp is lighted for 30 sec. When [EXECUTE] key is pressed, the operation is terminated.

DL_K	Discharge lamp K
------	------------------

DL_C	Discharge lamp C
DL_M	Discharge lamp M
DL_Y	Discharge lamp 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 the touch panel key.
- 2) Press [EXECUTE] key.

The selected load performs the operation.

When [EXECUTE] key is pressed, the operation is terminated. Load operation check method:

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

ltem/ 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
1TURC	Primary transfer separation clutch 1	1TURC 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 the touch panel key.
- 2) Press [EXECUTE] key.
 - The selected load performs the operation.

When [EXECUTE] key is pressed, the operation is terminated. Press [ALL] key to select all the fans collectively.

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 transport unit and the control circuit.
Section	Process (Transport)

1) Select the operation mode with the mode select button.

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

 When [EXECUTE] key is pressed, the operation of the mode selected in 1) is performed.

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

Operation/Procedure

1) Press [EXECUTE] key.

The scanner is shifted to the lock enable position and stopped.



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

Operation/Procedure

1) Select an item to be set with the touch panel key.

2) Press [EXECUTE] key.

The machine is rebooted in the aging mode.

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

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

7-6	
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] key.
 - The time entered in procedure 1) is set.
 - * The interval time that can be set is 1 to 900 (sec).

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

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

Operation/Procedure

Press [EXECUTE] key.

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

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

7-9	
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

- Select the copy color with the touch panel key. (Two or more colors can be selected.) The key of the selected color is highlighted.
- 2) Press [EXECUTE] key.
 - Copying is performed with the selected color.

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

к	Setup/cancel of black
С	Setup/cancel of cyan
М	Setup/cancel of magenta
Y	Setup/cancel of yellow

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] 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 are also adjusted simultane- ously.
Section	Process (Developing)

- 1) Select a speed with [MIDDLE] and [LOW] keys on the touch panel.
- 2) Select a target item to be adjusted with scroll keys.
- 3) Enter the setting value with 10-key. (The value specified on the label of the high voltage PWB must be entered.)
 - * When the $\bigtriangleup \bigtriangledown$ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [EXECUTE] key.

The set value is saved and the voltage entered with step 3) is output for 30 sec.

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

No.	ltem/ Display	Content	Setting range	Default Setting
1	MIDDLE DVB_K	K developing bias set value at middle speed	0-600	450
2	MIDDLE DVB_C	C developing bias set value at middle speed	0-600	450
3	MIDDLE DVB_M	M developing bias set value at middle speed	0-600	450
4	MIDDLE DVB_Y	Y developing bias set value at middle speed	0-600	450
5	LOW DVB_K	K developing bias set value at low speed	0-600	450
6	LOW DVB_C	C developing bias set value at low speed	0-600	430
7	LOW DVB_M	M developing bias set value at low speed	0-600	430
8	LOW DVB_Y	Y developing bias set value at low speed	0-600	430

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

Operation/Procedure

1) Select a target item to be adjusted with scroll keys.

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 simultane- ously.				
Section	Process (Charging)				

Operation/Procedure

- 1) Select a speed with [MIDDLE] and [LOW] keys on the touch panel.
- 2) Select a target item to be adjusted with scroll keys.
- 3) Enter the adjustment value with 10-key. (The value specified on the label of the high voltage PWB must be entered.)
 - * When the $\bigtriangleup \bigtriangledown$ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [EXECUTE] key.

The set value is saved and the voltage entered with step 3) is output for 30 sec.

No.	ltem/ 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
3	M GB_M	M grid bias set value at middle speed		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

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

2) Enter the set value with 10-key.

Enter the default value specified on the following list.

3) Press [EXECUTE] key.

The set value is saved and the voltage corresponding to the set value is output for 30 sec. When [EXECUTE] key is pressed, the output is terminated.

Item/Display Content			Setting value	Default value			
А	TC1 LOW SPEED CL K		Color	к	Low speed	51 - 255	95
В	TC1 MIDDLE SPEED CL K	Primary transfer bias adjustment value			Middle speed	51 - 255	146
С	TC1 LOW SPEED CL CMY			CMY	Low speed	51 -255	139
D	TC1 MIDDLE SPEED CL CMY				Middle speed	51 - 255	186
Е	TC1 LOW SPEED BW K		Plook/M/bito	K	Low speed	51 - 255	95
F	TC1 MIDDLE SPEED BW K		DIACK/WHILE	IX.	Middle speed	51 - 255	146

Item/Display		Content			Setting value	Default value	
G	TC2 PLAIN CL SPX		Calar		Front surface	51 - 255	103
Н	TC2 PLAIN CL DPX		COIOI	Plain	Back surface	51 - 255	96
1	TC2 PLAIN BW SPX		Plook/M/bito	paper	Front surface	51 - 255	90
J	TC2 PLAIN BW DPX		Black/White		Back surface	51 - 255	83
К	TC2 HEAVY CL SPX		Color		Front surface	51 - 255	83
L	TC2 HEAVY CL DPX		000	Heavy	Back surface	51 - 255	76
М	TC2 HEAVY BW SPX		Dia ak/M/bita	paper	Front surface	51 - 255	69
Ν	TC2 HEAVY BW DPX	Secondary transfer bias	Black/White		Back surface	51 - 255	69
0	TC2 OHP CL	adjustment value	Color			51 - 255	69
Р	TC2 OHP BW		Black/White		UHP	51 - 255	69
Q	TC2 ENVELOPE CL		Color			51 - 255	69
R	TC2 ENVELOPE BW		Black/White	E	Invelope	51 - 255	69
S	TC2 THIN CL		Color	Thin paper		51 - 255	96
Т	TC2 THIN BW		Black/White	1	nin paper	51 - 255	90
U	TC2 GLOSSY CL		Color			51 - 255	83
V	TC2 GLOSSY BW		Black/White	G	oss paper	51 - 255	76
W	TC2 CLEAN LOW SPD		Low speed p	orint mode	(positive pole)	0 - 255	0
Х	TC2 CLEAN MIDDLE SPD	Secondary transfer	Middle apeed	print mode	e (positive pole)	0 - 255	0
Y	TC2 CLEAN -	cleaning bias	Cleaning bias (negative pole)		0 - 255	59	
Ζ	TC2 CLEAN +	adjustment value	Cleaning bias (positive pole)		0 - 255	119	
AA	TC2 COUNTER		Counter voltage output (positive pole)		0 - 255	119	

10

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

Operation/Procedure

- 1) Select a target of the operation check with the touch panel key. When [ALL] key is pressed, all the items are selected.
- 2) Press [EXECUTE] key.

The selected load operation is performed for 10 sec.

When $\left[\mathsf{EXECUTE} \right]$ key is pressed, the operation is terminated.

Important

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



13			
Purpose	Cancel (Trouble etc.)		
Function (Purpose)	Used to cancel the self-diag "U1" trouble.		
Section			
Operation/Procedure			

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key to execute cancellation of the trouble.

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

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key to execute cancellation of the trouble.

16	
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16	
Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U2" trouble.
Section	MFP PWB / PCU PWB / SCU PWB
Operation/Procedure	

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key to execute cancellation of the trouble.



21-1

211	
Purpose	Setting
Function (Purpose)	Used to set the maintenance cycle.
Section	

Operation/Procedure

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

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

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 scroll key on the touch panel.

Item	Display	Content		
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)	
	TOTAL (2COL)	Total use quantity of 2-color	Effective paper (including self print, excluding jams)	
	TOTAL (3COL)	Total use quantity of 3-color	Effective paper (including self print, excluding jams)	
	TOTAL (SGL_COL)	Total use quantity of single color	Effective paper (including self print, excluding jams)	
Сору	COPY (BW)	Black and white copy counter	Billing target (excluding self print)	
	COPY (COL)	Full color copy counter	Billing target (excluding self print)	
	COPY (2COL)	2-color copy counter	Billing target (excluding self print)	
	COPY (SGL_COL)	Single color copy counter	Billing target (excluding self print)	

Item	Display	C	ontent
Print	PRINT (BW)	Black and white	Billing target
		print counter	(excluding self print)
	PRINT (COL)	Full color print	Billing target
		counter	(excluding self print)
	PRINT (2COL)	2-color print	Billing target
		counter	(excluding self print)
	PRINT (3COL)	3-color print	Billing target
		counter	(excluding self print)
	PRINT	Single color print	Billing target
	(SGL_COL)	counter	(excluding self print)
Document	DOC FIL (BW)	Black and white	Billing target
filing		document filing	(excluding self print)
		print counter	
	DOC FIL	Color document	Billing target
	(COL)	filing print counter	(excluding self print)
	DOC FIL	2-color document	Billing target
	(2COL)	filing print counter	(excluding self print)
	DOC FIL(SGL	Single color	Billing target
	COL)	document filing	(excluding self print)
		print counter	
Other	OTHER (BW)	Black and white	Self print quantity
		other counter	
	OTHER (COL)	Color other	Self print quantity
		counter	

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

The paper jam, trouble counter value is displayed.

MACHINE JAM	Machine JAM counter
RSPF/DSPF JAM	RSPF 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) his-
	tory.
Section	

Operation/Procedure

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

22-5	
Purpose	Others
Function (Purpose)	Used to check the ROM version of each unit (section).
Section	Firmware

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

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

22-6	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output the setting/adjustment data
	(simulation, FAX soft switch, counter), the
	firmware version, and the counter list.

Section

Operation/Procedure

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

1) Select the print list mode.

ltem	Print list mode	Print content
DATA PATTERN	NO.1	Firmware version, counter data, etc.
	NO.2	SIM50-24 data
	NO.3	Data related to the process control
2SIDED	1-SIDED	Simplex surface print (Default)
PRINT	2-SIDED	Duplex surface print

Press [EXECUTE] key to start printing the list selected in step 2) 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-C301	Main unit
	MX-C301W	
SPF	STANDARD	Reversing single pass feeder
DESK	MX-CS11	Paper feed unit
FAX1	NONE/	Facsimile expansion kit
	STANDARD	
PRINTER	STANDARD	PCL
PS	STANDARD	PS expansion kit
XPS	MX-PUX1	XPS expansion kit
SECURITY	MX-FR46U	Data security kit (commercial version)
AIM	MX-AMX1	Application integration module
SDRAM (SYS)	*****MB	SDRAM capacity
SDRAM (ICU)	*****MB	SDRAM capacity
HDD	*****MB	Hard disk capacity
SD	*****MB	SD Card capacity
NIC	STANDARD	NIC
BARCODE	MX-PF10	Bar code font
INTERNET-FAX	MX-FWX1	Internet Fax expansion kit
ACM(*)	MX-AMX2	Application communication module
EAM(*)	MX-AMX3	External account module

(*) Displayed only in the OSA models.

22-11	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the use frequency (send/ receive) of FAX. (Only when FAX is installed)
Section	FAX

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

FAX OUTPUT	FAX print quantity counter (for line 1)
FAX SEND	FAX send counter
FAX RECEIVED	FAX receive counter
SEND IMAGES	FAX send quantity counter (for line 1)
SEND TIME	FAX send time
RECEIVED TIME	FAX receive time

22-12			
Purpose	Adjustment/Setting/Operation data check		
Function (Purpose)	Used to check the RSPF misfeed positions and the number of misfeed at each posi- tion. (When the number of misfeed is con- siderably 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) and the fusing unit
Section	Process

Operation/Procedure

The number of prints and the number of rotations in the process section are displayed.

Item/Display	Content	Print counter	RPM	Number of use days	Life meter	Number of remaining days
MAINTENANCE ALL	Maintenance counter (Total) (Counter)	Max. 8	Not displayed	0 - 999	0 - 100 (%)	0 - 365
MAINTENANCE COL	Maintenance counter (Color)	Max. 8	Not displayed	0 - 999	0 - 100 (%)	0 - 365
FUSING UNIT	Fusing belt	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
TC1 UNIT	Primary transfer unit	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
TC1 BELT	Primary transfer belt	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
TRANSFER BLADE	Transfer cleaning blade	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
TC2 UNIT	Secondary transfer unit	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
TC2 ROLLER	Secondary transfer roller	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
OZONE FILTER	Ozone filter	Max. 8	Not displayed	0 - 999	0 - 100 (%)	0 - 365
DEVE CTRG (K)	DV unit (K)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
DEVE CTRG (C)	DV unit (C)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
DEVE CTRG (M)	DV unit (M)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
DEVE CTRG (Y)	DV unit (Y)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
DRUM CTRG (K)	OPC drum unit (K)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
DRUM CTRG (C)	OPC drum unit (C)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
DRUM CTRG (M)	OPC drum unit (M)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
DRUM CTRG (Y)	OPC drum unit (Y)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	0 - 365
TONER CTRG (K)	Toner cartridge (K)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	Not displayed
TONER CTRG (C)	Toner cartridge (C)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	Not displayed
TONER CTRG (M)	Toner cartridge (M)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	Not displayed
TONER CTRG (Y)	Toner cartridge (Y)	Max. 8	Max. 8	0 - 999	0 - 100 (%)	Not displayed

22-14	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the use status of the toner cartridge.
Section	Process

The status of the toner cartridge is displayed.

Display item	Content	Accumulated No. of installed cartridges (Unit)	Accumulated No. of near near end (Unit)	Accumulated No. of end (Unit)	Remaining quantity (Unit: %)
		INSTALL	NN END	END	RESIDUAL
TONER (K)	Toner cartridge use counter (K)	0 - 255	0 - 255	0 - 255	0-25%
TONER (C)	Toner cartridge use counter (C)				25-50%
TONER (M)	Toner cartridge use counter (M)				50-75%
TONER (Y)	Toner cartridge use counter (Y)				75-100%

22-18	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the user data delete history.
Section	

Operation/Procedure

The date and time of the user data delete are displayed.

Display item		Contont	
Item name	Date	Content	
START	Year/month/day/hour/min.	Delete history (Date and time of operation start)	
END	Year/month/day/hour/min.	Delete history (Date and time of operation end)	

22-19	
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 scroll key.

Item/Display		Content
Network	NET SCN	Network scanner document read quantity
scanner		
	NET SCN	Network scanner document read quantity
	ORG_CL	counter (Color scan job)
	NET SCN	Network scanner document read quantity
	ORG_2CL	counter (2-Color scan job)
	NET SCN	Network scanner document read quantity
	ORG_SGL	counter (Single-color scan job)
Internet	INTERNET FAX	Number of internet FAX output
FAX	OUTPUT	
	INTERNET FAX	Number of internet FAX sending page
	SEND OUTPUT	
	INTERNET FAX	Number of internet FAX receive
	RECEIVE	
	INTERNET FAX	Number of internet FAX send
	SEND	
E-Mail	MAIL	Number of times of E-MAIL send
	COUNTER	
FTP	FTP COUNTER	Number of FTP send

lte	m/Display	Content
Other	SMB SEND	Number of SMB send
	USB CNT	Number of times of USB storage
	TRIAL	Trial mode counter
	MODE_B&C	(B/W & COLOR scan job)
	SCAN TO	SCAN TO HDD record quantity (B/W)
	HDD_B/W	
	SCAN TO	SCAN TO HDD record quantity
	HDD_CL	(COLOR)
	SCAN TO	SCAN TO HDD record quantity
	HDD_2CL	(2-COLOR)
	SCAN TO	SCAN TO HDD record quantity
	HDD_SGL	(SINGLE color)

22-40	
Purpose	Error contents display
Function (Purpose)	Used to display the error code list and the
	contents.

Section Operation/Procedure

1) Select the main error code.

The sub error code and the contents are displayed.

22-42	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the JAM/trouble data
Section	

- 1) Select the item to be checked with the touch panel key.
- 2) Printable with [COLOR] and [MONO] keys.

	Counter		Content			Maria		
Display data	Display	Content	JAM CODE/ TROUBLE CODE	DATE/TIME	TOTAL COUNT(BW)	TOTAL COUNT(CL)	Max. number of histories	Remarks
PAPER JAM	PAPER JAM COUNT	Number of machine JAM troubles	Generated JAM code (Machine)	Generated date/time (YY/MM/DD HH:MM:SS)	Total output quantity of black and white	Total output quantity of color	50	The head is the latest, and the bottom is the oldest. The max. number of histories is 50.
SPF JAM	SPF JAM COUNT	Number of SPF JAM troubles	Generated JAM code (SPF)				50	When 50 is exceeded, the oldest one is not displayed sequentially.
TROUBLE	TROUBLE COUNT	Number of troubles	Generated trouble code				30	The head is the latest, and the bottom is the oldest. The max. number of histories is 30.
								When 30 is exceeded, the oldest one is not displayed sequentially.

22-43	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	JAM data details display
Section	

Operation/Procedure

 Select the item to be checked with the touch panel key. When [COUNTER] key is pressed, the JAM counter, the paper feed counter, and the paper feed retry counter are displayed. When [HISTORY1] key is pressed, the JAM history is displayed.

When [HISTORY2] key is pressed, the temperature and humidity data are displayed.

2) Printable with [COLOR] and [MONO] keys.

Display data and contents (COUNTER)

Item	Content
PAPER JAM COUNT	Number of machine JAM troubles
PAPER FEED COUNTER	Paper feed counter (Similar with SIM22-09 display content)
PAPER FEED RETRY COUNTER	Paper feed retry counter (Similar with SIM27-18 display content)

Display data and contents (HISTORY1)

ltem	Content	Description
NO	No	History number
JAM CODE	JAM Code	Jam code main
DATE/TIME	Date/Time	Occurrence date
TOTAL_BW	Total Count (BW)	Total counter (B/W)
TOTAL_CL	Total Count (CL)	Total counter (color)
P_S (*1)	Paper Size	Paper size
P_T (*1)	Paper Type	Paper type
JOB (*1)	Job Mode	Job mode
JN	Job No	First after JOB start or not
OF	Offset	Paper exit: Offset
EP	Exit Position	Paper exit: Exit position
PC	Punch	Paper exit: Punch
SP	Staple	Paper exit: Staple

*1: Refer to the detail display content of HISTORY1.

Display data and contents (HISTORY2)

Item	Content
NO.	History number
DATE/TIME	Occurrence date
TH_M	External air temperature sensor temperature/AD value
HUD_M	External air humidity sensor humidity/AD value
TH_UM	Fusing upper main thermistor (differential) temperature/AD value
TH_UM_AD1	Fusing upper main thermistor (compensation) temperature/AD value
TH_UM_AD2	Fusing upper main thermistor (detection) temperature/AD value
TH_LM	Fusing lower main thermistor (differential) temperature/AD value
TH_US	Fusing sub thermistor (differential) temperature/AD value
TEMPERATURE	Temperature thermistor (differential) temperature/AD value
HUMIDITY	Humidity sensor (differential) temperature/AD value
TH1_LSU	LSU thermistor1 (detection) AD value
TH_P	Thermistor in the main unit temperature/AD value
TH_PS	Thermistor of the temperature/AD value

Detail display content of HISTORY1

Display	Content		
NON	Inch series	No paper size	
WLG	fixed form	Double Legal	
WLR		Double Legal-R	
LD		Ledger	
LDR		Ledger-R (Double Letter)	
LG		Legal	
LGR		Legal-R	
FC		Foolscap	
FCR		Foolscap-R	
LT		Letter	
LTR		Letter-R	
IV		Invoice (Mini)	
IVR		Invoice-R (Mini)	
EC		Executive	
ECR		Executive-R	
A3W		A3W (12x18 in)	
AWR		A3W (12x18 in)-R	
012		22x17	
013]	22x17R	

Display		Content
014	Inch series	22x34
015	fixed form	22x34R
016		34x44
017		34x44R
018		44x68
019		44x68R
01A		9x12
01B		9x12R
01C		13x19
01D		13x19R
MLG		Mexican-Legal
MLR		Mexican-Legal-R
ALG		Asian-Legal
ALR		Asian -Legal-R
EXT	Other	Extra (Special)
A1	AB series	A1
A1R	fixed form	A1R
A2		A2
A2R		A2R
A3		A3
A3R		A3R
A4		A4
A4R		A4R
A5		A5
A5R		A5R
A6		A6
AGP		A6R
R3		B3
B3R		B3P
B4		BA
B4		D4 P4D
DD		DSD
DOR		DOK De
BO		BO
BOR		BOR
054		AUX2
055		AUX2 R
AU		AU
AUR		AUR
BO		BO
BOR		BOR
B1		B1
B1R		B1R
B2R		B2
B2R		B2R
K8		K8
K8R		K8R
K16		K16
16R		K16R
K32		K32
32R		K32R
066	AB series	SRA3
067	fixed form	SRA3R
068		SRA4
069		SRA4R
06A		318 x 469 mm
06B		469 x 318 mm
06C		234 x 318 mm
06D		318 x 234 mm
06E		312 x 440 mm
06F		440 x 312 mm
070		220 x 312 mm
071		312 x 220 mm
082	Domestic	DBL Postcard
083	special	DBL Postcard-R
084	(Envelope)	Postcard
085		Postcard-R
087		119 x 277 mm
089		120 x 235 mm
08B		90 x 205 mm
08D		90 x 185 mm

Display	Content	
08F	Domestic	240 x 332 mm
091	special	216 x 277 mm
093	(Envelope)	197 x 267 mm
095		190 x 240 mm
097		162 x 229 mm
099		142 x 205 mm
09B		119 x 197 mm
09D		120 x 176 mm
09F		114 x 162 mm
0A1		98 x 148 mm
0A3		105 x 235 mm
045		95 x 217 mm
047		98 x 190 mm
049		92 x 165 mm
044		
0AB		AB series L-version
040		AB series paperama size
0AC		AB series parto and size
0AD		AB series identification photo
UAE		AB series identification proto
UAF	0.1	AB series name card small
080	Other	A3 width
0B1		B4 width
0B2		A4 width
0B3		A3 width (Long size)
0B4		B4 width (Long size)
0B5		A4 width (Long size)
0BC		Custom (Large size)
0BD		Custom (Small size)
0BF		Custom
0C2	Oversea	Monarch
0C3	special	Monarch-R
0C4	(Envelope)	DL
0C5		DL-R
0C6		C4
0C7		C4-R
0C8		C5
0C9		C5-R
0CA		C6
0CB		C6-R
0CC		C65
0CD		C65-R
0CE		ISOB5
0CF		ISOB5-R
0D0		Size6-1/2
0D1		Size6-1/2-R
0D2		Size9
0D3		Size9-R
0D8		Com-10
0D9		Com-10-R
0DA		Inch series E-version
0DB]	Inch series L-version
0DC		Inch series panorama size
0DD		Inch series name card large
0DE	1	Inch series identification photo
0DF	1	Inch series name card small
0EC	Other	Extra (Special large size)
0ED	1	Extra (Special small size)
0EF	1	Extra (Special/Not fixed)
0F0	1	Long size
0FF	1	JAM (Used for canceling temporary charging in
		a coin vendor.)
L		· · · ,

Display content detail: Paper type (P_T)

Display	Content
UST	User type
LHP	Letter head paper
PNP	Perforated sheet
RCL	Recycled paper
COL	Color paper
PLN	Standard paper
PRP	Pre printed

Display	Content
OHP	OHP Transparency
HV	Heavy paper
LBL	Label sheet
ENV	Envelope
HG	Postcard
TAB	Tab sheet
THN	Thin paper
US1	User type 1
US2	User type 2
US3	User type 3
US4	User type 4
US5	User type 5
US6	User type 6
US7	User type 7
HV2	Heavy paper 2
PL2	Plain paper 2 (not used)
HV3	Heavy paper 3
HV4	Heavy paper 4
GLS	Glossy paper

Display content detail: Job mode (JOB)

Display	Content
SHD	Shading.
PCL	Process control
SIM	Test mode (Sim)
ICP	Interruption copy
CP	Сору
FXS	FAX send scan
AXS	AXIS
FXP	FAX reception print
PR	Printer
FXC	FAX communication report print
00A	Zaurus print
SLF	Self/Test print
00C	Document counter
RMT	Remote maintenance
00E	SIM 52-01
00F	Tandem (Cordless handset)
CFP	Confidential print
NET	Network scanner
PRF	Proof print

22-90	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output the various set data lists.
Section	

Operation/Procedure

- 1) Change the display with scroll key.
- 2) Select the print target with the keys on the touch panel.
- 3) Press [EXECUTE] key to start self print of the list.

All setting list (*)	ALL CUSTOM SETTING LIST
Printer test page	PCL SYMBOL SET LIST
	PCL INTERNAL FONT LIST
	PCL EXTENDED FONT LIST
	PS FONT LIST
	PS KANJI FONT LIST (Japan)
	PS EXTENDED FONT LIST
	NIC PAGE
Address registration	INDIVIDUAL LIST
list (*)	GROUP LIST
	PROGRAM LIST (Output Disable)
	MEMORY BOX LIST
	ALL SENDING ADDRESS LIST
Document filing list (*)	DOCUMENT FILING FOLDER LIST

System setting list	ADMIN. SETTINGS LIST (COPY)
	ADMIN. SETTINGS LIST (PRINT)
	ADMIN. SETTINGS LIST (IMAGE SEND)
	ADMIN. SETTINGS LIST (DOC FILING)
	ADMIN. SETTINGS LIST (SECURITY)
	ADMIN. SETTINGS LIST (COMMON)
	ALL ADMINISTRATOR SETTINGS LIST
Receive rejection	ANTI JUNK FAX NUMBER LIST
number table	
Receive rejection/	ANTI JUNK MAIL/DOMAIN NAME LIST
allow address	
domain table	
To E-mail	INBOUND ROUTING LIST
Transfer table list	
To administrator	DOCUMENT ADMIN LIST
Transfer list	
Web setting list	WEB SETTING LIST
Meta data set list	METADATA SET LIST

* When the data list print of system setting is inhibition in DSK model, this setting is invalid.

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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 [EXECUTE] key to execute print.

The trouble history of paper jams and misfeed is printed.

ltem	Button display	Content
DATA PATTERN	NO.1	JAM/Trouble history print
	NO.2	Paper feed counter, JAM history details, and temperature/humidity history print

23-80	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of paper feed and paper transport in the paper feed sec- tion and the paper transport section. Used to output the list of the operation status of the sensor and the detectors in the paper feed section and the paper transport sec- tion.
Section	Paper feed, Paper transport

Operation/Procedure

When [EXECUTE] key is pressed, the timing list of paper feed and paper transport is outputted.

Used to print the operations timing list of the sensors and detectors in the paper feed and transport section.

The timing list of paper feed and paper transport operations of the latest job (copy or print) on the final paper is printed.

Since the paper feed and paper transport routes differ depending on the used paper feed tray and the print operation mode, the sensor and the detectors and the operation timing also differ.

JAM CODE	Jam code
DATA/TIME	Jam happened date and time

MODE	Mode at the time of jam happened
SIZE	Paper size
TYPE	Paper type
PICK TRAY	Paper feed tray
OUT TRAY	Output tray
INF1(ILLEGA L)	Illegal detection information
INF2(SENSO R)	Sensor information

23-81		
Purpose	Operation test/check	
Function (Purpose)	Export the data of SIM 23-80 with PDL data as the text format.	
Section	Paper feed, Paper transport	

1) Set the USB flash drive to the machine.

- 2) Press [EXECUTE] key.
- 3) Press [YES] key to export the data.
- 4) The result of the export is displayed.

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 the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

MACHINE	Machine JAM counter
SPF	RSPF JAM counter
TROUBLE	Trouble counter

24-2	
Purpose	Data clear
Function (Purpose)	Used to clear the number of use (the num-
	ber of prints) of each paper feed section.

Section

Operation/Procedure

1) Select the item to be cleared with the touch panel key.

- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

TRAY1	Tray 1 paper feed counter
TRAY2	Tray 2 paper feed counter
MFT	Manual paper feed counter (Total)
ADU	ADU paper feed counter

24-3	
Purpose	Data clear
Function (Purpose)	Used to clear the finisher, RSPF, and the
	scan (reading) unit counter.

Section

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

SPF	RSPF document feed counter
	(No. of discharged sheets)
SCAN	Scan counter
HP_ON	Number of scanner HP detection
OC LAMP TIME	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 the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

Number of day that used Maintenance Total	
MAINTENAN Maintenance Color (Counter)	
CE COL Number of day that used Maintenance Color	
FUSING Fusing unit Counter	
UNIT Number of day that used Fusing unit	
Fusing unit accumulated traveling distance	
TC1 UNIT 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 distan	се
TC2 UNIT Secondary transport unit counter	
Number of day that used Secondary transport unit	
Secondary transport unit accumulated traveling distant	nce
TC2 Secondary transport cleaning roller counter	
TROLLER Number of day that used Secondary transport cleaning	ng
Secondary transport cleaning roller accumulated	
traveling distance	
DRUM CTRG Drum unit counter (K)	
K Number of day that used Drum unit (K)	
Drum unit accumulated traveling distance (K)	
DRUMCTRG Drum unit counter (C)	
C Number of day that used Drum unit (C)	
Drum unit accumulated traveling distance (C)	
DRUMCTRG Drum unit counter (M)	
M Number of day that used Drum unit (M)	
Drum unit accumulated traveling distance (M)	
DRUMCTRG Drum unit counter (Y)	
Y Number of day that used Drum unit (V)	

OZONE	Ozone filter counter
FILTER	Number of day that used Ozone filter

* The counter for the Primary transport unit is cleared by being synchronized with the Primary transport belt counter and the Primary transport blade counter.

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 the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

Note

When SIM25-2 is executed, this counter is also cleared automatically.

	Developer cartridge print counter (K)
К	Accumulated number of rotations of the developer cartridge (cm) (K)
	Number of day that used developer (Day) K
	Developer cartridge print counter (C)
С	Accumulated number of rotations of the developer cartridge (cm) (C)
	Number of day that used developer (Day) C
М	Developer cartridge print counter (M)
	Accumulated number of rotations of the developer cartridge (cm) (M)
	Number of day that used developer (Day) M
Y	Developer cartridge print counter (Y)
	Accumulated number of rotations of the developer cartridge (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 the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

COPY BW	Copy counter (B/W)
COPY COL	Copy counter (COLOR)
SINGLE COLOR	Single color
2COLOR	2-color

24-9

24-9	
Purpose	Data clear
Function (Purpose) Used clear the printer mode print co	
	and the self print mode print counter.

Section

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.
 - The target counter is cleared.

PRINT BW	Print counter (B/W)
PRINT COL	Print counter (COLOR)
PRINT (2COL)	Print counter (2-colors)
PRINT (3COL)	Print counter (3-colors)
PRINT (SGL_COL)	Print counter (Single 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.	
	(Only when FAX is installed)	

Section

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

FAX Print quantity counter
FAX send counter
FAX receive counter
FAX send quantity counter
FAX send time
FAX receive time

24-12	
Purpose	Data clear
Function (Purpose)	Used to clear the document filing counter.
Section	

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.
 - The target counter is cleared.

DOC FIL(BW)	Black/White document filing print counter
DOC FIL(COL)	Color document filing print counter
DOC FIL(2COL)	2 colors document filing print counter
DOC FIL(SGL_COL)	Single color document filing print 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 the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

Division	Item/Display	Content
Network NET SCN ORG_B/W		Network scanner document read
scanner		quantity counter (B/W scan job)
	NET SCN ORG_CL	Network scanner document read
		quantity counter (COLOR scan job)
	NET SCN ORG_2CL	Network scanner document read
		quantity counter (2-color scan job)
	NET SCN ORG_SGL	Network scanner document read
		quantity counter (single color scan job)
Internet Fax	INTERNET FAX OUTPUT	Number of internet FAX output
	INTERNET FAX	Number of internet FAX sending
	SEND OUTPUT	page
	INTERNET FAX RECEIVE	Number of internet FAX receive
	INTERNET FAX SEND	Number of internet FAX send
E-mail	MAIL COUNTER	Number of times of E-MAIL send
FTP	FTP COUNTER	Number of FTP send
Other	SMB SEND	Number of SMB send
	USB CNT	Number of times of USB storage
	TRIAL MODE_B&C	Trial mode counter (B/W & COLOR scan job)
	SCAN TO HDD_B/W	SCAN TO HDD record quantity (B/W)
	SCAN TO HDD_CL	SCAN TO HDD record quantity (COLOR)
	SCAN TO HDD_2CL	SCAN TO HDD record quantity (2- COLOR)
	SCAN TO HDD_SGL	SCAN TO HDD record quantity (SINGLE color)

24-35	
Purpose	Data clear
Function (Purpose)	Used to clear the toner cartridge use status data.

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The toner cartridge use status data (SIM22-14) are cleared.

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 [MIDDLE], [LOW] keys.
- 2) Press [EXECUTE] key.

The developing motor and the OPC drum motor rotate for 3 minutes and the output level of the toner density sensor is displayed.

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

LOW	Process speed: Low speed
MIDDLE	Process speed: Medium speed

Important

The toner cartridge must be removed before executing this simulation.

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

25-2	
Purpose	Setting
Function (Purpose)	Used to make the initial setting of toner density when replacing developer. (Automatic adjustment)
Section	Image process (Photoconductor/Develop- ing/Transfer/Cleaning)

Operation/Procedure

- 1) Select a color to be adjusted with the touch panel.
- 2) Press [EXECUTE] key.

The developing motor rotates for 1 min 30 sec, 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.

Important

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, undertoner or overtone may occur, causing a trouble.

Division	Item/Display	Display range	Default value
Toner density control	AT DEVE ADJ_L_K	1 - 255	128
adjustment value in the	AT DEVE ADJ_L_C	1 - 255	128
low speed process mode	AT DEVE ADJ_L_M	1 - 255	128
	AT DEVE ADJ_L_Y	1 - 255	128
Toner density control	AT DEVE ADJ_M_K	1 - 255	128
adjustment value in the	AT DEVE ADJ_M_C	1 - 255	128
medium speed process	AT DEVE ADJ_M_M	1 - 255	128
mode	AT DEVE ADJ_M_Y	1 - 255	128
Toner density sensor	AT DEVE VO_L_K	1 - 255	128
control voltage level in the low speed process mode	AT DEVE VO_L_C	1 - 255	128
	AT DEVE VO_L_M	1 - 255	128
	AT DEVE VO_L_Y	1 - 255	128
Toner density sensor	AT DEVE VO_M_K	1 - 255	128
control voltage level in	AT DEVE VO_M_C	1 - 255	128
the medium speed	AT DEVE VO_M_M	1 - 255	128
process mode	AT DEVE VO M Y	1 - 255	128

Display during execution of the simulation

Item/Display	Content	
TCS_K	Toner sensor output value (K)	
TCS_C	Toner sensor output value (C)	
TCS_M	Toner sensor output value (M)	
TCS_Y	Toner sensor output value (Y)	
TSG_K	Toner density sensor control voltage level (K)	
TSG_C	Toner density sensor control voltage level (C)	
TSG_M	Toner density sensor control voltage level (M)	
TSG_Y	Toner density sensor control voltage level (Y)	

Error content

Display	Error name	Error content
EE-EL	EL abnormality	The sensor output level is less than 77, or the control voltage exceeds 207.
EE-EU	EU abnormality	The sensor output level exceeds 177, or the control voltage is less than 52.
EE-EC	EC abnormality	The sensor output level is outside of 128 +/-3.

25-4			
Purpose	Adjustment/Setting/Operation data check		
Function (Purpose)	Used to display the operation data of the toner supply quantity. (Not used in the market.)		
Section	Process		

Operation/Procedure

The operation data of the toner supply quantity are displayed.

Item/Display	Content	Display range
YLD_CNT_FB	Toner supply FB rate by the yield count	50 - 200
DELTA_DVB	Delta DVB (Process control DVB - Target DVB)	-500 - 500
IDL_DVB	Target DBV	100 - 600
PROCON_DVB	Process control DVB	100 - 600
DV_LIFE	Developer life area	1 - 32
COVERAGE_ AREA	Average print rate area	1 - 29
ENV_AREA	Environment area	1 - 16
MULTI_TIME	Toner supply drive time area (Specified by the DV motor rotation time)	1 - 8
PRO_FB_CNT	No. of remaining times of toner supply for the process control result	0 - 65535
PRO_FB_INT	Interval of toner supply for the process control result	0 - 65535
PRO_FB_RATIO	Correction rate of one-time toner supply for the process control result	-10 -10
RECV_MODE_ CNT(+)	No. of times of recovery mode (+) (No. of times of compulsory toner supply)	0 - 65535
RECV_MODE_ CNT(-)	No. of times of recovery mode (-) (No. of times of compulsory printing of one-color background image)	0 - 65535

25-5	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the toner density correction data. (Not used in the market.)
	,

Section Process

Operation/Procedure

The toner density correction data are displayed.

Display	Content	Display range
TCS_B_AVE.	Average value of the toner sensor output block	0 - 255
TSG_HUM	Current TSG environment correction value (Medium speed)	-127 - 127
TSG_COV	Current TSG print ratio correction value Medium speed)	-127 - 127
TSG_LIFE	Current TSG developer life correction value (Medium speed)	-127 - 127
TSG_ENV	Current TSG accumulated drive area correction value (Medium speed)	-127 - 127
DELTA_TSG	TA_TSG Control voltage correction value	
TSG_REF	Control voltage reference value (Medium speed)	0 - 255

Display	Content	Display range
TSG_TOTAL	Current applying TSG (Medium speed)	0 - 255
TCS_AVE.	Toner sensor output average value	0 - 255
TN_EMP_W	Number of times of detecting the toner empty threshold value w or above	0 - 255
TN_EMP_X	Number of times of detecting the toner empty threshold value x or above	0 - 255
TN_EMP_Y	Number of times of detecting the toner empty threshold value y or above	0 - 255

26

26-2				
Purpose	Setting			
Function (Purpose)	Used to set the paper size of the Tandem LCC. (When the paper size is changed, this simulation must be executed to change the			
Section	paper size in software.) Paper feed			

Operation/Procedure

Select a paper size and a weight system to be changed.

Item	Setting value	Content
G/LBS SET	0	GRAM
	1	LBS

Destination	Setting value
Destination	G/LBS SET
U.S.A	LBS
CANADA	LBS
INCH	LBS
JAPAN	GRAM
AB_B	GRAM
EUROPE	GRAM
U.K.	GRAM
AUS.	GRAM
AB_A	GRAM
CHINA	GRAM

26-3	
Purpose	Setting
Function (Purpose)	Used to set the specifications of the auditor. (Setting must be made according to the auditor use conditions.)
Section	Auditor
Operation/Procedure	•

Select an item to be set with the touch panel.

Item/Display		Content	Default value
BUILT-IN AUDITOR	P10	Built-in auditor mode (standard mode) operation.	P10

Item/Display		Content	Default value
	NONE	No external connection	NONE
AUDITOR	P VENDOR1	Coin vendor mode (Only the copy mode can be controlled.)	
	P VENDOR2	Vendor mode in which signals for the DocuLyser connected to the PCU are used for communication in parallel I/F.	
	P VENDOR3	Vendor mode in which signals for the intercard connected to the PCU are used for communication in parallel VE	
	P OTHER	Mode for an external auditor connected to the SCU.	
	VENDOR-EX (*1)	Vendor I/F for EQUITRAC	
	VENDOR-EX (MULTI) (*1) S VENDOR	VENDOR-EX + Multi job cueing Enable mode Serial vendor mode	
DOC ADJ	ON	Support for the auditor in document filing print	OFF
	OFF	No support for the auditor in document filing print	OFF
		performed in the duplex print mode. If the remaining money expires during continuous printing, the sheets in the machine are discharged without being printed on the back surfaces.	
	OFF	Continuous printing is not performed in the duplex print mode. (The remaining amount is checked for printing every surface in all the printing process.) If the remaining money expires during printing, the sheet is discharged without printing on the back surface.	
VENDOR MODE (*2)	MODE1 MODE2	Vendor mode 1 Vendor mode 2	MODE 3
COUNTUP TIMING	MODE3 FUSER_IN	Vendor mode 3 Mode in which the detection timing of the paper lead edge by the sensor after the paper passes the fusing section is used as the money charging timing.	EXIT_ OUT
	FUSER_OUT	Mode in which the detection timing of the paper rear edge by the sensor after the paper passes the fusing section is used as the money charging timing.	
	EXIT_OUT	Mode in which the detection timing of the paper rear edge by the paper exit sensor of the right paper exit tray or of the after process unit is used as the money charging timing.	
IMS CONTROL	ON OFF	Image send mode is limited. Image send mode is NOT	OFF

(*1) Displayed only when EQUITRAC.

(*2) Details of the vendor mode

Details of the vendor mode

	Completion of the	Insufficient n copy	Completion of the	
	specified quantity. (Money remaining)	BW/Color (no money remaining)	Color (Money remaining)	specified quantity. (No money remaining)
	Condition 1	Condition 2	Condition 3	Condition 4
MODE1	Operation 1	Operation 2	Operation 2	Operation 1
MODE2	Operation 1	Operation 1	Operation 2	Operation 1
MODE3	Operation 1	Operation 3	Operation 2	Operation 3

Operation 1:

Standby during setting time of auto clear. Default is 60 seconds, which can be changed in the system setting.

> Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.

Operation 2:

Auto clear is not made.

Operation 3:

The display is shifted to the initial screen.

26-6 Pur

pose			
	/ D	 -	_

Function (Purpose)

Section

Operation/Procedure

1) Select an item to be set with the touch panel.

Setting

2) Press [EXECUTE] key.

The selected set content is saved.

U.S.A.	United States of America
CANADA	Canada
INCH	Inch series, other destinations
JAPAN	Japan
AB_B	AB series (B5 detection), other destinations
EUROPE	Europe
U.K.	United Kingdom
AUS.	Australia
AB_A	AB series (A5 detection), other destinations
CHINA	China

26-7	
Purpose	Setting
Function (Purpose)	Used to set the machine ID.

Section

Operation/Procedure

1) Enter the machine ID with the 10-key.

Max. 30 digits of numerals and alphabetical characters can be inputted.

To select a desired character, press the 10-key repeatedly.

Refer to the following list and enter characters.

Touch the "CONFIRM" section every time a character is inputted.

To modify an inputted character, delete it with "CLEAR" key and enter the correct character.

2) Press [SET] key to set the contents entered in procedure 1).

Note

The machine ID can be set also by the Web Page service mode function.

Conventionally, the machine ID has been set by the Web Page function. In this mode, this function is made available in the simulation mode.

40 1	Number of times of key input									
10-кеу	1	2	3	4	5	6	7	8	9	10
1	1	-	1	1	-	-	-	1	-	-
2	Α	В	С	а	b	С	2	-	-	-
3	D	Е	F	d	е	f	3	1	-	-
4	G	Н	-	g	h	i	4	-	-	-
5	J	Κ	L	j	k	-	5	-	-	-
6	М	Ν	0	m	n	0	6	-	-	-
7	Р	Q	R	S	р	q	r	S	7	-
8	Т	U	V	t	u	v	8	-	-	-
9	W	Х	Y	Z	w	х	у	z	9	-
0	0	-	-	-	-	-	-	-	-	-

26-10	
Purpose	Setting
Function (Purpose)	Used to set the trial mode of the network scanner.
Section	

- 1) Enter the set value with 10-key.
- 2) Press [OK] key.

The set value in step 1) is saved.

TRIAL MODE	0	Trial mode setting	
(0: YES 1: NO)	1	Trial mode cancel (Default)	

26-18

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

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2) is saved.

Item	Display	Content		Default value
Α	COPY	0	0 Copy toner save mode is inhibited.	
		1	Copy toner save mode is allowed	0
В	PRINTER	0	Printer toner save mode is inhibited.	
		1	Printer toner save mode is allowed.	0

26-30	
Purpose	Setting
Function (Purpose)	Used to set the operation mode corre- sponding to the CE mark (Europe safety standards). (For slow start to drive the fus- ing heater lamp)
Section	

Operation/Procedure

1) Enter the set value with 10-key.

0	Control allowed
1	Control inhibited

2) Press [OK] key.

The set value in step 1) is saved.

* Even in Enable state, the control may not be executed due to the power frequency, etc.

U.S.A	1 (CE not supported)	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)

26-32	
Purpose	Setting
Function (Purpose)	Used to set the specifications of the fusing cleaning operation.
Section	Fusing

Operation/Procedure

1) Enter the set value with 10-key.

Enable/Disable of the user fusing cleaning function is set.

2) Press [OK] key.

Item/Display		Content Setting range		Default value	
A	CLEANIN G PRINT	User fusing cleaning function is Enable.	0	YES	0(YES)
	SET	User fusing cleaning function is Disable.	1	NO	

26-35	
Purpose So	etting
Function (Purpose) U tra oc m as	lsed to set the display mode of SIM 22-4 ouble history when a same trouble ccurred repeatedly. There are two display nodes: display as one trouble and display s several series of troubles.

Section Operation/Procedure

1) Enter the set value with 10-key.

0	Only once display.
1	Any time display.

2) Press [OK] key.

The set value in step 1) is saved.

26-38	
Purpose	Setting
Function (Purpose)	Used to set Continue/Stop of print when the
	maintenance life is reached.

Section

Operation/Procedure1) Enter the set value with 10-key.

2) Press [OK] key.

The set value in step 1) is saved.

Item/Display			Content	Default value
A	MAINTENANCE LIFE OVER (0: CONTINUE	0	Setting of Print Continue/ Stop when the maintenance life is over (Print Continue)	0
	1: STOP)	1	Setting of Print Continue/ Stop when the maintenance life is over (Print Stop)	

26-41

Purpose Setting

Function (Purpose)

Used to set Enable/Disable of the magnification ratio automatic select function (AMS) in the center binding mode.

Section

Operation/Procedure

1) Enter the set value with 10-key.

0	AMS Disable
1	AMS Enable

2) Press [OK] key.

The set value in step 1) is saved.

<Default value of each destination>

U.S.A	0 (Disable)	EUROPE	1 (Enable)
CANADA	0 (Disable)	U.K.	1 (Enable)
INCH	0 (Disable)	AUS.	0 (Disable)
JAPAN	0 (Disable)	AB_A	0 (Disable)
AB_B	0 (Disable)	CHINA	0 (Disable)

26-49	
Purpose	Setting
Function (Purpose)	Used to set the print speed of postcards
	mode.

Operation/Procedure

Section

Select the copy speed mode with the touch panel. (Default: LOW)

Item/Setting value	Content	Default value
LOW	Postcard copy speed LOW	LOW
HIGH	Postcard copy speed HIGH	

26-50	
Purpose	Setting
Function (Purpose)	Used to set functions.
Section	

Operation/Procedure

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

Item/Display			Content	Default value			
٨			BW reverse copy disable	Refer to			
A	DW REVERSE	1	BW reverse copy enable	*1			
в	COLOR MODE	2.	-color/single color copy mode Enable/Disable setting	Refer to *1/*2			
		0	All colors and monochrome counters are displayed				
C COLOR MODE(PRINTER)	COLOR MODE(PRINTER)	COLOR MODE(PRINTER)	COLOR MODE(PRINTER)	COLOR MODE(PRINTER)	1	All are displayed except for the 3-color print counter	Refer to *1
		2	Monochrome and full color print counters are displayed				
D			Paper feed tray color display ON during paper feed	0			
D FEED TRAY COLOR		1	Paper feed tray color display OFF during paper feed	0			
		0	Wireless Lan connection disable	0			
	E WIRELESS SET (1)		Wireless Lan connection enable	0			

Item/Display			Content	Default value
-	POWER SHUT-OFF	0	Automatic Power shut-off is displayed.	Refer to
г	SET (*1)	1	Automatic Power shut-off is not displayed.	*1

(*1) Default values for each destination of item A/B/D

Destination	Item A	Item B	Item D
USA	1	0	2
CANADA	1	0	2
INCH	1	0	2
JAPAN	1	7	2
AB_B	1	0	2
EUROPE	1	0	2
UK	0	0	2
AUS	1	0	2
AB_A	1	0	2
CHINA	1	0	2

(*2) Item B: COLOR MODE set value (OFF: Displayed/ON: Not displayed)

Set value	M	2-Color/Single	
Set value	Single	2-color	Counter
0	OFF	OFF	OFF
1	OFF	ON	OFF
2	ON	OFF	OFF
3	ON	ON	OFF
4	OFF	OFF	ON
5	OFF	ON	ON
6	ON	OFF	ON
7	ON	ON	ON

26-52	
Purpose	Setting
Function (Purpose)	Used to set whether non-printed paper
	(insertion paper, cover paper) is counted up
	or not.

Section

Operation/Procedure

1) Enter the set value with 10-key.

0	Count up
1	No count up

2) Press [OK] key.

The set value in step 1) is saved.

Destination	Default
U.S.A	0 (Counted)
CANADA	0 (Counted)
INCH	0 (Counted)
JAPAN	1 (Not counted)
AB_B	0 (Counted)
EUROPE	0 (Counted)
U.K.	0 (Counted)
AUS.	1 (Not counted)
AB_A	0 (Counted)
CHINA	0 (Counted)



26-53	
Purpose	Setting
Function (Purpose)	User auto color calibration (color balance
	adjustment) Inhibit/Allow setting.

Section

Operation/Procedure

1) Enter the set value with 10-key.

	Item/Display	Con	tent	Setting range	Default value
Α	COPY	Сору	Allow	1	1
	(1:YES 0:NO)	mode	Inhibit	0	
В	PRINTER	Printer	Allow	1	1
	(1:YES 0:NO)	mode	Inhihit	0	

2) Press [OK] key.

The set value in step 1) is saved.

26-69

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

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2 is saved.

Item/Display		Content		Setting range	Default value	
A	A TONER PREPARATION (0:YES 1:NO)		0	The toner preparation message is displayed. The toner preparation	0 - 1	List of Default values and set values for each destination
				message is not displayed.		
В	REMAINING TONER LEVEL	0.05	0	Toner preparation at remaining toner level of 5%	0 - 9	4
		0.1	1	Toner preparation at remaining toner level of 10%		
		0.15	2	Toner preparation at remaining toner level of 15%		
		0.2	3	Toner preparation at remaining toner level of 20%		
		0.25	4	Toner preparation at remaining toner level of 25%		
		0.3	5	Toner preparation at remaining toner level of 30%		

Item/Display		Content		Setting range	Default value	
В	REMAINING TONER LEVEL	0.35	6	Toner preparation at remaining toner level of 35%	0 - 9	4
		0.4	7	Toner preparation at remaining toner level of 40%		
		0.45	8	Toner preparation at remaining toner level of 45%		
		0.5	9	Toner preparation at remaining toner level of 50%		
С	TONER NEAF END (0:YES 1	R :NO)	0	The toner near end message is displayed.	0 - 1	List of Default values and
			1	The toner near end message is not displayed.		set values for each destination
D	TONER END		1	Operation setup 1	1 - 3	List of Default
			2	Operation setup 2		set values
			3	Operation setup 3		destination
E	E TONER END COUNT		Set nur prir Ena NE	ting of the nber of copy/ nt/FAX outputs able after TONER AR END.	1 - 3	1
F	TONER E-MA ALERT	IL	0	Low status send of E-mail alert (When the toner preparation message is displayed) (in near near toner end)	0 - 1	1
			1	Low status send of E-mail alert (near toner end)		

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

	Set value				
Destination	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)			

(Contents of set items)

A: Enable/Disable setting of the toner preparation message display. B: The toner remaining quantity at which the toner preparation message is displayed.

C: Enable/Disable setting of the toner preparation message display when the toner near end status is reached.

D: Machine operation at toner end

E: Number of allowable copy/print/FAX when the toner near end message is displayed. (Range: 0 - 50 sheets)
The number of output print allowed in item E is based on the assumption that the sheets are of A4 size with print ratio of 5%. (The number of outputs allowed differs depending on the paper size and the print ratio.)

Important

When item A is set to "0" and item E is properly set, printing can be made after toner near end. However, improper phenomena such as insufficient density, thin spots, or improper color balance may result depending on the using conditions. When item E is set to "1" printing is disabled after toner near end. In this case, toner end display is made in the toner near end status, and copy/print/FAX outputs are disabled.

26-73	
Purpose	Setting
Function (Purpose)	Enlargement continuous shoot, A3 wide copy mode image loss (shade delete quan- tity) adjustment
Section	

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

When the adjustment value is increased, the image loss (shade delete quantity) is increased.

	Item/Display	Content	Setting range	Default value
A	DELETING SHADOW ADJ (M)	Rear frame side image loss quantity (shade delete quantity) adjustment	0 - 50	0 (Adjustment amount: 0.1mm/step)
В	DELETING SHADOW ADJ (S)	Lead edge image loss quantity (shade delete quantity) adjustment	0 - 50	0 (Adjustment amount: 0.1mm/step)

26-74	
Purpose	Setting
Function (Purpose)	Used to set the OSA trial mode.
Section	

Operation/Procedure

1) Enter the set value with 10-key.

2) Press [OK] key.

	Item/Display		Content	Setting range	Default value
A	OSA TRIAL MODE (0: YES 1: NO)	0	Used to set the OSA trial mode.	0 - 1	1
		1	OSA trial mode is canceled.		

26-78	
Purpose	Setting
Function (Purpose)	Used to set the password of the remote
	operation panel.

Section

Operation/Procedure

1) Enter a password with 10-key. (5 - 8 digits)

The entered password is displayed on the column of "NEW". In order to correct the entered password, press the [clear] key to delete the entered value one digit by one digit. 2) Press [SET] key.

26-79	
Purpose	Setting
Function (Purpose)	Used to set YES/NO of the pop-up display of user data delete result.
Section	

Operation/Procedure

1) Enter the set value with 10-key.

The value for the display operation specification after completion of user data delete is set.

2) Press [OK] key.

Ite	m/Display	Content	Setting	y range	Default value
A	DISP SET	User data delete result pop-up display ON	YES	1	0 (NO)
		User data delete result pop-up display OFF	NO	0	

27

27-1	
Purpose	Setting
Function (Purpose)	Used to set non-detection of communica- tion error (UZ-00) with RIC (ESS function)
Section	
Operation/Procedure	

1) Enter the set value with 10-key.

0	Not detection
1	Detection

2) Press [OK] key.

The set value in step 1) is saved.

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

Operation/Procedure

- 1) Select an item to be set with touch panel. [USER FAX NO] [SERVA TEL NO]
- 2) Enter the set value with 10-key.
- 3) Press [SET] key.

The set value in step 2) is saved.

USER	Sender registration number (Max. 16 digits)
FAX_NO.	
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)"

Destination	Set value
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)

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2) is saved.

Item/Display		Content		Setting range		Default value	Remarks	
Α	FSS MODE	NEB1	Set the FSS MODE	Exclusive for send in NE-B mode	0-3	0	1	
		NEB2		Send/Receive in NE-B mode		1		
		NFB1		Exclusive for send in NE-F mode		2		For convenience
								stores
		NFB2		Send/Receive in NE-F mode		3		For convenience
								stores
В	RETRY_BUSY		Resend number setting	y when busy	0 - 1	5	2	0: No retry
С	TIMER(MINUTE)_BU	SY	Resend timer setting (n	ninute) when busy	1 - 1	5	3	
D	RETRY_ERROR		Resend number setting	y when error	0 - 1	5	1	0: No retry
Е	TIMER(MINUTE)_ER	ROR	Resend timer setting (n	ninute) when error	1 - 1	5	1	
F	FAX RETRY		Resend number setting	when FAX initial connection	0 - 1	5	2	Unit: Number of times
G	TONER ORDER	EMPTY	Toner order auto send	Empty	0 - 11	0	6	
	TIMING(K)	NEAR_END	timing setting (K)	Near end	_	1		
		0.05		0.05	_	2		
		0.1		0.1	_	3		
		0.15		0.15	_	4		
		0.2		0.2	_	5		
		0.25		0.25	_	6		
		0.3		0.3	_	7		
		0.35		0.35	_	8		
		0.4		0.4		9		
		0.45		0.45		10		
		0.5	-	0.5		11		
н		EMPTY	timing potting (C)	Empty	0 - 11	0	6	
		NEAR_END		Near end	-	1		
		0.05		0.05	-	2		
		0.1		0.1	-	3		
		0.15		0.15	-	4		
		0.2		0.2	-	о 6		
		0.25		0.25	-	7		
		0.3		0.3	-	0		
		0.35		0.35		0		
		0.4		0.4		10		
		0.45		0.5		11		
I		EMPTY	Toner order auto send	Empty	0 - 11	0	6	
•	TIMING(M)	NEAR END	timina settina (M)	Near end	- · · ·	1	Ū	
		0.05		0.05		2		
		0.00		0.1		3		
		0.15		0.15		4		
		0.2		0.2	1	5		
		0.25		0.25	1	6		
		0.3		0.3	1	7		
		0.35	1	0.35	1	8		
		0.4		0.4	1	9		
		0.45	1	0.45	1	10		
		0.5	1	0.5	1	11		

Item/Display		Content		Setting range		Default value	Remarks	
J	TONER ORDER	EMPTY	Toner order auto send	Empty		0	6	
	TIMING(Y)	NEAR_END	timing setting (Y)	Near end		1		
		0.05		0.05		2		
		0.1		0.1		3		
		0.15		0.15		4		
		0.2		0.2		5		
		0.25		0.25		6		
		0.3		0.3		7		
		0.35		0.35		8		
		0.4		0.4		9		
		0.45		0.45		10		
		0.5		0.5		11		
K TEMP HISTORY CYCLE		Frequency of acquiring the temperature and humidity history		1 - 1440		60	Unit: min.	
L	LOG OUTPUT CAPA	CITY(PCU)	Log output capacity		0 - 9	50	30	Unit: [KB]
М	TONER ORDER IMING CONTROL	Setting of toner order timing control		Toner order alert is transmitted by the fixed toner remaining amount.	0 - 1		0	
				Toner order alert is transmitted by the predictive toner remaining amount.	0 - 1		0	
N	TONER ORDER DELIVERY SETTING	Setting of toner comprehensive transport		t	0 - 1		0	0: Comprehensive transport off 1: Comprehensive transport on
0	TONER ORDER DELIVERY INTERVAL	The threshold s	etting of toner comprehe	nsive transport	1 - 15		3	Unit: [Date]

27-5	
Purpose	Setting
Function (Purpose)	Used to set the machine tag No. (This func- tion allows the host computer to check the machine tag No.) (FSS function)
Section	Communication (RIC/MODEM)

Section Con Operation/Procedure

 Enter the password (max. 8 digits) with 10-key. The entered password is displayed on the column of "NEW". In order to correct the entered password, press the [clear] key to delete the entered value one digit by one digit.

2) Press [SET] key.

27-6	
Purpose	Setting
Function (Purpose)	Used to set of the manual service call. (FSS function)
Section	

Operation/Procedure

1) Enter the set value with 10-key.

0	Allow (Default)
1	Inhibit

2) Press [OK] key.

The set value in step 1) is saved.

27-7	
Purpose	Setting
	11

Function (Purpose)	Used	to	set	of	the	enable,	alert	callout
	(FSS	fun	ction	I)				

Section

I

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.

3) Press [OK] key.

The set value in step 2) is saved.

Item/Display		Content	Setting range	Default value
А	FUNCTION	FSS function enable	0	1 (NO)
	(0:YES 1:NO)	FSS function disable	1	
В	ALERT	Alert call enable (*1)	0	0 (YES)
	(0:YES 1:NO)	Alert call disable	1	
С	CONNECTION	FAX connection enable	0	0 (FAX)
	(0: FAX	Not used.	1	
	1: No Use 2: HTTP)	HTTP connection enable	2	

*1 Alert send timing

No alert cause	Initial state / Trouble / Continuous JAM alert
Maintenance	When the maintenance timing is reached.
Service call	When pressing Service call.
Toner send request	When the toner order automatic send setting is reached.
Toner collection request	Revision of the toner installation date (only for a new product)
Alert resend	

27-9	
Purpose	Setting
Function (Purpose)	Used to set the paper transport time record- ing YES/NO threshold value and shading gain adjustment retry number. (FSS function)
Section	

Operation/Procedure

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

	Item/Display	Content	Setting range	Default value
A	FEED TIME2	Threshold value of paper transport time between sensors (SPF)	0 - 100	50(%)
В	GAIN ADJUSTMENT RETRY	Threshold value of the gain adjustment retry number	0 - 20	11 (TIMES)
С	JAM ALERT	Continuous JAM alert judgment threshold value (Alert judgment threshold value for continuous JAM's) (Setting of the number of JAM's continuously made at which it is judged as an alert.)	1 - 100	10 (TIMES)
D	JAM ALERT PERIOD	Continuous JAM alert period setting	0 - 99	30 (DAYS)

* Items A, B: 0%, standard passing time between sheets of paper; 100%, time for judgment as a jam between sheets of paper.

* Item C: Because of a trouble in shading operation, the number of retry is actually not registered.

27-10	
Purpose	Data clear
Function (Purpose)	Used to clear the trouble prediction history information. (FSS function)

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The history information of trouble prediction is cleared.

Target history	Serial communication retry history	
	High density process control error history	
	Halftone process control error history	
	Automatic registration adjustment error history	
	Scanner gain adjustment retry history	
	Paper transport time between sensors	

27-11	
Purpose	Others
Function (Purpose)	Used to check the serial communication
	retry number and the scanner gain adjust- ment retry number history. (FSS function)

Section

Operation/Procedure

The serial communication retry number history and the scanner gain adjustment retry number history are displayed.

Display Item			
Item name	Occurrence date (Display)	Retry number	Content
LSU1	Year/month/day hour: min.: sec.	8 digits	Serial communication
LSU2	Year/month/day hour: min.: sec.	8 digits	retry number history display
DESK1	Year/month/day hour: min.: sec.	8 digits	
DESK2	Year/month/day hour: min.: sec.	8 digits	
FINISHER1	Year/month/day hour: min.: sec.	8 digits	
FINISHER2	Year/month/day hour: min.: sec.	8 digits	

Display Item			
Item name	Occurrence date (Display)	Retry number	Content
SCAN GAIN ADJ1	Year/month/day hour: min.: sec.	8 digits	Scanner gain adjustment retry
SCAN GAIN ADJ2	Year/month/day hour: min.: sec.	8 digits	history
SCAN GAIN ADJ3	Year/month/day hour: min.: sec.	8 digits	
SCAN GAIN ADJ4	Year/month/day hour: min.: sec.	8 digits	
SCAN GAIN ADJ5	Year/month/day hour: min.: sec.	8 digits	

27-12	
Purpose	Others
Function (Purpose)	Used to check the high density, halftone process control and the automatic registra- tion adjustment error history. (FSS Func- tion)
Section	

Operation/Procedure

The high density, halftone process control and the automatic registration adjustment error history is displayed.

HV_ERR1	High density process control error history 1
HV_ERR2	High density process control error history 2
HV_ERR3	High density process control error history 3
HV_ERR4	High density process control error history 4
HV_ERR5	High density process control error history 5
H_TONE ERR1	Halftone process control error history 1
H_TONE ERR2	Halftone process control error history 2
H_TONE ERR3	Halftone process control error history 3
H_TONE ERR4	Halftone process control error history 4
H_TONE ERR5	Halftone process control error history 5
AUTO REG ADJ1	Automatic registration adjustment error history 1
AUTO REG ADJ2	Automatic registration adjustment error history 2
AUTO REG ADJ3	Automatic registration adjustment error history 3
AUTO REG ADJ4	Automatic registration adjustment error history 4
AUTO REG ADJ5	Automatic registration adjustment error history 5

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-key.

0	Disable (Default)
1	Enable

2) Press [OK] key.

The set value in step 1) is saved.

27-15	
Purpose	Operation test/check
Function (Purpose)	Used to display the FSS connection status.
Section	

Operation/Procedure

The FSS operating status is displayed.

Item/Display	Content	Setting range		Default value
FSS CONNECTION	Used to display the	0	Not operated	0
	FSS connection status.	1	Operated	

27-16	
Purpose	Setting
Function (Purpose)	Used to set the FSS alert send.
Section	

1) Enter the set value with 10-key.

The value for the FSS alert operation specification is set.

2) Press [OK] key.

I	ltem/Display	Content		Setting range	Default value
A	MAINTENAN CE ALERT	Maintenance Alert send alert send Enable		0	0
	(0:YES 1:NO)	Enable setting	Alert send Disable	1	
В	TONER ORDER	Toner order alert send Enable	Alert send Enable	0	0
	ALERT (0:YES 1:NO)	setting	Alert send Disable	1	
С	TONER CTRG ALERT	Toner cartridge replacement	Alert send Enable	0	0
	(0:YES 1:NO)	alert send Enable setting	Alert send Disable	1	
D	JAM ALERT (0:YES 1:NO)	Continuous JAM alert send	Alert send Enable	0	0
		Enable setting	Alert send Disable	1	
Е	TROUBLE ALERT	Trouble alert send Enable	Alert send Enable	0	0
	(0:YES 1:NO)	setting	Alert send Disable	1	
F	PAPER ORDER	Paper order alert send Enable	Alert send Enable	0	1
	ALERT (0:YES 1:NO)	setting	Alert send Disable	1	

27-17	
Purpose	Setting
Function (Purpose)	Used to set the FSS paper order alert.
Section	
O	

Operation/Procedure

- 1) Select an item to be set.
- 2) Enter the set value with 10-key.

The value for the FSS paper order alert operation specification is set.

3) Press [SET] key.

Item/ Display	Content	Setting range	Default value	NOTE
PAPER	Setting of paper kind	0 - 2	0	0: Standard
SET	for paper order alert			paper and recycled paper
				1: Standard paper only
				2: Recycled paper only
A4	Paper order number setting [Number of sheets] (A4)	500 - 5000	2500	Unit: No. of sheets for a box
B5	Paper order number setting [Number of sheets] (B5)	500 - 5000	2500	Unit: No. of sheets for a box

ltem/ Display	Content	Setting range	Default value	NOTE
A4: FIRST	Paper order alert number setting (A4) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time
B5: FIRST	Paper order alert number setting (B5) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time

27-18							
Purpose	Data cle	ar					
Function (Purpose)	Used to	clear	the	FSS	paper	feed	retry
	counter.						

Section

- Operation/Procedure
- 1) Select an item to be cleared.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

The target counter is cleared.

Item/Display	Content	
TRAY1	Tray 1 paper feed retry counter	
TRAY2	Tray 2 paper feed retry counter	
MFT	Manual paper feed retry counter	

30

30-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sen- sors 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 high-lighted.

PPD2	Resist detection
POD1	Detects the paper exit from fusing.
TFD2	Paper exit tray full detection
DSW_R	Right door open/close detection
DSW_F	Front cover open/close detection
DHPD_K	OPC drum phase detection (K)
DHPD_CL	OPC drum phase detection (Color)
TNFD	Waste toner full detection
DSW_C2	2CS transport cover open/close detection
CSS2	2CS tray detection
1TUD_K	Primary transfer belt separation detection (K)
1TUD_CL	Primary transfer belt separation detection (Color)

30-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sen- sors and the detectors in the paper feed section and the control circuits.
Section	

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The sensors and the detectors which are turned ON are high-lighted.

MPED	Paper empty sensor (Manual paper feed tray)
CPED1	Tray1 paper empty sensor

C2PPD	2CS paper transport detection
C2LUD	2CS paper upper limit detection
C2PED	2CS paper detection
CSS2	Tray2 paper feed tray paper size detector

Operation/Procedure

- 1) Select the SW-A or the SW-B. .
- 2) Select an item to be set with scroll keys.
- Select an item to be set with displayed value. The set value in step 3) is saved.

Display	Content	Setting range	Default value
		-10	Value
		-5	
PLAIN PAP & WUP & RDY GR	The fusing temperature setting of plain paper. Warm-up, and Ready condition	0	0
		+5	Ũ
		+10	
		-10	
		-5	
HEAVY PAPER GR	The fusing temperature setting of heavy paper	0	0
		+5	
		+10	
		-10	
		-5	
THIN PAPER GR	The fusing temperature setting of thin paper	0	0
		+5	
		+10	
		-10	
RECYCLED PAPER GR		-5	
	The fusing temperature setting of recycled paper	0	0
		+5	
		+10	
		-10	
		-5	
GLOSS PAPER GR	The fusing temperature setting of gloss paper	0	0
		+5	
		+10	
		-10	
		-5	
ENV PAPER GR	The fusing temperature setting of envelope	0	0
		+5	
		+10	
		0	
		1	
PAP CURL IMPROVEMENT	The fusing temperature setting of paper curl improvement	2	0
		3	
		4	

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

List of destination groups

Group		Destination						
Group A	JAPAN	-	-	-	-	-		
Group B	U. S. A	CANADA	INCH	-	-	-		
Group C	EUROPE	U. K	AUS.	AB_A	AB_B	CHINA		



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43-2

Purpose

Function (Purpose)

m

Used to set the fusing temperature in each mode.

Section

Operation/Procedure

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

Setting

- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2) is saved.

	Item/Display	Content	Setting	Defau	ilt value (S	SW-A)	Default value (SW-B)		
			value	Group	Group	Group	Group	Group	Group
				Α	В	С	Α	В	С
А	WARMUP FUMON HL_UM T	Fusing motor pre-rotation start TH_US set value	30 - 200	80	80	80	80	80	80
В	WARMUP FUMOFF	Fusing motor previous rotation complete time	0 - 255	30	30	30	30	30	30
С	WARMUP END TIME	Warm up complete time	1 - 255	15	15	15	15	15	15
D	HI_WU_FM_ON_TMP	FM prior rotation start TH_US when warm up at alpha degrees C or above	30 - 200	105	105	105	105	105	105
Е	HI_WU_END_TIME	Warm up completion time when warm up at alpha degrees C or above	0 - 255	15	15	15	15	15	15
F	LO_WARMUP_TIME	Set value when warm up at 120 degrees C or below (Timer from completion of ready)	0 - 255	0	0	0	0	0	0
G	HI_WARMUP_TIME	Set value when warm up at 120 degrees C or above (Timer from completion of ready)	0 - 255	0	0	0	0	0	0
Н	HI_WARMUP_BORDER	Threshold value alpha when alpha degrees C or above	1 - 119	100	100	100	100	100	100
Ι	JOBEND_FUMON_TIME	Fusing motor after rotation time after completion of a job (excluding heavy paper, OHP and envelope)	0 - 255	10	10	10	10	10	10
J	HL_UM E-STAR	Preheating TH_UM set value	30 - 200	145	160	165	145	160	165
к	HL_UM PRE-JOB	Preheat mode restore complete temperature	30 - 200	160	165	170	165	175	175

Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

List of destination groups

Group		Destination						
Group A	JAPAN	-	-	-	-	-		
Group B	U. S. A	CANADA	INCH	-	-	-		
Group C	EUROPE	U. K	AUS.	AB_A	AB_B	CHINA		

43-20

Purpose

Function (Purpose) Used to set the environmental correction under low temperature and low humidity (L/ L) for the fusing temperature setting (SIM 43-2) in each paper mode.

Section

Operation/Procedure

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

- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2) is saved.

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

Adjustment/Setup

Item/D	isplay	Content	Setting	Default
			range	value
Α	WARMUP FUMON HL_US T LL	Correction value for fusing motor pre-rotation start TH_US set value under LL environment	1 - 99	44
В	WARMUP FUMOFF LL	Fusing motor prior rotation completion time under LL environment	1 - 99	50
С	WARMUP END TIME LL	Correction value for warm-up complete time under LL environment	1 - 99	50
D	HI_WU_FM_ON_TMP_LL	FM prior rotation start TH_US when warm up at alpha degrees C or above under LL environment	1 - 99	44
Е	HI_WU_END _TIME_LL	Warm up completion time when warm up at alpha degrees C or above under LL environment	1 - 99	50
F	LO_WARMUP_TIME_LL	Set value when warm up at 120 degrees C or below (Timer from completion of ready) under LL environment	1 - 99	50
G	HI_WARMUP_TIME_LL	Set value when warm up at 120 degrees C or above (Timer from completion of ready) under LL environment	1 - 99	53
Н	HI_WARMUP_BORDER_LL	Threshold value alpha when alpha degrees C or above under LL environment	1 - 99	50
I	JOBEND_FUMON_TIME LL	Fusing motor after rotation time after completion of a job (excluding heavy paper, OHP and	1 - 99	50
		envelope) under LL environment		
J	HL_UM E-STAR LL	Preheating TH_UM set value under LL environment	1 - 99	53
К	HL_UM PRE-JOB LL	Preheat mode restore complete temperature under LL environment	1 - 99	53

* Item WARMUP END TIME LL: 1 Count = 1s Change

Correction value for the other items: 1 count for 1 degrees C change

* Item D, F: When B5 size, correction of "-5" is made for item D and item F.

* Item G, I: When B5 size, correction of "-5" is made for item G and item I.

Code descriptions

TH_UM Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
---	-------	---

40-21

Purpose

Function (Purpose)

Adjustment/Setup Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-2) in each paper mode.

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2 is saved.

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

Item/D	isplay	Content	Setting	Default
			range	value
Α	WARMUP FUMON HL_US T HH	Correction value for fusing motor pre-rotation start TH_US set value under HH environment	1 - 99	50
В	WARMUP FUMOFF HH	Fusing motor prior rotation completion time under HH environment	1 - 99	50
С	WARMUP END TIME HH	Correction value for warm-up complete time under HH environment	1 - 99	50
D	HI_WU_FM_ON_TMP_HH	FM prior rotation start TH_US when warm up at alpha degrees C or above under HH environment	1 - 99	50
E	HI_WU_END _TIME_HH	Warm up completion time when warm up at alpha degrees C or above under HH environment	1 - 99	50
F	LO_WARMUP_TIME_HH	Set value when warm up at 120 degrees C or below (Timer from completion of ready) under HH environment	1 - 99	50
G	HI_WARMUP_TIME_HH	Set value when warm up at 120 degrees C or above (Timer from completion of ready) under HH environment	1 - 99	50
н	HI_WARMUP_BORDER_HH	Threshold value alpha when alpha degrees C or above under HH environment	1 - 99	50
I	JOBEND_FUMON_TIME HH	Fusing motor after rotation time after completion of a job (excluding heavy paper, OHP and	1 - 99	50
		envelope) under HH environment		
J	HL_UM E-STAR HH	Preheating TH_UM set value under HH environment	1 - 99	50
к	HL_UM PRE-JOB HH	Preheat mode restore complete temperature under HH environment	1 - 99	50

* Item WARMUP END TIME HH: 1 Count = 1s Change

Correction value for the other items: 1 count for 1 degrees C change

Code descriptions

TH UM	Fusing thermistor main (Front surface of paper)	HL UM	Heater lamp main (Heat roller for front surface of paper)
	U		

List of destination groups

Group		Destination					
Group A	JAPAN	-	-	-	-	-	
Group B	U.S.A	CANADA	INCH	-	-	-	
Group C	AB_B	EUROPE	U.K.	AUS.	AB_A	CHINA	

43-24	
Purpose	Adjustment/Setup

Function (Purpose) Used to set the correction of the temperature adjustment value of SIM 43-2 and 43-4.

Section **Operation/Procedure**

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

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

Correction value: -49 - +49, Input value: Actually inputted value (1 -99)

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

Item/Display		Content	Settng	Default value		e
			range	Group A	Group B	Group C
Α	COOL_DOWN_HEAVY	Cool down time for heavy paper	1 - 60	10	10	10
В	COOL_DOWN_OHP	Cool down time for OHP	1 - 60	10	10	10
С	COOL_DOWN_ENVELOPE	Cool down time for envelope	1 - 60	10	10	10
D	HPOWER_SET	Power voltage setting 1:100V 2:120V 3:230V	1 - 3	1	2	3

* Each temperature correction value: 1 count for 1 degrees C change in temperature control

* Each paper exit count: 1 count = 1 sheet change

* Each cool down time: 1 count = 1sec change

Code descriptions

List of destination groups

Group	Destination						
Group A	JAPAN	-	-	-	-	-	
Group B	U. S. A	CANADA	INCH	-	-	-	
Group C	EUROPE	U. K	AUS.	AB_A	AB_B	CHINA	

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44-1	
Purpose	Setting
Function (Purpose)	Used to set each correction operation func- tion in the image forming (process) section.
Section	Image process (Photoconductor/Develop- ing/Transfer/Cleaning)

Operation/Procedure

Select an item to be set with the touch panel. 1) (The selected item is highlighted.)

Press [EXECUTE] key. (The set value is saved.) 2)

Important

Set the items to the default values unless a change is specially required.

ltem/ Display	Content	Setting range	Default value
HV	Normal operation high density process control Enable/Disable setting	Normal (Disable: 1: NO) Reverse (Enable:	Enable
HT	Normal operation halftone process control Enable/ Disable setting	0: YES)	Enable
TC	Transfer output correction Enable/Disable setting		Enable

ltem/ Display	Content	Setting range	Default value
MD VG	Membrane decrease grid voltage correction Enable/ Disable setting	Normal (Disable: 1: NO) Reverse (Enable:	Enable
MD LD	Membrane laser power voltage correction Enable/ Disable setting	0: YES)	Enable
MD EV	Membrane decrease environment grid voltage correction Enable/Disable setting		Enable
MD DL	Membrane decrease discharge light quantity correction Enable/Disable setting		Enable
MD DL EV	Membrane decrease environment discharge light quantity correction Enable/ Disable setting		Disable
MD LD EV	Membrane decrease environment laser power voltage correction Enable/ Disable setting		Enable
LD PROCON	Membrane laser power voltage correction by process control Enable / Disable setting		Enable
TN_PIX_ SUP	Setting of Enable/Disable of toner supply control for the yield count		Enable
TN_FB	Setting of Enable/Disable of the toner density correction for the process control result		Enable

Item/ Display	Content	Setting range	Default value
TN_INT	Setting of Enable/Disable of toner compulsory supply correction for the development traveling distance	Normal (Disable: 1: NO) Reverse (Enable: 0: YES)	Enable
TN_RECV	Setting of Enable/Disable of the toner density recovery operation		Enable
TN_ADJ	Setting of Enable/Disable of the toner sensor control voltage adjustment in the process control		Enable
TN_EMP	Setting of Enable/Disable of the toner falling distance detection control		Enable
TN_EMP_ INT	Setting of Enable/Disable of the toner falling distance detection control of job interruption		Enable
TN_EMP_ NEW	Setting of Enable/Disable of the new toner cartridge falling distance detection control		Enable
TN_PIX_ TBL	Setting of Enable/Disable of execution of revision of the yield count conversion table for the toner supply control in the halftone process control		Enable
AR_AUTO	Auto registration adjustment Enable/Disable setting		Enable
AR_ERROR	Auto registration adjustment execution error check Enable/Disable setting		Enable
DM_PHASE	Drum phase fitting Enable/ Disable setting		Enable
PRT_HT	Halftone process control printer correction feedback Enable/Disable setting		Enable

44-2	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sensitivity of the image
	density sensor (registration sensor).

Process **Operation/Procedure**

When [EXECUTE] 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.

Classifi- cation	lte	m/Display	Content	Setting range	Default value
PROCON	A	PCS_F_C L_KA	Color image sensor light emitting quantity adjustment value	100 - 999	500
	В	PCS_F LED ADJ	Image sensor light emitting quantity adjustment value F	1 - 255	21
	С	PCS_R LED ADJ	Image sensor light emitting quantity adjustment value R	0 - 255	21
	D	PCS_F_C L_DARK	Dark voltage of color image sensor	0 - 255	0
	E	PCS_F DARK	Dark voltage of image sensor F	0 - 255	0
	F	PCS_R DARK	Dark voltage of image sensor R	0 - 255	0

Classifi- cation	Item/Display		Content	Setting range	Default value
PROCON	G	PCS_F GRND	Transfer belt substrate detection level when the item B adjustment is completed	0 - 255	0
	Н	PCS_F BELT MAX	Transfer belt substrate input max. value F	0 - 255	0
	I	PCS_F BELT MIN	Transfer belt substrate input min. value F	1 - 255	0
	J	PCS_F BELT DIF	Transfer belt substrate input difference F (Item H - Item I)	0 - 255	0
	К	PCS_R GRND	Transfer belt substrate detection level when the item C adjustment is completed	0 - 255	0
	L	PCS_R BELT MAX	Transfer belt substrate input max. value R	1 - 255	0
	М	PCS_R BELT MIN	Transfer belt substrate input min. value R	0 - 255	0
	N	PCS_R BELT DIF	Transfer belt substrate input difference R (Item L - Item M)	0 - 256	0
REGIST	0	REG_F LED ADJ	Registration sensor light emitting quantity adjustment value F	0 - 255	56
	Ρ	REG_F DARK	Registration sensor dark voltage F	0 - 255	0
	Q	REG_F GRND	Transfer belt substrate detection level when the item B adjustment is completed	0 - 255	0
	R	REG_R LED ADJ	Registration sensor light emitting quantity adjustment value R	0 - 255	56
	S	REG_R DARK	Registration sensor dark voltage R	0 - 255	0
	Т	REG_R GRND	Transfer belt substrate detection level when the item R adjustment is completed	0 - 255	0
	U	REG_F BELT MAX	Transfer belt substrate detection level max. value (F side)	0 - 255	0
	V	REG_F BELT MIN	Transfer belt substrate detection level min. value (F side)	0 - 255	0
	W	REG_F BELT DIF	Transfer belt substrate detection level difference (Item U - Item V)	0 - 255	0
	Х	REG_R BELT MAX	Transfer belt substrate detection level max. value (R side)	0 - 255	0
	Y	REG_R BELT MIN	Transfer belt substrate detection level min. value (R side)	0 - 255	0
	Z	REG_R BELT DIF	Transfer belt substrate detection level difference (Item X - Item Y)	0 - 255	0

Classifi- cation	lte	m/Display	Content	Setting range	Default value
REGIST	AA	REG_F PATCH (K)	Toner patch detection level R (K) in the registration adjustment	0 - 255	0
	AB	REG_F PATCH (C)	Toner patch detection level R (C) in the registration adjustment	0 - 255	0
	AC	REG_F PATCH (M)	Toner patch detection level R (M) in the registration adjustment	0 - 255	0
	AD	REG_F PATCH (Y)	Toner patch detection level R (Y) in the registration adjustment	0 - 255	0
	AE	REG_R PATCH (K)	Toner patch detection level R (K) in the registration adjustment	0 - 255	0
	AF	REG_R PATCH (C)	Toner patch detection level R (C) in the registration adjustment	0 - 255	0
	AG	REG_R PATCH (M)	Toner patch detection level R (M) in the registration adjustment	0 - 255	0
	AH	REG_R PATCH (Y)	Toner patch detection level R (Y) in theregistration adjustment	0 - 255	0

Error name	Error content
F sensor adjustment	PCS_F LED ADJ error
abnormality	The target is not reached by 3 times of
	adjustments.
R sensor adjustment	PCS_R LED ADJ error
abnormality	The target is not reached by 3 times of
	adjustments.
Color sensor	PCS_F_CL_KA ADJ error
adjustment	The target is not reached
abnormality	
Substrate scan	PCS_F GRND error
abnormality F	The difference between the max. value and the
	min. value of the substrate detection level is
	greater than the specified value when the transfer
	belt rotates 1 turn
Substrate scan	PCS_R GRND error
abnormality R	The difference between the max. value and the
	min. Value of the substrate detection level is
	greater than the specified value when the transfer
Desistration concer	
Registration sensor	REG_F LED ADJ elloi
abormality	adjustments
Bogistration concor	
Registration sensor	The target is not reached by 2 times of
abnormality	adjustments
Registration	
substrate E scan	The difference between the max value and the
abnormality	min value of the substrate detection level is
ashormanty	greater than the specified value when the transfer
	belt rotates 1 turn

Error name	Error content
Registration	REG_R GRND error
substrate R scan	The difference between the max. value and the
abnormality	min. value of the substrate detection level is
	greater than the specified value when the transfer
	belt rotates 1 turn

44-4	
Purpose	Setting
Function (Purpose)	Used to set the conditions of the high den- sity process control operation.
Section	Process

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

Important

Set the items to the default values unless a change is specially required.

Item/Display		Content	Setting	Default
			range	value
A	PCS_CL TARGET	Color image sensor adjustment target value	1 - 255	204
В	PCS_K TARGET	Black image sensor adjustment target value	1 - 255	204
С	LED_CL OUTPUT	Color image sensor light emitting start level	1 - 255	21
D	LED_K OUTPUT	Black image sensor light emitting start level	1 - 255	21
E	PCS ADJSTMENT LIMIT	Color image sensor adjustment error allowance level	1 - 255	8
F	BELT GROUND DIF	Transfer belt one-turn substrate detection level difference allowance level	1 - 255	1
G	BIAS_CL STANDARD DIF	Developing bias (for color) reference correction voltage	0 - 255	60
Н	BIAS_BK STANDARD DIF	Developing bias (for black) reference correction voltage	0 - 255	0
I	BIAS PATCH INTERVAL	Toner patch making developing bias interval	1 - 255	60
J	Y_PAT TARGET ID	Process control target density level (yellow)	1 - 255	*1
К	M_PAT TARGET ID	Process control target density level (magenta)	1 - 255	*1
L	C_PAT TARGET ID	Process control target density level (cyan)	1 - 255	*1
М	K_PAT TARGET ID	Process control target density level (black)	1 - 255	*1
N	HV BK_GROUND LIMIT	Black image sensor adjustment error allowance level	1 - 255	60
0	LED ADJUSTMENT ROUGH STEP	LED radiation quantity adjustment rough 1step	1 - 255	5
Ρ	LED ADJUSTMENT ROUGH STEP UP THRES	LED radiation quantity adjustment rough 1step execution threshold level upper	1 - 255	240
Q	LED ADJUSTMENT ROUGH STEP LOW THRES	LED radiation quantity adjustment rough 1step execution threshold level lower	1 - 255	140

<*1 Reference value tables>

Na	Kem/Dianley/	Default value for each Group			
NO.	item/Display	Group A	Group B	Group C	
J	Y_PAT TARGET ID	48	48	48	
к	M_PAT TARGET ID	50	50	50	
L	C_PAT TARGET ID	50	50	50	
М	K_PAT TARGET ID	48	50	48	

Group			Destina	tion		
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

Press [EXECUTE] key.

In case of a normal completion, the result is saved.

In case of an abnormal completion, "ERROR" is displayed.

(Refer to the table below.)

In case of an ERROR, the previous correction data are saved.

Result display	Content description
COMPLETE	Normal complete
ERROR	Abnormal end
INTERRUPTION	Forcible interruption

Details of error display	Content description
CL_SEN_ADJ_ERR	Color image sensor adjustment abnormality
BK_SEN_ADJ_ERR	Black image 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 result data of the high density process control operation.
Section	Image process (Photoconductor/Develop- ing/Transfer/ Cleaning)

Operation/Procedure

Select a target display mode with [CPY/PRN], [OTHER] keys.

Mode	Item/Display (*: Correction value)		Content	Display range	Default value
CPY/PRN	P (PROCON)	BLACK : GB ***/*** DV ***/***	High density process control mode	GB: 150 - 850	GB: 630
		CYAN : GB ***/*** DV ***/***	GB/DV data (KCMY)	DV: 0 - 600	DV: 430
		MAGENTA : GB ***/*** DV ***/***	(Output voltage level/base voltage level)		
		YELLOW : GB ***/*** DV ***/***			
	N(M)	BLACK : GB ***/*** DV ***/***	Medium speed print mode	GB: 150 - 850	GB: 630
	(NORMAL	CYAN : GB ***/*** DV ***/***	GB/DV data (KCMY)	DV: 0 - 600	DV: 430
	(MIDDLE))	MAGENTA : GB ***/*** DV ***/***	(Actual output voltage level/base voltage level)		
		YELLOW : GB ***/*** DV ***/***			
	N(L)	BLACK : GB ***/*** DV ***/***	Low speed print mode	GB: 150 - 850	GB: 600
	(NORMAL	CYAN : GB ***/*** DV ***/***	GB/DV data (KCMY)	DV: 0 - 600	DV: 400
	(LOW))	MAGENTA : GB ***/*** DV ***/***	(Actual output voltage level/base voltage level)		
		YELLOW : GB ***/*** DV ***/***			
OTHER	TN/TC	TN HUD AREA	Toner density correction humidity area	1 - 14	9
		TN HUD DATA	Toner density correction humidity AD value	0 - 1023	0
		TC TMP AREA	Transfer correction temperature area	1 - 9	4
		TC TMP DATA	Transfer correction temperature AD value	0 - 1023	0
		TC HUD AREA	Transfer correction humidity area	1 - 14	9
		TC HUD DATA	Transfer correction humidity AD value	0 - 1023	0
		MD HUD AREA	Membrane decrease correction humidity area	1 - 14	9
		MD HUD DATA	Membrane decrease correction humidity AD value	0 - 1023	0
	DRUM	MD K DRUM COUNTER	Membrane decrease drum traveling distance area	0 - 20	0
		MD C DRUM COUNTER	(KCMY)		
		MD M DRUM COUNTER			
		MD Y DRUM COUNTER			
	LIFE	MD K REVISE(LIFE) : L *** M ***	MC grid correction voltage level (for the drum	0 - 255	100
		MD C REVISE(LIFE) : L *** M ***	membrane decrease) (KCMY)		
		MD M REVISE(LIFE) : L *** M ***			
		MD Y REVISE(LIFE) : L *** M ***			



Δ

Mode	lte	em/Display (*: Correction value)	Content	Display range	Default value
OTHER	EV	MD K REVISE(EV) : L *** M *** MD C REVISE(EV) : L *** M *** MD M REVISE(EV) : L *** M *** MD X REVISE(EV) : L *** M ***	MC grid voltage correction level (for the environment) (KCMY)	0 - 255	100
	ALL	MD K REVISE(ALL) : L *** M *** MD C REVISE(ALL) : L *** M *** MD M REVISE(ALL) : L *** M *** MD Y REVISE(ALL) : L *** M ***	MC grid voltage correction level (for the drum membrane decrease) (KCMY)	0 - 255	100
	LD	MD K REVISE(LD) : L *** M *** MD C REVISE(LD) : L *** M *** MD M REVISE(LD) : L *** M *** MD Y REVISE(LD) : L *** M ***	Laser power correction level (for the drum membrane decrease) (KCMY)	0 - 255	100
	LD EV	MD K REVISE(LD EV) : L *** M *** MD C REVISE(LD EV) : L *** M *** MD M REVISE(LD EV) : L *** M *** MD Y REVISE(LD EV) : L *** M ***	Laser power correction level (for the environmental laser) (KCMY)	0 - 255	100
	LD PROCON	MD K REVISE(LD PROCON) : L *** M *** MD C REVISE(LD PROCON) : L *** M *** MD M REVISE(LD PROCON) : L *** M *** MD Y REVISE(LD PROCON) : L *** M ***	Laser power process control correction (for the drum membrane decrease) (KCMY)	0 - 255	100
	DL	MD K REVISE COL (DL): L *** M *** MD C REVISE COL (DL): L *** M *** MD M REVISE COL (DL): L *** M *** MD Y REVISE COL (DL): L *** M ***	Discharge lamp correction level (%) (for the drum membrane decrease)	0 - 100	100
	DL EV	MD K REVISE COL (DL EV): L *** M *** MD C REVISE COL (DL EV): L *** M *** MD M REVISE COL (DL EV): L *** M *** MD Y REVISE COL (DL EV): L *** M ***	Discharge lamp correction level (%) (for the environment)	-100 - 100	100
	CRUM	MD + NEWSE COE (DE EV). E M DESTINATION MODEL TYPE CRUM DEST_K CRUM DEST_C CRUM DEST_M CRUM DEST_Y	CRUM destination (Main unit data) Machine model type CRUM destination (CRUM data)	- 0 - 1 -	- 0
	CNT	PROCON COUNT HV PROCON COUNT HT	High density process control number of executions Halftone process control number of executions	0 - 99999999 0 - 99999999	0

44-12	
Purpose	Operation data display
Function (Purpose)	Used to display the operation data of the high density process control and the image density sensor (registration sensor).
Section	Image process (Photoconductor/Develop- ing)

Select a display mode with [TARGET] [PATCH] keys.

Mode	Item/Display	Content	Display range	Default value
TARGET	ADK_SL (K/ C/M/Y)	Development characteristics gradient coefficient (High density process control operation)	-9.99 - 9.99	0
	ADK_INT(K/ C/M/Y)	Development characteristics intercept level (High density process control operation 0V)	-999.9 - 999.9	0
	TARGET (K/ C/M/Y)	High density process control target density level (K)	0.00 - 255.00	0
	PCS_F_CL_ DARK	F color dark electrical potential	0 - 255	0
	PCS_F_ DARK	F sensor dark potential	0 - 255	0
	PCS_R_ DARK	R sensor dark potential	0 - 255	0
	RF	Correction for F sensor	0 - 100	40
	FF	Correction for R sensor	0 - 100	40
PATCH 1-5	n-1	High density process control nth time toner patch density level 1 (n=1-5)	0 - 255	0
	n-2	Toner patch data nth time patch 2 (n=1-5)	0 - 255	0
	n-3	Toner patch data nth time patch 3 (n=1-5)	0 - 255	0
	n-4	Toner patch data nth time patch 4 (n=1-5)	0 - 255	0
PATCH6 -10	n-1	Toner patch data nth time patch 1 (n=6-10)	0 - 255	0
	n-2	Toner patch data nth time patch 2 (n=6-10)	0 - 255	0
	n-3	Toner patch data nth time patch 3 (n=6-10)	0 - 255	0
	n-4	Toner patch data nth time patch 4 (n=6-10)	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/Display	Content	Display range
TH_UM	Fusing main thermistor differential input level (degrees C) / (AD value)	Temperature: 0 - 255 degrees C (+/- 1 degrees C) AD value: 0-65535
TH_UM_AD1	Fusing thermistor detection level for compensation (degrees C) / (AD value)	Temperature: 0.0-255.0 degrees C (+/- 0.2 degrees C) AD value: 0-65535

Item/Display	Content	Display range
TH_UM_AD2	Fusing thermistor detection level (AD value)	AD value: 0-65535
TH_LM	Fusing thermistor A/D value (temperature degrees C) (Fusing roller B edge)	Temperature: 0 - 255⊡C (+/- 1 degrees C) AD value: 0-65535
TH_US	Fusing sub thermistor A/D value (temperature degrees C) (Fusing belt)	Temperature: 0 - 255 degrees C (+/- 1 degrees C) AD value: 0-65535
TEMPRATURE	Process control thermistor detection level	Temperature: -40.0 - 60.0 degrees C (+/- 0.1 degrees C) AD value: 0-65535
HUMIDITY	Process control humidity sensor detection level	Humidity: 5.0-90.0% (+/- 0.1%), AD value: 0-65535
TH1_LSU	LSU thermistor detection level (A/D value) (degrees C)	Temperature: 5.0-60.0 degrees C (+/- 0.1 degrees C) AD value: 0-65535
TH_P	Thermistor in the main unit	Temperature: 5.0-80.0 degrees C (+/- 0.1 degrees C) AD value: 0-65535
TH_PS	Thermistor of the power	Temperature: 5.0-80.0 degrees C (+/- 0.1 degrees C) AD value: 0-65535

14-15			
Purpose	Setting		
Function (Purpose)	Used to set the OPC drum idle rotation.		
Section	Process		
Dperation/Procedure			
) Soloct an item to be set with the serell key			

Select an item to be set with the scroll key.

2) Enter the set value with 10-key.

3) Press [OK] key.

The initial value must be set unless any special change is required.

ltem/ Display		Content	Setting range	Default value
A	TIME	Idle rotation interval (time interval between the previous OPC drum idle rotation and the next one) setting (h)	0 - 255	6
В	AREA1	Environmental area difference judgment threshold value setting (difference between the previous OPC drum idle rotation and the current one)	0 - 5	2
С	AREA2	Environmental area conditions (AND condition of the previous OPC drum idle rotation and the current one)	1 - 15	1
D	CYCLE	Previous rotation time setting (sec) in the process control when recovered from power ON, preheating/sleep mode.	0 - 255	0

The execution YES/NO of the OPC drum idle rotation is determined by the AND condition of TIME, AREA1, and AREA 2.

To execute the OPC drum idle rotation, set item B (AREA 1) to "0," and item C (AREA2) to "15."

However, idle rotation is performed in a certain interval while in shut off. This must be fully explained to the user.

44-21 Purpose

Adjustment/Setup

Function (Purpose) Used to set the halftone process control target.

tion Process

Section

Operation/Procedure

Press [EXECUTE] key.

The halftone process control target is set and the operation data are displayed.

Display	Content
COMPLETE	Normal complete
ERROR COLOR SENSOR	Color image density sensor
ADJUSTMENT	sensitivity adjustment error
ERROR BLACK SENSOR	Black image density sensor
ADJUSTMENT	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 halftone process control operation.
Section	Process

Operation/Procedure

 Select the display mode with [1ST STEP],[2ND STEP] key. The toner patch density level made in the halftone process control operation is displayed.

Item/Display	Content
ID_n	Patch data display PTK/PTC/PTM/PTY : n=1 - 16
BASE1	Belt substrate data (START)
BASE5	Belt substrate data (LAST)

44-24						
Purpose	Operation data display					
Function (Purpose)	Used to display the correction target and the correction level in the halftone process control operation.					
Section	Process					

Section F Operation/Procedure

Select the display category with [NEXT] key.

2) Select a target adjustment color with [K] [C] [M] [Y] key.

Category	Item/Display	Content
Coefficient	[DITHER RAW VALUE	Half tone process control reference dither value (Previous adjustment)
Reference value	[SENSOR_TARGET]	Halftone process control reference value
Correction value	[S_VALUE]	Halftone process control correction value
For printer	[PRINTER_S_VALUE]	Printer halftone process control correction value
	[PRINTER_BASE_ DITHER_VALUE]	Printer halftone process control reference dither value
	[PRINTER_AUTO_ HT_VALUE]	Printer auto density adjustment correction value
Previous correction value	[BEFORE S_VALUE]	Previous halftone process control value

44-25	
Purpose	Setting
Function (Purpose)	Used to set the calculating conditions of the correction value for the halftone process control.
Section	Process

Operation/Procedure

- 1) Select a target adjustment color with [K] [C] [M] [Y] key.
- 2) Select a target adjustment density level with scroll key on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key.

Important

Set the items to the default values unless a change is specially required.

Item/Display		Item/Display Content		Default value	
			range	ĸ	CMY
A	HIGHTLIGHT VALUE LIMIT	Highlight correction amount limit value	0 - 128	20	20
В	MAX VALUE LIMIT	Maximum density value correction limit value	0 - 128	20	20

44-26	
Purpose	Adjustment/Setup
Function (Purpose)	Used to execute the halftone process con- trol compulsory.
Section	Process

Operation/Procedure

Press [EXECUTE] key.

The halftone process control is performed and the operation data are displayed.

COMPLETE	Normal complete
ERROR COLOR SENSOR	Color image density sensor sensitivity
ADJUSTMENT	adjustment error
ERROR BLACK SENSOR	Black image density sensor sensitivity
ADJUSTMENT	adjustment error
[YMCK]	High density process control error [YMCK]
	error
OTHER	Other errors

44-27		
Purpose	Data clear	
Function (Purpose)	Used to clear the correction data of the had tone process control.	
Section	Process	

Operation/Procedure

1) Press [EXECUTE] key.

2) Press [YES] key.

The correction data of the halftone process control are cleared.

44-28	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the process control execution conditions.
Section	Process

- 1) Select a target item of setting with scroll key on the touch panel.
- 2) Enter the set value with 10-key.

3) Press [OK] key. (The set value is saved.)



Set the items to the default values unless a change is specially required.

Mode	Mode Item/Display Content			Setting range	9	Default value		
Process	А	INITIAL YES		When warm-up after clearing the counter of	Enable	0 - 1	0	0
control Enable/			NO	the OPC drum and the developer unit	Disable		1	
Disable setting	В	SW ON		When supplying the power (when canceling power shut-off)	Color process control Enable	0 - 3	0	3
					Process control Disable		1	
					BK process control Enable		2	
					Pixel count judgment		3	
	С	C TIME		After passing the specified time from leaving READY continuously (Time can be changed	Color process control Enable	0 - 3	0	3
				by INTERVAL TIME)	Process control Disable		1	
					BK process control Enable		2	
					Pixel count judgment		3	
	D	HUM_LIMIT		HUM judgment is made when turning ON the power and after passing INTERVAL	Color process control Enable	0 - 2	0	0
				TIME.	Process control Disable		1	
					BK process control Enable		2	
	E	НОМ		The temperature and humidity inside the machine are monitored only during a job at	Color process control Enable	0 - 2	0	0
				the interval set by the item of HUM HOUR.	Process control Disable		1	
				When the changes in the temperature and the humidity are greater than the specified level (the set value of item HUM DIF) in comparison with the previous process control	BK process control Enable		2	
	F	REV1	YES	When the accumulated traveling distance of	Fnable	0 - 1	0	0
			NO	K or M OPC drum unit reaches the specified level after turning ON the power	Inhibit	0	1	Ů
	G	REV2 BK	YES	When the accumulated traveling distance of	Enable	0 - 1	0	0
		_	NO	K OPC drum unit reaches the specified level from execution of the previous density correction.	Inhibit		1	
	Н	REV2_CL	YES	When the accumulated traveling distance of	Enable	0 - 1	0	0
			NO	M OPC drum unit reaches the specified level from execution of the previous density correction	Inhibit		1	
	I	REFRESH	YES	Select of YES/NO of the manual process	Key operation display	0 - 1	0	1
		MODE	NO	control key with key operation	Key operation NO display		1	
Setting of the execution	J	DAY		When there is no color job from when the previous color process control was	0: Disable of the specified days judgment	0 - 999	0	1
conditions of the process control				performed to when the number of days set by this item setting, perform the process control when executing the next warming up.	1 - 999: 1 - 999 days passing		999	
	К	HI-COV		Setting of the execution conditions of the process control for the print ratio	The process control is performed by considering the average print ratio of every 10 pages as the judgment criteria.	0 - 2	0	0
					Print ratio judgment inhibit (The process control for the target of print ratio is not performed.)		1	
					The process control is performed by considering the average print ratio of 30 pages as the judgment criteria in a continuous print job of 30 or more pages.		2	
	L	LO-COV		Setting of the execution judgment of the	Enable	0 - 1	0	0
				process control in continuous printing of low	Inhibit		1]
				print ratio images				

Mode		Item/Displa	ay	Content Setting range				Default value
Setting of the execution conditions of	М	TonerCA-EN	١D	Setting of the process control interval reduction when the toner cartridge remaining quantity is 25% or less (If this is	Enable Inhibit	0 - 1	0	1
the process				set to Enable, item M RATIO is changed.)				
control	N	AVERAGE-F	PAGE	Setting of the number of pages of item HI- COV set value 2	1: 10 pages - 5: 50 pages 1 step corresponds to 10 pages.	1 - 5	1 5	3
	0	LIMIT PAGE	<u>-</u>	Setting of the number of connected jobs of the process control and of the limit number of the process control A number of reservation jobs are connected. When the number of jobs exceeds the specified number of pages (the set value of this setting), the process control is performed. / The process control is performed by AND conditions of item REV condition and the specified number of pages	1: 10 pages - 10: 100 pages 1 step corresponds to 10 pages.	1 -10	1	10
	Р	PIX_RATIO	_BK	(the set value of this setting). Magnification ratio setting (%) of the BK tone	r count specified value	1 - 999		10
				The set value of 100 corresponds to K print of	of A4 at the print ratio of 5%.	1 000		10
	Q	PIA_RATIO	_01	value The set value of 100 corresponds to K print of	f A4 at the print ratio of 5%.	1 - 999		10
	R	INTERVAL	TIME	Setting of the leaving time when turning ON th recovery time) (h: hour)	ne power (including the sleep	1 - 255		3
	S	HUM HOUR	R	Interval setting of the temperature and humid (unit: 10 minutes)	ity monitoring time of "HUM"	1 - 24		2
	Т	HUM_DIF		The specified value of the area difference in h execution of the previous control and the curr HUM and HUM_LIMIT)	numidity between the level at ent humidity (Applied to item	1 - 9		2
	U BK_RATIO Magnification ratio setting (%) of the specified value traveling distance of "REV2_BK"					1 - 999 (Entry of 20 corresponds to 100,000mm.)		15
	V	M_RATIO		Magnification ratio setting (%) of the M OPC "REV2_CL"	1 - 999 (Entry of 20 corresponds to 100,000mm.)		15	
	W REV1_RATIO [REV1] position OPC drum traveling distance setting (%)				value magnification ratio	1 - 255		20
	x	COLOR BO	RDER	Judgment criteria whether the BK high density process control is individually performed or not (Setting of the ratio of the M OPC drum rotation distance for the K OPC drum rotation distance (%))	riteria whether the BK high 0: The BK process control 0 - cess control is individually is executed regardless of the M OPC drum traveling or not (Setting of the ratio of the distance. rotation distance (%)) 1 - 999: 1 - 999(%)			20
	Y	Y BK ONLY		Setting of the frequency of execution of the	Frequency of once for 5	0 - 6	0	4
			4-color high density process control when only monochrome output is continued (The	times Frequency of once for 1 - 5		1 - 5		
				M OPC drum rotation distance is smaller than the set value of COLOR BORDER.)	The 4-color high density process control is always performed.		6	
	Z	HT_DIF		HT process control execution judgment deve	loping bias variation value	1 - 255		40
Setting of the execution condition of the	AA	RG_ON_ SYNC	CL	Setting of execution of the registration adjust process control when turning ON the power	ment when executing the	When the color process control is executed.	0	0
registration adjustment			ALL			Executed regardless of the	1	
			CL/BK			process control. When the color process control and the K process control are executed.	2	
	AB	RG_TEMP_	TIMER	Time interval from registration adjustment after the next execution.	0 - 240 (MINUTE)		0	
	AC	RG_PERM_	TIMER	Setting of inhibit time of execution of the regis	of inhibit time of execution of the registration adjustment 0 15 (HOUR)			1
	AD	RG_HOUR_	TIMER	Setting of the interval time of execution of the	e registration adjustment	0 - 15 (Above)+(HOU	R)	5
	AE	RG_BW_SY	/NC	Setting of Enable/Disable of the registration adjustment after a monochrome job	Enable Inhibit	0 - 1	0	1

When REFRESH MODE setting is enabled (0), the menu of the user process control execution button is displayed on the user system setting menu.

When the color balance or the density change is not within the allowable range, the user can perform the process control manually and forcibly. However, toner is consumed grater than as usual. This point must be explained to the user clearly.

44-29	
Purpose	Setting
Function (Purpose)	Used to set the operating conditions of the
	process control during a job.

Process

Section

Operation/Procedure

- 1) Select a target item of setting with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

Item/Display Content				Setting range		
Α	COPY	During copy job	0 - 2	0: No execution	2	
В	PRINTER	During print job		1: HV only		
С	FAX	During FAX print job		2: HV -> HT	2	
D	SELF PRINT	During self print			2	
E	CPY TO PRT TABLE	Halftone process control copier - printer conversion table select	0 - 1	0:CALCULA TED 1:DEFAULT	0: Color balance calculation value (Revised every time when SIM46-74 is executed.) 1: Default (Fixed value)	0

HV: High density process control

HT: Halftone process control

44-31	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the OPC drum phase. (Man-
	ual adjustment)

Section Process

Operation/Procedure

Important

For the OPC drum phase adjustment, do not use this simulation, but use SIM50-22 (auto adjustment).

- 1) Select item A with scroll key.
- 2) Enter the value corresponding to the adjustment pattern with 10-key.
- 3) Press [EXECUTE] 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 scroll key.
- 6) Enter the adjustment pattern sheet number selected in procedure 4).
- 7) Press [EXECUTE] key.
- 8) The adjusted adjustment pattern is printed.

Item/Display		Content		Setting range	Default value
1	PRINT MODE	45 deg 1 : Deflection check pattern print for every 45 degrees (8-sheet print)		1 - 4	3
		90 deg	2 : Deflection check pattern print for every 90 degrees (4-sheet print)		(SET
		SET VALUE	3 : Deflection check pattern print at the set value (1-sheet print)		VALUE)
		CHECKEC	4 : Deflection check pattern print at the 4 color grid pattern (cross pattern) : Vertical/Horizontal pattern		
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)	1 - 8	1
3	PAPER	Tray selection	election 1 : Manual paper feed		2
			2 : 1CS		
			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	0-1	0
		enabled / disabled.		

44-43	
Purpose	Data display
Function (Purpose)	Used to display the identification informa- tion of the developing unit.
Section	Developing system

Developing system

Operation/Procedure

The identification number and the identification signal level of the developing

unit are displayed.

	Item/Display	Content	Display range	NOTE
А	DVCH KIND K	K developing unit identification number	1 - 5	
В	DVCH KIND C	C developing unit identification number	1 - 5	
С	DVCH KIND M	M developing unit identification number	1 - 5	
D	DVCH KIND Y	Y developing unit identification number	1 - 5	
Е	DVCH_AD_K	K developing unit identification AD value	0 - 255	AD value of the developing unit identification voltage
F	DVCH_AD_C	C developing unit identification AD value	0 - 255	
G	DVCH_AD_M	M developing unit identification AD value	0 - 255	
Н	DVCH_AD_Y	Y developing unit identification AD value	0 - 255	

44-62

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.

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.

Display/Item		Content
PROCON TARGET	CL ID DOWN	The densities of C, M, and Y decrease. (The C/M/Y high density process control target values decrease.)
	CL ID UP	The densities of C, M, and Y increase. (The C/M/Y high density process control target values increase.)
	BK ID DOWN	The density of K decreases. (The high density process control target value decreases.)
	BK ID UP	The density of K increases. (The high density process control target value increases.)
	ALL ID DOWN	The densities of C, M, Y and K decrease. (The C/M/Y/K high density process control target values decrease.)
	ALL ID UP	The densities of C, M, Y and K increase. (The C/M/Y/K high density process control target values increase.)
	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.)

Di	splay/Item	Content
PROCON MODE	HIGH QUALITY1	The execution frequency of the process control is high. (It is set when the color image quality is given priority.)
	HIGH QUALITY2 The execution frequency of control is highest. (It is set w image quality is given priori	
	PRINT PERFORMANCE	The execution frequency of the process control is low. (It is set when the job speed is given priority.)
	BW MODE	The process control is executed in the normal frequency. (It is set when there are little color jobs and many monochrome jobs.)
	NORMAL	The process control is executed in the normal frequency.

(When PROCON TARGET is selected.)

2A) Select the density level.

(When PROCON MODE is selected.)

2B) Select the execution frequency of the process control.

- 3) Press [EXECUTE] key.
- 4) Press [YES] key.

Note

This simulation may not function with some firmware versions. In such a case, the firmware must be upgraded to the latest version.



46-1	
Purpose	Adjustment (Color copy mode)
Function (Purpose)	Used to adjust the copy density in the copy mode.

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
 - * When the riangle key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [OK] key. (The set value is saved.)

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
А	AUTO	Auto	LOW	1 - 99	50
			HIGH	1 - 99	50
В	TEXT	Text	LOW	1 - 99	50
			HIGH	1 - 99	50
С	TEXT/PRINTED	Text/Printed	LOW	1 - 99	50
	PHOTO	Photo	HIGH	1 - 99	50
D	TEXT/PHOTO	Text/Photograph	LOW	1 - 99	50
			HIGH	1 - 99	50
Е	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
			HIGH	1 - 99	50
F	PHOTOGRAPH	Photograph	LOW	1 - 99	50
			HIGH	1 - 99	50

	Item/Display Content		Setting	Default	
	noni/Diopidy	Contoint		range	value
G	MAP	Мар	LOW	1 - 99	50
			HIGH	1 - 99	50
н	LIGHT	Light document	LOW	1 - 99	50
			HIGH	1 - 99	50
T	TEXT(COPY TO	Text (Copy	LOW	1 - 99	50
	COPY)	document)	HIGH	1 - 99	50
J	TEXT/PRINTED	Text/Printed	LOW	1 - 99	50
	PHOTO (COPY TO COPY)	Photo (Copy document)	HIGH	1 - 99	50
К	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
	(COPY TO COPY)	(Copy document)	HIGH	1 - 99	50
L	TEXT (COLOR	Text (Color tone	LOW	1 - 99	50
	TONE ENHANCEMENT)	enhancement)	HIGH	1 - 99	50
М	TEXT/PRINTED	Text/Printed	LOW	1 - 99	50
	PHOTO (COLOR	Photo	HIGH	1 - 99	50
	TONE	(Color tone			
	ENHANCEMENT)	enhancement)			
Ν	TEXT/PHOTO	Text/Photograph	LOW	1 - 99	50
	(COLOR TONE ENHANCEMENT)	(Color tone enhancement)	HIGH	1 - 99	50
0	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
	(COLOR TONE ENHANCEMENT)	(Color tone enhancement)	HIGH	1 - 99	50
Ρ	PHOTOGRAPH	Photograph	LOW	1 - 99	50
	(COLOR TONE	(Color tone	HIGH	1 - 99	50
	ENHANCEMENT)	enhancement)			
Q	MAP (COLOR	Мар	LOW	1 - 99	50
	TONE ENHANCEMENT)	(Color tone enhancement)	HIGH	1 - 99	50
R	SINGLE COLOR	Single color	LOW	1 - 99	50
			HIGH	1 - 99	50
S	SINGLE COLOR	Single color	LOW	1 - 99	50
	(COPY TO COPY)	(Copy document)	HIGH	1 - 99	50
Т	TWO COLOR	2-color (red/	LOW	1 - 99	50
		black) copy	HIGH	1 - 99	50
U	TWO COLOR	2-color (red/	LOW	1 - 99	50
	(COPY TO COPY)	black) copy (copy document)	HIGH	1 - 99	50

46-2	
Purpose	Adjustment (Monochrome copy mode)
Function (Purpose)	Used to adjust the copy density in the copy mode.

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
 - * When the $\triangle \bigtriangledown$ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [OK] key. (The set value is saved.)

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
Α	AUTO1	Auto 1	LOW	1 - 99	50
			HIGH	1 - 99	50
В	AUTO2	Auto 2	LOW	1 - 99	50
			HIGH	1 - 99	50

	Item/Display	Content		Setting range	Default value
С	TEXT	Text	LOW	1 - 99	50
			HIGH	1 - 99	50
D	TEXT/PRINTED	Text/Printed	LOW	1 - 99	50
	PHOTO	Photo	HIGH	1 - 99	50
Е	TEXT/PHOTO	Text/	LOW	1 - 99	50
		Photograph	HIGH	1 - 99	50
F	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
			HIGH	1 - 99	50
G	PHOTOGRAPH	Photograph	LOW	1 - 99	50
			HIGH	1 - 99	50
н	MAP	Мар	LOW	1 - 99	50
			HIGH	1 - 99	50
Т	TEXT (COPY TO	Text (Copy	LOW	1 - 99	50
	COPY)	document)	HIGH	1 - 99	50
J	TEXT/PRINTED	Text/Printed	LOW	1 - 99	50
	PHOTO (COPY TO	Photo (Copy	HIGH	1 - 99	50
	COPY)	document)			
К	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
	(COPY TO COPY)	(Copy document)	HIGH	1 - 99	50
L	LIGHT	Light document	LOW	1 - 99	50
			HIGH	1 - 99	50

46-4	
Purpose	Adjustment (Color scanner mode)
Function (Purpose)	Used to adjust the density in the image
	send mode.

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
 - * When the △ ▽ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

Mode	Item/Display		Content	Setting range	Default value
LOW	Α	AUTO	Auto	1 - 99	50
	В	TEXT	Text	1 - 99	50
	С	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	ш	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Мар	1 - 99	50
HIGH	А	AUTO	Auto	1 - 99	50
	В	TEXT	Text	1 - 99	50
	С	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	ш	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Мар	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 adjustment target item with scroll key on the touch panel.

2) Enter the set value with 10-key.

- * When the $\bigtriangleup \bigtriangledown$ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

Mode	Item/Display		Content	Setting range	Default value
LOW	Α	AUTO	Auto	1 - 99	50
	В	TEXT	Text	1 - 99	50
	С	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	Е	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Мар	1 - 99	50
HIGH	Α	AUTO	Auto	1 - 99	50
	В	TEXT	Text	1 - 99	50
	С	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	Е	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Мар	1 - 99	50

46-8	
Purpose	Adjustment (Color scanner mode)
Function (Purpose)	Used to adjust the image send mode color balance RGB.
Section	

Operation/Procedure

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

The color balance can be adjusted separately for the low density area and the high density area.

When the adjustment value is increased, the image density of the target color is increased, and vice versa.

ltem/Display		Content	Default value
Α	LOW DENSITY POINT	Low density correction amount	50
В	HIGH DENSITY POINT	High density correction amount	50

46-9	
Purpose	Adjustment (RSPF mode)
Function (Purpose)	Used to adjust the scan image density.
Section	

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
 - * When the $\bigtriangleup \bigtriangledown$ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [OK] key. (The set value is saved.)

This adjustment result affects the image send mode, the copy mode, and the fax mode.

When the adjustment value is increased, the image density is increased, and vice versa.

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

46-10			
Purpose	Adjustment		
Function (Purpose)	Used to adjust the copy color balance and		
	the gamma (for each color copy mode).		

Operation/Procedure

- 1) Select an adjustment target mode with the touch panel key.
- Select an adjustment target color with [K][C][M][Y] keys on the touch panel.
- 3) Select an adjustment target item with scroll key on the touch panel.
- 4) Enter the set value with 10-key.
 - * When the $\bigtriangleup \bigtriangledown$ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 5) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

TEXT	Text
TEXT/PRT PHOTO	Text/Printed Photo
PRINTED PHOTO	Printed Photo
PHOTO + TEXT/PHOTO	Photograph + Text/Printed Photo
MAP	Мар
LIGHT	Light document
COPY ORG	Copy document

Item/Display		Density level (Point)	Setting range	Default value	
Α	POINT1	Point 1	1 - 999	500	
В	POINT2	Point 2	1 - 999	500	
С	POINT3	Point 3	1 - 999	500	
D	POINT4	Point 4	1 - 999	500	
Е	POINT5	Point 5	1 - 999	500	
F	POINT6	Point 6	1 - 999	500	
G	POINT7	Point 7	1 - 999	500	
Н	POINT8	Point 8	1 - 999	500	
I	POINT9	Point 9	1 - 999	500	
J	POINT10	Point 10	1 - 999	500	
Κ	POINT11	Point 11	1 - 999	500	
L	POINT12	Point 12	1 - 999	500	
М	POINT13	Point 13	1 - 999	500	
Ν	POINT14	Point 14	1 - 999	500	
0	POINT15	Point 15	1 - 999	500	
Ρ	POINT16	Point 16	1 - 999	500	
Q	POINT17	Point 17	1 - 999	500	

46-16 Purpose Adjustment Function (Purpose) Used to adjust the monochrome copy density and the gamma (for each monochrome copy mode).

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
 - * When the $\bigtriangleup \bigtriangledown$ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

Item/Display		Density level (Point)	Setting range	Default value	
А	POINT1	Point 1	1 - 999	500	
В	POINT2	Point 2	1 - 999	500	
С	POINT3	Point 3	1 - 999	500	
D	POINT4	Point 4	1 - 999	500	
Е	POINT5	Point 5	1 - 999	500	
F	POINT6	Point 6	1 - 999	500	
G	POINT7	Point 7	1 - 999	500	
Н	POINT8	Point 8	1 - 999	500	
Ι	POINT9	Point 9	1 - 999	500	
J	POINT10	Point 10	1 - 999	500	
Κ	POINT11	Point 11	1 - 999	500	
L	POINT12	Point 12	1 - 999	500	
Μ	POINT13	Point 13	1 - 999	500	
Ν	POINT14	Point 14	1 - 999	500	
0	POINT15	Point 15	1 - 999	500	
Ρ	POINT16	Point 16	1 - 999	500	
Q	POINT17	Point 17	1 - 999	500	

46-19	
Purpose	Setting
Function (Purpose)	Used to set the operating conditions for the density scanning (exposure) of mono chrome auto copy mode documents.
Section	

Operation/Procedure

Select an item to be set with touch panel.

When an item is selected, it is highlighted and the setting change is saved.

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

Note

MODE 1	High gamma (high contrast images)
MODE 2	Normal gamma

STOP	The image density in 3 - 7mm area at the lead edge is scanned, and the output image density is determined according to the scanned density. (The output image density is even for all the surface.)
REALTIME	The densities of the document width are scanned sequentially, and the output image density is determined according to the density in each area of document. (The output image density may not be even for all the surface.)
PRESCAN	The densities of the all surface of document are scanned sequentially, and the output image density is determined according to the average of the scanned densities. (The output image density is even for all the surface.)
AE WIDTH FULL	The document density scan area in the monochrome auto mode is 3 - 7mm at the document lead edge x the document width. This is not related to the PRESCAN mode.
AE WIDTH PART	The document density scan area in the monochrome auto mode is 3 - 7mm at the document lead edge x 100mm width. This is not related to the PRESCAN mode

46-21

40-21		
Purpose	Adjustment	
Function (Purpose)	Copy color balance adjustment (M	lanual
	adjustment)	

Section

Operation/Procedure

- 1) Select an adjustment target color with [K][C][M][Y] keys on the touch panel.
- Select an adjustment target item with scroll key on the touch 2) panel.
- 3) Enter the set value with 10-key.
 - * When the riangle key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

When [EXECUTE] key is pressed, the check pattern in printed in the color balance and density corresponding to the adjustment value.

Item/Display		Density level (Point)	Setting range	Default value
Α	POINT1	Point 1	1 - 999	500
В	POINT2	Point 2	1 - 999	500
С	POINT3	Point 3	1 - 999	500
D	POINT4	Point 4	1 - 999	500
Е	POINT5	Point 5	1 - 999	500
F	POINT6	Point 6	1 - 999	500
G	POINT7	Point 7	1 - 999	500
Н	POINT8	Point 8	1 - 999	500
I	POINT9	Point 9	1 - 999	500
J	POINT10	Point 10	1 - 999	500
К	POINT11	Point 11	1 - 999	500
L	POINT12	Point 12	1 - 999	500
М	POINT13	Point 13	1 - 999	500
N	POINT14	Point 14	1 - 999	500
0	POINT15	Point 15	1 - 999	500
Р	POINT16	Point 16	1 - 999	500
Q	POINT17	Point 17	1 - 999	500

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-key.

0	Enable
1	Inhibit

Press [OK] key. (The set value is saved.) 2)

	Item/Display		Content	Setting range	Default value
A	CMY (0: ENABLE 1: DISABLE)	0	CMY engine highest density correction mode: Enable	0 - 1	0
		1	CMY engine highest density correction mode: Disable		
В	K (0: ENABLE	0	K engine highest density correction mode: Enable	0 - 1	1
	1: DISABLE)	1	K engine highest density correction mode: Disable		
С	CYAN MAX TARGET	Scar CYA corr	nner target value for N maximum density ection	0 - 999	500
D	MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction		0 - 999	500
E	YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction		0 - 999	500
F	BLACK MAX TARGET	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.

Important

Do not change the values of items C, D, E, and F. If these values are changed, the density in the high density area is changed.

46-24	
Purpose	Adjustment
Function (Purpose)	Copy color balance adjustment (Auto adjustment)
Section	

Operation/Procedure

1) Press [EXECUTE] key.

The color patch image (adjustment pattern) is printed out.

- 2) Plate the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.
- 3) Press [EXECUTE] key.

The copy color balance automatic adjustment is performed, then the adjustment result pattern is printed.

4) Press [OK] key.

The halftone correction target registration is processed.

46-25	
Purpose	Adjustment
Function (Purpose)	Used to adjust the copy color balance. (Sin- gle color copy mode)

Operation/Procedure

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

When the adjustment value is increased, the image density of the target color is increased, and vice versa.

Itom/Display		Sotting range	Default value		
	nem/Display	Setting range	С	М	Y
А	RED	0 - 255	0	255	200
В	GREEN	0 - 255	255	0	255
С	BLUE	0 - 255	255	150	0
D	CYAN	0 - 255	255	0	0
Е	MAGENTA	0 - 255	0	255	0
F	YELLOW	0 - 255	0	0	255

46-26	
Purpose	Adjustment
Function (Purpose)	Used to reset the single color mod

Used to reset the single color mode color balance set value to the default.

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The color balance value of the single color mode is reset to the default value.

46-27	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the gamma/density of copy
	images, texts, and line image edges.

Section

Operation/Procedure

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

	Item/Display (Copy mode)	Content	Setting range	Default value
A	BLACK TEXT (SLOPE)	Black character edge gamma skew adjustment	1 - 99	50
В	BLACK TEXT (INTERCEPT)	Black character edge density adjustment	1 - 99	50
С	COLOR TEXT (SLOPE)*1	Color character edge gamma skew adjustment	1 - 99	50
D	COLOR TEXT (INTERCEPT)	Color character edge density adjustment	1 - 99	50
Е	ED TEXT (SLOPE)	Text/Map mode gamma adjustment (Text/Map mode)	1 - 99	50
F	ED TEXT (INTERCEPT)	Text/Map mode density adjustment (Text/Map mode)	1 - 99	50

When the adjustment values of items A, C, and E are changed, the gamma of text and line edge image density section is changed.

When the adjustment value is increased, the image contrast of character edge and line edge is increased. When the adjustment value is decreased, the image contrast of character and line edge is decreased.

When the adjustment values of items B, D, and F are increased, the image density of text and line edge section is increased, and vice versa.

46-30	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the resolution in the sub
	scanning direction in the copy mode.

Section

Operation/Procedure

- 1) Refer to the following table, and enter the set value corresponding to the resolution mode with 10-key.
- 2) Press [OK] key. (The set value is saved.)

Item/Display		Content		Setti rang	ing ge	Default value
А	SCAN	Scan resolution	Mode1	0 - 1	0	0
	RESOLUTION	selection	Mode2		1	
	SW	(COPY: COLOR)				

		Resolution in the sub scanning direction (DP		
Mode	Scan mode	25-99% [Magnification ratio]	100-200% [Magnification ratio]	201-400% [Magnification ratio]
Mode1 OC 600		600	600	1200
	RSPF	600	600	-
Mode2	OC	300	600	1200
	RSPF	400	600	-
	RSPF	400	600	-

46-32	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the document background density reproducibility in the monochrome auto copy mode.
Section	

Operation/Procedure

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

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

[RSPF]

Item/Display		Content	Setting range	Default value
Α	COPY : OC	Copy mode (for OC)	1 - 250	196
В	COPY : RSPF	Copy mode (for RSPF)	1 - 250	196
С	SCAN : OC	Scanner mode (for OC)	1 - 250	196
D	SCAN : RSPF	Scanner mode (for RSPF)	1 - 250	196
ш	FAX : OC	FAX mode (for OC)	1 - 250	196
F	FAX : RSPF	FAX mode (for RSPF)	1 - 250	196

46-36	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the colors in the 2-color copy mode.
Section	

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

By changing the density level of each color, the color adjustment in

the 2-color copy mode can be performed.

Item/Display			Contont	Setting	ing Default value			Default
			Content	range	С	М	Y	value
OUTCOLOR	Α	RED	R output color	0 - 255	0	255	200	-
(Output color coefficient)	В	GREEN	G output color	0 - 255	255	0	255	-
	С	BLUE	B output color	0 - 255	255	150	0	-
	D	CYAN	C output color	0 - 255	255	0	0	-
	Е	MAGENTA	M output color	0 - 255	0	255	0	-
	F	YELLOW	Y output color	0 - 255	0	0	255	-
CHROMA	Α	RED / BLACK	Red extraction mode	0 - 6	-	-	-	3
(Chroma adjustment)			(The red recognition area is adjusted.)					
	В	KS:CHROMATIC	Chromatic color extraction mode	0 - 6	-	-	-	3
			(The chromatic color recognition area is adjusted.)					

46-37	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the reproduction capability
	of monochrome mode color.

Section

Operation/Procedure

- 1) Select a target item with scroll keys on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key.
- 4) Press [YES] key.

This is to adjust the reproduction capability of red and yellow images when copying color documents with red and yellow images in the monochrome mode.

Applied to the copy mode only.

ltem/Display		Content	Setting range	Default value
А	R-Ratio	Gray making setting (R)	0 - 1000	145
В	G-Ratio	Gray making setting (G)	0 - 1000	805

B-Ratio	Gray making setting (B) (1000-R-Ratio - G-Ratio)	
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* B-Ratio: The value of gray making setting (B) is obtained from the formula below.

1000-R-Ratio - G-Ratio

When [DEFAULT] key is pressed, the values are set to the initial values (Default).

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

When the adjustment value of the adjustment item B is increased, the copy density of yellow images is increased. When the adjustment value is decreased, the density in also decreased.

46-38						
Purpose	Adjust	mer	nt/Setup			
Function (Purpose)	Used	to	adjust	the	black	component
	amount in the color copy mode.					

Section Operation/Procedure

- 1) Select the AUTO MODE or the MANUAL MODE with the mode key.
- 2) Select the mode to be adjusted with the scroll key.
- 3) Press the black component amount select key.

This adjusts black ingredient amount in the color copy mode. (except character and line image)

As a result of this adjustment, the gradation of the shade part changes.

ltem/Display (Copy mode)		Select button	Content	Default value
MANUAL	MANUAL TEXT PRT (-		Text print	NORMAL
		(-) LUT1	(Manual)	
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	TEXT	(-) LUT2	Text (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	PRINTED	(-) LUT2	Printed photo	NORMAL
	PHOTO	(-) LUT1	(Manual)	
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	PHOTO	(-) LUT2	Photograph/Text	NORMAL
		(-) LUT1	photograph	
		NOMAL	(Manual)	
		(+) LUT1		
		(+) LUT2		

Item/Display		Select	Content	Default
(Сор	y mode)	button	Toxt/Photograph	
WANUAL	PHOTO	(-) LUT2	(Manual)	NORWAL
	111010		(Manual)	
		(+) UT1	-	
		(+) LUT2		
	MAP	(-) LUT2	Map (Manual)	NORMAL
		(-) LUT1		-
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	CP ORG/	(-) LUT2	Copy document/	NORMAL
	TEXT PRT	(-) LUT1	Text printed	
		NOMAL	(Manual)	
		(+) LUT1		
		(+) LUT2		
MANUAL	COPY ORG/	(-) LUT2	Copy document/	NORMAL
	IEXI	(-) LUT1	lext (Manual)	
		NOMAL	-	
		(+) LUT1	-	
	0001/000/	(+) LUT2		NORMAL
	DUPY ORG/	(-) LU12	Copy accument/	NORMAL
	FHOID		(Manual)	
			(Manual)	
		(+) LUT1	-	
	LIGHT	(+) LUT2	Light document	NORMAL
	ORIGINAL	(-) LUT1	(Manual)	NORMAL
		NOMAL	(
		(+) UT1	-	
		(+) LUT2		
AUTO	AUTO0	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	judgment 0	
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO1	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	judgment 1	
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO2	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	Judgment 2	
		NOMAL		
		(+) LUT1	-	
		(+) LUIZ	Auto mode	
AUTO	A0103	(-) LUT2 (-) LUT1	judgment 3	NURIVIAL
		NOMAI	,	
		(+) UT1	1	
		(+) LUT2	1	
	AUTO4	(-) LUT2	Auto mode	NORMAL
	-	(-) LUT1	judgment 4	
		NOMAL	1	
		(+) LUT1]	
		(+) LUT2		
	AUTO5	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	judgment 5	
		NOMAL	4	
		(+) LUT1	4	
		(+) LUT2		
	AUTO6	(-) LUT2	Auto mode	NORMAL
		(-) LUT1	judgment 6	
		NOMAL	4	
		(+) LUT1	4	
		(+) LUT2		

46-39	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sharpness of FAX send
	images.

Operation/Procedure

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

Input small numeric value to obtain crispy image. Input large numeric value to decrease moire.

	Item/Display	Content	Setting range	Default value
A	200 x 100 [DPI] OFF	200 x 100 [DPI] halftone OFF	0 - 2	1
В	200 x 200 [DPI] OFF	200 x 200 [DPI] halftone OFF	0 - 2	1
С	200 x 200 [DPI] ON	200 x 200 [DPI] halftone ON	0 - 2	1
D	200 x 400 [DPI] OFF	200 x 400 [DPI] halftone OFF	0 - 2	1
Е	200 x 400 [DPI] ON	200 x 400 [DPI] halftone ON	0 - 2	1
F	400 x 400 [DPI] OFF	400 x 400[DPI] halftone OFF	0 - 2	1
G	400 x 400 [DPI] ON	400 x 400[DPI] halftone ON	0 - 2	1
Н	600 x 600 [DPI] OFF	600 x 600[DPI] halftone OFF	0 - 2	1
Ι	600 x 600 [DPI] ON	600 x 600[DPI] halftone ON	0 - 2	1

46-40	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density.
	(Collective adjustment of all the modes)

Section

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- Press [EXECUTE] key, or [OK] key When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

	Item/Display	Content	Setting range	Default value
А	EXPOSURE	Used to adjust the FAX send	1 - 99	50
	LEVEL(ALL)	image density. (Collective		
		adjustment of all the modes)		

46-41	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Normal)
Section	

- **Operation/Procedure**
- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key

When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		C	Content	Setting range		Default value	
А	AUTO		Auto		1 - 99		50
В	EXPOSURE	1	Exposu	ure 1	1 - 99		50
С	EXPOSURE	2	Exposu	ure 2	1 - 99		50
D	EXPOSURE	3	Exposu	ure 3	1 - 99		50
Е	EXPOSURE	4	Exposu	ure 4	1 - 99		50
F	EXPOSURE	5	Exposu	ure 5	1 - 9	9	50
G	EXECUTE	AUTO	Print	Auto	1 - 6	1	1
	MODE	EXP1	mode	Exposure 1		2	(AUTO)
		EXP2		Exposure 2		3	
		EXP3		Exposure 3		4	
		EXP4		Exposure 4		5	
		EXP5		Exposure 5		6	

To check the adjustment density level of items A - F, set the document and set the setting value of item G according to items A - F, and press [EXECUTE] key.

46-42	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Fine)

Section

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key

When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
А	AUTO	Fine/Automatic	1 - 99	50
В	EXPOSURE1	Fine/Exposure 1	1 - 99	50
С	EXPOSURE2	Fine/Exposure 2	1 - 99	50
D	EXPOSURE3	Fine/Exposure 3	1 - 99	50
Е	EXPOSURE4	Fine/Exposure 4	1 - 99	50
F	EXPOSURE5	Fine/Exposure 5	1 - 99	50
G	AUTO H_TONE	Fine/Automatic/ Halftone	1 - 99	50
н	EXPOSURE1 H_TONE	Fine/Exposure 1/ Halftone	1 - 99	50
Ι	EXPOSURE2 H_TONE	Fine/Exposure 2/ Halftone	1 - 99	50
J	EXPOSURE3 H_TONE	Fine/Exposure 3/ Halftone	1 - 99	50
к	EXPOSURE4 H_TONE	Fine/Exposure 4/ Halftone	1 - 99	50
L	EXPOSURE5 H_TONE	Fine/Exposure 5/ Halftone	1 - 99	50

Item/Display		Content		Setting range		Default value	
М	EXECUTE	AUTO	Print	Fine/Auto	1 -	1	1
	MODE	EXP1	mode	Fine/	12	2	(AUTO)
				Exposure 1			
		EXP2		Fine/		3	
				Exposure 2			
		EXP3		Fine/		4	
				Exposure 3			
		EXP4		Fine/		5	
				Exposure 4			
		EXP5		Fine/		6	
				Exposure 5			
		AUTO		Fine/		7	
		H_TONE		Automatic/			
				halftone			
		EXP1		Fine/		8	
		H_TONE		Exposure 1/			
				Halftone			
		EXP2		Fine/		9	
		H_TONE		Exposure 2/			
				Halftone			
		EXP3		Fine/		10	
		H_TONE		Exposure 3/			
				Halftone			
		EXP4		Fine/		11	
		H_ONE		Exposure 4/			
		EVDE		Halftone		10	
		EXP5		Fine/		12	
		H_TONE		Exposure 5/			
				Haintone			

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

46-43	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density.
	(Super Fine)

Section

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key

When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
Α	AUTO	Super Fine/Auto	1 - 99	50
В	EXPOSURE1	Super Fine/	1 - 99	50
		Exposure 1		
С	EXPOSURE2	Super Fine/	1 - 99	50
		Exposure 2		
D	EXPOSURE3	Super Fine/	1 - 99	50
		Exposure 3		
Е	EXPOSURE4	Super Fine/	1 - 99	50
		Exposure 4		
F	EXPOSURE5	Super Fine/	1 - 99	50
		Exposure 5		
G	AUTO H_TONE	Super Fine/	1 - 99	50
		Auto/Halftone		
Н	EXPOSURE1 H_TONE	Super Fine/	1 - 99	50
		Exposure 1/Halftone		
1	EXPOSURE2 H_TONE	Super Fine/	1 - 99	50
		Exposure 2/Halftone		
J	EXPOSURE3 H_TONE	Super Fine/	1 - 99	50
		Exposure 3/Halftone		
ĸ	EXPOSURE4 H_TONE	Super Fine/	1 - 99	50
		Exposure 4/Halftone		

ltem/Display		Content		Setting range		Default value	
L	L EXPOSURE5 H_TON		Super Fine/		1 -	99	50
			Exposure 5/Halftone				
М	EXECUTE	AUTO	Print	Super Fine/	1 -	1	1
	MODE		mode	Auto	12		(AUTO)
		EXP1		Super Fine/		2	
				Exposure 1			
		EXP2		Super Fine/		3	
				Exposure 2			
		EXP3		Super Fine/		4	
				Exposure 3			
		EXP4		Super Fine/		5	
				Exposure 4			
		EXP5		Super Fine/		6	
				Exposure 5			
		AUTO		Super Fine/		7	
		H_TONE		Auto/			
				Halftone			
		EXP1		Super Fine/		8	
		H_TONE		Exposure 1/			
				Halftone			
		EXP2		Super Fine/		9	
		H_TONE		Exposure 2/			
				Halftone			
		EXP3		Super Fine/		10	
		H_TONE		Exposure 3/			
				Halftone			
		EXP4		Super Fine/		11	
		H_TONE		Exposure 4/			
		EV.8-		Haittone			
		EXP5		Super Fine/		12	
		H_TONE		Exposure 5/			

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

46-44	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density.
	(Ultra fine)

Section Operation/Procedure

1) Set the document on the document table.

2) Enter the set value with 10-key.

3) Press [EXECUTE] key, or [OK] key

When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
Α	AUTO	Ultra Fine/Auto	1 - 99	50
В	EXPOSURE1	Ultra Fine/Exposure 1	1 - 99	50
С	EXPOSURE2	Ultra Fine/Exposure 2	1 - 99	50
D	EXPOSURE3	Ultra Fine/Exposure 3	1 - 99	50
Е	EXPOSURE4	Ultra Fine/Exposure 4	1 - 99	50
F	EXPOSURE5	Ultra Fine/Exposure 5	1 - 99	50
G	AUTO H_TONE	Ultra Fine/Auto/	1 - 99	50
		Halftone		
н	EXPOSURE1	Ultra Fine/	1 - 99	50
	H_TONE	Exposure 1/Halftone		
1	EXPOSURE2	Ultra Fine/	1 - 99	50
	H_TONE	Exposure 2/Halftone		
J	EXPOSURE3	Ultra Fine/	1 - 99	50
	H_TONE	Exposure 3/Halftone		
к	EXPOSURE4	Ultra Fine/	1 - 99	50
	H_TONE	Exposure 4/Halftone		
Ĺ	EXPOSURE5	Ultra Fine/	1 - 99	50
	H_TONE	Exposure 5/Halftone		

Item/Display		(Content		ting Ige	Default value	
М	EXECUTE	AUTO	Print	Ultra Fine/	1-	1	1
	MODE		mode	Auto	12		(AUTO)
		EXP1		Ultra Fine/		2	
				Exposure 1			
		EXP2		Ultra Fine/		3	
				Exposure 2			
		EXP3		Ultra Fine/		4	
				Exposure 3			
		EXP4		Ultra Fine/		5	
				Exposure 4			
		EXP5		Ultra Fine/		6	
				Exposure 5			
		AUTO		Ultra Fine/		7	
		H_TONE		Auto/			
				Halftone			
		EXP1		Ultra Fine/		8	
		H_TONE		Exposure 1/			
				Halftone			
		EXP2		Ultra Fine/		9	
		H_TONE		Exposure 2/			
		EVDO		Haittone		10	
		EXP3		Ultra Fine/		10	
		H_TONE		Exposure 3/			
						44	
				Exposure 4/		11	
		ILI UNE		Exposure 4/			
		EVD5				12	
		LAFS H TONE		Exposure 5/		12	
				Halftone			

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

46-45	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (600dpi).

Section

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- Press [EXECUTE] key, or [OK] key When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
Α	AUTO	600dpi/Auto 1	1 - 99	50
В	EXPOSURE1	600dpi/Exposure 1	1 - 99	50
С	EXPOSURE2	600dpi/Exposure 2	1 - 99	50
D	EXPOSURE3	600dpi/Exposure 3	1 - 99	50
Е	EXPOSURE4	600dpi/Exposure 4	1 - 99	50
F	EXPOSURE5	600dpi/Exposure 5	1 - 99	50
G	AUTO H_TONE	600dpi/Auto/ Halftone 1	1 - 99	50
Н	EXPOSURE1 H_TONE	600dpi/Exposure 1/ Halftone	1 - 99	50
Ι	EXPOSURE2 H_TONE	600dpi/Exposure 2/ Halftone	1 - 99	50
J	EXPOSURE3 H_TONE	600dpi/Exposure 3/ Halftone	1 - 99	50
К	EXPOSURE4 H_TONE	600dpi/Exposure 4/ Halftone	1 - 99	50
L	EXPOSURE5 H_TONE	600dpi/Exposure 5/ Halftone	1 - 99	50

Item/Display		Content		Setting range		Default value	
Μ	EXECUTE	AUTO	Print	600dpi/	1 -	1	1
	MODE		mode	Auto	12		(AUTO)
		EXP1		600dpi/		2	
				Exposure 1			
		EXP2		600dpi/		3	
				Exposure 2			
		EXP3		600dpi/		4	
				Exposure 3			
		EXP4		600dpi/		5	
				Exposure 4			
		EXP5		600dpi/		6	
				Exposure 5			
		AUTO		600dpi/		7	
		H_TONE		Auto/			
				Halftone			
		EXP1		600dpi/		8	
		H_TONE		Exposure			
				1/Halftone			
		EXP2		600dpi/		9	
		H_TONE		Exposure			
		EX Do		2/Halftone			
		EXP3		600dpi/		10	
		H_TONE		Exposure			
		EVEL		3/Haintone			
						11	
		n_TONE		Exposure			
						10	
				600api/		12	
		II_IUNE		5/Halftone			

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

46-47

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the compression rate of copy
	and scan images (JPEG).

Section

Operation/Procedure

- 1) Select a target item with scroll keys on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value is saved.

Operation mode	Item/Display		Content	Setting range	Default value	
FILLING (COLOR) (COPY	A	FILLIN G (C)	LOW	Low compres- sion (Color)	0	0 (LOW)
(COLOR mode))			MIDDLE	Medium compres- sion (Color)	1	
			HIGH	High compres- sion (Color)	2	
FILLING (GRAY) (COPY	В	FILLIN G (G)	LOW	Low compres- sion (Gray)	0	0 (LOW)
(Mono- chrome halftone			MIDDLE	Medium compres- sion (Gray)	1	
mode))			HIGH	High compres- sion (Gray)	2	

Operation mode		Item/Display		Content	Setting range	Default value
PUSH	С	SCAN	MIDDLE	Medium	0	1
SCAN		(C)	1	compres-		(MIDDLE
(COLOR)				sion mode 1		2)
(Scanner				Low		
(Color				compres-		
mode))				sion		
			MIDDLE	Medium	1	
			2	compres-		
				sion mode 2		
				Medium		
				compres-		
				sion		
			MIDDLE	Medium	2	
			3	compres-		
				sion mode 3		
				High		
				compres-		
				sion		
PUSH	D	SCAN	MIDDLE	Medium	0	1
SCAN		(G)	1	compres-		(MIDDLE
(GRAY)				sion mode 1		2)
(Scanner				LOW		
(IVIONO-				compres-		
chrome				SION		
mode			MIDDLE	Medium	1	
mode))			2	compres-		
				sion mode 2		
				wedium		
				compres-		
				SIUII Madium	2	
				wealum	2	
			3	compres-		
				High		
				compres-		
				cion		

46-51				
Purpose	Adjustment/Setup			
Function (Purpose)	Used to adjust the gamma for the copy			
	mode heavy paper mode and the image process mode.			

Section

Operation/Procedure

- 1) Select a target adjustment mode with the touch panel key [PAPER/DITHER].
- Select an adjustment target color with [K][C][M][Y] keys on the touch panel.
- 3) Select a target adjustment density level with scroll key on the touch panel.
- 4) Enter the set value with 10-key.
- 5) Press [EXECUTE] key, or [OK] key.

When [EXECUTE] key is pressed, the self print image is outputted.

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	Color
HEAVY	Copier heavy paper gamma	KCMY
DITH1	Black edge	К
DITH2	Color edge	KCMY
DITH3	Color error diffusion	KCMY
DITH4	Monochrome error diffusion	К
DITH8	Monochrome dither	К

	Item/Display	Density level (Point)	Setting range	Default value
А	POINT1	Point 1	1 - 999	500

	Item/Display	Density level (Point)	Setting range	Default value
В	POINT2	Point 2	1 - 999	500
С	POINT3	Point 3	1 - 999	500
D	POINT4	Point 4	1 - 999	500
Е	POINT5	Point 5	1 - 999	500
F	POINT6	Point 6	1 - 999	500
G	POINT7	Point 7	1 - 999	500
Н	POINT8	Point 8	1 - 999	500
1	POINT9	Point 9	1 - 999	500
J	POINT10	Point 10	1 - 999	500
К	POINT11	Point 11	1 - 999	500
L	POINT12	Point 12	1 - 999	500
Μ	POINT13	Point 13	1 - 999	500
Ν	POINT14	Point 14	1 - 999	500
0	POINT15	Point 15	1 - 999	500
Ρ	POINT16	Point 16	1 - 999	500
Q	POINT17	Point 17	1 - 999	500

46-52

46-52	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the gamma default for the copy
	mode heavy paper and the image process
	mode. (After execution of either SIM46-54

or SIM46-51, the adjustment value is reset to the initial value.)

Section

Operation/Procedure

- Select an item to be set to the default with the touch panel key. To reset the adjustment values of all the items, select [ALL].
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

46-54

Purpose	Adjustment
Function (Purpose)	Used to perform the engine halftone auto-
	matic density adjustment (dither).

Section

- Operation/Procedure
- 1) Press [EXECUTE] key.

The high density process control is started to make 48 patch self print. (A4 (11" x 8.5") in the paper feed tray is used.)

2) Place the 48 patch self print on the document table, and press [EXECUTE] key.

Scanning the 48 patch self print is started.

After scanning the 48 patch self print, the 17 patch self print is automatically printed.

3) Press [OK] key.

After completion of the correction amount registration, the screen shifts to the dither selection menu.

4) Select an item (dither) to be adjusted.

HEAVYPAPER	Copier/gamma for heavy paper
BLACK EDGE	Black edge
COLOR EDGE	Color edge
COLOR ED	Color error diffusion
B/W ED	Monochrome error diffusion
B/W 600	Monochrome dither 600dpi

5) Press [EXECUTE] key.

The 48 patch self print is printed.

 Place the 48 patch self print on the document table, and press [EXECUTE] key.
 Scanning the 48 patch self print is started. After scanning the patch, the screen automatically shifts to the dither selection menu.

7) After completion of the adjustment of all the density adjustment items (dither), press [OK] key.

46-58				
Purpose	Adjustment/Setup			
Function (Purpose)	Used to set the copy mode pseudo resolu-			
	tion. (Smoothing process)			
Section				

Operation/Procedure

- 1) Select an item (mode) to be set with the button and the scroll key.
- Enter the set value with 10-key.
 1(ON): 9600 (equivalent) x 600 dpi
 0 (OFF): 600 x 600 dpi
- 3) Press [OK] key.

The setting is reflected only the image edge area.

Mada	Item/Display		Content	Setting		Default
wode		item/Display	(copy mode)	rang	je	value
COLOR	А	AUTO	Auto	OFF	0	0 (OFF)
				ON	1	
	В	TEXT	Text	OFF	0	1 (ON)
				ON	1	
	С	TEXT PRT	Text print	OFF	0	0 (OFF)
				ON	1	
	D	PRINTED	Printed Photo	OFF	0	0 (OFF)
		PHOTO		ON	1	
	Е	TEXT PHOTO	Text	OFF	0	0 (OFF)
			photograph	ON	1	
	F	PHOTO	Photograph	OFF	0	0 (OFF)
				ON	1	
	G	MAP	Мар	OFF	0	1 (ON)
				ON	1	
	Н	LIGHT	Light	OFF	0	0 (OFF)
			document	ON	1	
	Ι	CPY TO CPY/	Text (copy	OFF	0	1 (ON)
		TEXT	document)	ON	1	
	J	CPY TO CPY/	Text print	OFF	0	0 (OFF)
		TXT PRT	(copy	ON	1	
			document)			
	к	CPY TO CPY/	Printed Photo	OFF	0	0 (OFF)
		PHOTO	(сору	ON	1	
			document)	0.55	_	
MONO	A	AUTO	Auto	OFF	0	0 (OFF)
	-	TEVT		ON	1	4 (01)
	в	IEXI	lext	OFF	0	1 (ON)
	0		Testeriet	ON	1	
	C	TEXTPRI	Text print	OFF	0	0 (OFF)
	-	DDINITED		ON	1	
	D	PRINTED	Printed Photo	OFF	0	0 (OFF)
	_		-	ON	1	
	E	TEXT PHOTO	lext	OFF	0	0 (OFF)
	-	DUOTO	priotograph	ON	1	
	F	PHOTO	Photograph	OFF	0	0 (OFF)
	0			ON	1	4 (01)
	G	MAP	мар	OFF	0	1 (ON)
			Links	ON	1	
	н	LIGHT	Light	OFF	0	0 (OFF)
				ON	1	4 (01)
		TEXT	document)	OFF	0	I (UN)
	<u> </u>				1	
	J		lext print	OFF	U	U (UFF)
			(copy document)	UN	1	
	к	CPY TO CPY/	Printed Photo	OFF	0	0 (OFF)
		РНОТО	(copy	ON	1	5 (011)
			document)	0.1		

46-59	
Purpose	Adjustment/Setup
Function (Purpose)	Used to perform the copy mode pseudo resolution image process adjustment.
Section	

- 1) Select the MAIN (main scanning direction) or the SUB (sub scanning direction) button.
- 2) Press the button of the adjustment value of the target copy mode.

Important

This adjustment is valid when SIM46-58 Pseudo resolution setting is set to ON.

The thickness of images in the section processed by smoothing is changed.

Positive: The image in the section processed by smoothing becomes thicker.

Negative: The image in the section processed by smoothing becomes thinner.

ang an control in a copy mode Aujustment button of the belauit value	NOTE	
COLOR COPY K (-)2 Color copy For BLACK 0 N	Main scanning direction smoothing	
(-)1 fi	fine adjustment	
0	Negative (-) direction: The	
(+)1 S	smoothing section becomes	
(+)2	thinner.	
COLOR COPY C (-)2 Color copy For CYAN 0	Positive (+) direction: The	
(-)1	thickor	
0	uncker.	
(+)1		
(+)2		
COLOR COPY M (-)2 Color copy For MAGENTA 0		
(.)1		
(+)1		
(+)2		
COLOR COPY Y (-)2 Color copy For YELLOW 0		
0		
+)1		
(+)2		
MONO COPY K (-)2 Monochrome copy For BLACK 0		
()1		
(+)1		
(+)2		
COLOR PRINT K (-)2 Color print For BLACK 0		
()1		
0		
(+)1		
(+)2		
COLOR PRINT C (-)2 Color print For CYAN 0		
()1		
0		
(+)1		
(+)2		
COLOR PRINT M (-)2 Color print For MAGENTA 0		
()1		
0		
(+)1		
(+)2		
COLOR PRINT Y (-)2 Color print For YELLOW 0		
(-)1		
0		
(+)1		
(+)2		

Scanning direction	Item (copy mode)	Adjustment button	Content	Default value	NOTE
MAIN	MONO PRINT K	(-)2 (-)1 0 (+)1 (+)2	Monochrome print For BLACK	0	Main scanning direction smoothing fine adjustment Negative (-) direction: The smoothing section becomes thinner. Positive (+) direction: The smoothing section becomes thicker
SUB	COLOR COPY K	(-)2 (-)1 0 (+)1 (+)2	Color copy For BLACK	0	Sub scanning direction smoothing fine adjustment Negative (-) direction: The smoothing section becomes thinner.
	COLOR COPY C	(-)2 (-)1 0 (+)1 (+)2	Color copy For CYAN	0	Positive (+) direction: The smoothing section becomes thicker.
	COLOR COPY M	(-)2 (-)1 0 (+)1 (+)2	Color copy For MAGENTA	0	
	COLOR COPY Y	(-)2 (-)1 0 (+)1 (+)2	Color copy For YELLOW	0	
	MONO COPY K	(-)2 (-)1 0 (+)1 (+)2	Monochrome copy For BLACK	0	
	COLOR PRINT K	(-)2 (-)1 0 (+)1 (+)2	Color print For BLACK	0	
	COLOR PRINT C	(-)2 (-)1 0 (+)1 (+)2	Color print For CYAN	0	
	COLOR PRINT M	(-)2 (-)1 0 (+)1 (+)2	Color print For MAGENTA	0	
	COLOR PRINT Y	(-)2 (-)1 0 (+)1 (+)2	Color print For YELLOW	0	
	MONO PRINT K	(-)2 (-)1 0 (+)1 (+)2	Monochrome print For BLACK	0	

46-60	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sharpness in the color
	auto copy mode.
Section	

- 1) Select a target item with scroll keys on the touch panel.
- 2) Input numeric value corresponding to sharpness level (filter process mode).
- 3) Press [OK] key.

This is used to adjust the sharpness in the color auto copy mode and the smoothness (roughness) in the dark area.

Item/Display			Content		Setting range	Default value
Α	SCREEN FILTER LEVEL	Н	Sharpness (filter) adjustment of dot pattern image in auto	Strong emphasis	1	3 (Auto)
		L	copy mode	Soft emphasis	2	
		AUTO		Auto	3	
В	CPY CL AUTO FILTER	SOFT	Sharpness (filter) adjustment for the automatic copy mode	SOFT	1	2 (CENTER)
	LEVEL	CENTER	(Text, Printed Photo / Printed Photo images)	CENTER	2	
		HIGH		HIGH	3	
С	CPY PUSH AUTO	SOFT	Sharpness (filter) adjustment for the automatic push scan	SOFT	1	2 (CENTER)
	FILTER LEVEL	CENTER	mode (Text, Printed Photo / Printed Photo images)	CENTER	2	
		HIGH		HIGH	3	
D	COLOR COPY : CMY	OFF	Soft filter applying setting to C, M, Y image in color copy	OFF	0	1 (ON)
		ON	mode	ON	1	
Е	COLOR COPY : K	OFF	Soft filter applying setting to K image in color copy mode	OFF	0	1 (ON)
		ON		ON	1	
F	SINGLE COLOR : CMY	OFF	Soft filter applying setting to C, M, Y image in single color	OFF	0	1 (ON)
		ON	copy mode	ON	1	
G	2 COLOR COPY : CMY	OFF	Setting of YES/NO of applying the soft filter to C/M/Y	OFF	0	1 (ON)
		ON	images of the 2-color copy mode	ON	1	
Н	2 COLOR COPY : K	OFF	Setting of YES/NO of applying the soft filter to K images of	OFF	0	1 (ON)
		ON	the 2-color copy mode	ON	1	
Ι	B/W COPY	OFF	Soft filter applying setting in monochrome copy mode	OFF	0	1 (ON)
		ON		ON	1	
J	COLOR PUSH : RGB	OFF	Soft filter applying setting to image in push scan color	OFF	0	1 (ON)
		ON	mode	ON	1	
К	B/W PUSH	OFF	Soft filter applying setting to image in push scan	OFF	0	1 (ON)
		ON	monochrome mode	ON	1	
L	COLOR PRINT: CMY	OFF	Setting of ON/OFF of soft filter application to color print C,	OFF	0	0 (OFF)
		ON	M, Y images	ON	1	
М	COLOR PRINT: K	OFF	Setting of ON/OFF of soft filter application to color print K	OFF	0	0 (OFF)
		ON	images	ON	1	
Ν	B/W PRINT	OFF	Setting of ON/OFF of soft filter application to monochrome	OFF	0	0 (OFF)
		ON	print images	ON	1	

46-61 Purpose

Adjustment/Setup

Function (Purpose)

 Used to adjust the area separation recognition level.

Section

Operation/Procedure

- 1) Select an adjustment mode.
- 2) Select a target adjustment item with scroll key on the touch panel.
- 3) Enter the adjustment value using the 10-key.
- 4) Press [OK] key.

Important

This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default value, image quality trouble may occur for some documents.

Item/Display		Content		
COLOR AUTO		[Color/Gray] Auto		
TPP [Color/Gray] Manual (Text p		[Color/Gray] Manual (Text print)		
COPY(TPP)		[Color/Gray] Copy document (Text print)		
MONO	AUTO	[Monochrome] Auto		
TPP [Monochrome] Manual (Text p		[Monochrome] Manual (Text print)		
	COPY(TPP)	[Monochrome] Copy document (Text print)		

	Item/Display	Content	Setting range	Default value
A	SEGMENT: SWITCH [TXT ON SCR]	Detection ON/OFF: Text on dot	0 - 1	0
В	SEGMENT: SWITCH [LINE SCR]	Detection ON/OFF: line screen	0 - 1	0
С	SEGMENT: SWITCH [SMALL SCR]	Detection ON/OFF: Dot in a small area	0 - 1	0
D	SEGMENT: SWITCH [HIGH LPI]	Detection ON/OFF: High line number judgment select	0 - 1	0
E	SEGMENT: SWITCH [TXT ON SCR IMAGE SEND]	Detection ON/OFF: Text on image send dots	0 - 1	0
F	SEGMENT: ADJUST [BK TXT 1]	Detection level adjustment: Black text 1	1 - 99	50
G	SEGMENT: ADJUST [CL TXT 1]	Detection level adjustment: Color text 1	1 - 99	50
Н	SEGMENT: ADJUST [BK TXT 2, CL TXT 2]	Detection level adjustment: Black text 2, Color text 2	1 - 49	25
Ι	SEGMENT: ADJUST [TXT ON SCR 1]	Detection level adjustment: Text 1 on dots	1 - 99	50
J	SEGMENT: ADJUST [TXT ON SCR 2]	Detection level adjustment: Text 2 on dots	1 - 99	50
К	SEGMENT: ADJUST [TXT ON SCR AREA]	Detection level adjustment: Detection area of text on dots	1 - 15	8
L	SEGMENT: ADJUST [HIGH LPI]	Detection level adjustment: High line number judgment	1 - 49	25
М	SEGMENT: ADJUST [BK]	Detection level adjustment: No chrome judgment	1 - 99	50
N	SEGMENT: ADJUST [CL]	Detection level adjustment: Chrome judgment	1 - 99	50
0	SEGMENT: ADJUST [TXT ON BG]	Detection level adjustment: Text on background	1 - 99	50

	Item/Display	Content	Setting range	Default value
Ρ	SEGMENT: ADJUST [SCR 1 HIGH]	Detection level adjustment: High density dots	1 - 49	25
Q	SEGMENT: ADJUST [SCR 1 MIDDLE]	Detection level adjustment: Medium density dots	1 - 49	25
R	SEGMENT: ADJUST [SCR 1 LOW]	Detection level adjustment: Low density dots	1 - 49	25
S	SEGMENT: ADJUST [SCR 2]	Detection level adjustment: Dot 2	1 - 15	8
Т	SEGMENT: ADJUST [SCR 3]	Detection level adjustment: Dot 3	1 - 15	8
U	SEGMENT: ADJUST [LINE HALFTONE]	Detection level adjustment: line screen	1 - 49	25

46-62	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the operating conditions of the ACS, the area separation, the background image process, and the auto exposure mode.

Section Operation/Procedure

- 1) Select a target adjustment item with scroll key on the touch panel.
- 2) Enter the adjustment value using the 10-key.
- 3) Press [OK] key.

Important

This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default value, image quality trouble may occur for some documents.

	Item/Display	Content	Setting range	Default value
A	SW_ACS	ACS judgment reference area select	0 - 1	1
В	TEXT_IMAGE	Text/Image judgment priority level adjustment	0 - 6	3
С	TEXT_BLANK	Text/Blank judgment priority level adjustment	0 - 6	4
D	HT_LV	Dot area judgment threshold value adjustment	0 - 6	1
E	AE_AREA_LV	Color AE judgment target area adjustment	0 - 6	3
F	AE_LV_CC	AE background detection division result adjustment: For color copy	0 - 8	4
G	AE_LV_MC	AE background detection division result adjustment: For monochrome copy	0 - 8	4
Н	AE_LV_CS	AE background detection division result adjustment: For color scan	0 - 8	4
Ι	AE_LV_MS	AE background detection division result adjustment: For monochrome scan	0 - 8	4
J	AE_JUDGE _LV_L_U	Color AE background density threshold value adjustment (lower limit)	0 - 4	0

Item/Display		Content		Setting range		Default value	
К	AE_JUDGE		Color AE background		0 - 10		0
	LV_L_O		density threshold	value			
			adjustment (upper	limit)			_
L	AE_JUDGE	=	Color AE backgrou	una	0 - 1	10	5
	LV_C		adjustment (chrom	na)			
м	AF	ON	AF mode ON/	ON	0 - 1	0	0 (ON)
	ONOFF	OFF	OFF switch:	OFF	, v	1	0 (011)
	_CC	0.1	For color copy	0			
Ν	AE	ON	AE mode ON/	ON	0 - 1	0	0 (ON)
	_ONOFF	OFF	OFF switch:	OFF	1	1	
	_MC		For mono-				
			chrome copy				
0	AE	ON	AE mode ON/	ON	0 - 1	0	0 (ON)
		OFF	OFF switch :	OFF		1	
-	_CS		For color scan		0.1	0	
Р			AE mode ON/		0 - 1	0	0 (ON)
	_ONOTT	OFF	For mono-	OFF			
	_1110		chrome copy				
Q	BLANK JU	IDGE	Blank judgment le	vel	0 - 1	10	0
	LV_L	_	adjustment (value)				
R	BLANK_JU	IDGE_	Blank judgment le	vel	0 - 1	10	0
	LV_C		adjustment (chrom	na)			
S	MODE0_U	NDER	Mode 0 developing		0 -	6	0
			paper mode select				
Т	T MODE1_UNDER		Mode 1 developing	g	0 -	6	0
			paper mode select	t			
U	U MODE5_UNDER		Mode 5 developing		0 -	6	0
			paper mode selec	t			
V	MODE6_U	NDER	Mode 6 developing	g	0 -	6	0
1			paper mode selec	t	1		

46-63	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the density in the copy low
	density section.

Operation/Procedure

- 1) Select a target adjustment item with scroll key on the touch panel.
- 2) Enter the adjustment value using the 10-key.
- 3) Press [OK] key.

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

Item/Display		Content	Setting range	Default value
A	COLOR COPY : TEXT/PRINTED PHOTO	Text print (color copy)	1 - 9	3
В	COLOR COPY : TEXT	Text (color copy)	1 - 9	3
С	COLOR COPY : PRINTED PHOTO	Printed photo (color copy)	1 - 9	5
D	COLOR COPY : PHOTOGRAPH	Photograph (color copy)	1 - 9	5
E	COLOR COPY : TEXT/PHOTO	Text/Photograph (color copy)	1 - 9	3
F	COLOR COPY : MAP	Map (color copy)	1 - 9	5
G	COLOR COPY : LIGHT	Light document (color density)	1 - 9	6
Н	COLOR COPY : TEXT/PRINTED PHOTO (COPY TO COPY)	Copy document, Character print (color copy)	1 - 9	5
Ι	COLOR COPY : TEXT (COPY TO COPY)	Copy document, Character (color copy)	1 - 9	5

Item/Display		Content	Setting range	Default value
J	COLOR COPY : PRINTED PHOTO (COPY TO COPY)	Copy document, Printed photo (color copy)	1 - 9	5
К	COLOR PUSH : TEXT/PRINTED PHOTO	Text print (color PUSH)	1 - 9	3
L	COLOR PUSH : TEXT	Text (color PUSH)	1 - 9	3
М	COLOR PUSH : PRINTED PHOTO	Printed photo (color PUSH)	1 - 9	5
N	COLOR PUSH : PHOTOGRAPH	Photograph (color PUSH)	1 - 9	5
0	COLOR PUSH : TEXT/PHOTO	Text/Photograph (color PUSH)	1 - 9	3
Ρ	COLOR PUSH : MAP	Map (color PUSH)	1 - 9	5

46-65	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the color correction table.
Section	

Operation/Procedure

1) Select an adjustment mode.

- 2) Select an item (mode) to be set with the scroll key.
- 3) Enter the adjustment value using the 10-key.
- 4) Press [OK] key.

When the setting is changed, the color tone is changed. This function is used to make copies of different color tone for each copy mode.

The initial value must be set unless any special change is required.

Mode	de Item/Display		Content	Setting	Default
Wode				range	value
COPY	A	[MANUAL] TEXT PRT	Text print	0 - 8	0
	В	[MANUAL] TEXT	Text	0 - 8	4
	С	[MANUAL] PRINTED PHOTO	Printed Photo	0 - 8	0
	D	[MANUAL] PHOTO	Photograph	0 - 8	1
	Е	[MANUAL] TEXT PHOTO	Text photograph	0 - 8	1
	F	[MANUAL] MAP	Мар	0 - 8	4
	G	[MANUAL] LIGHT	Pencil	0 - 8	0
	Η	[MANUAL] CPT TO CPT/TXT PRT	Copy document/ Text print	0 - 8	0
	-	[MANUAL] CPT TO CPT/TEXT	Copy document/ Text	0 - 8	4
	J	[MANUAL] CPY TO CPY/PHOTO	Copy document/ Printed Photo	0 - 8	0
	К	AUTO0	Automatic mode judgment 0	0 - 8	2
	L	AUTO1	Automatic mode judgment 1	0 - 8	2
	М	AUTO2	Automatic mode judgment 2	0 - 8	3
	N	AUTO3	Automatic mode judgment 3	0 - 8	3
	0	AUTO4	Automatic mode judgment 4	0 - 8	2
	Ρ	AUTO5	Automatic mode judgment 5	0 - 8	2
Mode	Item/Display		Content	Setting	Default
----------	--------------	----------------	------------	---------	---------
woue				range	value
COPY	Q	AUTO6	Automatic	0 - 8	2
			mode		
			judgment 6		
PREVIEW	Α	[MANUAL] TEXT	Text print	0 - 4	0
(Preview		PRT			
screen)	В	[MANUAL] TEXT	Text	0 - 4	4
	С	[MANUAL]	Printed	0 - 4	0
		PRINTED PHOTO	Photo		
	D	[MANUAL]	Photograph	0 - 4	1
		РНОТО		-	
	Е	[MANUAL] TEXT	Text	0 - 4	1
		РНОТО	photograph	-	
	F	[MANUAL] MAP	Map	0 - 4	4
	G		Pencil	0 - 4	0
	н		Conv	0-4	0
		TO CPT/TXT PRT	document/	0 4	Ū
			Text print		
	1	[MANUAL] CPT	Copy	0 - 4	4
		TO CPT/TEXT	document/	Ŭ I	
			Text		
	J	[MANUAL] CPY	Copy	0 - 4	0
	-	TO CPY/PHOTO	document/		•
			Printed		
			Photo		
	К	AUTO0	Automatic	0 - 4	2
			mode		
			judgment 0		
	L	AUTO1	Automatic	0 - 4	2
			mode		
			judgment 1		
	Μ	AUTO2	Automatic	0 - 4	3
			mode		
			judgment 2		
	Ν	AUTO3	Automatic	0 - 4	3
			mode		
			judgment 3		
	0	AUTO4	Automatic	0 - 4	2
			mode		
			judgment 4		
	Р	AUTO5	Automatic	0 - 4	2
	1		mode		
			judgment 5		
	Q	AUTO6	Automatic	0 - 4	2
	1		mode		
	1		judgment 6	1	

46-74	
Purpose	Adjustment
Function (Purpose)	Copy color balance adjustment (Auto
	adjustment)/Printer color balance adjust-
	ment (Auto adjustment)

Section Operation/Procedure

This simulation is used to perform SIM46-24 and SIM67-24 continuously.

To perform both the copy color balance adjustment (Automatic adjustment) and the printer color balance adjustment (Automatic adjustment), use this simulation for efficient adjustment operations.

- 1) Press [EXECUTE] key, and the high density process control is performed. Then, the copy color balance adjustment pattern is printed.
- 2) Place the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.
- 3) Press [EXECUTE] key, and the copy color balance adjustment is performed and the adjustment result pattern is printed.
- 4) Press [EXECUTE] key, and the printer color balance adjustment pattern is printed.
- 5) Place the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.

- Press [EXECUTE] key, and the printer color balance adjustment (automatic adjustment) is performed and the adjustment result pattern is printed.
- 7) Press [OK] key, and the halftone correction target is registered.
- 8) When [EXECUTE] key is displayed, press it.

When "COMPLETED THIS PROCEDURE" is displayed, the adjustment is completed.

Important

The adjustment result becomes effective only when the adjustment procedure for both copy and print mode have completed successfully. For example, when the copy color balance adjustment (automatic adjustment) is performed and the simulation is canceled, the adjustment result is not effective.

48-1	
Purpose	Adjustment
Function (Purpose)	Used to adjust the scan image magnifica- tion ratio (in the main scanning direction and the sub scanning direction).
Section	
a	

Operation/Procedure

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

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

A change of "1" in the adjustment value of item A, C, or E corresponds to a change of about 0.02% in the copy magnification ratio. A change of "1" in the adjustment value of item B, D, or F corresponds to a change of about 0.1% in the copy magnification ratio.

[RSPF]

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

48-5	
Purpose	Adjustment
Function (Purpose)	Used to correction the scan image magnifi-
	cation ratio (in the sub scanning direction).

Scanner section

Operation/Procedure

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

When the image magnification ratio in the sub scanning direction is adjusted with SIM48-1, and a different magnification ratio is specified, and the image magnification ratio is not satisfactory, perform this adjustment.

When there is an error in the image magnification ratio in reduction, change the adjustment value in the high speed mode. When there is an error in the image magnification ratio in enlargement, change the adjustment value in the low speed mode.

Item/Display		Content	Setting range	Default value
А	MR (HI)	Scanner motor (High speed)	1 - 99	50
В	MR(MID)	Scanner motor (Reference speed)	1 - 99	50
С	MR(LO)	Scanner motor (Low speed)	1 - 99	50
D	SPF(HI)	Document feed (SPF) motor (High speed)	1 - 99	50
E	SPF(MID)	Document feed (SPF) motor (Reference speed)	1 - 99	50

48-6	
Purpose	Adjustment
Function (Purpose)	Used to adjust the rotation speed of each
	motor.

Section

Operation/Procedure

- 1) Select an adjustment target mode with [COLOR] [MONO] [HEAVY] keys on the touch panel.
- 2) Select a target adjustment item with scroll key on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key.
 - The set value is saved.

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.

Mode Select	lte	m/Display	Content	Setting range	Default value
COLOR	Α	FUM *	Fusing motor	1 - 99	52
MONO			correction value		
HEAVY					
COLOR	В	DVM	Developing motor	1 - 99	50
HEAVY			correction value		
COLOR	С	DM	Drum motor correction	1 - 99	56
MONO			value		
HEAVY					
COLOR*	D	C2MM	2CS transport motor correction value	1 - 99	56

* FUM(COLOR) and FUM(MONO) are interfaced. Once the one is changed, the other one is also changed.

The greater the correction value is, the higher the speed is, and vice versa. Change by +/-1 corresponds to 0.1%.

49	

49-1	
Purpose	
Function (Purpose)	Used to perform the firmware update.
Section	
Operation/Procedure	

- 1) Save the firmware to the USB memory.
- 2) Insert the USB memory into the main unit. (Use USB I/F of the operation panel section.)
- 3) Select a target firmware file for update with the touch panel.
- 4) Select a target firmware.
 - Press [ALL] key to select all the Firmware collectively.
- 5) Press [EXECUTE] key.
- 6) Press [YES] key.

The selected firmware is updated. When the operation is normally completed, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

Item/Display	Content	Error display in case of abnormality
ICU (MAIN)	ICU Main section	ICUM
ICU (BOOTM)	ICU Boot section main	ICUBM
ICU (BOOTCN)	ICU Boot section CN	ICUCN
ICU (SUB)	ICU Sub section (ARM9)	ICUS
LANGUAGE	Language support data program	LANG
GRAPHIC	Graphic data for L-LCD	GRAPH
SLIST	SLIST data for L-LCD	SLIST
PCL (BOOT)	PCL Boot section	PCLB
PCL (MAIN)	PCL Main section	PCLM
PCL (CONFIG)	PCL Configuration data	PCLC
PCL (PROFILE)	PCL Color profile	PCLP
PCU (BOOT)	PCU Boot section	PCUB
PCU (MAIN)	PCU Main section	PCUM
SCU (BOOT)	SCU Boot section	SCUB
SCU (MAIN)	SCU Main section	SCUM
FAX (BOOT)	FAX1 Boot section	FAXB
FAX (MAIN)	FAX1 Main section	FAXM
ANIMATION	Animation data	ANIME
WEB HELP	WEB help	WEBHP
EOSA	Embedded OSA	EOSA

49-3	
Purpose	
Function (Purpose)	Used to update the operation manual in the
	HDD.

Section

Operation/Procedure

- 1) Insert the USB memory into the main unit.
 - * When the USB is not inserted, "INSERT A STORANGE E-MANUAL STORED ON" is displayed. When [OK] key is pressed, the display is shifted to the folder select menu 1.
- 2) Press the folder button of the operation manual data. (The display is shifted to the operation manual update menu.)

The current version and the update version are displayed.

- Press [EXECUTE] key.
 [EXECUTE] key is highlighted, and [YES] [NO] keys becomes active from gray out.
- When [YES] key is pressed, the selected operation manual is updated.

When update is completed normally, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

49-5

Purpose

Function (Purpose) Used to perform the watermark update.

Section Operation/Procedure

- Insert the USB flash drive into the main unit.
- Select the button of the folder to perform the watermark
- update.3) The current version and the update version are displayed.
- 4) Press [EXECUTE] key.
- 5) Press [YES] key.

The selected watermark is updated.

50

50-1		
Purpose	Adjustment	
Function (Purpose)	Copy image position, image loss ad	djust
	ment	
O s atlan		

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.

Set the items other than RRCA, LEAD, and SIDE to the default.

RRCA: Image lead edge reference position adjustment

LEAD: Lead edge image loss adjustment

SIDE: Side image loss adjustment

3) Press [OK] key. (The set value is saved.)

	Item/Dis	splay	Co	ntent	Setting range	Default value
A	Lead edge adjust- ment value	RRCA	Documen edge refe position (it lead rence OC)	0 - 99	50
В		RRCB-CS1	Regis- tration	Standard Tray	1 - 99	20
С		RRCB-DSK	motor	Desk	1 - 99	20
D		RRCB-MFT	ON timing adjust-	ON Manual timing paper adjust- feed		25
Е		RRCB-ADU	ment	ADU	1 - 99	25
F	Image loss area	LEAD	Lead edg loss area	e image setting	0 - 99	40
G	setting value	SIDE	Side imag area adju	ge loss stment	0 - 99	20
Н	Void area adjust-	DENA	Lead edg adjustme	e void area nt	1 - 99	40
I	ment	DENB	Rear edg adjustme	e void area nt	1 - 99	30
J		FRONT/ REAR	FRONT/F area adju	REAR void stment	1 - 99	35
К	Off-center adjust- ment	OFFSET_ OC	OC docur center ad	ment off- justment	1 - 99	50
L	Magnificati on ratio correction	SCAN_ SPEED_ OC	SCAN su magnifica adjustme	b scanning ation ratio nt (CCD)	1 - 99	50

Item/Display			Content	Setting range	Default value
М	Sub scanning	DENB-MFT	Manual feed correction value	1 - 99	50
N	direction print area	DENB-CS1	Tray 1 correction value	1 - 99	50
0	correction value	DENB-CS2	Tray 2 correction value	1 - 99	50
Ρ		DENB-ADU	ADU correction value	1 - 99	50
Q		DENB-HV	Heavy paper correction value	1 - 99	50

- A. (RRC-A) Timing from starting document scanning to specifying the image lead edge reference is adjusted. (01.mm/step)
- * When the value is decreased, the timing is advanced. When the value is increased, the timing is delayed.
- B E. (RRC-B) Timing of paper (registration 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.
- F. (LEAD) The lead edge image loss amount is adjusted. (0.1mm/ step)
 - * When the value is increased, the image loss is increased.
- G. (SIDE) The side image loss amount is adjusted.
- * When the value is increased, the image loss is increased. (0.1mm/step)
- H. (DEN-A) The paper lead edge void amount is adjusted. (0.1mm/ step)
 - * When the value is increased, the void is increased.
- I. (DEN-B) The paper rear edge void amount is adjusted. (0.1mm/ step)
 - * When the value is increased, the void is increased.
- J. (FRONT/REAR) The void amount on the right and left edges of paper is adjusted. (0.1mm/step)

50-5	
Purpose	Adjustment
Function (Purpose)	Used to adjust the print lead edge image
	position. (PRINTER MODE)

Operation/Procedure

- 1) Select a target adjustment item (DEN-C) with scroll key on the touch panel.
- 2) Enter the adjustment value using the 10-key.
- 3) Press [EXECUTE] key.

The set value is saved, and the adjustment check pattern is printed.

4) Measure the distance from the paper lead edge the adjustment pattern to the image lead edge, and check to confirm that it is in the standard adjustment value range.

Standard reference value:

DEN-C= 4.0 +/- 2.0mm

DEN-4.0 +/- 2.0mm

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 distanced is decreased.

When the set value is changed by 1, the distance is changed by about $0.1 \,\mathrm{mm}$.

Item/Display		ay	Content		Settir rang	ng e	Default value	NOTE
A	DEN-C		Used to adjust the print lead edge image position. (PRINTER MODE)		1 - 99	9	30	Adjustment value too align the print lead edge for the printer. When the adjustment value of this item is decreased by 1, the printer print start position in the paper transport direction is shifted to the lead edge by 0.1mm.
В	DEN-B	I-B Rear edge void area adjustment		Rear edge void area adjustment		9	30	Void amount generated at the paper rear edge. When the adjustment value of item B (DEN-B) is decreased by 1, the print area adjustment value in the sub scanning direction for the paper transport direction is decreased by 0.1mm.
С	FRONT/REAR FRONT/REAR void area adjustment		a 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.	
D	DENB-MFT	Г	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
E	DENB-CS1		Tray 1 rear edge void area adjustment correction value		1 - 99	9	50	
F	DENB-CS2 Tray 2 rear edge void area adjustment correction value		1 - 9	9	50			
G	G DENB-ADU ADU rear edge void aria adjustment correction value		1 - 9	9	55			
Н	DENB-HV		Heavy paper correction	n value	1 - 9	9	50	
I	I MULTI COUNT Number of print		1 - 99	99	1	Adjustment pattern print conditions setting		
J	PAPER	MFT	Tray selection	Manual paper feed	1 - 3	1	2 (CS1)	
		CS1		Tray 1		2		
		CS2		Tray 2		3		
к	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)	
1	1	NO		No		1		

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

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

[RSPF]

Item/Display			Content	Setting range	Default value		
A	SIDE1		SIDE1 Frc doc pos		Front surface document scan position adjustment (CCD)	1 - 99	50
В	SIDE2		Back surface document scan position adjustment (CCD)	1 - 99	50		
С	Image loss amount	LEAD_EDGE (SIDE1)	Front surface lead edge image loss amount setting	0 - 99	20		
D	setting SIDE1	FRONT_REAR (SIDE1)	Front surface side image loss amount setting	0 - 99	20		
Е		TRAIL_EDGE (SIDE1)	Front surface rear edge image loss amount setting	0 - 99	40		
F	Image LEAD_EDGE loss (SIDE2) amount		Back surface lead edge image loss amount setting	0 - 99	20		
G	setting SIDE2	FRONT_REAR (SIDE2)	Back surface side image loss amount setting	0 - 99	20		
Η	TRAIL_EDGE (SIDE2)		Back surface rear edge image loss amount setting	0 - 99	40		
Ι	OFSET_SPF1		SPF front surface document off-center adjustment	1 - 99	50		
J	OFSET_SPF2		SPF back surface document off-center adjustment	1 - 99	50		
К	SCAN_SPEED_SPF1		RSPF document front surface magnification ratio (Sub scan)	1 - 99	50		
L	SCAN_S	PEED_SPF2	RSPF document back surface magnification ratio (Sub scan)	1 - 99	50		

Item A, B: When the adjustment value is increased, the scan timing is delayed.

Item C - H: When the adjustment value is increased, the image loss is increased.

Item A - H: When a shadow image appears on the rear edge, increase the adjustment value to delete the shadow.

All adjustment items: 1 step = 0.1mm change

50-10	
Purpose	Adjustment
Function (Purpose)	Used to adjust the black print image magni-
	fication ratio and the off-center position.
	(The adjustment is made separately for
	each paper feed section.)

Operation/Procedure

1) Select an adjustment target item with scroll key on the touch panel.

2) Enter the set value with 10-key.

3) Press [EXECUTE] key. (The set value is saved.)

	Item/Display Content				Setting r	ange	Default value	NOTE
Α	BK-MAG	Main scan print magnification ratio BK			60 - 140 100		100	Adjustment Item List
В	MAIN-MFT		Print off center adjustment value (Ma	nual paper feed)	1 - 9	9	50	
С	MAIN-CS1		Print off center adjustment value (Tra	y 1)	1 - 9	9	55	
D	MAIN-CS2		Print off center adjustment value (Tra	y 2)	1 - 9	9	55	
E	E MAIN-ADU Print off center adjustment value (Duplex)		1 - 99	9	50	Adjustment Item List		
			If the adjustment items A - G are not properly adjusted, this					
			adjustment cannot be executed prope	erly.				
F	SUB-MFT		Registration motor ON timing	Manual paper feed	1 - 9	Э	25	
G	SUB-CS1		adjustment	Standard cassette	1 - 99	9	20	
Н	SUB-DSK			DESK	1 - 99		20	
- 1	SUB-ADU			ADU	1 - 99		20	
J	MULTI COU	INT	Number of print		1 - 99	9	1	Adjustment pattern print
К	PAPER	MFT	Tray selection	Manual paper feed	1 - 3	1	2 (CS1)	conditions setting
		CS1		Tray 1		2		
		CS2		Tray 2		3		
L	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)]
		NO		No		1		

Item A: 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 B - E: 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.

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

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

1step = 0.1mm

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

50-20	
Purpose	Adjustment
Function (Purpose)	Image registration adjustment (Main scan-

ning direction)

Section

Operation/Procedure

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

	Item/Displa	ay	Content		Setti rang	ing ge	Default value
Α	CYAN(FROM	NT)	Registration adjustment value main scanning direction CYAN F s	Registration adjustment value main scanning direction CYAN F side			100
В	CYAN(REAF	R)	Registration adjustment value main scanning direction CYAN R s	Registration adjustment value main scanning direction CYAN R side			100
С	MAGENTA(F	RONT)	Registration adjustment value main scanning direction MAGENTA F side			99	100
D	MAGENTA(F	REAR)	Registration adjustment value main scanning direction MAGENTA R side		1 - 1	99	100
Е	YELLOW(FF	RONT)	Registration adjustment value main scanning direction YELLOW F side		1 - 1	99	100
F	YELLOW(RE	EAR)	Registration adjustment value main scanning direction YELLOW R side		1 - 1	99	100
G	CYAN(SUB)		Registration adjustment value sub scanning direction CYAN (Black	ck drum reference)	1 - 1	99	100
Н	MAGENTA(S	SUB)	Registration adjustment value sub scanning direction MAGENTA (Black drum reference)			99	100
Ι	YELLOW(SU	JB)	Registration adjustment value sub scanning direction YELLOW (1 - 1	99	100	
J	OFFSET_C	F	Registration adjustment value main scanning direction offset value CYAN (FRONT)		1 - 9	99	50
К	OFFSET_C	R	Registration adjustment value main scanning direction offset value CYAN (REAR)		1 - 9	99	50
L	OFFSET_M	_F	Registration adjustment value main scanning direction offset value MAGENTA (FRONT)		1 - 9	99	50
Μ	OFFSET_M	ET_M_R Registration adjustment value main scanning direction offset value MAGENTA (REAR)		1 - 9	99	50	
Ν	OFFSET_Y_F Registration adjustment value main scanning direction offset value YELLOW (FRONT)		1 - 9	99	50		
0	OFFSET_Y_	R	Registration adjustment value main scanning direction offset value YELLOW (REAR)		1 - 99		50
Ρ	OFFSET_C	S	Registration adjustment value sub scanning direction offset value CYAN		1 - 9	99	50
Q	OFFSET_M	S	Registration adjustment value sub scanning direction offset value MAGENTA		1 - 9	99	50
R	OFFSET_Y_	T_Y_S Registration adjustment value sub scanning direction offset value YELLOW		1 - 9	99	50	
S	MULTICOUN	UNT Number of print		1 - 9	99	1	
Т	PAPER	MFT	Tray selection	Manual paper feed	1 - 3	1	2 (CS1)
		CS1	· · · · · · · · · · · · · · · · · · ·	Tray 1		2	
		CS2]	Tray 2		3	
U	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)
		NO		No		1]

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	

1) Press [EXECUTE] key.

The adjustment is automatically performed, and the adjustment data are displayed.

Note

The contents of the following list are mainly used by the technical division, and are not necessary for the market.

Item/Display			Content	Setting range (unit)	Color/ History	Default value	NOTE
MAIN F	-	REG_M_F (VALUE)	Registration adjustment correction amount main scanning direction F	1.0 - 199.0 (+/-0.1)	CMY/-	100	
	()	REG_M_F (DIF)	Registration value correction amount from the previous one, main scanning F	-199.0 - 199.0 (+/-0.1)	CMY/-	0	
MAIN R	-	REG_M_R (VALUE)	Registration adjustment correction value, main scanning direction R	1.0 - 199.0 (+/-0.1)	CMY/-	100	
	()	REG_M_R (DIF)	Registration value correction amount from the previous one, main scanning R	-199.0 - 199.0 (+/-0.1)	CMY/-	0	
SUB	-	REG_SUB (VALUE)	Registration adjustment correction value, sub scanning direction	1.0 - 199.0 (+/-0.1)	CMY/-	100	
	()	REG_SUB (DIF)	Registration value correction amount from the previous one, sub scanning	-199.0 - 199.0 (+/-0.1)	CMY/-	0	
SKEW	-	SKEW_CLC(VA LUE)	SKEW adjustment rotating direction and the value (angle) of adjustment screws (CMY)	-99.9 - +99.9 (+/-1)	CMY/-	0	If the value is plus, "+" is displayed to left side of numerical value. If the value is minus, "-" is displayed to left side of numerical value.
	()	SKEW_CLC(DI F)	SKEW adjustment rotating direction and the value (angle) of adjustment screws (CMY) from the previous value	-1999 - 1999 (+/-0.1)	CMY/-		The difference amount of the value from the previous value of the above SKEW_C/M/Y.
	ALL_ ROTATE	SKEW_CLC(VA LUE)	SKEW adjustment rotating direction and the value (angle) of adjustment screws (K)	-99.9 - +99.9 (+/-0.1)	K/-		If the value is plus, "+" is displayed to left side of numerical value. If the value is minus, "-" is displayed to left side of numerical value.
PHASE		PHASE_ADJ	Phase adjustment value (1: Value of this time, 2: Value of the previous time) Angle step 0 degrees (1) -> 45 degrees (2) -> 90 degrees (3) -> 135 degrees (4) -> 180 degrees (5) -> 225 degrees (6) -> 270 degrees (7) -> 315 degrees (8)	1 - 8 (+/-1)	-/2	1	-

Error displays in case of abnormal end

	Error code	Error display	Error content	Description
Forcible end error	-	SUSPENDED	Door open end	Door open during operation
	-	SUSPENDED	CA end	CA button pressed during operation
	-	-	OFF end	Unconfirmed operation during operation (Power OFF)
Basic error	1	TONNER EMPTY	Toner Empty	BK or ALL Color toner EMPTY detection
	2	BEFOR BEHAVIOR	Other condition	Other condition
	4	SENSOR CALIBLATION F	Calibration error F	The target is not reached by 3 times of retry of F or R
	5	SENSOR CALIBLATION R	Calibration error R	
	6	SENSOR CALIBLATION FR	Calibration error FR	
	7	TIME OVER	Time error	No data are obtained for 90sec from data acquisition
	8	PROCESS CONTROL	Process control error	Process control error detection

	Error code	Error display	Error content	Description
Sub scanning adjustment error	10 - 49	SUB XXX XXXX XXX		
Main scanning adjustment error	50 - 89	MAIN XXX XXXX XXX		
Others	90 - 99	RANGE XXXX XXX XXX	Other errors	Other errors

JU 2J

50-23	
Purpose	Adjustment
Function (Purpose)	Used to set the correction value of the reg-
	istration (temperature correction) from the

Operation/Procedure

- 1) Select an item to be set with Arrow keys.
- 2) Enter the set value with 10 keys.
- 3) Press [OK] key.

The set value in step 2) is saved.

	ltem	/Display	Contents	Range	Default value
A		CT_NORM_ MAIN_F_C	Normal correction temperature correction coefficient (Cyan main scanning direction F side)	1 - 199	101
в		CT_NORM_ MAIN_R_C	Normal correction temperature correction coefficient (Cyan main scanning direction R side)	1 - 199	101
с		CT_NORM_ SUB_C	Normal correction temperature correction coefficient (Cyan sub scanning direction)	1 - 199	100
D		CT_NORM_ MAIN_F_M	Normal correction temperature correction coefficient (Magenta main scanning direction F side)	1 - 199	104
E	CT_N	CT_NORM_ MAIN_R_M	Normal correction temperature correction coefficient (Magenta main scanning direction R side)	1 - 199	104
F		CT_NORM_ SUB_M	Normal correction temperature correction coefficient (Magenta sub scanning direction)	1 - 199	103
G		CT_NORM_ MAIN_F_Y	Normal correction temperature correction coefficient (Yellow main scanning direction F side)	1 - 199	103
н		CT_NORM_ MAIN_R_Y	Normal correction temperature correction coefficient (Yellow main scanning direction R side)	1 - 199	103
I		CT_NORM_ SUB_Y	Normal correction temperature correction coefficient (Yellow sub scanning direction)	1 - 199	103

	ltem	/Display	Contents	Range	Default value
A		CP_NORM_ MAIN_F_C	Normal correction operating rate coefficient (Cyan main scanning direction F side)	1 - 199	103
в		CP_NORM_ MAIN_R_C	Normal correction operating rate coefficient (Cyan main scanning direction R side)	1 - 199	103
с		CP_NORM_ SUB_C	Normal correction operating rate coefficient (Cyan sub scanning direction)	1 - 199	95
D		CP_NORM_ MAIN_F_M	Normal correction operating rate coefficient (Magenta main scanning direction F side)	1 - 199	100
E	CP_N	CP_NORM_ MAIN_R_M	Normal correction operating rate coefficient (Magenta main scanning direction R side)	1 - 199	100
F		CP_NORM_ SUB_M	Normal correction operating rate coefficient (Magenta sub scanning direction)	1 - 199	88
G		CP_NORM_ MAIN_F_Y	Normal correction operating rate coefficient (Yellow main scanning direction F side)	1 - 199	100
н		CP_NORM_ MAIN_R_Y	Normal correction operating rate coefficient (Yellow main scanning direction R side)	1 - 199	100
I		CP_NORM_ SUB_Y	Normal correction operating rate coefficient (Yellow sub scanning direction)	1 - 199	88
A		CT_JOB_MA IN_C	JOB correction temperature correction coefficient (Cyanmain scanning direction)	1 - 199	101
в		CT_JOB_SU B_C	JOB correction temperature correction coefficient (Cyan sub scanning direction)	1 - 199	100
С	CT I	CT_JOB_MA IN_M	JOB correction temperature correction coefficient (Magenta main scanning direction)	1 - 199	104
D	01_3	CT_JOB_SU B_M	JOB correction temperature correction coefficient (Magenta sub scanning direction)	1 - 199	103
E		CT_JOB_MA IN_Y	JOB correction temperature correction coefficient (Yellow main scanning direction)	1 - 199	103
F		CT_JOB_SU B_Y	JOB correction temperature correction coefficient (Yellow sub scanning direction)	1 - 199	103

	Item	/Display	Contents	Range	Default value
A		CP_JOB_MA IN_C	JOB correction operating rate coefficient (Cyanmain scanning direction)	1 - 199	103
в		CP_JOB_SU B_C	JOB correction operating rate coefficient (Cyan sub scanning direction)	1 - 199	95
с	CP_J	CP_JOB_MA IN_M	JOB correction operating rate coefficient (Magenta main scanning direction)	1 - 199	100
D		CP_JOB_SU B_M	JOB correction operating rate coefficient (Magenta sub scanning direction)	1 - 199	88
Е		CP_JOB_MA IN_Y	JOB correction operating rate coefficient (Yellow main scanning direction)	1 - 199	100
F		CP_JOB_SU B_Y	JOB correction operating rate coefficient (Yellow sub scanning direction)	1 - 199	88

50-27	
Purpose	Adjustment
Function (Purpose)	Used to perform the image loss adjustment
	of scanned images in the FAX or image
	send mode.

Operation/Procedure

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

[RSPF]

Item/Display			Content	Setting range	Default value	
FAX send	Α	Image loss	LEAD_EDGE (OC)	OC lead edge image loss amount setting	0 - 100	30 (3mm)
	В	amount setting OC	FRONT_REAR (OC)	OC side image loss amount setting	0 - 100	20 (2mm)
	С	Ĩ	TRAIL_EDGE (OC)	OC rear edge image loss amount setting	0 - 100	20 (2mm)
	D	Image loss amount setting	LEAD_EDGE (SPF_SIDE1)	Front surface lead edge image loss amount setting	0 - 100	20 (2mm)
	Е	SPF SIDE1	FRONT_REAR (SPF_SIDE1)	Front surface side image loss amount setting	0 - 100	20 (2mm)
	F		TRAIL_EDGE (SPF_SIDE1)	Front surface rear edge image loss amount setting	0 - 100	30 (3mm)
	G	Image loss amount setting	LEAD_EDGE (SPF_SIDE2)	Back surface lead edge image loss amount setting	0 - 100	20 (2mm)
	Н	SPF SIDE2	FRONT_REAR (SPF_SIDE2)	Back surface side image loss amount setting	0 - 100	20 (2mm)
	I		TRAIL_EDGE (SPF_SIDE2)	Back surface rear edge image loss amount setting	0 - 100	30 (3mm)
Image send mode	Α	Image loss	LEAD_EDGE (OC)	OC lead edge image loss amount setting	0 - 100	0 (0mm)
(Except for FAX and	В	amount setting OC	FRONT_REAR(OC)	OC side image loss amount setting	0 - 100	0 (0mm)
copy)	С		TRAIL_EDGE(OC)	OC rear edge image loss amount setting	0 - 100	0 (0mm)
	D E	Image loss amount setting	LEAD_EDGE (SPF_SIDE1)	Front surface lead edge image loss amount setting	0 - 100	0 (0mm)
		SPF SIDE1	FRONT_REAR (SPF_SIDE1)	Front surface side image loss amount setting	0 - 100	0 (0mm)
	F		TRAIL_EDGE(SPF_SIDE1)	Front surface rear edge image loss amount setting	0 - 100	0 (0mm)
	G	Image loss amount setting	LEAD_EDGE (SPF_SIDE2)	Back surface lead edge image loss amount setting	0 - 100	0 (0mm)
	Н	SPF SIDE2	FRONT_REAR (SPF_SIDE2)	Back surface side image loss amount setting	0 - 100	0 (0mm)
	Ι		TRAIL_EDGE(SPF_SIDE2)	Back surface rear edge image loss amount setting	0 - 100	0 (0mm)

A-I: When the adjustment value is increased, the image loss is increased.

1step = 0.1mm

50-24	
Purpose	(This simulation is normally not used in the market.)
Function (Purpose)	Used to display the detail data of SIM 44-2, 50-20 and 22.
Section	
Operation/Procedure	

Note

This simulation is mainly used by the technical division, and is not necessary for the market.



51-1	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the ON/OFF timing of the
	secondary transport voltage.

Operation/Procedure

1) Select an adjustment target item with scroll key on the touch panel.

51-2	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the contact pressure (deflec- tion amount) on paper by the main unit and the RSPF registration roller. (This adjust- ment is performed when there is a consid- erable variation in the print image position on the paper or when paper jams frequently occur.)

Section

Operation/Procedure

- 1) Select a target adjustment mode with [SIDE1] or [SIDE2] or [ENGINE] keys.
- 2) Select a target item to be adjusted with scroll keys.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key. (The set value is saved.)

[RSPF]

Mode	Item/Display		Content	Setting value	Default value
	A	NORMAL_PLAIN_HIGH	RSPF front surface document deflection amount adjustment value (plain paper/ high)	1 - 99	50
SIDE I	В	NORMAL_PLAIN_LOW	RSPF front surface document deflection amount adjustment value (plain paper/ low)	1 - 99	50
SIDE 2	A	NORMAL_PLAIN_HIGH_1	RSPF back surface document deflection amount adjustment value 1 (plain paper/high)	1 - 99	50
	В	NORMAL_PLAIN_LOW_1	RSPF back surface document deflection amount adjustment value 1(plain paper/low)	1 - 99	50
	А	TRAY1	Tray1 deflection adjustment value (plain paper/small size)	1 - 99	60
	В	MANUAL PLAIN PAPER	Manual feed tray deflection adjustment value (plain paper/low size)	1 - 99	60
ENGINE	С	MANUAL HEAVY A PAPER	Manual feed tray deflection adjustment value (heavy paperA/large size)	1 - 99	60
	D	MANUAL ENV	Manual feed tray deflection adjustment value (envelope)	1 - 99	60
	E	ADU PLAIN PAPER	ADU deflection adjustment value (plain paper/small size)	1 - 99	60
	F	DESK	DESK deflection adjustment value (plain paper/small size)	1 - 99	50

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.)

2) Enter the set value with 10-key.

3) Press [OK] key. (The set value 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
A	TC2 ON TIMING	Secondary transfer voltage ON timing setting	40
В	TC2 OFF TIMING	Secondary transfer voltage OFF timing setting	60



53-8	
Purpose	Adjustment
Function (Purpose)	Used to adjust the document lead edge ref-
	erence and the RSPF mode document

Section Operation/Procedure

Select an adjustment item with [AUTO] [MANUAL] key.

<AUTO: Document lead edge reference (RRCA) adjustment>(Auto adjustment)

- 1) Set a sheet of black paper of A4 or 11"x 8.5" on the document table.
- 2) Press [EXECUTE] key. (The adjustment is performed and the adjustment value is saved.)

Item/Display	Content	Setting range	Default value
MEASUREMENT	Document lead edge	0-255	-
RRCA	Document lead edge	(0.111111 unit) 0 - 99	50
	reference position		

<MANUAL: RSPF mode document scan position adjustment>

- 1) Enter the set value with 10-key.
- 2) Press [OK] key. (The set value is saved.)

ľ	tem/Display	Content	Setting range	Default value
A	ADJUST VALUE	RSPF mode document scan position adjustment (Scanner stop position adjustment)	1 - 99	40

- * When the adjustment value is increased, the scanner stop position in the RSPF mode is shifted to the right.
- * When the adjustment value is changed by 1, the position is shifted by 0.1mm.

53-9	
Purpose	Adjustment
Function (Purpose)	Used to set dirt detection for RSPF scan-
	ning position.

Section

Operation/Procedure

- 1) Select an items to be set with scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

	Item/Display		Content		Setting		Default
А	DIRT ALARM SET	OFF	RSPF dirt alarm setting	OFF	0 - 1	0	0
		ON		ON	-	1	(OFF)
В	SIDEA_SCAN_POSITION_SET_START	OFF	RSPF front surface optimum scan position detection	OFF	0 - 1	0	0
		ON	setting (When starting)	ON		1	(OFF)
С	SIDEA_SCAN_POSITION_SET_JOB	OFF	RSPF front surface optimum scan position detection	OFF	0 - 1	0	1
		ON	setting (After a job)	ON		1	(ON)
D	SIDEA_SCAN_POSITION_LV	WEAK	RSPF front surface optimum scan position detection	Low	0 - 2	0	1
		MIDDLE	level setting	Medium		1	(MIDDLE)
		STRONG		High		2	
Е	OC_DIRT_LV	WEAK	OC dirt level setting	Low	0 - 2	0	1
		MIDDLE		Medium		1	(MIDDLE)
		STRONG		High		2	
F	SIDEA_DIRT_ALARM_LV	WEAK	RSPF front surface dirt alarm level setting	Low	0 - 2	0	1
		MIDDLE		Medium		1	(MIDDLE)
		STRONG		High		2	
G	SIDEA_DIRT_SHADING_SET	OFF	RSPF front surface streak delete shading setting	OFF	0 - 1	0	1
		ON		ON		1	(ON)

53-10			
Purpose	Adjustment/Setup		
Function (Purpose)	RSPF dirt detection execution.		
Section			
Operation/Procedure			

1) Press [EXECUTE] key.

Item	Content				
SPF SIDEA	RSPF front surface dirt detection position				
	(main scan position 1 to 8)				
	"-": No dirt, A"*": Dirt				
OC	OC surface dirt detection position (main scan position				
	1 to 8)				
	"-": No dirt, "*": Dirt				



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 scan- ner control operation. (SOFT SW)
Section	

55-3	
Purpose	(Do not use this function unless specially required.)
Function (Purpose)	Used to set the specifications of the control- ler operation. (SOFT SW)
Section	
Operation/Procedure	

55-10	
Purpose	Adjustment/Setting
Function (Purpose)	Used to set the special stamp text. (Taiwar
	only)

Section

Operation/Procedure

- 1) Select an item to be set (digit, color, type) with the scroll key.
- 2) Enter the value corresponding to the setting item with 10-key.
- 3) Press [OK] key.

ltem/Display			Co	ntent	Setting range	Default value
Α	1ST DIGIT		First digit (left edge)		1 - 90	1
В	2ND DIG	IT	Second dig	git		
С	3RD DIG	IT	Third digit		32 [blank: 20H]	
D	> 4TH DIGIT		Fourth digit		65 - 90 [Alphabet: 41H("A) - 5AH("Z")]	
E	5TH DIG	IT	Fifth digit		48 - 57 [Numeral: 30H("0") - 39H("9")]	
F	6TH DIG	IT	Sixth digit (right edge)			
G	COLOR	К	Color spec	cification	0	0
		С	input		1	
		М			2	
		Υ			3	
		R			4	
		G			5	
		В			6	
н	TYPE	PATTERN 1	Print com-	Edging type	0	1
		PATTERN 2	posing method	OR process type	1	
		PATTERN 3		No-delete- compo- sition type	2	

Input value

Print	Blank	А	В	С	E	F	G
Input value	32	65	66	67	69	70	71
Print	Н	Ι	J	K	L	М	Ν
Input value	72	73	74	75	76	77	78
Print	0	Р	Q	R	Т	U	V
Input value	79	80	81	82	84	85	86

Print	W	Х	Y	Z	0	1	2
Input value	87	88	89	90	48	49	50
Print	3	5	6	7	8	9	
Input value	51	53	54	55	56	57	

56

56-1	
Purpose	Backup
Function (Purpose)	Used to transport data between HDD - MFP PWB SRAM/EEPROM. (Used to repair the PWB.)
Section	

Operation/Procedure

- 1) Select a target content of data transfer.
- 2) Press [EXECUTE] key and press [YES] key.

Data transfer of the item selected in procedure 1) is executed. When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

EEPROM -> HDD	Transfer from EEPROM to HDD
HDD -> EEPROM	Transfer from HDD to EEPROM

56-2	
Purpose	Data backup
Function (Purpose)	Used to backup the data in the EEPROM. SD Card, and HDD (including user authen- tication data and address data) to the USB flash drive. (Corresponding to the device cloning and the storage backup.)
Section	

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- Select a target transfer item with the touch panel.
 <IMPORT>

From USB MEMORY DEVICE To EEPROM, SD Card HDD <EXPORT>

From EEPROM, SD Card, HDD To USB MEMORY

 Press [EXECUTE] key, and press [YES] key. Data transfer selected in the procedure 2) is performed When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

(Machine with the DSK installed)

- 1) Insert the USB flash drive into the main unit.
- Select a target transfer item with the touch panel.
 <IMPORT>
 From USB MEMORY DEVICE to EEPROM, SD Card HDD
 <EXPORT>
 From EEPROM, SD Card, HDD to USB MEMORY DEVICE
- 3) Enter the password with 10-key.
- 4) Press [SET] key.
- Press [EXECUTE] key, and press [YES] key.
 Data transfer selected in the procedure 2) is performed.
 When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

<Data list outside the backup targets> (EEPROM/SD Card)

PWB Type	Content	NOTE
Controller	Machine serial No.	
	Product key information	
	Various counter	Copy counter/FAX send counter etc.
	Trouble history	
PCU	Machine serial No.	
	Various counter	Maintenance counter
	Machine adjustment execute history	
	Trouble history	
SCU	Various counter	Maintenance counter
	Trouble history	

(HDD)

Classifi- cation	Content	NOTE
Japanese FEP	User dictionary	
Job end list	Job end list display data (The image send series include the preserved job list.)	
Log	Job log	Read from WEB is enable.
New N/A	 Print history information JAM history information Trouble history information Same position continuous jam count value Charging information Life information 	
Operation manual	E-manual	

56-3	
Purpose	Data backup
Function (Purpose)	Used to backup the document filing data to the USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- Select a target transfer item with the touch panel.
 <IMPORT>

From USB MEMORY DEVICE to EEPROM, SD Card, HDD <EXPORT>

From EEPROM, SD Card, HDD to USB MEMORY DEVICE Press [EXECUTE] key, and press [YES] key.

Press [EXECUTE] key, and press [YES] key.
 Data transfer selected in the procedure 2) is performed.
 When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-4	
Purpose	Data backup
Function (Purpose)	Used to backup the JOB log data to the USB flash drive.

Section Operation/Procedure

- 1) Insert the USB memory into the main unit.
- Press [JOB LOG EXPORT] key.
- Press [EXECUTE] key, and press [YES] key.
 Data transfer selected in the procedure 2) is performed.
 When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-5	
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.
- Press [EXECUTE] key, and press [YES] key.
 Procedure 2) The selected data are imported.
 When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-6	
Purpose	Operation data check
Function (Purpose)	Used to import the SIM23-2 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.
- 3) Press [EXECUTE] key, and press [YES] key.

56-7		
Purpose	Adjustment/Setting/Operation data check	
Function (Purpose)	Used to import the syslog data to a USB memory. (For 26/31 cpm machine)	
Section		

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select SYSLOG EXPORT to be imported.
- 3) Press [EXECUTE] key, and press [YES] key.

|--|

60-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the moperations (read/write) of the MFP PWB.
Section	

Operation/Procedure

1) Press [EXECUTE] key.

Start the test.

Result display	Description
OK	Success
NG	Fail
NONE	DIMM trouble
INVALID	Execution disable



61-1	
Purpose	Operation test/check
Function (Purpose) Used to check the LSU polygon motor tion, laser detection and laser light emit	
Section	LSU

Section **Operation/Procedure**

1) Press [EXECUTE] key.

When the operation is completed normally, [OK] is displayed. In case of an abnormal end, [NG] is displayed.

61-3	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the laser power
Section	

Operation/Procedure

1) Select a target mode for adjustment with [COPY], [PR600/ FAX] on the touch panel.

Display	Content
LSU TESTRESULT NG: PG	Polygon mirror rotation abnormality
LSU TESTRESULT NG: K	Laser detection abnormality, Laser light emitting abnormality (K)
LSU TESTRESULT NG: CL	Laser detection abnormality, Laser light emitting abnormality (C, M, Y)

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

When the laser power and the DUTY adjustment value are increased, the print density is increased and the line width of line images are increased.

Mode		Item/Display	Content	Setting	Default	Destination
				range	value	linkage
	А	LASER POWER MIDDLE(K1)	Laser power setting middle speed/K1	0 - 255	110	х
	В	LASER POWER MIDDLE(K2)	Laser power setting middle speed/K2	0 - 255	110	х
	С	LASER POWER MIDDLE(C1)	Laser power setting middle speed/C1	0 - 255	110	х
	D	LASER POWER MIDDLE(C2)	Laser power setting middle speed/C2	0 - 255	110	х
	Е	LASER POWER MIDDLE(M1)	Laser power setting middle speed/M1	0 - 255	110	х
	F	LASER POWER MIDDLE(M2)	Laser power setting middle speed/M2	0 - 255	110	х
	G	LASER POWER MIDDLE(Y1)	Laser power setting middle speed/Y1	0 - 255	110	х
	Н	LASER POWER MIDDLE(Y2)	Laser power setting middle speed/Y2	0 - 255	110	х
	I	LASER POWER LOW(K1)	Laser power setting low speed/K1	0 - 255	110	х
	J	LASER POWER LOW(K2)	Laser power setting low speed/K2	0 - 255	110	х
	К	LASER POWER LOW(C1)	Laser power setting low speed/C1	0 - 255	110	х
	L	LASER POWER LOW(C2)	Laser power setting low speed/C2	0 - 255	110	х
	М	LASER POWER LOW(M1)	Laser power setting low speed/M1	0 - 255	110	х
	Ν	LASER POWER LOW(M2)	Laser power setting low speed/M2	0 - 255	110	х
	0	LASER POWER LOW(Y1)	Laser power setting low speed/Y1	0 - 255	110	х
COPY	Р	LASER POWER LOW(Y2)	Laser power setting low speed/Y2	0 - 255	110	х
	Q	LASER POWER MIDDLE(BW1)	Laser power setting middle speed/BW1	0 - 255	110	х
	R	LASER POWER MIDDLE(BW2)	Laser power setting middle speed/BW2	0 - 255	110	х
	S	LASER POWER LOW(BW1)	Laser power setting low speed/BW1	0 - 255	110	х
	Т	LASER POWER LOW(BW2)	Laser power setting low speed/BW2	0 - 255	110	х
	U	LASER DUTY MIDDLE(K)	Laser duty selection middle speed/K	0 - 255	0	0
	V	LASER DUTY MIDDLE(C)	Laser duty selection middle speed/C	0 - 255	0	0
	W	LASER DUTY MIDDLE(M)	Laser duty selection middle speed/M	0 - 255	0	0
	Х	LASER DUTY MIDDLE(Y)	Laser duty selection middle speed/Y	0 - 255	0	0
	Y	LASER DUTY LOW(K)	Laser duty selection low speed/K	0 - 255	0	0
	Z	LASER DUTY LOW(C)	Laser duty selection low speed/C	0 - 255	0	0
	AA	LASER DUTY LOW(M)	Laser duty selection low speed/M	0 - 255	0	0
	AB	LASER DUTY LOW(Y)	Laser duty selection low speed/Y	0 - 255	0	0
	AC	LASER DUTY MIDDLE(BW)	Laser duty selection middle speed/BW	0 - 255	0	0
	AD	LASER DUTY LOW(BW)	Laser duty selection low speed/BW	0 - 255	0	0
	А	LASER POWER MIDDLE(K1)	Laser power setting middle speed/K1	0 - 255	110	х
	В	LASER POWER MIDDLE(K2)	Laser power setting middle speed/K2	0 - 255	110	х
	С	LASER POWER MIDDLE(C1)	Laser power setting middle speed/C1	0 - 255	110	х
	D	LASER POWER MIDDLE(C2)	Laser power setting middle speed/C2	0 - 255	110	х
	Е	LASER POWER MIDDLE(M1)	Laser power setting middle speed/M1	0 - 255	110	х
	F	LASER POWER MIDDLE(M2)	Laser power setting middle speed/M2	0 - 255	110	х
	G	LASER POWER MIDDLE(Y1)	Laser power setting middle spped/Y1	0 - 255	110	х
PR600/FAX	Н	LASER POWER MIDDLE(Y2)	Laser power setting middle speed/Y2	0 - 255	110	х
	I	LASER POWER LOW(K1)	Laser power setting low speed/K1	0 - 255	110	х
	J	LASER POWER LOW(K2)	Laser power setting low speed/K2	0 - 255	110	х
	К	LASER POWER LOW(C1)	Laser power setting low speed/C1	0 - 255	110	х
	L	LASER POWER LOW(C2)	Laser power setting low speed/C2	0 - 255	110	х
	М	LASER POWER LOW(M1)	Laser power setting low speed/M1	0 - 255	110	х
	Ν	LASER POWER LOW(M2)	Laser power setting low speed/M2	0 - 255	110	х
	0	LASER POWER LOW(Y1)	Laser power setting low speed/Y1	0 - 255	110	х

Mode		Item/Display	Content	Setting	Default	Destination
				range	value	linkage
	Р	LASER POWER LOW(Y2)	Laser power setting low speed/Y2	0 - 255	110	Х
	Q	LASER POWER MIDDLE(BW1)	Laser power setting middle speed/BW1	0 - 255	110	х
	R	LASER POWER MIDDLE(BW2)	Laser power setting middle speed/BW2	0 - 255	110	х
	S	LASER POWER LOW(BW1)	Laser power setting low speed/BW1	0 - 255	110	х
	Т	LASER POWER LOW(BW2)	Laser power setting low speed/BW2	0 - 255	110	х
	U	LASER DUTY MIDDLE(K)	Laser duty selection middle speed/K	0 - 255	0	0
	V	LASER DUTY MIDDLE(C)	Laser duty selection middle speed/C	0 - 255	0	0
	W	LASER DUTY MIDDLE(M)	Laser duty selection middle speed/M	0 - 255	0	0
	Х	LASER DUTY MIDDLE(Y)	Laser duty selection middle speed/Y	0 - 255	0	0
	Y	LASER DUTY LOW(K)	Laser duty selection low speed/K	0 - 255	0	0
	Z	LASER DUTY LOW(C)	Laser duty selection low speed/C	0 - 255	0	0
	AA	LASER DUTY LOW(M)	Laser duty selection low speed/M	0 - 255	0	0
PR600/FAX	AB	LASER DUTY LOW(Y)	Laser duty selection low speed/Y	0 - 255	0	0
	AC	LASER DUTY MIDDLE(BW)	Laser duty selection middle speed/BW	0 - 255	0	0
	AD	LASER DUTY LOW(BW)	Laser duty selection low speed/BW	0 - 255	0	0
	AE	LASER DUTY MIDDLE(K 1BIT)	Laser duty selection middle speed/K	0 - 255	0	0
	AF	LASER DUTY MIDDLE(C 1BIT)	Laser duty selection middle speed/C	0 - 255	0	0
	AG	LASER DUTY MIDDLE(M 1BIT)	Laser duty selection middle speed/M	0 - 255	0	0
	AH	LASER DUTY MIDDLE(Y 1BIT)	Laser duty selection middle speed/Y	0 - 255	0	0
	AI	LASER DUTY LOW(K 1BIT)	Laser duty selection low speed/K	0 - 255	0	0
	AJ	LASER DUTY LOW(C 1BIT)	Laser duty selection low speed/C	0 - 255	0	0
	AK	LASER DUTY LOW(M 1BIT)	Laser duty selection low speed/M	0 - 255	0	0
	AL	LASER DUTY LOW(Y 1BIT)	Laser duty selection low speed/Y	0 - 255	0	0
	AM	LASER DUTY MIDDLE(BW 1BIT)	Laser duty selection middle speed/BW	0 - 255	0	0
	AN	LASER DUTY LOW(BW 1BIT)	Laser duty selection low speed/BW	0 - 255	0	0

61-4	
Purpose	Adjustment
Function (Purpose)	Used to print the print image skew adjust-
	ment pattern. (LSU unit)

Operation/Procedure

- 1) Select a target item with scroll key on the touch panel.
- 2) Enter the print conditions setting value with 10-key.

3) Press [EXECUTE] key.

The print image skew adjustment pattern is printed.

Item/Display				Co	ontent	Default value
Α	A MULTICOUNT		Print quant	uantity (1-999)		1
В	PAPER	MFT	Tray	1	Manual paper feed	2
		CS1	selection	2	Paper feed tray 1	(Paper
		CS2		3	Paper feed tray 2	feed tray 1)

62

62-1	
Purpose	Data clear
Function (Purpose)	Used to format the hard disk/SD Card. (HDD: Excluding the Operation manual and the watermark data) (SD Card: User data)

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.
 - Used to execute the HDD/SD Card format.

When the operation is completed, $\left[\text{EXECUTE} \right]$ key returns to the normal display.

62-2	
Purpose	Operation test/check
Function (Purpose)	Used to check read/write of the hard disk (partial).
Section	
Operation/Procedure	

1) Press [EXECUTE] key.

2) Press [YES] key.

62-3	
Purpose	Operation test/check
Function (Purpose)	Used to check read/write of the hard disk (all areas).

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

Read/write operations are performed.

62-6	
Purpose	Operation test/check
Function (Purpose)	Used to perform the self diagnostics of the hard disk.
Section	
Operation/Procedure	1

1) Select the self diag area.

2) Press [EXECUTE] key.

The self diag operation is performed.

Note

E7-03 error occurs. If there may be a trouble in the HDD, use this simulation to cheek the HDD.

SHORT S.T	Partial area diag
EXTENDED S.T	All area diag

When the operation is completed, [EXECUTE] key returns to the normal display.

Normal completion -> "OK (RESULT:0)" is displayed.

Abnormal end -> "NG (RESULT: Other than 0)" is displayed.

* If the simulation cannot be executed or terminated abnormally for some reason, "ERROR" is displayed on the corresponding section.

62-7	
Purpose	Operation test/check
Function (Purpose)	Used to print the hard disk self diagnostics
	error log.

Section

Operation/Procedure

1) Press [EXECUTE] key.

ERROR LOG SECTOR of the SMART function is executed, and the result is printed.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-8	
Purpose	Data clear
Function (Purpose)	Used to format the hard disk/SD Card. (HDD: Excluding the Operation Manual, the watermark data, and the system area) (SD Card: User data)
O s atlan	

Section

Operation/Procedure 1) Press [EXECUTE] key.

- 2) Press [YES] key.

Used to execute the hard disk format.

When the operation is completed, [EXECUTE] key returns to the normal display.

* When the HDD formatting (except for the system area) is not completed normally, "HDD FORMAT (EXCEPT SYSTEM AREA) NG" is displayed.

62-	1	0
-----	---	---

Purpose	Data clear
Function (Purpose)	Used to clear the job completion list data.
Section	

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.
- Used to delete the job log data.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-11

-	
Purpose	Data clear
Function (Purpose)	Used to delete the document filing data.
Section	

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

Used to delete the document filing data.

When the operation is completed, $\left[\text{EXECUTE} \right]$ key returns to the normal display.

62-12	
Purpose	Setting
Function (Purpose)	Used to set Enable/Disable of auto format in a hard disk trouble.
Section	

Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Press [OK] key.

The set value is saved.

When it is set to Enable, if a read error of HDD occurs in the system data storage area (FAX/device cloning data, etc.), only the system data storage area is cleared.

А	0	Enable
	1	Disable (Default)

62-13	
Purpose	Data clear
Function (Purpose)	Used to format the hard disk. (Operation
	Manual, watermark data only)
Section	

Operation/Procedure

1) Press [EXECUTE] key.

2) Press [YES] key.

The operation manual data are deleted.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-14	
Purpose	Data clear
Function (Purpose)	Used to delete the document filing manage-
	ment data.

Section HDD

Operation/Procedure

- 1) Press [EXECUTE] key.
- Press [YES] key.

The document filing management data are cleared. At the same time, the job log data are also cleared.

This simulation is executed in the following trouble cases.

- * The document filing function does not work normally.
- * The job log is not recorded normally.

Note

This simulation may not function with some firmware versions. In such a case, the firmware must be upgraded to the latest version.

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 [R] [G] [B] on the touch panel.

[RSPF]

Display item	Description		Remarks
GAIN ODD	Gain adjustment value		
	(odd number)		
GAIN EVEN	Gain adjustment value		
	(even number)		
OFFSET ODD	Offset value (odd		
	number)		
OFFSET EVEN	Offset value (even		
	number)		
SMP AVE ODD	Reference plate sampling average value		
	(ODD)		
SMP AVE EVEN	Reference plate		
	sampling average value (EVEN)		
TARGET VALUE	Target value		
BLACK LEVEL	Black output level		
ERROR CODE	Error code (0, 1 - 14)	0:	No error
		1:	Loop number over
		2:	The target value is
			under the specified
			value
		3:	The gain set value is
			negative.
		4:	END is not asserted.
			(Gain adjustment)
		5:	STAGE2 Retry max
		6:	STAGE2 Underflow
		7:	Black shading error
		8:	Other error
		9:	END is not asserted.
		10.	(White shading)
		10:	(Black shading)
	Error code $(0, 1, 14)$	11.	END is not asserted
			(Light quantity
			correction)
		12:	END is not asserted.
		13:	Register check error
			(White booting/
			Before gain)
		14:	Register check error
			(Before light quantity
			correction)
RSPF BACK	First scan RSPF back		
WHITE LEVEL	surface white reference		
	Second scan KSPF		
2ND	reference level		

63-2	
Purpose	Adjustment
Function (Purpose)	Used to perform shading.
Section	
A (1) (B)	

Operation/Procedure

1) (When RSPF model)

Press [EXECUTE] key.

Used to perform shading.

When the operation is completed, $\left[\mathsf{EXECUTE} \right]$ key returns to the normal display.

63-3	
Purpose	Adjustment
Function (Purpose)	Used to perform scanner (CCD) color bal-
	ance and gamma auto adjustment.
Section	Scanner

Operation/Procedure

- Place the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) on the reference position of the left rear frame side of the document table.
- 2) Press [EXECUTE] key.

The scanner (CCD) color balance automatic adjustment is performed.

When the operation is completed, [EXECUTE] key returns to the normal display.

After completion of the operation, press [RESULT] key, and the adjustment data are displayed. At that time, the target color of data display can be selected with [R] [G] [B] key.

63-4	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the SIT chart patch density.
Section	

Operation/Procedure

- Set the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) to the reference position on the left rear frame side of the document table.
- 2) Press [EXECUTE] key.

The patch of the SIT chart is scanned.

When the operation is completed, $\left[\text{EXECUTE} \right]$ key returns to the normal display.

3) Select a data display mode.

THROUGH GAMMA	SIT chart scan data		
COPY GAMMA	Copy mode gamma process data of the SIT chart scan data		
SCANNER GAMMA	Image send mode gamma process data of the SIT chart scan data		
SIT CHECK	SIT chart scan data/Check result		

Select an target display color with [R] [G] [B] keys.

63-5	
Purpose	Adjustment/Setup
Function (Purpose)	Used to perform the scanner (CCD) color balance and gamma default setting.
Section	

Operation/Procedure

- 1) Press [EXECUTE] key, and press [YES] key
- 2) The scanner (CCD) color balance and gamma are set to the default.

63-6	

Purpose Function (Purpose)

Adjustment/Setting/Operation data check

Used to display the scan level and the density level of the copy color balance adjustment patch.

Section Operation/Procedure

- 1) Set the color balance adjustment pattern sheet printed with SIM46-21 on the document table.
- 2) Press [EXECUTE] key.

The patch image of the adjustment pattern sheet is scanned. Select a target color with [C] [M] [Y] [K] key.

63-7

001			
Purpose	Adjustment/Setup		
Function (Purpose)	Used to register the service target of the		
	copy mode auto color balance adjustment.		

Section

Operation/Procedure

- 1) Press [SETUP] key on the touch panel.
- Set the color balance adjustment pattern sheet printed with SIM46-21 on the document table.
- 3) Press [EXECUTE] key.

The patch image of the adjustment pattern sheet is scanned.

4) Press [OK] key.

The service target of the copy mode automatic color balance adjustment is registered according to the patch image of the scanned adjustment pattern sheet.

The registered color balance and the density are displayed. Select a target color with [C] [M] [Y] [K] key.

Important

This simulation is executed only when the copy color balance is manually adjusted.

В	Point B target value
С	Point C target value
D	Point D target value
Е	Point E target value
F	Point F target value
G	Point G target value
Н	Point H target value
I	Point I target value
J	Point J target value
K	Point K target value
L	Point L target value
М	Point M target value
Ν	Point N target value
0	Point O target value
BASE	Background sampling value

63-8	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the default of the service target of the copy mode auto color balance adjust- ment.
Section	
Operation/Procedure	

1) Press [EXECUTE] key.

2) Press [YES] key.

The service target of the copy mode automatic color balance adjustment is set to the default.

The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

63-11	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the target color balance of the
	copy mode auto color balance adjustment.

Section

Operation/Procedure

1) Select the target color balance with the touch panel.

Item/Dis	play	Content	Default value
Target color DEF1 The engine color balance adjustment target in the automatic color balance balance operation is slightly shifted to Magenta. When this target is selected, the color balance is converted into natural gray color balance by the color table in an actual copy mode and print is made.		DEF 1	
	DEF2	The engine color balance adjustment target in the automatic color balance operation is slightly shifted to natural gray color balance. When this target is selected, the color balance is slightly shifted to Cyan by the color table in an actual copy mode and print is made.	
	DEF3	The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Cyan. When this target is selected, the color balance is converted into the color balance with enhanced Cyan by the color table in an actual copy mode and print is made.	



64-1	
Purpose	Operation test/check
Function (Purpose)	Test print. (Self print) (Color mode)
Section	

Set the print conditions.
 Select an item to be print condition with scroll keys.
 Set the print conditions with 10-key.
 Select a target print color with [K] [C] [M] [Y] key.

2) Press [EXECUTE] key.

The test print (self print) is performed.

Item/Display		Content		Setting range		Default value	
Α	PRINT PATTERN		Specification of th	e print pattern	1 - 58 (Printable only 1, 2, 9 - 11, 17 - 19, 21,		1
	(1, 2, 9 - 11, 17 - 19,	21, 22)	(* For details, refer to the description below.)		22)		
В	DOT1 (DOT1>=2 IF	A: 2,11)	Setting of print dot number (M parameter)		1-255		1
			(Self print pattern: m by n)		(Pattern 2, 11: 2-255 except above: 1-255)		
С	DOT2 (DOT2>=2 IF	A: 2,11)	Setting of blank dot number (N parameter)		0-255		254
			(Self print pattern:	: m by n)	(Pattern2, 11: 2-255 except above: 0-255)		
D	DENSITY (FIXED "2	55" IF A: 9)	Used to specify th	e print gradation.	1-255		255
					(Pattern 9: 255 Fixed except above:1-2	255)	
Е	MULTI COUNT	-	Number of print	1	1 - 999		1
F	EXPOSURE	THROUGH	Exposure mode	No process (through)	1-8	1	8
	(2 - 8 IF A: 17 - 19)	CHAR/PIC	specification	Text/Printed Photo	(Pattern 17-19: 2-8	2	(STANDARD
		CHAR/PRPIC		Text/ Photograph	except above:1-8)	3	DITHER)
		CHAR		Text		4	
		PRINT PIC		Printed Photo		5	
		PRINT PAPER		Photograph		6	
		MAP		Мар		7	
		STANDARD DITHER		Dither without correction		8	
G	PAPER	MFT	Tray selection	Manual paper feed	1 - 3	1	2
		CS1		Tray 1		2	(CS1)
		CS2		Tray 2		3	
Н	DUPLEX	YES	Duplex print	Yes	0 - 1	0	1
		NO	selection	No		1	(NO)
I	PAPER TYPE	PLAIN	Paper type	Standard paper	1 - 5	1	1
		HEAVY		Heavy paper		2	(PLAIN)
		OHP		OHP		3	
		ENVELOPE		Envelope		4	
		GLOSSY		Glossy paper		5	

Pattern No.	Content	Pattern generating section	NOTE
1	Grid pattern	LSU-ASIC	 * When the print width is 100 or more and all colors are selected, print is made in the three colors (CMY). * Print is started at 4mm from the paper lead edge. * Writing regardless of pound. The first one is fixed to LD1.
2	Dot print		-
9	Each color 10% area (A4/ A4R) density print		 * Each interval is 41.86mm (989dot). * If m is not in the range of 1 - 13%, it is rounded. * K print is started at 17mm from the paper lead edge.
10	8-color belt print		
11	4-color dot print (sub scan)		 * For every 1/4 of the sub scanning direction paper size, print is made for each color. * When N=0, print of all the background is made in 4 colors.
17	All background (halftone)	Halftone	* When all colors are selected, print is made in CMY.
18	256 gradations pattern (Other dither)	(IMG-ASIC rear process)	 * 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 started at 5mm from the paper lead edge. * Print is made from 255 gradations, and 0-254 gradations are printed.
19	256 gradations pattern (For text dither)		* Print is made from 255 gradations, and 0-254 gradations are printed.
21	4-point dot print (main scan)	LSU-ASIC	 * For every 1/4 of the main scanning direction paper size, print is made for each color. * When N=0, print of all the background is made in 4 colors.
22	Slant line	LSU-ASIC	

64-2	
Purpose	Operation test/check
Function (Purpose)	Test print. (Self print) (Monochrome mode)
Section	

1) Set the print conditions.

Select an item to be print condition with scroll keys. Set the print conditions with 10-key.

2) Press [EXECUTE] key.

The test print (self print) is performed.

	Item/Dis	splay	(Content	Setting range		Default value
А	PRINT PATTERN		Print pattern specif	ication	1 - 58		1
	(1, 2, 9 - 11, 17 - 19, 21, 22)		(* For details, refer to the description below.)		(Printable only 1, 2, 9 - 11, 17 - 19, 21, 22)		
в	DOT1 (DOT1>=2 IF	A: 2,11)	Setting of print dot	number (M parameter)	1-255		1
			(Self print pattern:	m by n)	(Pattern 2, 11: 2-255 except above: 1-2	255)	
С	DOT2 (DOT2>=2 IF	A: 2,11)	Setting of blank do	t number	0-255		254
			(N parameter) (Sel	f print pattern: m by n)	(Pattern2, 11: 2-255 except above: 0-2	255)	
D	DENSITY (FIXED "2	55" IF A: 9)	Used to specify the	e print gradation.	1-255		255
					(Pattern 9: 255 Fixed except above:1-2	255)	
E	MULTI COUNT		Number of print		1 - 999		1
F	EXPOSURE	THROUGH	Exposure mode	No process (through)	1-8	1	8
	(2 - 8 IF A: 17 - 19)	CHAR/PIC	specification	Text/Printed Photo	(Pattern 17-19: 2-8	2	(STANDARD
		CHAR/PRPIC		Text/ Photograph	except above: 1-8)	3	DITHER)
		CHAR		Text		4	
		PRINT PIC		Printed Photo		5	
		PRINT PAPER		Photograph		6	
		MAP		Мар		7	
		STANDARD DITHER		Dither without correction		8	
G	PAPER	MFT	Tray selection	Manual paper feed	1 - 3	1	2
		CS1		Tray 1		2	(CS1)
		CS2		Tray 2		3	
н	DUPLEX	YES	Duplex print	Yes	0 - 1	0	1
		NO	selection	No		1	(NO)
Т	PAPER TYPE	PLAIN	Paper type	Standard paper	1 - 5	1	1
		HEAVY		Heavy paper		2	(PLAIN)
		OHP]	OHP		3	
		ENVELOPE]	Envelope		4	
		GLOSSY]	Glossy paper		5	

Pattern No.	Content	Pattern generating section	NOTE
1	Grid pattern	LSU-ASIC	* When the print width is 100 or more and all colors are selected, print is made in the three colors (CMY).
			* Print is started at 4mm from the paper lead edge.
			* Writing regardless of pound. The first one is fixed to LD1.
2	Dot print		-
9	Each color 10% area (A4/		* Each interval is 41.86mm (989dot).
	A4R) density print		* If m is not in the range of 1 - 13%, it is rounded.
			* K print is started at 17mm from the paper lead edge.
10	8-color belt print		
11	4-color dot print (sub scan)		* For every 1/4 of the sub scanning direction paper size, print is made for each color.
			* When N=0, print of all the background is made in 4 colors.
17	All background (halftone)	Halftone (IMG-ASIC	-
18	256 gradations pattern (Other dither)	rear process)	-
19	256 gradations pattern		-
	(For text dither)		
21	4-point dot print (main	LSU-ASIC	* For every 1/4 of the main scanning direction paper size, print is made for each color.
	scan)		* When N=0, print of all the background is made in 4 colors.
22	Slant line	LSU-ASIC	

64-4						
Purpose	Operation test/check					
Function (Purpose)	Printer test print. (Self print)					
Section						
Operation/Procedure						

- Set the print conditions.
 Select an item to be print condition with scroll keys.
 Set the print conditions with 10-key.
 Select a target print color with [K] [C] [M] [Y] key.
- 2) Press [EXECUTE] key.
- 3) The test print (self print) is performed.

	Item/Dis	olay	Con	tent	Setting range	Default value
A	A PRINT PATTERN		Specification of the print pattern (* For details, refer to the description below.)		1 - 6	6
В	DENSITY		Used to specify the print gr	adation.	1 - 255	128
С	MULTI COUNT		Number of print		1 - 999	1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1	2
		CS1		Tray 1	2	(CS1)
		CS2		Tray 2	3	
Е	HALFTONE	LOW	Halftone	Low	0	0
		HIGH		High	1	(LOW)
		GLOSSY		Glossy	2	
F	QUALITY	STANDARD	Image quality setting	Standard	0	1
		HIGHQUALITY		High quality	1	(HIGHQUALITY)
G	DITHER	STRAIGHT	Specification of dither	Straight	0	1
		CALIB	correction	Calibration	1	(CALIB)
Н	PAPER TYPE	PLAIN	Paper type	Standard paper	0	0(PLAIN)
		HEAVY]	Heavy paper	1	
		GLOSSY		Glossy paper	3	Ī

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	Halftone pattern (COLOR)
5	Halftone pattern (B/W)
6	Background dot print

64-5	
Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PCL)
Section	

1) Set the print conditions.

Select an item to be print condition with scroll keys. Set the print conditions with 10-key. Select a target print color with [K] [C] [M] [Y] key.

2) Press [EXECUTE] key.

The test print (self print) is performed.

	Item/Display		C	Content	Setting range	Default value
Α	PRINT PATTERN		Print pattern specification		1 - 5	3
В	B DENSITY		Print gradation specification	Print gradation specification		255
С	MULTI COUNT		Number of print		1 - 999	1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1	2
		CS1		Tray 1	2	(CS1)
		CS2	1	Tray 2	3	
Е	HALFTONE	LOW(IMAGE)	Halftone	Low	0	2
		HIGH(TEXT)		High	1	(AUTO)
		AUTO	1	Auto	2	
F	QUALITY	STANDARD	Image quality setting	Standard	0	1
		HIGHQUALITY		High quality	1	(HIGH QUALITY)
G	DITHER	STRAIGHT	Specification of dither	0: Straight	0	1
		CALIB	correction	1: Calibration	1	
н	PAPER TYPE	PLAIN	Paper type	Standard paper	0	0
		HEAVY	1	Heavy paper	1	(PLAIN)
		GLOSSY		Glossy paper	2	
Ι	INTENT	PERCEPTUAL	Rendering indent	Perceptual	0	0
		COLORIMETRIC		Color metric	1	(PERCEPTUAL)
		SATURATION		Saturation	2	
J	OUTPUT	SHARP	Output profile	Standard	0	0
	PROFILE	STANDARD	1	Photo	1	(SHARP)
		GRAPHICS		Graphics	2	
К	RGB SOURCE	SRGB	RGB source profile	SRGB	0	0
	PROFILE	GAMMA1.6		Gamma 1.6	1	(SRGB)
		GAMMA1.8		Gamma 1.8	2	
		GAMMA2.0		Gamma 2.0	3	
		GAMMA2.6		Gamma 2.6	4	
		GAMMA3.0		Gamma 3.0	5	
		TONER SAVE	1	TONER SAVE	6	
L	GRAY	К	Gray print method	K only	0	0
	COMPENSATION	KCMY		KCMY	1	(K)
Μ	PURE BLACK	ON	Black monochrome print	set.	0	0
	PRINT	OFF		not set.	1	(ON)
Ν	TONER SAVE	OFF	Monochrome toner save	not set.	0	0
	MODE	ON		set.	1	(OFF)

Pattern No.	Content
1	COLOR
2	B/W
3	Continuous COLOR,B/W
4	Service chart (COLOR)
5	Service chart (B/W)

64-6	
Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PS)
Section	

Set the print conditions.
 Select an item to be print condition with scroll keys.
 Set the print conditions with 10-key.
 Select a print color with [K] [C] [M] [Y] key.

2) Press [EXECUTE] key.

The test print (self print) is performed.

Item/Display		Content		Setting range	Default value	
Α	PRINT PATTERN		Print pattern specification		1 - 2	1
В	DENSITY		Print gradation specification		1 - 255	255
С	MULTI COUNT		Number of print		1 - 999	1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1	2
		CS1		Tray 1	2	(CS1)
		CS2		Tray 2	3	
Е	HALFTONE	LOW(IMAGE)	Halftone	Low	0	2
		HIGH(TEXT)		High	1	(AUTO)
		AUTO		Auto	2	
F	QUALITY	STANDARD	Image quality setting	Standard	0	1
		HIGHQUALITY		High quality	1	(HIGH QUALITY)
G	DITHER	STRAIGHT	Specification of dither	0: Straight	0	1
		CALIB	correction	1: Calibration	1	(CALIB)
н	PAPER TYPE	PLAIN	Paper type	Standard paper	0	0
		HEAVY		Heavy paper	1	(PLAIN)
		GLOSSY		Glossy paper	2	
Ι	INTENT	PERCEPTUAL	Rendering indent	Perceptual	0	0
		COLORIMETRIC		Color metric	1	(PERCEPTUAL)
		SATURATION		Saturation	2	
J	OUTPUT PROFILE	SHARP	Output profile	Standard	0	0
		STANDARD		Photo	1	(SHARP)
		GRAPHICS		Graphics	2	
К	RGB SOURCE	SRGB	RGB source profile	SRGB	0	0
	PROFILE	GAMMA1.6		Gamma 1.6	1	(SRGB)
		GAMMA1.8		Gamma 1.8	2	
		GAMMA2.0		Gamma 2.0	3	
		GAMMA2.6		Gamma 2.6	4	
		GAMMA3.0		Gamma 3.0	5	
		TONER SAVE		TONER SAVE	6	
L	GRAY	К	Gray print method	K only	0	0
	COMPENSATION	KCMY		KCMY	1	(K)
Μ	PURE BLACK	ON	Black monochrome print	set.	0	1
	PRINT	OFF		not set.	1	(OFF)
Ν	TONER SAVE	OFF	Monochrome toner save	not set.	0	0
	MODE	ON		set.	1	(OFF)
0	CMY SIMULATION	OFF	CMYK simulation	OFF	0	0
		SWOP		SWOP	1	(OFF)
		EURO		EURO	2	
		JAPAN COLOR		JAPAN COLOR	3	
		TONER SAVE		TONER SAVE	4	

Pattern No.	Content
1	COLOR
2	B/W

64-7 Purpose

Operation test/check

Function (Purpose)

Used to print the adjustment pattern of the test print. (Self print). (The adjustment pattern of SIM46-21 is printed.)

Section

- **Operation/Procedure**
- 1) Set the print conditions.

Select an item to be print condition with scroll keys. Set the print conditions with 10-key.

2) Press [EXECUTE] key.

The adjustment pattern of SIM46-21 is printed.

Item/Display		Content		Setting range	Default value	Writing	
А	COPIES	6	Nun	nber of print	1 - 999	1	No
В	PROC ADJ	YES	0	The halftone process control correction value is reflected.	0 - 1	1	Yes
		NO	1	The halftone process control correction value is not reflected.			

65

65-1		
Purpose Adjustment		
Function (Purpose)	Used to adjust the touch panel (LCD display section) detection coordinates.	
Section	Operation panel section	

Section

Operation/Procedure

Touch the center of the cross mark at the four corners of the screen.

When the adjustment is completed normally, the screen shifts to the simulation sub number entry menu.

In case of an error, the screen returns to the adjustment menu.



65-2	

Purpose Operation check/test Function (Purpose) Used to display the touch panel (LCD dis-

Section

Operation/Procedure

Touch the touch panel.

The coordinates X (horizontal direction) and Y (vertical direction) of the touched position is displayed in real time.

play section) detection coordinates.

÷	*	*	+	4 20	*	4	٠	÷
6	0 96		X:	0 Y:	0		96	740
÷	4	*	*	• 130	*	4	٠	•
20 •	100 •	200 •	300 🕈	400 • 240	500	600	700 🔁	780
◆ -	0 384	٠	٠	4 350	٠	٠	• 384	740 •
÷	÷	÷	*	4 60	*	÷	*	÷

65-5				
Purpose	Operation check/test			
Function (Purpose)	Function (Purpose) Used to check the operation panel kee input.			

Section

Operation/Procedure

Press the keys sequentially according to the guidance displayed on the screen.

If the key entry is effective, the guidance for pressing the next key is displayed. When all the key entries are completed, "COMPLETE" is displayed.

<Check target key>

7 Inch LCD model
1
2
3
4
5
6
7
8
9
AUDIT CLEAR
0
PROGRAM
CLEAR
STOP
CLEAR ALL/RESET
START (COLOR)
START (MONO)

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 10-key.
 - * When [C] key is pressed, the entered value of [SW NO] is cleared.
- 2) Press [DATA] button.
 - The soft SW data entered in procedure 1) is displayed.
 - * When [SW NO] button is pressed, the display returns to the initial screen.
- Enter the number corresponding to the bit to be changed with 3) 10-key.
 - * [1] -> [0]
 - [0] -> [1]
- When [EXECUTE] button is pressed, it is highlighted and the 4) setting is saved.

After saving the setting, [EXECUTE] button returns to the normal display.

66-2	
Purpose	Setting
Function (Purpose)	Used to enter a country code and set the
	default value for the country code.

Section FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-02, the following screen is displayed.
 - * When [DEST CODE] button is pressed, the display is shifted to the country code list screen.
 - * The currently set country code is displayed in the column of "PRESENT:".
- Enter the country code (8 digits) with 10-key([0]/[1]). The 2) entered country code is displayed in the column of "NEW:" and [SET] key becomes active.
 - * When [C] key is pressed, the column of "NEW:" is cleared.
- 3) When [SET] button is pressed after entering the country code, [EXECUTE] button becomes active. The country code is displayed in the column of "PRESENT:", and the column of "NEW:" is cleared.
- 4) When [EXECUTE] button is pressed, it is highlighted and [YES] and [NO] buttons become active. The country name is displayed on the tile line.
- When [YES] button is pressed, it is highlighted and the soft SW 5) corresponding to the country code is initialized.
- After completion of initialization of the soft SW, [EXECUTE], 6) [YES], and [NO] buttons become inactive.

Operation/Procedure (Shifting to the country page)

* When [DEST CODE] button is pressed on the initial screen, the display is shifted to the country code list screen.

Use scroll keys to select the country select page.

<Country code list>

JAPAN	0000000
U.S.A.	10110101
AUSTRALIA	00001001
U.K.	10110100
FRANCE	00111101
GERMANY	00000100
SWEDEN	10100101
NEWZEALAND	0111110
CHINA	00100110
SINGAPORE	10011100
TW	1111110
MIDDLEANDNEAREAST	11111101
SLOVAKIA	11111100
OTHER3	11111011
FINLAND	00111100
NORWAY	10000010
DENMARK	00110001
NETHERLANDS	01111011
ITALY	01011001
SWITZERLAND	10100110
AUSTRIA	00001010
INDONESIA	01010100
THAILAND	10101001
MALAYSIA	01101100
INDIA	01010011
PHILIPPINES	10001001
HONGKONG	01010000
RUSSIA	10111000
SOUTHAFRICA	10011111
SPAIN	10100000
PORTUGUESE	10001011
LUXEMBURG	01101001
BELGIUM	00001111
CZECH	00101110
HUNGARY	01010001
GREECE	01000110
POLAND	10001010
BRAZIL	00010110
KOREA	01100001
VIETNAM	10111100

66-3	
Purpose	Operation test/Check
Function (Purpose)	Used to check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-03, the following screen is displayed.
 - * Select the page of memory check item with the scroll key.
- When the memory check item button is selected, the display is 2) shifted to the memory check screen.
- When [EXECUTE] button is pressed, it is highlighted and the 3) memory check of the selected item is started.
- After completion of memory check, [EXECUTE] button returns 4) to the normal display and the result of memory check is displayed.

Memory check status

NO CHECK	No check	
CHECKING	During checking	
OK	Check complete OK	
NG A##	Check complete NG	Error occurring address or data line is displayed for each item.

Check item

	Check memory item	Remark
1	All Memory Device Check (once)	All the items are checked
		once.
2	MFP SRAM (once)	Check only once
3	MFP SRAM (repeat)	Repeat check
4	MFP FLASH + OP.FLASH (once)	Check only once
5	MFP FLASH + OP.FLASH (repeat)	Repeat check
6	MODEM EEPROM <1> (once)	Check only once in LINE1
7	MODEM EEPROM <1> (repeat)	Repeat check in LINE1
8	MODEM SDRAM <1> (once)	Check only once in LINE1
9	MODEM SDRAM<1>(repeat)	Repeat check in LINE1

The number in < > indicates the line.

66-4		
Purpose Operation test/Check		
Function (Purpose) Used to send the selected signals line and the main unit speaker. (Send max.)		
Section	FAX	

Operation/Procedure

- 1) When the machine enters Simulation 66-04, the screen on the right is displayed. (Default, left upper selected.)
 - * Use scroll keys to switch the send mode select page.
- When a button of a signal to be sent is selected, it is highlighted and the previously set button is shifted to the normal display.
- When [EXECUTE] button is pressed, it is highlighted and signals are sent.
- 4) To end signal send:

When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

<Signal send table>

NOSIGNAL	33.6 V34	31.2 V34	28.8 V34
26.4 V34	24.0 V34	21.6 V34	19.2 V34
16.8 V34	14.4 V34	12.0 V34	9.6 V34
7.2 V34	4.8 V34	2.4 V34	14.4 V33
12.0 V33	14.4 V17	12.0 V17	9.6 V17
7.2 V17	9.6 V29	7.2 V29	4.8 V27t
2.4 V27t	0.3 FLG	CED 2100	CNG 1100
0.3 V21	ANSam	RINGER	No RBT

DP MAKE DP BRK NO MSG

66-5	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected signal to the line and the main unit speaker. (Send level: Soft SW setting) (For the kinds of send signals, refer to SIM66-04.)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-05, the following screen is displayed.
 - * Use scroll keys to switch the send mode select page.
- When a button of a signal to be sent is selected, it is highlighted and the previously set button is shifted to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and signals are sent.
- 4) To end signal send:
 - * When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

66-6	
Purpose	Data output/Check
Function (Purpose)	Used to print the confidential registration check table (BOX NO., BOX name, pass- code. (If there is no confidential registra- tion, no print is made.)
Section	FAX

Operation/Procedure

- 1) When [EXECUTE] button is pressed, it is highlighted and the confidential checkable is printed.
 - * If there is no confidential registration, no print is made even though [EXECUTE] key is pressed.
- 2) After completion of printing, [EXECUTE] button returns to the normal display.

66-7	
Purpose	Data output/Check
Function (Purpose)	Used to output all image data saved in the image memory. (Confidential data are also outputted.)
Section	FAX

Operation/Procedure

- 1) When [EXECUTE] button is pressed, it is highlighted and all image data saved in the image memory are outputted.
- 2) After completion of printing, [EXECUTE] button returns to the normal display.

66-8	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected sound mes- sages to the line and the speaker. (Send level: Max.)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-08, the following screen is displayed.
- When the sound message button to be sent is selected, it is highlighted and the previously set button returns to the normal display.

<Sound message table>

NONE (Mute)	PAUSE (Pause	MESSAGE1	MESSAGE2
	melody)	(Message 1)	(Message 2)
MESSAGE3	MESSAGE4	MESSAGE5	MESSAGE6
(Message 3)	(Message 4)	(Massage 5)	(Message 6)
ALARM (Alarm)	RINGER	EXT.TEL.RINGER	
	(Ringing sound	(External telephone	
	(Speaker))	call)	

66-9	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected sound message to the line and the speaker. (Send level: Soft SW setting) * For details of sound messages, refer to the sound message table of SIM66-08.
Section	FAX

Operation/Procedure

1) When the machine enters Simulation 66-09, the following screen is displayed.

- When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and a sound message is sent.
- To end signal send: When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

66-10	
Purpose	Data clear
Function (Purpose)	Used to clear the FAX and image send image data. (The confidential data are also cleared.)
Section	FAX

- 1) Press [EXECUTE] button.
- 2) Press [YES] button.
- 3) 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. (Send level: Max.)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-11, the following screen is displayed.
 - * 300bps SIGNAL OUTPUT.(LEVEL MAX)
- When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and a sound message is sent.
- 4) To end signal send:

When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

<300bps send signal table>

NO SIGNAL	11111	11110	00000
010101	00001		

66-12		
Purpose	Operation test/Check	
Function (Purpose)	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Soft SW setting) * For the kings of send signals at 300bps, refer to SIM66-11, 300bps send signal table.	
Section	FAX	

Operation/Procedure

- 1) When the machine enters Simulation 66-12, the following screen is displayed.
 - * 300bps SIGNAL OUTPUT.(SOFT SW.)
- When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.

- 3) When [EXECUTE] button is pressed, it is highlighted and a sound message is sent.
- 4) To end signal send:

When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

66-13	
Purpose	Setting
Function (Purpose)	Used to register dial numbers for SIM66- 14/15/16, Dial test. (Up to 20 digits can be registered.)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-13, the following screen is displayed.
 - * The number saved in the memory is displayed in the column of [PRESENT:]. (If there is no data, [------] is displayed.)
- 2) Enter a number with 10-key.

The entered number is displayed in the column of [NEW:]. After entering 20 digits, 10-key is disabled (no response). Only

[C] key is enabled. (10-key [0] to [9], [*], [#], [C] key (back by one digit))

 When [SET] key is pressed after completion of entry, the entered number is displayed (registered) in the column of [PRESENT:]. The column of [NEW:] becomes blank.

66-14	
Purpose	Adjustment
Function (Purpose)	Used to execute the dial pulse (10PPS) send test and to adjust the make time.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-14, the following screen is displayed.
 - * DIAL TEST(10PPS).
- 2) When [EXECUTE] button is pressed, it is highlighted and the dial pulse is sent from the line in the set make time.
- To end the dial test, press [EXECUTE] button again. The button returns to the normal display and the test is terminated.

66-15	
Purpose	Adjustment
Function (Purpose)	Used to execute the dial pulse (20PPS)
	send test and to adjust the make time.

Section Operation/Procedure

1) When the machine enters Simulation 66-15, the following screen is displayed.

FAX

- * DIAL TEST(20PPS).
- 2) When [EXECUTE] button is pressed, it is highlighted and the dial pulse is sent from the line in the set make time.
 - * The dial pulse in this example is up to 20 digits registered with SIM66-13.
- To end the dial test, press [EXECUTE] button again. The button returns to the normal display and the test is terminated.

66-16	
Purpose	Adjustment
Function (Purpose)	Used to execute the DTFM signal send test and to adjust the send level.
Section	FAX

Section **Operation/Procedure**

- 1) When the machine enters Simulation 66-16, the following screen is displayed.
 - * DIAL TEST(DTMF).
- 2) When [EXECUTE] button is pressed, it is highlighted and the dial pulse signal is sent from the line by the setting of high/low group of the signal send level.
- To terminate the dial test, press [EXECUTE] button. The button 3) returns to the normal display and the test is terminated.

66-17

Purpose	Operation test/Check
Function (Purpose)	Used to send the DTMF signal to the line and the speaker. (Send level: Max.)
Section	FAX

Section **Operation/Procedure**

- 1) When the machine enters Simulation 66-17, the following screen is displayed.
 - * DTMF SIGNAL OUTPUT.(LEVEL MAX)
- 2) When a button of a send signal is selected, it is highlighted and the previously set button returns to the normal display.
- When [EXECUTE] button is pressed, it is highlighted and sig-3) nals are sent.
- To stop signal sending: 4)

When [EXECUTE] button is pressed, it returns to the normal display and signal sending is interrupted.

66-18	
Purpose	Operation test/Check
Function (Purpose)	Used to send the DTMF signal to the line and the speaker. (Send level: Soft SW set- ting)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-18, the following screen is displayed.
 - * DTMF SIGNAL OUTPUT.(SOFT SW)
- 2) When a button of a send signal is selected, it is highlighted and the previously set button returns to the normal display.
- When [EXECUTE] button is pressed, it is highlighted and sig-3) nals are sent.
- 4) To stop signal sending:

When [EXECUTE] button is pressed, it returns to the normal display and signal sending is interrupted.

66-21	
Purpose	Check
Function (Purpose)	Used to print the selected items (system error, protocol monitor).
Section	FAX

Operation/Procedure

- 1) When an item button to be printed is selected, it is highlighted and the previously set button returns to the normal display.
- 2) Press [EXECUTE] button.

[EXECUTE] button is highlighted and printing is started.

3) After completion of printing, [EXECUTE] button returns to the normal display.

<FAX information print content table>

PROTOCOL LINE 1	SYSTEM ERROR LINE 1
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66-22	
Purpose	Setting
Function (Purpose)	Used to set the handset sound volume. (This simulation can be executed even though the handset setting is set to NO. When, however, the handset is not installed, the sound volume cannot be checked.) (Japan model only)
Section	FAX

Operation/Procedure

- 1) When the machine enters the simulation, the number of the set sound volume is displayed. (In this example, MIDDLE is set as the default sound volume.)
- 2) Use 10-key to set the handset sound volume. (0: MIN 1:MID-DLE 2:MAX)
- 3) Press [EXECUTE] button to deliver the selected on-hold tone.
 - * If, however, the handset is not installed, the sound volume cannot be checked. Execution is possible.
- 4) When [EXECUTE] button is pressed, it is highlighted and delivery of the on-hold tone is stopped.

66-24	
Purpose	Data clear
Function (Purpose)	Used to clear the FAST save data.
Section	FAX

Operation/Procedure

- 1) Press [EXECUTE] button.
- 2) Press [YES] button.
 - The FAST save data are cleared.
- 3) After completion of memory clear, [EXECUTE] button returns to the normal display and [YES] and [NO] buttons gray out.

66-29	
Purpose	Clear
Function (Purpose)	Used to initialize the telephone book data (the one-touch registration table, the FTP/ Desktop expansion table, the group expan- sion table, the program registration table, the interface memory box table, the meta data, InboundRouting, and the Documen- tAdmin table).
Section	FAX

Operation/Procedure

- 1) Press [EXECUTE] button.
- 2) Press [YES] button.
- The telephone book data area cleared.
- After completion of memory clear, [EXECUTE] button returns 3) to the normal display and [YES] and [NO] buttons gray out.

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

- 1) When the machine enters Simulation 66-30, the following screen is displayed.
- HS1, HS2, RHS, and EXHS are highlighted when the signal is detected, and displayed normally when the signal is not detected.

<TEL/LIU status change item description>

HS1	Polarity inversion signal
HS2	Polarity inversion signal
RHS	Handset hook SW
EXHS	External telephone hook SW

66-31	
Purpose	Setting
Function (Purpose)	Used to set ON/OFF the port for output to

Operation/Procedure

Section

- 1) When the machine enters Simulation 66-31, the following screen is displayed.
 - * RECEIVE DATA CHECK.
- 2) Change the port setting.

When a port is set to ON, the port display is highlighted.

FAX

- When [EXECUTE] button is pressed, the changed setting is reflected to the port which outputs to TEL/LIU.
- 4) To terminate the process, press [EXECUTE] button again. [EXECUTE] button returns to the normal display.

<Port which outputs to TEL/LIU>

CION MR EC S.	

66-32	
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 [EXECUTE] button to check the fixed data received from the line. At that time, [EXECUTE] button is highlighted.
 - * Fixed data check procedure
 - * The data received from the line is checked of the following fixed data status for minutes, then if they are in accord with "OK" is displayed on LCD, if not "NG" is displayed.
 - ⁷ The judgment is made in 2 minutes.

Receive speed: 300BPS

Receive data: 00H

- Judgment data: 100byte
- 2) After completion of check, [EXECUTE] button returns to the normal display. The result is displayed as "OK" or "NG."

66-33	
Purpose	Operation test/Check
Function (Purpose)	Used to execute detection of various sig- nals with the line connected and to display the detection result. When a signal is detected, the display is highlighted.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-33, the following screen is displayed.
 - * SIGNAL DETECT CHECK.
- The signal to be checked can be selected from the two options: "FNET" and "BT/CNG/CED/DTMF."
- When a signal is detected, "FNET" and "BUSY TONE CNG CED DTMF" are highlighted. When a signal is not detected, they are normally displayed.

<Signal used for signal detection check>

(When "FNET" is selected)

FNET

(When "BT/CNG/CED/DTMF" is selected)

BUSY TONE	CNG	CED	DTMF
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66-34	
Purpose	Operation test/Check
Function (Purpose)	Used to execute the send test and display the time required for sending image data in the test. Used to execute send test and dis- play. (Unit: ms)
Section	FAX

Operation/Procedure

- 1) FAX send is performed.
- Enter the SIM 66-34 mode.
 The send time in procedure 1) is displayed.

66-36	
Purpose	Operation test/Check
Function (Purpose)	Used to check send and receive data from the MODEM controller to the MFP control- ler or the data line or the command line individually.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-36, the following screen is displayed.
 - * MFP-MDMC I/F CHECK.
- 2) Operation check

Select an item to be checked on the screen.

<MFP controller I/F check item table>

MFP <- MDMC (DATA once)	MFP -> MDMC (DATA once)
Data line Once	Data line Once
MFP <- MDMC (DATA repeat)	MFP -> MDMC (DATA repeat)
Data line Repeat	Data line Repeat
MFP <- MDMC (CMD once)	MFP -> MDMC (CMD once)
Command line Once	Command line Once
MFP <- MDMC (CMD repeat)	MFP -> MDMC (CMD repeat)
Command line Repeat	Command line Repeat

66-39	
Purpose	Setting
Function (Purpose)	Used to check and change the destination
	setting saved in FEPROM of the FAX BOX.

Section FAX

Operation/Procedure

- When the machine enters the simulation, the currently set destination button is highlighted. (In the default state, JAPAN is set as the destination.)
- Select a destination button to set the destination. (In this example, USA/CANADA is selected.) The selected button is highlighted and the previously selected button returns to the normal display.
 - * When the destination button is changed, the new destination setting is saved to EEPROM of the FAX BOX.

<Destination setting table>

JAPAN	U.S.A/CANADA	EUROPE	AUSTRALIA
CHINA	ASIA&OTHERS		

66-42	
Purpose	Setting
Function (Purpose)	Used to rewrite the program to power con-
	trol installed in the FAX BOX.

Section

Operation/Procedure

- 1) Press [EXECUTE] button.[EXECUTE] button is highlighted and YES] and [NO] buttons become active.
- 2) Press [YES] button. The power control program

The power control program is rewritten.

FAX

 When rewriting of the power control program is normally completed, "OK" is displayed and [EXECUTE] button returns to the normal display, and [YES] and [NO] buttons gray out.

66-43	
Purpose	Setting
Function (Purpose)	Used to write the adjustment value into the power control installed in the FAX BOX.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-43, the following screen is displayed.
 - * Use scroll keys to select the select item of the power control adjustment value.
- When [EXECUTE] key is pressed, it is highlighted and writing to the power control is executed. When writing is normally completed, "OK" is displayed. When it is failed, "NG" is displayed.
- After completion of writing, [EXECUTE] key returns to the normal display.

<Set range and default value of each set value>

	Item	Set range	Default value
Α	CI_LEVEL_JUDGE	2 - 15	6
В	CI_CYCLE_MIN	1 - 254	10
С	CI_CYCLE_MAX	2 - 255	142
D	CI_COUNT	2 - 15	3
Е	RES_3.3V_LEVEL_JUDGE	2 - 15	15
F	EXHS_LEVEL_JUDGE	2 - 225	240
G	RHS_LEVEL_JUDGE	2 - 15	2
Н	SON_TIMEOUT	1 - 127	20

66-61 Purpose Setting Function (Purpose) Used to display the FAX-related soft SW (151 - 250) on the LCD to allow changing

the soft SW while checking with the LCD.

Section

Operation/Procedure

- 1) Enter the [SW NO] with 10-key.
- 2) Press [DATA] button.
 - The soft SW data entered in procedure 1) is displayed.

FAX

- Enter the number corresponding to the bit to be changed with 10-key.
 - * [1] -> [0]
 - [0] -> [1]
- 4) When [EXECUTE] button is pressed, it is highlighted and the setting is saved.

66-62	
Purpose	Backup
Function (Purpose)	Used to import the FAX receive data into a USB flash drive in PDF file type.
Section	FAX

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select data to be imported.
- 3) Press [EXECUTE] key.

Execute import of data selected in procedure 2). When the operation is completed normally, [COMPLETE] is displayed. In case of an abnormal end, [ERROR] is displayed.

Error display	Content
ERROR: NO USB MEMORY DEVICE	No USB memory installed
ERROR: NO IMAGE DATA	No image data
ERROR	Other errors

67	

67-17	
Purpose	Reset
Function (Purpose)	Printer reset
Section	Printer

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The set data related to the printer are initialized. (Including the NIC setting.)

When the operation is completed, [EXECUTE] key returns to the normal display.

67-24	
Purpose	Adjustment/Setup
Function (Purpose)	Printer color balance adjustment (Auto adjustment)
Section	Printer

1) Press [EXECUTE] key.

- The color patch image (adjustment pattern) is printed out.
- Plate the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.
- Press [EXECUTE] key. The printer color balance auto adjustment is performed, and the adjustment result is printed.
- 4) Press [OK] key.

The halftone correction target registration is processed.

67-25	
Purpose	Adjustment/Setup
Function (Purpose)	Printer color balance adjustment (Manual adjustment)
Section	Printer

Operation/Procedure

- 1) Select an adjustment target color with [K][C][M][Y] keys on the touch panel.
- 2) Select a target adjustment density level with scroll key on the touch panel.
- 3) Enter the set value with 10-key.
 - * When the $\triangle \bigtriangledown$ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

When [EXECUTE] key is pressed, the check pattern in printed in the color balance and density corresponding to the adjustment value.

	Item/Display	Setting range	Default value
Α	POINT1	1 - 999	500
В	POINT2	1 - 999	500
С	POINT3	1 - 999	500
D	POINT4	1 - 999	500
Е	POINT5	1 - 999	500
F	POINT6	1 - 999	500
G	POINT7	1 - 999	500
Н	POINT8	1 - 999	500
Ι	POINT9	1 - 999	500
J	POINT10	1 - 999	500
К	POINT11	1 - 999	500
L	POINT12	1 - 999	500
Μ	POINT13	1 - 999	500
Ν	POINT14	1 - 999	500
0	POINT15	1 - 999	500
Ρ	POINT16	1 - 999	500
Q	POINT17	1 - 999	500

67-26

Purpose Adjustment/Setup

Function (Purpose)

 Used to set the target color balance of the printer mode auto color balance adjustment.

Section Printer

Operation/Procedure

1) Select the target color balance with the touch panel.

Item/Display		Content	Default value
Target value table select	DEF1	The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Magenta. When this target is selected, the color balance is converted into natural gray color balance by the color table in an actual printer mode and print is made.	DEF 1
	DEF2	The engine color balance adjustment target in the automatic color balance operation is slightly shifted to natural gray color balance. When this target is selected, the color balance is slightly shifted to Cyan by the color table in an actual copy mode and print is made.	
	DEF3	The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Cyan. When this target is selected, the color balance is converted into the color balance with enhanced Cyan by the color table in an actual copy mode and print is made.	

67-27	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the service target of the printer
	mode auto color balance adjustment.

Section Operation/Procedure

1) Press [SETUP] key on the touch panel.

- 2) Place the printed color balance adjustment pattern sheet printed in SIM 67-25 on the document table.
- Press [EXECUTE] key. The patch image of the adjustment pattern sheet is scanned.

Printer

4) Press [OK] key.

The service target of the printer mode auto color balance adjustment is set according to the scanned adjustment pattern sheet patch images.

The registered color balance and the density are displayed.

Select a target color with [C] [M] [Y] [K] key.

Important

This simulation is executed only when the printer color balance is manually adjusted.

В	Point B target value
С	Point C target value
D	Point D target value
E	Point E target value
F	Point F target value
G	Point G target value
Н	Point H target value
I	Point I target value
J	Point J target value
K	Point K target value
L	Point L target value
М	Point M target value
N	Point N target value

0	Point O target value
BASE	Background sampling value

67-28			
Purpose	Adjustment/Setup		
Function (Purpose)	Used to set the default of the service target of the printer mode auto color balance adjustment.		
Section	Printer		

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The service target of the printer mode auto color balance adjustment is set to the default.

The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

67-31	
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07-51	
Purpose	Data clear
Function (Purpose)	Used to clear the printer calibration value.
Section	Printer

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The printer calibration data (Halftone correction data) are cleared.

(The printer 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 a target change color with [K] [C] [M] [Y] key on the touch panel.
- 2) Select a target screen with [SCREEN] key.
- 3) Select a target adjustment density level with scroll key.
- 4) Enter the set value with 10-key.
- 5) Press [OK] key. (The set value is saved.)

When [EXECUTE] key is pressed, the check pattern in printed in the color balance and density corresponding to the adjustment value.

	Item/Display	Content	Setting range	Default value
Α	POINT1	Point 1	0 - 255	128
В	POINT2	Point 2	0 - 255	128
С	POINT3	Point 3	0 - 255	128
D	POINT4	Point 4	0 - 255	128
E	POINT5	Point 5	0 - 255	128
F	POINT6	Point 6	0 - 255	128
G	POINT7	Point 7	0 - 255	128
Н	POINT8	Point 8	0 - 255	128
1	POINT9	Point 9	0 - 255	128
J	POINT10	Point 10	0 - 255	128
К	POINT11	Point 11	0 - 255	128
L	POINT12	Point 12	0 - 255	128
М	POINT13	Point 13	0 - 255	128
N	POINT14	Point 14	0 - 255	128
0	POINT15	Point 15	0 - 255	128

	Item/Display	Content	Setting range	Default value
Р	POINT16	Point 16	0 - 255	128
Q	POINT17	Point 17	0 - 255	128

PCL/PS printer

Display	Content
HEAVY PAPER	Heavy paper
SCREEN1	600dpi 1bit Photo
SCREEN2	600dpi 1 bit Graphics
SCREEN3	600dpi 4 bit Photo
SCREEN4	600dpi 4 bit Graphics
SCREEN7	B/W 600dpi 1 bit
SCREEN8	B/W 600dpi 4 bit

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

- Select a set item with the scroll key. 1)
- 2) Enter the set value with 10-key.

1 Disable	

3) Press [OK] key. (The set value is saved.)

	Item/Display		Content		Default value
A	CMY (0: ENABLE 1: DISABLE)	0	CMY engine highest density correction mode: Enable	0 - 1	0
		1	CMY engine highest density correction mode: Disable		
В	K (0: ENABLE	0	K engine highest density correction mode: Enable	0 - 1	1
	1: DISABLE)	1	K engine highest density correction mode: Disable		
С	CYAN MAX TARGET	Sca max	nner target value for CYAN imum density correction	0 - 999	500
D	MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction		0 - 999	500
E	YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction		0 - 999	500
F	BLACK MAX TARGET	Scanner target value for BLACK maximum density correction		0 - 999	500

When tone gap is generated in the high density section, set items A and B 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 A and B to "1.

The tone gap may occur in high density part.

Important

Do not change the values of items C, D, E, and F. If these values are changed, the density in the high density area is changed.

67-36	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the density in the low density section.
Section	Printer

- 1) Enter the adjustment value using the 10-key.
- 2) Press [OK] 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	Setting range	Default value
Α	A PATCH INPUT	A patch input value	0 - 13	1

67-41	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the threshold for judging the selected color printing or the black color printing in the black and white mode.
Section	Printer

Operation/Procedure

- 1) Select a set value with the scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

Item/Display		Content	Setting range	Default value
Α	C1	Mode1 : Threshold of Saturation	0 - 255	5
В	V1	Mode1 : Threshold of Brightness	0 - 255	0
С	C2	Mode2 : Threshold of Saturation	0 - 255	5
D	V2	Mode2 : Threshold of Brightness	0 - 255	0

67-42	
Purpose	Adjustment
Function (Purpose)	Used to adjust the gradation by increasing / decreasing the selected color componet amount or the black color component amount in the black and white mode.
Section	Printer

Operation/Procedure

- 1) Select Mode1 or Mode2.
- 2) Select an item to be set.

Mode	Item/Display		Content	Default value
	Black	F1	Black : Light	F2
	(Achromatic	F2	Black : Normal	
MODE	color)	F3	Black : Dark	
1		G1	Selected color : Light	G2
		G2	Selected color : Normal	
	(Selected color)	G3	Selected color : Dark	
	Black	F1	Black : Light	F2
	(Achromatic	F2	Black : Normal	
MODE	color)	F3	Black : Dark	
2		G1	Selected color : Light	G2
		G2	Selected color : Normal	
	(Selected color)	G3	Selected color : Dark	

67-43	
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Purpose Adjustment

Function (Purpose) 2 Color mode balance adjustment

Section Printer

Operation/Procedure

- 1) Select an adjustment item with the scroll key.
- 2) Enter the set value with 10-keys.
- 3) Press [OK] key.

Itom/Display		Contont	Color	Setting	Default value		
п	em/Display	Content	COIOI	range	с	Μ	Y
A	RED	R output color	CMY	0 - 255	0	235	224
В	GREEN	G output color	CMY	0 - 255	180	0	241
С	BLUE	B output color	CMY	0 - 255	235	159	0
D	CYAN	C output color	CMY	0 - 255	182	0	25
ш	MAGENTA	M output color	CMY	0 - 255	0	217	0
F	YELLOW	Y output color	CMY	0 - 255	0	0	234

67-45	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the printer image filter and trapping.
Section	Printer

Operation/Procedure

- 1) Select an adjustment item with the scroll key.
- 2) Enter the set value.
- 3) Press [OK] key.

	Item/Display	Content	Setting range	Default value	NOTE
A	SHARPNESS: COLOR PRINT	Color print	0 - 4	2	The greater the set value
В	SHARPNESS: B/W PRINT	Monochrome print	0 - 4	2	is, the stronger the filer enhancement is. The smaller the set value is, the stronger the filter smoothness is. (0: Soft High, 1: Soft Low, 2: Center, 3: Sharp Low, 4: Sharp High)
С	TRAPPING: CMY (PCL & DIRECTPRINT)	CMY (PCL, Direct Print)	0 - 5	3	The greater the set value is, the
D	TRAPPING: K (PCL & DIRECTPRINT)	K (PCL, Direct Print)	0 - 5	3	stronger the trapping is. (0: OFF, (Low)
Е	TRAPPING: CMY (PS)	CMY (PS)	0 - 5	3	1 < 2 < 3 < 4 < 5)
F	TRAPPING: K (PS)	K (PS)	0 - 5	0	(The target is vector images.
G	TRAPPING: CMY (XPS)	CMY (XPS)	0 - 5	0	I here is no effect for the
H	TRAPPING: K (XPS)	K (XPS)	0 - 5	0	raster images.) However, the sharpness also varies.

67-52	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the default of the gamma of the printer screen.
Section	Printer

- Select a target default setting mode with the touch panel. Press [ALL] key to select all the modes.
- 2) Press [EXECUTE] key and press [YES] key.

When the printer screen gamma was changed by SIM 67-33, SIM67-54, it is reset to the default.

PCL/PS printer

lte	em/Display	Content
Screen HEAVYPAPER		Heavy paper screen
		Printer heavy paper automatic density correction amount
	600DPI_1BIT	SCREEN1 (600dpi 1bit Photo)
		SCREEN2 (600dpi 1bit Graphics)
	B/W	SCREEN7 (600dpi 1bit Graphics)
		SCREEN8 (600dpi 1bit Graphics)
		SCREEN9 (600dpi 1bit Graphics)
		Printer B/W toner save automatic density
		correction amount

67-54					
Purpose	Adjustment				
Function (Purpose)	Printer color balance adjustment				

Section Printer

Operation/Procedure

This simulation is used to adjust the color balance, the density, and the gradation in the monochrome mode, the heavy paper mode and the 600dpi 1bit mode.

This simulation is used to improve image quality in these modes and images.

- Press [EXECUTE] key. (A4 paper is automatically selected.) The color patch image (adjustment pattern) is printed out.
- 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 [EXECUTE] key.

The color balance adjustment is automatically performed. The adjustment pattern is printed out. Check it for any abnormality.

4) Press [OK] key.

The list of the adjustment items (for each dither) is displayed.

5) Select an adjustment item (for each dither).

Select item (Mode)	Content	
Heavy Paper	Adjustment item to improve the color balance in the	
	heavy paper mode	
B/W	Adjustment item to improve the density and gradation in	
	the monochrome mode	

- Press [EXECUTE] key. (A4 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 [EXECUTE] key.

The color balance adjustment is automatically performed, and the color balance check patch image is printed out.

9) When [OK] 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] key, and the adjustment results are registered.

10) Make a print, and check the print image quality.



Use SIM67-52 to reset the adjustment values to the default values.

4. Soft switch (Detail of Sim. 66-1)

A. Soft switch list

SW No.	Bit No.	Item	SW selection and function	System settings
1	1-8	Country code	Control is performed according to the set country code. The destination setting that is set in SIM66-2 as the image send function is reflected. The country code setting cannot be directly made from this SW.	

Lines

SW No.	Bit No.	ltem		SW selection and function	System settings
2	1-4	Calling	Make time (10PPS) setting	Setting of make time when dialling at 10PPS. Make time can be set from 29 to 44ms in 1ms increments by binary inputting N over the range of 0 to 15 (N + 29ms).	Adjustment value
	5-8	Calling	Break time setting (10PPS)	Setting of break time when dialling at 10PPS. Break time can be set from 56 to 71ms by in 1ms increments binary inputting N over the range of 0 to 15 (N + 56ms).	Adjustment value
3	1-4	Calling	Minimum pause time (10PPS) setting	Setting of minimum pause time when dialling at 10PPS. Minimum pause time can be set from 800 to 950ms in 10ms increments by binary inputting N over the range of 0 to 15 (N x 10ms + 800ms).	Adjustment value
	5-8	Calling	Minimum pause time (20PPS) setting	Setting of minimum pause time when dialling at 20PPS. Minimum pause time can be set from 450 to 600ms in 10ms increments by binary inputting N over the range of 0 to 15 (N x 10ms + 450ms). Functions only in China and Thailand.	Adjustment value
4	1-4	Calling	Make time (20PPS) setting	Setting of make time when dialing at 20PPS. Make time can be set from 9 to 24ms by binary inputting N over the range of 0 to 15 (N + 9ms). Functions only in China and Thailand.	Adjustment value
	5-8	Calling	Break time setting (20PPS)	Setting of break time when dialing at 20PPS. Break time can be set from 26 to 41ms by binary inputting N over the range of 0 to 15 (N + 26ms). Functions only in China and Thailand.	Adjustment value
5	1-4	Calling	Setting of DTMF send level (high group)	This sets the send level of high area and low area DTMF signals in units of 1dB. Setting can be made over the range of 0dB to 15dB in 1dB increments by binary inputting.	Adjustment value
	5-8		Not used		
6	1-4	Calling	Setting of DTMF send level (low group) High group - Low group: level difference	This sets the difference between the DTMF signal high area level and low area level in units of 0.5dB. Setting can be made over the range of -2.0dB to 5.5dB in 0.5dB increments by binary inputting. High group - Low group "0 0 0 0": -2.0dB "1 0 0 0": 2.0dB "0 0 0 1": -1.5dB "1 0 0 1": 2.5dB "0 0 1 0": -1.0dB "1 0 1 0": 3.0dB "0 1 0 0": 0.0dB "1 0 1 1": 3.5dB "0 1 0 0": 0.5dB "1 1 0 1 1": 4.5dB "0 1 1 0": 1.0dB "1 1 0 1": 4.5dB "0 1 1 1": 1.5dB "1 1 1 1": 5.5dB	Adjustment value
	5-8		Not used		
7	1-8	Calling	Setting of DTMF minimum pause time	This sets the minimum pause time between DTMF signals when sending DTMF signals. Minimum pause time can be set by binary inputting N over the range of 0 to 255 (1ms x N). Setting can be made over the range of 50ms to 255ms in 1ms increments by binary inputting. When SW15-3,4 are set to other than "MODEM fixed," the set value less than 54ms is considered as 54ms. The initial value is reverted to if a value outside of the setting range is set.	Adjustment value
SW No.	Bit No.		Item	SW selection and function	System settings
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8	1-5	Calling	DTMF signal send time	This sets the time that DTMF signals are sent when sending DTMF signals. Send time can be set over the rage of 70 to 310ms in 10ms increments by binary inputting N from 0 to 31 (110ms x N). The initial value is reverted to if a value outside of the setting range is set.	Adjustment value
	6, 7	Calling	Dial call waiting time	This sets the waiting time from the end of line connection to the start of dial call at times of automatic dial calling. "00": 3.5 seconds "01": 4 seconds "10": 5 seconds "11": 6 seconds This only functions when dial tone detection is OFF.	Adjustment value
	8	Calling	Line current detection at times of dial calling	Setting to determine whether or not to call dial following detection of line current during line connection at times of automatic dial calling. "1": No "0": Yes In cases where the setting is "Yes" but no line current can be detected, dial is not called but the busy re-call procedure is followed.	Setting
9	1	Calling	Manual calibration setting when sending	Setting to execute the manual calibration or not when sending. In case of an abnormal current waveform, the auto calibration fails and the DTFM signal is deformed. This setting provides the countermeasure against that problem. "0": Execute "1": Not execute	Setting
	2	Call arrival	Manual calibration setting when a signal arrives	Setting to execute the manual calibration or not when a signal arrives. In case of an abnormal current waveform, the auto calibration fails and the transmission is affected. This setting provides the countermeasure against that problem. "0": Execute "1": Not execute	Setting
	3-5		Not used		Setting
	6	Calling	No. 2 dial tone detection	Setting of ON/OFF of No.2 dial tone detection function. "0": OFF (No. 2 dial tone detection is not performed.) "1": ON (No. 2 dial tone detection is performed.)	Setting
	7	Calling	Dial tone detection	When the setting is "Yes," the dial is sent following confirmation of detection of the dial tone when the line is captured; and when the setting is "No," dial is sent without a dial tone because no confirmation of dial tone detection is carried out after line capture. "0": No "1": Yes	Setting
	8	Calling	Dial tone ON detection time (during continuous detection)	This sets the waiting time from the end of line connection to the start of dial call at times of automatic dial calling. "0": 1.5 seconds "1": 1 seconds	Adjustment value
10	1-4	Calling	Lower limit of dial tone ON/OFF detection time (during intermittent detection)	This sets the lower limit time for detection of dial tone ON/OFF time. Setting can be made over the range of 40ms to 490ms in 30ms increments by binary inputting. (N x 30ms) + 40ms This is only valid during intermittent DT detection.	Adjustment value
	5-8	Calling	Upper limit of dial tone ON/OFF detection time (during intermittent detection)	This sets the upper limit time for detection of dial tone ON/OFF time. Setting can be made over the range of 400ms to 1900ms in 100ms increments by binary inputting. (N x 100ms) + 400ms This is only valid during intermittent DT detection.	Adjustment value
11	1-4	Calling	External line connection number setting 1 <first digit=""></first>	When No. 2 dial tone is detected, this area is compared with the external in connection number. If they match, the units waits for No. 2 dial tone. Up to two external line connection numbers (max. 4 digits) can be registered as options. The first digit of the external line connection number 1 is set. The numbers and codes which can be registered are as follows. $0 - 9 / * (a) / \# (b) / (pause) (c) / Not used for this digit and after (d) / Any is OK (f) When set to [e], it is considered as setting to [0].$	Setting
	5-8	Calling	External line connection number setting 1 <second digit></second 	The second digit of the external line connection number 1 is set. 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)When set to [e], it is considered as setting to [0].	Setting

SW No.	Bit No.		Item	SW selection and function	System settings
12	1-4	Calling	External line connection number setting 1 <third digit=""></third>	The third digit of the external line connection number 1 is set. 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)When set to [e], it is considered as setting to [0].	Setting
	5-8	Calling	External line connection number setting 1 <fourth digit=""></fourth>	The fourth digit of the external line connection number 1 is set. 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)When set to [e], it is considered as setting to [0].	Setting
13	1-4	Calling	External line connection number setting 2 <first digit=""></first>	The first digit of the external line connection number 2 is set. 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)When set to [e], it is considered as setting to [0].	Setting
	5-8	Calling	External line connection number setting 2 <second digit></second 	The second digit of the external line connection number 2 is set. 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)When set to [e], it is considered as setting to [0].	Setting
14	1-4	Calling	External line connection number setting 2 <third digit=""></third>	The third digit of the external line connection number 2 is set. 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)When set to [e], it is considered as setting to [0].	Setting
	5-8	Calling	External line connection number setting 2 <fourth digit=""></fourth>	The fourth digit of the external line connection number 2 is set. 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)When set to [e], it is considered as setting to [0].	Setting
15	1, 2	Calling	DT/BT detection level	This sets the minimum detection level for determining that dial tone and busy tone have been detected. Signal levels not larger than this setting are ignored. "00": -43dB "01": -35dB "10": -33dB "11": -30dB DT, BT common	Adjustment value
	3, 4	Calling	DT/BT detection frequency range setting	This sets the detection frequency range when detecting dial tone and busy tone. Change the setting if dial tone and busy tone are erroneously detected. "00": MODEM fixed (about 308Hz - 517Hz) "01": 420Hz - 680Hz "10": 360Hz - 440Hz "11": 245Hz - 650Hz For CTR21: 245Hz - 650Hz	Adjustment value
	5	Calling	Busy tone detection	Setting to determine whether or not to detect the busy tone signal during automatic dial calling and when the external telephone simulated call sound is ringing. "0": Detect "1": Do not detect	Setting
	6	Calling	Busy tone OFF non- detection time	This sets the non-detection time on the busy tone OFF section. Change the setting in cases where noise, etc. on the busy tone ON section adversely affects the ON section. "0": 100ms "1": 300ms * Make shorter than the "busy tone OFF detection time."	Adjustment value
	7, 8	Calling	Lower limit of busy tone ON detection time	This sets the lower limit time of the ON section when detecting frequency of the busy tone signal. If busy tone signals are not detected in excess of this time, do not count as 1 pulse. "00": 250ms "01": 140ms "10": 450ms "11": 350ms	Adjustment value

SW No.	Bit No.		Item	SW selection and function	System settings
16	1, 2	Calling	Upper limit of busy tone ON detection time	This sets the upper limit time of the ON section when detecting frequency of the busy tone signal. If busy tone signal is detected in excess of this time, do not count as 1 pulse. "00": 750ms "01": 650ms "10": 1000ms "11": 2850ms	Adjustment value
	3, 4	Calling	Lower limit of busy tone OFF detection time	This sets the lower limit time of the OFF section when detecting frequency of the busy tone signal. If busy tone OFF signals are not detected in excess of this time, do not count as 1 pulse. "00": 250ms "01": 140ms "10": 450ms "11": 350ms	Adjustment value
	5, 6	Calling	Upper limit of busy tone OFF detection time	This sets the upper limit time of the OFF section when detecting frequency of the busy tone signal. If busy tone signal is detected in excess of this time, do not count as 1 pulse. "00": 750ms "01": 650ms "10": 1000ms "11": 2850ms	Adjustment value
17	7,8	Call arrival	Not used	This sate the time for ignoring OEE signals and regarding ON time to be	Adjustment value
17	1-4		detection time	This sets the lime for ignoring OFF signals and regarding ON time to be continuous following ON detection of the call signal (CI). This is intended to treat the PBX call signal "ring-ring" as a single call signal. Setting can be made over the range of 0ms to 1500ms in 100ms increments by binary inputting.	Adjustment value
	5-8	Call arrival	Lower limit of call signal ON time	This sets the minimum ON time for detecting call signal (CI) pulses (number of pulses). 1 pulse is counted if the CI signal remains ON for the set ON time or longer. Setting can be made over the range of 150ms to 300ms in 10ms increments by binary inputting.	Adjustment value
18	1-4	Call arrival	Upper limit of call signal ON time	This sets the maximum ON time for detecting call signal (CI) pulses (number of pulses). Disregard and do not count as 1 pulse if the CI signal remains ON for the set ON time or longer. Setting can be made over the range of 3000ms to 4500ms in 100ms increments by binary inputting.	Adjustment value
	5-8	Call arrival	Lower limit of call signal OFF time	This sets the minimum OFF time for detecting call signal (CI) pulses (number of pulses). 1 pulse is counted if the CI signal remains OFF for the set OFF time or longer. Setting can be made over the range of 100ms to 1500ms in 100ms increments by binary inputting. Setting range When 0 is set, initial value 700ms operation takes place.	Adjustment value
19	1, 2	Call arrival	Upper limit of call signal OFF time	This sets the maximum waiting time from detection of the call signal (CI) pulse (number of pulses) to detection of the next CI signal pulse. Accordingly, if the next CI signal pulse is not detected within this time, the number of calls up to now is cleared. "00": 6.5 seconds "01": 10 seconds "10": 15 seconds "11": 20 seconds	Adjustment value
	3	Call arrival	CI clear judgment	Setting of the judgment of CI signal 1 cycle. "1": Cleared only when the max. cycle is exceeded. (The min. cycle is 0.) "0": Cleared when outside the range of 1 cycle. (The min. and the max. cycles are set with other soft switches.)	
	4, 5	Call arrival	Filter time when the CI signal is detected.	The detection sampling time of the CI signal is set in the CI signal detection setting. "00": 10ms "01": 5ms "10": 15ms "11": 20ms	
	6, 7	Call arrival	Time when the signal (1300Hz) is detected.	The detection time of the signal (1300Hz) is set in the signal detection setting. "00": 2.5ms "01":3.0ms "10": 1.5ms "11": 2.0ms	
	8		Not used		
20 - 23	1-8		Not used		

Communications

SW	Bit No		Item	SW selection and function	System settings
24	1-8	Communication	Signal sending level	Set the level adjustment for sending signals from the modem. Setting can be made over the range of 0 to 26 in 1dBm increments by binary inputting. Since the maximum level differs according to country, if a value above the maximum level is set, the maximum value for the present country code will be adopted. (For North America and China, there is no limitation on the max. send level.) When set to a value greater than the upper limit, it is considered as setting to the upper limit. When set to a value smaller than the lower limit, it is considered as setting to the lower limit.	Adjustment value
25	1-3	Transmission	Setting of call time (T0 timer setting) in automatic transmission	Setting to determine how many seconds to call when the other party doesn't respond at times of automatic transmission. Setting can be made over the range of 30 to 60 (China: 30 to 45, Russia: 30 to 35) seconds in 15 (Russia: 5) second increments by binary inputting N ((15 (Russia: 5) seconds x N) + 30 seconds). The initial value is reverted to if a value outside of the setting range is set.	Timer
	4-7	Communication	T1 timer setting	Setting to determine how many seconds the line is connected when the other party's machine doesn't respond to FAX communication. Setting can be made over the range of 30 to 105 seconds in 5-second increments by binary inputting ((5 seconds x N) + 30 seconds). T1 timer is the timer used from the point where the other party's machine recognizes (CED or DCS) as FAX following line connection. 35±5 seconds according to the ITU-T standard.	Timer
	8	Communication	Si3056 SiDAA Reg.31 FILT(Filter Pole Selection)	Setting to determine whether the less than the following signal frequency band is reduced or not. When the noise exists on the signal frequency band less than 300Hz, this setting is effective. When the noise exists on the signal frequency band less than 300Hz, the FAX signal cannot be received from the other machine. "0": Reduce the signal less than 5Hz. "1": Reduce the signal less than 200Hz.	
26	1, 2	Communication	T2 timer setting	The time until a command is received is set. "00": 6 seconds "01": 7 seconds "10": 8 seconds "11": 9 seconds This is the timer for receiving a command such as the DIS signal. 6□1 seconds in the ITU-T standards.	
	3, 4	Communication	T4 timer setting Timer during automatic operation (+1.5 seconds at times of manual operation)	This sets the timer for up until reception of the response. +1.5 seconds at times of manual operation "00": 3 seconds "01": 4 seconds "10": 5 seconds "11": 6 seconds This is the timer for up until reception of the response to the DCS signal, etc. 3 seconds ±15% under the ITU-T standard.	Timer
	5	Reception	EOL detection timer	Setting to determine how many seconds to set the detection timer for EOL (EndOfLine) during Phase-C reception in G3. "0": Setting to 13 seconds "1": Setting to 25 seconds When error occurs in EOL detection, treat as non-detection of EOL.	Timer
	6	Communication	Sharp machine mode	Setting is made whether Sharp's unique procedures (relay, confidential) are allowed or not by not sending NSF/NSS/NSC and not confirming that the machine is a Sharp machine or not. "0": Check "1": Not check	
	7, 8	Communication	Modem lightning protection measures	Function that corresponds to IEC lightning surge requirements as prescribed in the European CE standard. In cases where the machine cannot shift from CFR or MCF to high-speed signals (image signals) due to lightning interference, this extends the MPS waiting time. "00": 0 second "01": 20 seconds "10": 30 seconds "11": 40 seconds	Setting

SW No.	Bit No.		Item	SW selection and function	System settings
27	1, 2	Reception	CED signal sending time	This sets the time over which the CED signal is sent. "00": 3 seconds "01": 4 seconds "10": 5 seconds "11": No	Communication/ Adjustment value
	3	Reception	CED/ANSam detection time	This sets the time up until determination of the signal when detecting CED/ ANSam signals. "0": 500ms "1": 1000ms	Adjustment value
	4	Reception	V.34 mode function (on call arrival)	Setting to determine whether or not to make the V.34 mode valid as machine capacity when receiving (on call arrival). "0": V.34 valid "1": V.34 invalid	Setting
	5	Transmission	V.34 mode function (including polling when calling)	Setting to determine whether or not to make the V.34 mode valid as machine capacity when transmitting (calling and polling). "0": V.34 valid "1": V.34 invalid	Setting
	6	Transmission	V.34 mode function at times of manual communication	Setting to determine whether or not to make the V.34 mode valid at times of manual communication (transmitting and receiving). "0": V.34 valid "1": V.34 invalid However, in cases where the V.34 mode function (including polling when calling) is set at 1: V.34 invalid, the V.34 mode will be rendered invalid even if this SW is set to 0: valid.	Communication/ Setting
	7	Transmission	3429 symbol rate transmission enable during V.34 transmission.	Setting to determine whether or not to enable 3429Hz as the symbol rate for V.34. When this is at "disable," 3429Hz is not selected. However, only valid during transmission. "0": disable "1": enable	Setting
	8	Transmission	Symbol rate 3200 high carrier transmission enable during V.34 transmission	When 3200Hz is selected as the V.34 symbol rate, there are Low/High carriers, but this setting determines whether or not both can be used. When this is at "disable," 3200 High is not selected. However, only valid during transmission. When both Low/High are at "disable," SymbolRate=3200Hz is not selected. "0": disable "1": enable	Setting
28	1	Transmission	Symbol rate 3200 low carrier transmission enable during V.34 transmission	When 3200Hz is selected as the V.34 symbol rate, there are Low/High carriers, but this setting determines whether or not both can be used. When this is at "disable," 3200 Low is not selected. However, only valid during transmission. "0": disable "1": enable	Setting
	2	Transmission	Symbol rate 3000 high carrier transmission enable during V.34 transmission	When 3000Hz is selected as the V.34 symbol rate, there are Low/High carriers, but this setting determines whether or not both can be used. When this is at "disable," 3000 High is not selected. However, only valid during transmission. When both Low/High are at "disable," SymbolRate=3000Hz is not selected. "0": disable "1": enable	Setting
	3	Transmission	Symbol rate 3000 low carrier transmission enable during V.34 transmission	When 3000Hz is selected as the V.34 symbol rate, there are Low/High carriers, but this setting determines whether or not both can be used. When this is at "disable," 3000 Low is not selected. However, only valid during transmission. "0": disable "1": enable	Setting
	4	Transmission	Symbol rate 3429 enable during V.34 transmission	Setting whether use of 3429Hz is enabled or not as the symbol rate in V.34 transmission. When this is set to [Disable], 3429Hz cannot be selected. "0": disable "1": enable	
	5	Transmission	Symbol rate 2800 enable during V.34 transmission	Setting to determine whether or not to enable 2800Hz as the symbol rate for V.34. When this is at "disable," 2800Hz is not selected. "0": disable "1": enable	Setting

SW No.	Bit No.		Item	SW selection and function	System settings
28	6	Transmission	Symbol rate 2743 enable during V.34 transmission	Setting to determine whether or not to enable 2743Hz as the symbol rate for V.34. When this is at "disable," 2743Hz is not selected. "0": disable "1": enable	Setting
	7, 8	Communication	Coding capacity during transmission and reception (V.34 communication) (reflected in DIS/DCS/ DTC)	This sets the coding capacity that is communicated to the other party's machine in V.34 communication. "00": JBIG/MMR/MR/MH "01": MMR/MR/MH "10": MR/MH "11": MH	Communication/ Setting
29	1, 2	Communication	Coding capacity during transmission and reception (other than V.34 communication) (reflected in DIS/DCS/ DTC)	This sets the coding capacity that is communicated to the other party's machine in communication other than V.34. "00": JBIG/MMR/MR/MH "01": MMR/MR/MH "10": MR/MH "11": MH	Communication/ Setting
	3-6	Transmission	Modem transmission speed (Other than V.34) (DCS)	This sets the initial speed (upper limit) in transmission of other than V.34. Reflect in DCS. When the default setting is made, V.17 14400bps is notified to the other party's machine. Communication does not always happen at this speed. "0000": V.27ter 2400bps "1000": V.17 14400bps "0001": V.29 9600bps "1001": V.17 9600bps "0010": V.27ter 4800bps "1010": V.17 12000bps "0011": V.29 7200bps "1011": V.17 7200bps "0100": V.33 14400bps "1101": V.17 14400bps "0100": V.17 14400bps "1101": V.17 14400bps "0111": V.17 14400bps "1110": V.17 14400bps "0111": V.17 14400bps "1110": V.17 14400bps "0111": V.17 14400bps "1111": V.17 14400bps	Speed/ Adjustment value
	7, 8	Reception	Fixing of modem speed during reception (Other than V.34) (DIS)	This sets the initial speed (upper limit) in transmission of other than V.34. When the default setting is made, V.17 14400bps is notified to the other party's machine. Communication does not always happen at this speed. "00": Not fixed "01": V.29-9600bps "10": V.27ter-4800bps "11": V.17-14400bps	Speed/ Setting
30	1-4	Reception	V.34 Symbol Rate Mask (when receiving)	This sets the symbol rate when receiving in the V.34 mode. "0000": 2400 "0001": 2400 "0010": 2800/2400 "0011": 3000/2800/2400 "0100": 3200/3000/2800/2400 "0101": 3429/3200/3000/2800/2400 When set at a value other than those shown above, the initial value of "0101" is activated.	Communication/ Setting
	5	Transmission	Echo countermeasure (setting of hold time between DIS reception and sending of signal) when transmitting.	Setting to determine how many seconds the interval is from receiving DIS to sending the DCS signal. This is only valid for communications of other than V.34. "0": 500msec "1": 800msec	Communication/ Setting
	6	Reception	Echo countermeasure (CED tone sending interval) when receiving	Setting to determine how many seconds the interval is from sending CED or ANSam to sending the DIS FSK signal. "0": 75msec "1": 500msec	Communication/ Setting
	7	Transmission	Confirmation of DIS reception when sending	Setting to determine how to confirm DIS reception when transmitting. "0": Once for NFS reception, twice for DIS reception "1": Twice Valid apart from V.34	Communication/ Setting
	8	Reception	Enable/Disable of 33 bit or later of DIS (Reflected only to DIS)	Setting whether DIS is limited to 32 bit or not when receiving FAX. When limited, JBIG reception, F code reception, and UFN reception cannot be made. However, sending is enabled as well as polling. "0": Enable (33 bit or later enabled) "1": Disable (33 bit or later disabled)	

SW No.	Bit No.		Item	SW selection and function	System settings
31	1	Reception	CSI sending	Setting to determine whether or not to send the CSI signal. The CSI signal contains the transmission source number. "0": Yes (send the CSI signal) "1": No (do not send the CSI signal)	Setting
	2	Transmission	Echo suppressor tone setting No. 1	Setting to determine whether or not to have the echo suppressor tone in the high-speed modulation mode. "0": With V33 "1": Without V33	Setting
	3	Transmission	Echo suppressor tone setting No. 2	Setting to determine whether or not to have the echo suppressor tone in the high-speed modulation mode. "0": With V17 "1": Without V17	Communication/ Setting
	4	Transmission	Echo suppressor tone setting No. 3	Setting to determine whether or not to have the echo suppressor tone in the high-speed modulation mode. "0": With V29 "1": Without V29	Setting
	5	Transmission	Echo suppressor tone setting No. 4	Setting to determine whether or not to have the echo suppressor tone in the high-speed modulation mode. "0": With V27 "1": Without V27	Communication/ Setting
	6, 7	Reception	Image capacity when receiving (Reflect in DIS, Do not reflect in DTC.)	This sets the reception resolution capacity when FAX calls arrive (when sending DIS). Reflect in DIS, Do not reflect in DTC. "00": Very fine "01": Fine "10": When small "11": Ordinary lettering	Setting
	8		Not used		
32	1, 2	Reception	Designation of reception size (indicating the width of reception capacity)	This sets this machine's receivable document width that is notified to the other party's machine when receiving. "00": By loaded cassette "01": A4 width "10": B4 (A4, B4) width "11": A3 (A4, B4, A3) width When using the loaded cassette, width is as follows depending on the maximum cassette size. A5/5.5x8.5R size: A4 width B5 size: B4 width A4/8.5x11 size: A3 width B4 size: B4 width 11x17: B4/A3 width (changeover by means of the FAX soft SW) A3 size: A3 width A3 width is adopted in cases where a tray capable of receiving and printing facsimiles is not set and cases where all cassettes are open.	Setting
	3	Transmission	Training	Setting whether the training in high speed sending is set to long or short in V.17. "0": Short "1": Long	
	4	Reception	Reception gain changeover when receiving	Setting to determine the FTT determination method when confirming TCF reception. "0": Judge the EQM value to determine if the received data is 0 "1": Only judge from the EQM value. Accordingly, TCF confirmation becomes loose	Communication/ Setting
	5	Reception	Time out time setting after starting TCF signal reception	The time for time out is set after starting TCF signal reception. "0": 4 seconds "1": 2 seconds	Setting
	6	Communication	Time between DCS- TCF	Setting to determine how many seconds in the interval between DCS transmission and sending of the TCF signal. "0": 75msec "1": 150msec 75±20ms in the ITU-T standard.	Adjustment value
	7, 8	Communication	300bps preamble send time	The preamble send time is set in the FSK signal sending. "00": 0.5 seconds "01": 1 second "10": 1.5 seconds "11": 2 seconds	

SW	Bit	Item		SW selection and function	System settings
33	NO. 1, 2	Transmission	Phase-C head dummy data send time	Setting of the time to send the dummy data until sending the head data when sending in Phase-C. "00": 0.3 seconds "01": 0.4 seconds "10": 0.5 seconds "11": 0.2 seconds When the dummy data send time is increased, the remote machine which	
	3	Communication	Error handling when transmission and receiving RTN	receives data can easily detect high speed signals. Setting to determine whether or not to recognize communication errors when receiving RTN signals (only in the V.17 mode). "0": Recognize errors during RTN reception "1": Do not recognize error during RTN reception	Setting
	4, 5	Reception	SED ON level when receiving	Setting of an indication of the receivable level when receiving FAX signals. When noises are picked up and PPR occurs frequently, set to "-43dBm" or greater. (For example, "-38dBm.") "00: -48dBm "01: -38dBm "10: -33dBm "11: -43dBm	
	6, 7	Transmission	Transmission cable amplitude equalizer	When sending FAX signals, apply different gain from the frequency to the data signals between the modem and line. Setting to determine how high to make the 4000Hz gain compared to 0Hz. "00": 0dB "01": 4dB "10": 8dB "11": 12dB Indispensable in Australia	Communication/ Adjustment value
	8		Not used		
34	1, 2	Reception	Receive cable amplitude equalizer	When FAX signals are received, a gain different from the frequency is applied to the data signals between the MODEM and the line. Setting of how much greater the gain of 4000Hz is set when compared with 0Hz. "00": 0dB "01": 4dB "10": 8dB "11": 12dB	
	3-8		Not used		
35	1-8		Not used		

Functions

SW	Bit		ltem	SW selection and function	System settings
No.	No.				eyetetti eettiinge
36	1		Not used		
	2	Communication	F.A.S.T function	This sets the management function performed in the FAX communication procedure through the telephone line. "0": No "1": Yes Valid only in North America.	
	3	Print	Print setting when there is no communication record table data	Setting to determine whether the record table is printed or not in the list printing from the system when there is no record data (history) which have not printed in printing of the communication record table. The list printing from the system setting is as follows: * Print output by selecting from the data list print * Time specification print from the FAX setting or print at memory full "0": Do not print -> "No print data" is displayed and printing of a list is disabled. "1": Print -> A list is printed though there is no new history. This setting is used to check that there is no new history.	
	4	Print	Report output (when cancelled)	Setting to determine whether or not to output the communication results sheet in cases where document transmission is cancelled while in progress. "0": Do not output "1": Output	
	5	Print	Report output (when refusing reception) <fax only=""></fax>	Setting to determine whether or not to output the communication results sheet when reception is refused in FAX reception. However, other than not printing is set by means of the report output (when receiving) setting. "0": Do not output "1": Output "1": Output Internet FAX is set by means of SW63-2. Irrespective of "Always print" and "Error," the results sheet is not printed.	

SW No.	Bit No.		Item	SW selection and function	System settings
36	6	Print	Printing of transmitted document contents at times of F code communication <fax only=""></fax>	Setting to determine whether or not to print part of the transmitted document on the communication results sheet at times of F code communication. However, only when the "Document contents printing at times of transmission" setting is valid. "0": Do not print "1": Print The "Document contents printing (results sheet) at times of transmission"	
	7	Print	Document content print when sending (PC-Fax (Internet Fax) report table)	setting takes priority. Setting to print images or not on the report table when sending PC-Fax (Internet Fax). "0": Not print "1": Print When the system setting is set so that images are added in the communication report table, if the destination is a PC-Fax (Internet Fax), the document contents are printed by this setting.	
	8	Print	The number of characters setting for transmission source printing.	The number of characters setting for transmission source printing. Setting to change the limitation of the number of the characters when the printing from the transmission source is performed. "0": 20 characters "1": 40 characters (half-width), 20 characters (full-width)	
37	1, 2	Function	Protocol monitor	Setting to determine whether or not the protocol monitor (recognized by the FAX) for 1 communication is printed. "00": No (do not print) "01": No (do not print) "10": Print (always) "11": Only at times of error (print) When a new communication occurs before the protocol monitor is printed, delete the old protocol data (overwrite).	
	3	Function	Determination of sub- scan length (determination setting when selecting the page)	Setting to determine whether to give priority to width or length when selecting the optimum sheet when printing received data. "0": Priority to data length "1": Priority to data width	
	4	Print	Paper selection when reception printing (LTR/A4)	Used to set whether LTR is confirmed first of all in selection of paper for reception printing or paper that provides smaller reduction rate of A4 and LTR is selected. "0": Priority on LTR/A4 reduction rate "1": Priority on LTR	
	5	Function	Not used Valid/Invalid setting of FAX A4, 8.5 x 11 threshold	When printing received FAX data with A4 and 8.5 x 11 paper in the tray, this setting determines whether to make threshold values in paper selection valid or invalid. If made valid, it becomes easier to select letters. "0": Valid "1": Invalid When printing received Internet FAX data, conduct setting using the separate SW (Valid/Invalid setting of Internet FAX A4, 8.5 x 11 threshold).	
	7 8	Communication	Not used Data line parity check (Between ICU - FAXBOX)	The parity on the data line between the ICU and the FAXBOX is checked. (Supporting the E7-06 problem) "0": Parity is checked. "1": Parity is not checked.	
38	1-4	Function	Magnification setting in automatic reduction	Setting to determine the page length for reduced printing of documents received when automatic reduced printing is set at permitted. Percentage threshold that can be reduced (excluding reduction between fixed page sizes) Setting can be made over the range of 85% to 100% in 1% increments by binary inputting (N x 1% + 85%). The initial value of 90% is reverted to if a value outside of the setting range is set.	
	5	Print	Rotated printing	Setting to determine whether or not to rotate and output received data when this is possible at times of receiving and printing FAX and Internet FAX data. "0": Permitted (rotate and print) "1": Prohibited (do not rotate and print)	
	6	Print	Designation of rotation direction when printing on both sides and the rear side.	Setting to determine whether to adopt vertical binding or horizontal binding when printing on both sides. When horizontal binding is selected, the header position on both sides (front and rear) is printed in the same direction. When vertical binding is selected, since the image rotates by 180 degrees, the header position is reversed. "0": Horizontal binding "1": Vertical binding	
	7	Function	Setting of received document output when receiving	Setting to determine whether to output data received in FAX, Internet FAX communications en masse or to output 1 page at a time as it is received. "0": Save and output en masse following completion of reception "1": Output 1 page at a time	

SW No.	Bit No.		Item	SW selection and function	System settings
38	8	Print	Selection of error page output when error occurs during FAX reception.	Setting to determine whether to output the error page or to not output it and discard it in cases where communication errors occur during FAX reception. "0": Output the error page "1": Do not output the error page However, in cases where errors occur during F code relay-instructed reception or F code confidential reception, the error page is not outputted irrespective of this SW setting.	
39	1	Transmission	Selection of re-send page at times of error	Select the page to be re-sent when errors occur during transmissions that do not contain F code. "0": Error page and onwards (re-send from the pages that have not been transmitted to the other party's machine). "1": All pages (re-send from the first page including pages that have been transmitted to the other party's machine). When transmitting in F code, all pages are re-transmitted irrespective of this setting.	
	2	Print	Selection of date and transmission source print language <format></format>	Setting to determine the format of the date and transmission source attached when transmitting FAX. "0": Date format "1": North American format	
	3	Print	Relay data output	Setting to determine whether or not to output documents received from the relay command station when F code relay broadcast instructions are received. "0": Output "1": Do not output	
	4	Transmission	F code relay broadcast FAX sender addition setting	Setting to determine whether the machine's sender is added or not when relay broadcast send is performed to the FAX remote machines which are registered in the machine (relay broadcast instruction receiving station) after receiving the F code relay broadcast instruction is received from a remote machine. This is in order to cope with the FAX circular specifications. "0": Added "1": Not added	
	5	Communication	F code communication error handling	Setting to determine whether or not to re-send at times of F code communication. "0": Re-send "1": Do not re-send However, do not re-call in cases where the "Re-call permission at times of communication error" setting is at "0: Prohibited." Do not re-send when the other party's machine does not have F code functions.	
	6	Transmission	F code password transmission setting when the other party's machine has no password capacity	Setting to determine the communication procedure in cases where the other party's machine has no F code password capacity when conducting F code communication. "0": Disconnect with DCN "1": Send with password	
	7	Function	Remaining receivable memory	Setting to determine whether to issue a call when remaining memory reaches 64KB or less or 128KB or less. "0": 128KB "1": 64KB	
	8	Function	External telephone setting when no sound is set	Setting to determine whether or not to use external telephone when no sound is set. When the no sound priority setting is made, reception operation is soundless but communications cannot be sent to and from an external telephone. When the external telephone priority setting is made, communications can be sent to and from an external telephone, but reception operation sounds once. "0": External telephone priority "1": No sound priority	

SW No.	Bit No.		Item	SW selection and function	System settings
40	1		Not used		
	2	Reception	Setting to refuse reception at times of manual reception (FAX)	Setting to determine whether or not to validate refusal of reception of designated numbers. However, only at times of manual reception. "0": Receipt of designated number is not refused (invalid) "1": Receipt of designated number is refused (valid) However, at times of automatic reception, perform using a separate SW (Setting to refuse reception at times of automatic reception). Only valid in cases where the "Specified number reception Enable/Disable setting (FAX)" is refused.	
	3	Reception	TSI judgment setting (no signal or all space) when refusing reception from designated numbers	Setting to determine whether to refuse or permit reception when there are no TSI signals from the other party's machine or signals are all spaced in cases where the refusal of designated number reception set by system setting is valid. "0": Reception will be permitted. "1": Reception will be refused. Only valid in cases where the "Specified number reception Enable/Disable setting (FAX)" is refused.	
	4	Reception	TSI judgment setting (No numbers and no space can be used.) when refusing reception from designated numbers	Setting to determine whether to refuse or permit reception when TSI signals from the other party's machine are no numbers and no space can be used reception set by system setting is valid. "0": Reception will be permitted. "1": Reception will be refused. Only valid in cases where the "Specified number reception Enable/Disable setting (FAX)" is refused.	
	5	Communication	PIN code correspondence	Setting to determine whether or not to limit FAX dial number display to 16 digits. When this is set to "1: Correspond," FAX number display based on the resend key and the other party's number on the job status completion screen are displayed from the start to the 16th digit. When this SW is set as valid, it is also reflected in report contents. "0": Do not correspond "1": Correspond FAX address display limit (displayed up to the 16th digit from the front)	
	6-8		Not used		
41	1		Not used		
	2	Function	Reversion from the energy saving state (excluding preheat) when the external telephone is off-hook	Setting to determine whether or not to revert from energy saving with the external telephone off the hook in the energy saving state (excluding preheat). "0": Do not revert "1": Revert	
	3		Not used		
	4	Function	Scope of line sound monitor	Setting to determine the scope of monitoring when the line monitor function is used When "Until NSF signal send/receive" is set, monitoring is conducted until the DCS or NSF signal is received. When "All" is set, everything is monitored until the line is disconnected. "0": Until NSF signal send/receive "1": All Setting of line monitor sound ON/OFF is done by a separate SW.	
	5	Call arrival	V150V24 detection setting	Setting of detection when non-ringing setting is received. "0": 24V detection "1": 150V detection	
	6, 7		Not used		
	8		Priority setting of the response lamp in the energy saving mode.	"0": reception id allowed "1": Reception is permitted	
42	1-8		Not used		
- 89					

SW No.	Bit No.		Item	SW selection and function	System settings
90	1	Internet FAX	Addition of Content-X- CIAJWNETFAX field (in internet FAX send)	Setting to determine whether or not "CONtent-X-CIAJWNETFAX" is added to the mail field in Internet FAX send. By adding this field, printing of the mail text on the Internet FAX receiving side can be inhibited (however, this function is only valid when the Internet FAX receiving side supports this field). "0": Do not add field "1": Add IGNORE	
	2	Internet FAX	Resolution type of internet FAX	This sets the type of reading resolution when sending Internet FAX. "0": inch type "1": mm type	
	3	Scanner	Setting of E-Mail sending (Return address)	Setting to determine whether the return address is added or not when the mail content is modified in returning Scan to E-Mail. "0": Return address is not added. "1": Return address is added.	
	4	Scanner	Setting of E-Mail sending (Header)	Setting to determine whether the device name, the model name, and the installing place are added to the header or not when the mail content is modified in returning Scan to E-Mail. "0": The header is not added. "1": The header is added.	
	5	Internet FAX	Setting of internet FAX sending (Return address)	Setting to determine whether the return address is added or not when the mail content is modified in returning internet FAX. "0": Return address is not added. "1": Return address is added.	
	6	Internet FAX	Setting of internet FAX sending (Header)	Setting to determine whether the device name, the model name, and the installing place are added to the header or not when the internet FAX mail content is modified. "0": The header is not added. "1": The header is added.	
	7	Internet FAX	Selection of the Internet FAX date and transmission source print language <format></format>	Setting to determine the format of the date and transmission source attached when transmitting Internet FAX. "0": Date format "1": North American format	
	8	Scanner	File name replacement setting (ScanToXXX) (Line break prohibit)	Setting to determine whether the codes registered in the US-ASCII are replaced with "_" or not for the file name in ScanToXXX and the file name used as a link destination of a hyper link mail. "0": Not replaced "1": Replaced (Replaced with "_")	
91	1	Scanner	Setting of attaching "\ (back slash)" to a common folder name or a file name in ScanToSMB.	Setting to determine whether "\ (back slash)" is attached to the head of a file name or not. "0": Not attached (When this setting is selected, the file name is as "common folder name\file name.") "1": Attached (When this setting is selected, the file name is as "common folder name\\file name.")	
	2	Scanner	Secondary storage background process inhibit in scanner send (other than USB)	Setting to determine whether the secondary storage process in ScanToXXX is performed in the background or in the foreground with "Processing" displayed on the operation panel. "0": Enable (Background process) "1": Inbibit (Enterground process)	

SW No.	Bit No.		ltem	SW selection and function	System settings
91	3	Scanner	Secondary storage background process when the send data upper limit setting is valid	Setting to determine whether the secondary storage process in ScanToXXX (except for ScanToUSB) when the send data upper limit setting is valid is performed in the background or in the foreground with "Processing" displayed on the operation panel. "0": Disable (Foreground process) "1": Enable (Background process) When the soft SW62-2 "Secondary storage background process inhibit in scanner send (other than USB)" is set to "1: Inhibit," the process is made in the foreground regardless of this setting.	
	4, 5	Internet FAX	Setting of size selection in the internet FAX reception (AB series)	The paper sizes which can be selected in the paper selection of the internet FAX reception are set. Since, in the paper selection for the internet FAX reception, only one paper size can be selected according to the received data width and the number of lines, a user who does not use B5 paper (does not load B5 paper in the cassette) cannot print until B5 paper is loaded. To avoid this inconvenience, the use can use this setting for the paper size prepared in the cassette. "00": Selection from B5/A4/B4/A3 "01": Selection from A4/B4/A3 "10": Selection from A4/A3 "11": Selection from A5/B5/A4/B4/A3	
	6	Internet FAX	Valid/Invalid setting of Internet FAX A4, 8.5 x 11 threshold	When printing received Internet FAX data with A4 and 8.5 x 11 paper in the tray, this setting determines whether to make threshold values in paper selection valid or invalid. "0": Valid "1": Invalid Setting of FAX received data is performed by means of a separate SW.	
	7	Internet FAX	Setting of Enable/ Disable of the threshold value of the internet FAX Mexican legal, foolscap	Setting to change the print paper judgment. When Mexican legal is received, if the automatic reduction is made, it may be printed in foolscap because of the small threshold value. When Enable, Mexican legal can be selected easily. "0": Enable "1": Disable Setting of FAX received data is performed by means of a separate SW.	
	8	Internet FAX	Setting of Enable/ Disable of the threshold value of the internet FAX Mexican legal, legal	Setting to change the print paper judgment. When Legal is received, if the automatic reduction is made, it may be printed in Mexican legal because of the small threshold value. When Enable, Legal can be selected easily. "0": Enable "1": Disable Setting of FAX received data is performed by means of a separate SW.	
92	1	Internet FAX	Setting of text printing when receiving mails without attached files	Setting to determine whether or not to print mail texts when incoming mails do not have attached files. "0": Do not print mail letters "1": Print the main text of mails (Communication results error)	
	2	Internet FAX	Report output (when reception is refused) <internet fax="" only=""></internet>	Setting to determine whether or not to output the communication results sheet when reception is refused in Internet FAX reception. However, other than not printing is set by means of the report output (when receiving Internet FAX) setting. "0": Do not output "1": Output "AX is set at "Report output (when reception is refused) <fax only="">." Irrespective of "Always print" and "Error." the results sheet is not printed.</fax>	
	3	Scanner	Display setting at times of NW trouble	Setting to determine whether or not to display on the operation panel when network trouble occurs while the NIC card is loaded. "0": Display trouble "1": Do not display trouble (do not display "CE-00" and "CE-01")	
	4	Internet FAX	Nighttime FAX mode setting <when internet<br="">FAX product key is disabled></when>	Setting to determine whether or not to enter the minimum power consumption mode when the panel power SW is turned OFF. Enable only when the internet FAX product key is disable. "0": Enter the nighttime FAX mode "1": Do not enter the nighttime FAX mode This soft SW is disable (does not function) when the external calculation mode is enable. (SW63-6: Pseudo-nighttime mode setting <external calculation="" mode=""> functions.)</external>	
	5	Internet FAX	Pseudo-nighttime mode setting <when Internet FAX product key is enabled></when 	Setting to determine whether or not to enter the minimum power consumption mode when the panel power SW is turned OFF. Enable only when the internet FAX product key is enable. "0": Enter the pseudo-nighttime FAX mode (do not enter the nighttime mode) "1": Do not enter the pseudo-nighttime FAX mode (enter the nighttime mode) "1": soft SW is disable (does not function) when the external calculation mode is enable. (SW63-6: Pseudo-nighttime mode setting <external calculation="" mode=""> functions.) *3</external>	

SW	Bit		ltem	SW selection and function	System settings
No.	No.		nom		oystem settings
92	6	OSA	Pseudo-nighttime mode setting <external calculation mode></external 	Setting to determine whether the minimum low power consumption mode is set when the panel power switched is turned OFF in the OSA external calculation mode. "0": Enter the pseudo-nighttime FAX mode (do not enter the nighttime mode) "1": Do not enter the pseudo-nighttime FAX mode (enter the nighttime mode) Enable only when the external calculation mode is ON. In the external calculation mode, the following soft switches are disable (do not function).	
				SW63-4: Nighttime FAX mode setting <when fax="" internet="" is<br="" key="" product="" the="">disable> SW63-5: Pseudo-nighttime FAX mode setting <when fax="" internet="" product<br="" the="">key is enable></when></when>	
	7	Function	Nighttime FAX mode setting <60W nighttime mode>	Setting to determine whether the FAX BOX power is not shut down when the panel power switch is turned OFF (In normal cases, it is notified in the F net, dial-in setting.) "0": Do not enter the pseudo-nighttime FAX mode (60W is not notified) "1": Enter the pseudo-nighttime FAX mode (60W is notified) Related soft SW: SW63-4: Nighttime FAX mode setting <when disabled="" fax="" internet="" is="" reception=""> SW63-5: Pseudo-nighttime mode setting <when enabled="" fax="" internet="" is="" reception=""> SW63-6: Pseudo-nighttime mode setting <external calculation="" mode=""> This soft SW is enable regardless of the external calculation mode.</external></when></when>	
	8	Function	Job log memory at times of successive communication	Setting to determine whether successive communications in the job log are treated as 1 communication at a time or as 1 successive communication. "0": Treat each communication as 1 "1": Treat as 1 successive communication *3	

- Nighttime FAX mode:

<Power status>

Resident power ON

Sub power OFF

Main power OFF

<Power SW status>

Main power SW: ON Panel power SW: OFF

<Function>

When CI (calling) signal is detected from the FAX line, power can be supplied to the machine and the FAX BOX.

- Pseudo-nighttime mode:

<Power status> Resident power ON Sub power ON Main power ON <Power SW status> Main power SW: ON Panel power SW: OFF or ON Or

Power save mode (the power save key is pressed or in the auto power shut off state) (Either case will provide the conditions for the pseudo-nighttime mode.)

<Function>

The power is supplied to the machine (including SCU/PCU) and the FAX BOX or the HDD, and the panel light is turned OFF.

Under this condition, the following operations except for FAX scanning can be performed:

- FAX/NWS send, FAX receive/internet FAX receive, printer data receive, network access, etc.

SW No.	Bit No.		ltem	SW selection and function	System settings
93	1	Function	Background process when specifying the time	Setting to determine whether the secondary storage process in ScanToXXX (except for ScanToUSB) by specifying the time is performed in the background or in the foreground with "Processing" displayed on the operation panel. When the soft SW62-2 "Secondary storage background process inhibit in scanner send (other than USB)" is set to "1: Inhibit," the process is made in the foreground regardless of this setting. "0": Background process "1": Foreground process	
	2	Function	Received data printing hold screen display setting	Setting to determine whether the print hold screen is displayed or not after entering the product key of the document service kit. This setting can be changed only in the simulation mode. "0": Enable (Displayed) "1": Disable (Not displayed)	
	3	Function	Decode error process in printing the FAX/ Internet FAX reception data	Setting of the process when a decode error occurs in printing the FAX/Internet FAX reception data. "0": Judged as E7-06 trouble. When a decode error is detected, it is judged as E7-06 trouble and printing is not completed. The image data of the decode error page are not deleted. * When the power is turned OFF/ON, the received data can be printed again. (In case of E7-06 error, however, manual transfer cannot be performed.) "1": Not judged as E7-06 trouble. The area after the line of decode error is printed as white data. It is not processed as a trouble.	
	4	-	Nighttime mode level setting when D-SMTP is enable	Setting is made to select the power level in the nighttime mode. When 8W is selected, D-SMTP reception is enable with the D-SMTP function enable. When 1W is selected, the nighttime power falls to the energy save mode and D-SMTP reception is disable. "0": 8W nighttime (D-SMTP Enable) "1": 1W nighttime (D-SMTP Disable) *3	
	5	-	FFL address book renewal time stamp check setting	Setting is made to select YES/NO of checking the synchronization of time stamps between the address book renewal time in the printer driver and that in the MFP in the function flow light (FFL) function. "0": Check is made. "1": Check is not made. * Since synchronization of renewal time stamps of the address books is made as a condition for the FFL function in order to prevent erroneous sending, this setting must be carefully made especially when changing. *2	
	6	Internet FAX	Setting of the 1W energy-save mode entering time when the POP3 confirmation function is enable.	Setting whether the machine enters the 1W energy-saving mode/1W nighttime mode according to the frequency confirmation time in the POP3 server frequency confirmation when the I-FAX function is ON. "0": 3 minutes "1": No limit Incase of "0" above, if the POP3 server frequency confirmation time is within 3 minutes, the machine does not enter the 1W mode but enters the pseudo energy-saving mode. In case of "1", the machine enters the pseudo energy-saving mode regardless of the POP3 server frequency confirmation time. In addition, since the default of the POP3 server frequency confirmation time is 5 minutes, the machine enters the 1W mode under the normal conditions. In order to keep the machine in the pseudo energy-saving mode, perform either of the following two methods: * Change the POP3 server frequency confirmation timing to 3 minutes or less. * Change this SSW to "1."	
	7, 8		Not used		
94	1-8		Not used		1

SW No.	Bit No.		Item	SW selection and function	System settings
95	1	Internet FAX	Size selection for internet FAX reception	 Setting is made to select "Paper individual setting" or "Paper combination setting" in I-FAX reception. 1: 1: Paper individual setting (Follows SW95-2 - 6.) 0: 0: Paper combination setting (Follows SW91-4 - 5.) (Default) * This soft SW is added according to requests from the market for combination of paper selection which is not available with SW91-4 and 5. Example: Print in B4 only 	
	2-6	Internet FAX	Size selection for internet FAX reception (Paper individual setting)	 Setting is made to select whether each paper size is included as an option of the paper selection in the individual selection of paper when receiving I-FAX. "Selected" □ The paper size is included as an option of paper selection. "Not selected" □ The paper size is not included as an option of paper selection. * This setting is valid when SW95-1 "Size selection for internet FAX reception" is set to "1: Paper individual setting". When, however, all of SW95-2 - 6 are set to "1: Not selected", SW95-1 functions as "0." 	
	7	Function	White paper skip confirmation Process after message time out	If the white paper skip function is set, when [START] button is pressed, the message is displayed confirming the document quantity actually scanned and that to be sent. This setting is made to select the job 60 sec after the above state. "1": The send job is performed. "0": The job is cancelled. (Default) *2	
	8	Function	Process after time out of the document quantity count confirmation	If the document quantity count function is ON, when scanning is completed with the document feed unit, the massage of the scanned document quantity is displayed. This setting is made to select the job 60 sec after the above state. "1": The send job is performed. "0" The job is canceled. (Default) *2	
96 - 98	1-8		Not used		

System settings (Line/Other)

SW No.	Bit No.		ltem	SW selection and function	System settings
99	1, 2	Calling	Tone/Pulse initial setting (Dial call signal setting)	This is set according to dial type. "00": 10PPS (pulse) "01": 20PPS "10": TONE "11": TONE Other than China/Thailand: If "20pps" is set, adopt the initial TONE.	FAX initial setting/ Setting
	3-6	Calling	Pause time setting (between dials)	This sets the time per pause inputted during dialling. The pause time can be set from 1 to 15 seconds in 1-second increments by binary inputting N over the range of 0 to 15 (1 second x N). If a value outside the setting range (or "0000") is set, the initial value of 2 seconds is reverted to.	FAX initial setting/ Adjustment value
	7, 8	Calling	PBX setting	Setting to determine whether or not to send out ID or Flash before dialing. Functions only in Germany and France. In other countries, this setting is fixed to "OFF". "00": OFF "01": Flash "10": ID "11": Not used (OFF) The setting other than the above would be granted as the default.	FAX initial setting
100	1-4	Calling	ID (number) setting <input 1st="" digit<br="" the=""/> when dial inputting and dialing>	Conduct ID No. setting when the PBX function is valid. Valid when ID is set using SW99-7, 8. The initial value of 0 is reverted to if a value outside of the setting range (10 - 15) is set.	FAX initial setting
	5-8	Calling	ID (number) setting 2 <input 2nd="" digit<br="" the=""/> when dial inputting and dialing>	Conduct ID No. setting when the PBX function is valid. Valid when ID is set using SW99-7, 8. When 10 - 12, 14, 15 are designated, do not use numbers with those digits. "-" when 13 is set.	FAX initial setting

SW No.	Bit No.		Item	SW selection and function	System settings
101	1-4	Calling	ID (number) setting 3 <input 3rd="" digit<br="" the=""/> when dial inputting and dialing>	Conduct ID No. setting when the PBX function is valid. Valid when ID is set using SW99-7, 8. When 10 - 12, 14, 15 are designated, do not use numbers with those digits. "-" when 13 is set.	FAX initial setting
	5-8	Call arrival	Distinctive ring (DRD setting)	Setting to determine whether or not to execute FAX arrival call by the distinctive ring. Even if a call signal other than the set pattern is detected, there will be no automatic arrival call. "0000": OFF "0000": OFF "0000": Pattern 1 "1000": Pattern 2 "1100": Pattern 3 "0010": Pattern 3 "0010": Pattern 4 "1010": Pattern 5 "0110": ON (Australia) "1110": ON (New Zealand) "1001": ON (Hong Kong) When contents other than the above are set, the initial value is reverted to.	FAX initial setting/ Setting
102	1 2-5	Call arrival	Not used Setting of the number of automatic reception calls	Set the number of call sounds until the start of receiving (holding of the line) when automatic reception is set. This can be set from 0 to 15 (Europe/Indonesia/Thailand: 0 to 9, Australia/New Zealand: 2 to 4) times by binary inputting. If 0 is set, the call sound will not be sounded. (However, this does not include the nighttime FAX mode.)	FAX reception setting/ Setting
	6	Call arrival	Setting for changing over to automatic reception during manual reception	Setting to determine whether or not to initiate automatic reception after the ringer sounds a certain number of times when manual reception is set. "0": Prohibited (do not changeover) "1": Permitted (changeover)	FAX reception setting/ Setting
	7, 8		Not used		
103	1-5	Call arrival	Setting of the number of calls for changing over from manual to automatic reception	Set the number of calls before changing over to automatic reception when in the manual reception mode. Functions only in France. This functions when the "Setting for changing over to automatic reception during manual reception" (SW71-6) is valid. Setting can be made over the range of 1 to 9 times in 1 time increments by binary inputting. The initial value is reverted to if a value outside of the setting range is set.	FAX reception setting/ Setting
	6	Communication	ECM (valid except during V.34: reflected in the V.21 DIS/DCS/ DTC)	Setting to determine whether or not to execute the error re-send mode. However, this is only valid when communication is other than V.34. "0": Yes. Set with ECM function. "1": No. Set with no ECM function. ECM is on during communication in the V.34 mode.	FAX initial setting
	7	Function	Change from the image send screen to the copy screen	Setting to determine whether or not to automatically change from the image send screen to the copy screen. When changing over, if no keys are operated for 20 seconds after pushing the final key in the image send mode, the copy mode will be automatically switched to. If there is no changeover, the machine will remain in the image send mode and not switch to the copy mode. "0": Do not change over "1": Change over *3	Operation setting
	8	Function	Image quality setting when saving (FAX)	Setting to determine whether or not to make filed image quality valid (initial setting for image quality selection when transmitting filed document files by FAX) "0": Do not apply "1": Apply	Operation setting
104	1-4	Function	Image quality priority selection (standard image quality setting)	Setting to determine the initial setting for image quality selection when reading documents on the FAX. "0000": Ordinary lettering "0001": Small lettering "0010": Fine "0011": Very fine "0110": Fine, medium tone "0110": Fine, medium tone "0111": Very fine, medium tone "Ordinary lettering" (initial value) is reverted to if a value outside of the setting range is set.	Operation setting
	5	Function	Received data printing hold (FAX/Internet FAX)	Setting to determine whether or not to store data received by FAX/Internet FAX in the memory without outputting it. "0": Do not hold "1": Hold	Operation setting

SW No.	Bit No.		Item	SW selection and function	System settings
104	6	Function	Saving the setting contents for a certain period after completion of scanning	Setting to determine whether the set values of the destination and various functions are saved without returning to the default values or not when reservation is completed on the image send screen. "0": The set values are not saved. "1": The set values are saved.	Operation setting
	7		Not used		
	8	Function	Default finish stamp setting	Setting to determine whether the finish stamp is used or not after completion of document scan when the document feed unit is used. "0": NO (The finish stamp is not used.) "1": YES (The finish stamp is used.)	Operation setting
105	1-4	Function	Speaker volume when on-hook (Speaker volume during DTMF sending)	This sets speaker volume for when the on-hook button is pushed. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," it is considered as setting to the default.	FAX initial setting
	5-8	Function	Call sound volume	Irrespective of whether there is a handset, this sets the volume of the call sound that is sounded when a signal arrives. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," there is no sound (OFF).	FAX initial setting
106	1-4	Function	Line monitor volume setting	Set the speaker volume during line monitoring. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," there is no sound (OFF).	FAX initial setting
	5-8	Function	Volume of the transmission completion sound (Volume of the successful transmission sound)	Set the volume of the completion sound outputted from the speaker upon completion of FAX transmission. When sending is succeeded, a sound is generated by this setting. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," there is no sound (OFF).	FAX initial setting
107	1-4	Function	Volume of the communication error completion sound (Volume of the transmission and reception error sound)	This sets the volume of the completion sound outputted from the speaker upon completion of FAX communication error. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0." there is no sound (OFF).	FAX initial setting
	5-8	Function	Volume of the reception completion sound (Volume of the reception completion sound)	This sets the volume of the completion sound outputted from the speaker upon completion of FAX reception. When receiving is succeeded, a sound is generated by this setting. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," there is no sound (OFF).	FAX initial setting
108	1, 2	Function	Tone of the successful transmission sound	This sets the tone sounded when transmission is successful. "00": Pattern 1 (550Hz) "01": Pattern 2 (750Hz) "10": Pattern 3 (1000Hz) "11": Pattern 4 (1700Hz)	FAX initial setting
	3, 4	Function	Tone of the transmission and reception error sound	This sets the tone sounded when there is a transmission and reception error. "00": Pattern 1 (550Hz) "01": Pattern 2 (750Hz) "10": Pattern 3 (1000Hz) "11": Pattern 4 (1700Hz)	FAX initial setting
	5, 6	Function	Tone of the reception sound	This sets the tone sounded upon completion of reception. "00": Pattern 1 (550Hz) "01": Pattern 2 (750Hz) "10": Pattern 3 (1000Hz) "11": Pattern 4 (1700Hz)	FAX initial setting
	7	Function	Auto startup mode	In the case where FAX or Internet FAX is received during nighttime mode or simulated mode, if this setting is ON, the received document will be outputted when the machine becomes able to output. When OFF, the machine will receive the data by proxy without outputting the document, but it will output the received document when the panel power SW is ON. "0": Setting (setting for automatically starting up the main unit and outputting) "1": Release (setting for storing in the memory without starting up the main unit)	FAX initial setting
	8	Function	Digital line net setting	When this is set to "1: ON", "-15dBm" is set regardless of the soft switch setting in the signal send level on the FAXBOX side. For MX-2310 series, the operation is made when this switch is set to ON.	FAX initial setting

SW No.	Bit No.		Item	SW selection and function	System settings
109	1-3	Function	Setting of the successful transmission sound time	This sets the time the tone is sounded when transmission is successful. "000": 2.0 seconds "001": 2.5 seconds "010": 3.0 seconds "011": 3.5 seconds "100": 4.0 seconds The initial value is reverted to if a value outside of the setting range is set.	FAX initial setting
	4-6	Function	Setting of the reception sound time	This sets the time the tone is sounded upon completion of reception. "000": 2.0 seconds "001": 2.5 seconds "010": 3.0 seconds "011": 3.5 seconds "100": 4.0 seconds The initial value is reverted to if a value outside of the setting range is set.	FAX initial setting
	7	Function	Setting of the time of the transmission/ reception error sound	Transmission error sound sounding interval "0": Every 0.3 seconds "1": Every 0.7 seconds Sounding time and paper feeding time are the same.	FAX initial setting
	8	Function	Changing the file name in the FAX reception data transfer into TSI information	Setting is made whether the file name in the FAX reception data transfer is changed into TSI information or not. 0: Not changed 1: Changed *3	
110	1, 2	Print	Communication results sheet print settings (for ordinary transmission) <fax only=""></fax>	This sets outputting of the communication results sheet following transmission (excluding successive broadcast, successive polling and relay broadcast transmission). "00": Do not print "01": Always print "10": At times of transmission failure The initial value is reverted to if a value outside of the setting range is set.	FAX initial setting
	3, 4	Print	Setting of the communication results sheet printing (at times of broadcast transmission)	This sets outputting of the communication results sheet at times of successive broadcast, successive polling and relay broadcast transmission. "00": Do not print "01": Always print "10": Failed transmission address The initial value is reverted to if a value outside of the setting range is set.	FAX initial setting
	5, 6	Print	Communication results sheet print setting (when receiving) <fax only=""></fax>	This sets outputting of the communication results sheet for when communications are received (excluding confidential communications). "00": Do not print "01": Always print "10": At times of error The initial value is reverted to if a value outside of the setting range is set.	FAX initial setting
	7	Print	Report output (when receiving confidential communications) <fax only=""></fax>	Setting to determine whether or not to output the communication results sheet (receiving) when confidential communications are received. "0": Print "1": Do not print This only functions when the communication results sheet print setting (receiving) is set to be outputted.	FAX initial setting
	8		Not used		
111	1, 2	Print	Print document contents when transmitting (results sheet) <fax only=""></fax>	Setting to determine whether or not to print part of the transmitted document on the communication results sheet (transmission) when FAX transmission error occurs. "00": Do not print "01": Always print "10": At times of error The initial value is reverted to if a value outside of the setting range is set. This functions when the communication results sheet print setting (ordinary transmission) (broadcast transmission) is set to be outputted.	FAX initial setting
	3	Print	Automatic printing of the record sheet when memory is full.	Setting to determine whether or not to automatically output the communication record sheet when transmitted and received data on the FAX/Internet FAX communication record sheet reach 200 entries. "0": No (do not output) "1": Yes (automatically output) If the data are not outputted, then new data are written over the previous data starting from the oldest of the 200 entries. Triager printing of 200 entries.	FAX initial setting
	4-8	Print	Printing of the communication record sheet at a designated time (hours)	Set the hours part of the designated time (hours and minutes) for outputting the communication record sheet. Setting can be made over the range of 0 to 23 (hours) in 1-hour increments by binary inputting. The initial value of 0 hour is reverted to if a value outside of the setting range is set.	FAX initial setting

SW No.	Bit No.		Item	SW selection and function	System settings
112	1-6	Print	Printing of the communication record sheet at a designated time (minutes)	Set the minutes part of the designated time (hours and minutes) for outputting the communication record sheet. Setting can be made over the range of 0 to 59 (minutes) in 1-minute increments by binary inputting. The initial value of 0 minute is reverted to if a value outside of the setting range is set.	FAX initial setting
	7	Print	Printing of the communication record sheet at a designated time	Setting to determine whether or not to output the communication record sheet at a designated time. "1": Output the communication record sheet at a designated time "0": Do not output the communication record sheet at a designated time. Even if designated time printing is set, do not output when the designated time coincides with the nighttime FAX mode.	FAX initial setting
	8		Not used		
113	1-8	Reception	Remote changeover number setting	Set by binary inputting the number for receiving remote changeover from external telephones. However, the remote changeover number is "XX*" with * fixed. Adopt * when "A" is inputted. Adopt # when "B" is inputted. For bits 1-4, fix the upper digit of the remote changeover number. (0-F) For bits 5-8, fix the second lowest digit of the remote changeover number. (0-F) When C-F are set, the initial value is reverted to.	FAX initial setting
114	3	Call arrival	FAX destination check function	Function to check the FAX destination in order not to send a FAX to an erroneous destination caused by operation mistake, etc. "0": Disable "1": Enable	FAX initial setting
	4-7		Not used		
	8	Communication	External telephone connection	Setting to determine whether or not to use an external telephone. If "Yes" is not set using this switch, an external telephone cannot be used. "0": No (invalid) "1": Yes (valid) The user cannot set without an external telephone	FAX initial setting
115	1-7		Not used		
	8	Transmission	Sender's name adding function	Setting is made whether the sender's number in the sender print is changed to the receiver's name or not. When it is set to the receiver's name, if the address is set by the one-touch key, the key name of the address is printed in the sender print section. If it is not by the one-touch key (including automatic reversing with interface), print is not made (blank). "0": Sender's number (Default) "1" :Receiver's name * This function is valid only in the special ROM (made in August, 2009). The format of the added receiver's name is ">>Receiver's name (one-touch key name)."	FAX initial setting
116	1	Transmission	Automatic reduced transmission	In cases where the transmitted document size (width) is larger than the FAX paper size (width) of the other party's machine, this setting determines whether to reduce the transmitted document or to cut off both edges. "0": Transmit in reduced size "1": Do not transmit in reduced size	FAX transmission setting
	2		Not used		
	3	Transmission	Rotated transmission selection (B5R -> B5)	Rotated transmission or not depending on orientation of the document. When transmitting B5R document, this setting determines whether to transmit as A4 width (B5R) or to rotate the read image and transmit as B4 width (B5). "0": Rotate "1": Do not rotate	FAX transmission setting
	4	Transmission	Rotated transmission selection (A5R -> A5)	Rotated transmission or not depending on orientation of the document. When transmitting A5R document, this setting determines whether to transmit as A4 width (A5R) or to rotate the read image and transmit as A4 width (A5). "0": Rotate "1": Do not rotate	FAX transmission setting
	5, 6		Not used		
	7	Transmission	Rotated transmission selection (5.5 x 8.5R -> 5.5 x 8.5)	Rotated transmission or not depending on orientation of the document (INVOICE A5). When transmitting 5.5 x 8.5R (INVOICE-R) document, this setting determines whether to transmit as A4 width (5.5 x 8.5R) or to rotate the read image and transmit as A4 width (5.5 x 8.5). "0": Rotate "1": Do not rotate	FAX transmission setting
	8	Transmission	Page number printing	Setting to determine whether or not to apply the page number (page number/ total pages in cases of memory transmission) in the area for printing date and source. "0": Apply "1": Do not apply	FAX transmission setting

SW No.	Bit No.		Item	SW selection and function	System settings
117	1	Transmission	Designation of date and source printing position	Set the position for applying the date and transmission source on the top of the document when transmitting it. "0": Outside of document (outside of send data) "1": Inside of document (inside of send data)	FAX transmission setting
	2	Transmission	Quick online/Memory transmission changeover (quick online transmission)	Setting to determine whether to put transmission into the quick online transmission mode or the memory transmission mode. "0": Quick online transmission "1": Memory transmission	FAX transmission setting
	3	Transmission	Designation of date and source printing	Set whether or not to apply the date and transmission source on the top of the document when transmitting it. "0": Apply "1": Not apply Not functionable in North America (always applied).	FAX transmission setting
	4	Transmission	Re-call permitted when busy	Set to re-call when the other party of a transmission is busy or does not call in. "0": Prohibited "1": Permitted	FAX transmission setting
	5-8	Transmission	Number of re-calls when busy	Set the number of re-calls to be made when the other party of a transmission is busy or does not call in. This can be set from 1 to 14 (Taiwan: 1 to 15, Australia/New Zealand/ Singapore: 1 to 9, U.K./France/Germany/Sweden/Russia/South Africa: 1 to 10, Indonesia: 1 to 5, China: 1 to 3) times by binary inputting. Number of recalls: Setting x once The initial value is reverted to if a value outside of the setting range is set.	FAX transmission setting
118	1-4	Transmission	Interval between re- calls when busy	Set the interval until the next re-call when the line is busy during transmission. This can be set from 1 to 15 (Taiwan/Indonesia: 4 to 15) minutes in 1-minute increments by binary inputting. Re-call interval: Set value x 1 minute The initial value is reverted to if a value outside of the setting range is set.	FAX transmission setting
	5-8	Transmission	Number of re-calls at times of communication error	Set the number of re-calls to be made when a communication error occurs during transmission. This can be set from 1 (Taiwan: 1 to 15, U.K./France/Germany/Sweden/ Indonesia/Middle East/Russia/South Africa: 1 to 5, China: 1 to 3, Malaysia/ India: 1 to 9) times by binary inputting. Number of recalls: Setting x once The initial value is reverted to if a value outside of the setting range is set.	FAX transmission setting
119	1-4	Transmission	Re-call interval at times of communication error	Set the interval until the next re-call when communication error occurs. This can be set from 1 to 15 (Indonesia: 4 to 15) minutes in 1-minute increments by binary inputting. Number of recalls: Setting x once The initial value is reverted to if a value outside of the setting range is set.	FAX transmission setting/ Adjustment value
	5	Transmission	Re-call permitted at times of communication error	Set whether or not to re-call when a communication error occurs during transmission. "0": Prohibited "1": Permitted	FAX transmission setting
	6, 7	Reception	Reception mode setting	Setting to determine whether to put the reception mode into automatic or manual. (Do not set manual reception when the handset or external telephone are not connected. However, setting is possible and reception can be performed by means of the on-hook key). In the manual reception mode, when the nighttime FAX mode is ON, the machine is activated but no calls arrive. Even if the external telephone setting is not made, answerphone connection can be set from the soft SW. "00": Automatic reception "10": Manual reception "10": Answerphone connection The initial value is reverted to if a value outside of the setting range is set. Setting can be made even without the external telephone and handset.	Reception/ forwarding setting
	8	Function	Sets the modem dial-in function dial tone.	When the DTMF function and the modem dial-in function are effective, sets the modem dial-in function prior to the DTMF function. "0": No (invalid) "1": Yes (valid)	

SW No.	Bit No.		Item	SW selection and function	System settings
120	1, 2	Reception	Specified number reception Enable/ Disable setting (FAX)	Setting to determine Enable/Disable of the specified number reception (FAX). However, only valid during automatic reception. "00": All Disable "01": Reception Enable "10": Reception Disable "11": All Disable However, implement using a separate SW (Setting to refuse reception at times of manual reception (FAX)) when receiving manually.	FAX reception setting
	3	Function	Automatic reduced printing to fixed sizes	If a size in excess of the valid printing area is received, this setting determines whether or not to automatically reduce size. If size is not reduced, the excessive area is discarded without being printed. "0": Reduce "1": Do not reduce (discard) The reduction factor is set using the separate SW (Magnification setting in automatic reduction).	FAX reception setting
	4		Not used		
	5	Function	Reduced print setting when receiving letters.	Setting to determine whether to reduce to A4 size sheet or to print without reducing in cases of receiving 8.5 x 11 (LTR) when A4 size sheet is set. "0": Reduce "1": Do not reduce (discard) When not reducing, the area that cannot be printed is scrapped. When set to "Reduce," the overall data are reduced to 94%.	FAX reception setting
	6	Print	Double-faced printing of received data (double-faced reception setting)	Setting to determine whether received data are printed on both sides. "0": Double-faced printing prohibited "1": Double-faced printing permitted	FAX reception setting
	7, 8	Print	Setting of received data print conditions	Setting for selecting the optimum sheet when printing data received by FAX. "00": Equal magnification/Reduction permitted "01": Equal magnification (division/reduction prohibited) "10": Equal magnification/Division permitted The initial value is reverted to if a value outside of the setting range is set. Setting for selecting the optimum sheet when printing data received.	FAX reception setting
121	1-6		Not used		
	7, 8	Print	Selection of delivered sheet size	Sheet size setting is always set to A4R (8.5 x 11R).	FAX reception setting
122	1	Transmission	Polling protection	Set to determine whether or not to execute protection when the other party requests polling. "0": Protect "1": Do not protect When the protection setting is selected and a request for polling is received from the other party's machine, bulletin board transmission is conducted if the source number of the other party coincides with the number permitted for polling. When the setting not to protect is selected, bulletin board transmission is executed regardless of the source number of the other party.	Polling protection setting
400	2-8		Not used		
123 - 127	1-8		Not used		
128	1-3		Not used		
	4	Internet FAX	Setting of the internet FAX mail content (Footer)	Setting to determine whether the mail footer registered from the web is added to the content or not in sending the internet FAX. "0": The footer is not added. "1": The footer is added.	Internet FAX initial setting

SW No.	Bit No.		Item	SW selection and function	System settings
128	5	Internet FAX	Internet FAX coding system priority selection (Coding system for manual input) (Coding system for one-touch registration)	The standard compression system for sending operation of internet FAX can be set. "0": MH (G3) "1": MMR (G4) * The compression system for address registration is fixed to "MH (G3)" and is not linked with this item. This item is linked with the system setting, the FAX, the image send setting, the internet FAX setting, and "the standard compression system setting" of the internet FAX initial setting.	Internet FAX initial setting
	6	Internet FAX	Processing at times of mail reception (when the Content-X- CIAJWNETFAX field is not yet received)	Setting to determine whether or not to print the mail text in cases where there is no "CONtent-X-CIAJWNETFAX" in the mail field when mail is received by Internet FAX. "0": Do not print mail letters "1": Print the main text of mails Exclude confirmed sent mails	Internet FAX reception setting
	7	Internet FAX	Setting of reduced printing when receiving A3 by Internet FAX	Setting to determine whether or not to print reduced to 11 x 17 inch sheet size when receiving A3 width documents when 11 x 17 inch size sheet is set in Internet FAX reception. "0": Reduce "1": Do not reduce (discard) When not reducing, the area that cannot be printed is scrapped. Reduce the overall document to 94% when conducting reduced printing.	Internet FAX reception setting
	8	Internet FAX	Setting of reduced printing when receiving letters by Internet FAX	Setting to determine whether or not to print reduced to A4 size sheet when receiving 8.5 x 11 (letter) size documents when A4 size sheet is set in Internet FAX reception. "0": Reduce "1": Do not reduce (discard) Reduce the overall document to 94% when conducting reduced printing.	Internet FAX reception setting
129	1	Scanner	Setting of the mail content in E-Mail sending (Footer)	Setting to determine whether the mail footer registered from the web is added to the content or not in sending the Scan to E-Mail. "0": The footer is not added. "1": The footer is added.	E-mail setting
	2	Scanner	Setting of transmitted data upper limit value (FTP/desktop/shared folder)	When transmitting to FTP, desktop or a shared folder, this setting determines whether or not to stop transmission of data as over the upper limit if the image data size of 1 job is found to be in excess of the value set for the "transmitted data upper limit (FTP/desktop/shared folder)." "0": OFF "1": ON	Scanner setting
	3, 4	Scanner	Transmitted data upper limit (FTP/desktop/ shared folder)	This sets the upper limit for image data size in 1 job in cases where the transmitted data upper limit (FTP/desktop/shared folder) is set at "ON." "00": 50Mbyte "01": 150Mbyte "10": 300Mbyte The initial value is reverted to if a value outside of the setting range is set.	Scanner setting
	5	Function	Received data Network forwarding	Setting to determine whether to make the "Received data Network forwarding" function that can be registered from the Web valid or invalid. "0": Invalid "1": Valid *3	(WEB) Management setting
	6	Function	Prohibition of forwarded table registration	Setting to determine whether to make the "Prohibition of forwarded table registration" function that can be registered from the Web valid or invalid. "0": Permitted "1": Prohibited *3	(WEB) Management setting
	7	Function	Prohibition of forwarded table correction	Setting to determine whether to make the "Prohibition of forwarded table correction" function that can be registered from the Web valid or invalid. "0": Permitted "1": Prohibited *3	(WEB) Management setting
	8	Function	Prohibition of forwarding permission revision	Setting to determine whether to make the "Prohibition of forwarding permission revision" function that can be registered from the Web valid or invalid. "0": Permitted "1": Prohibited *3	(WEB) Management setting
130	1-3	Function	Not used		
	4, 5	Function	Print conditions of received data in user transfer (Option adding and extension)	Setting of the method for the user to acquire reception data in the "reception data print setting" of Inbound Routing registered from the Web. (SIM130-1 option expansion version) "00": When an error occurs. "01": Always print "10": When an error occurs, no print is made and data are sent to the E-mail address. When it is set to the outside of the specified range, the default is valid. *3	
	6-8		Not used		

SW No.	Bit No.		Item	SW selection and function	System settings
131	1	Print	FAX paper exit tray setting	Setting of the paper exit tray for FAX data output (When the finisher is not installed.) "0": Center tray "1": Right tray (When the finisher is installed) "0": Finisher tray "1": Right tray	FAX reception setting
	2-8		Not used		
132 - 150	1-8		Not used		

B. Fax software switch initial value list

Destination	Destination name	Destination	Destination name	Destination	Destination name
A	North America	N	New Zealand	а	Russia
В	Australia	0	China	b	South Africa
С	U.K.	Р	Singapore	С	Spain
D	France	Q	Indonesia	d	Portuguese
E	Germany	R	Thailand	е	Luxemburg
F	Sweden	S	Malaysia	f	Belgium
G	Finland	Т	India	g	Czech
Н	Norway	U	Philippine	h	Hungary
I	Denmark	V	Hong Kong	i	Greece
J	Netherlands	W	Taiwan	j	Poland
К	Italy	Х	Other 1 (Middle East)	k	Brazil
L	Switzerland	Y	Other 2 (Slovakia)	1	Korea
М	Austria	Z	Other 3	m	Vietnam

SW	Bit	De	stina	atior	1																																			
NO.	NO.	А	В	С	D	Е	F	G	Н	Ι	J	Κ	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	Ι	m
1	1	1	0	1	0	0	1	0	1	0	0	0	1	0	0	0	1	0	1	0	0	1	0	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0	0	1
	2	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0	1	1	0	1	1	1	1	1	0	0	0	0	1	0	0	1	1	0	0	1	0
	3	1	0	1	1	0	1	1	0	1	1	0	1	0	1	1	0	0	1	1	0	0	0	1	1	1	1	1	0	1	0	1	0	1	0	0	0	0	1	1
	4	1	0	1	1	0	0	1	0	1	1	1	0	0	1	0	1	1	0	0	1	0	1	1	1	1	1	1	1	0	0	0	0	0	1	0	0	1	0	1
	5	0	1	0	1	0	0	1	0	0	1	1	0	1	1	0	1	0	1	1	0	1	0	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	1
	6	1	0	1	1	1	1	1	0	0	0	0	1	0	1	1	1	1	0	1	0	0	0	1	1	1	0	0	1	0	0	0	1	1	0	1	0	1	0	1
	7	0	0	0	0	0	0	0	1	0	1	0	1	1	1	1	0	0	0	0	1	0	0	1	0	0	1	0	1	0	1	0	1	1	0	1	1	1	0	0
	8	1	1	0	1	0	1	0	0	1	1	1	0	0	0	0	0	0	1	0	1	1	0	0	1	0	1	0	1	0	1	1	1	0	1	0	0	0	1	0
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
	3	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1
	4	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
	6	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1
	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
	8	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
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SW	Bit	De	stin	atior	1																																			
NO.	NO.	А	В	С	D	Е	F	G	Н	Ι	J	Κ	L	Μ	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	T	m
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SW	Bit	De	stin	atior	۱																																			
NO.	NO.	А	В	С	D	Е	F	G	н	Τ	J	к	L	Μ	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	Τ	m
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	р 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	U	0
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SW	Bit	De	stin	atior	1	1	1	1	r			r		1		r —	r	-		-								-			1	r								
NO.	NO.	А	В	С	D	Е	F	G	н	Ι	J	К	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	T	m
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30	1	ñ	n	n	n	n	n	0	n	0	n	0	ñ	n	ñ	n	0	n	ñ	n	ñ	0	0	n n	ñ	n	0	n	0	0	0	n	0	0	0	0	0	0	0	0
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	1	1	4	1	1	1	4	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
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	0		1	1	1	1	1		1	1	T C					1						1	1	1		1	1	1	1	1	1		1	1	1	1	-	-	1	1
	/	0	0	0	0	0	0	0	0	0	Ű	0	0	0	0	0	0	0	0	0	Ű	0	0	0	0	0	0	0	0	0	0	0	0	0	U	U	U	U	U	U
1	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	υ	υ	0	0	υ	υ

SW	Bit	De	stina	atior	1					1						1										1														
NO.	NO.	А	В	С	D	Е	F	G	Н	Ι	J	Κ	L	Μ	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	С	d	е	f	g	h	i	j	k	Ι	m
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SW	Bit	De	stina	atior	1		1				1			1	r			-	1			-	-		-		1													
NO.	NO.	А	В	С	D	Е	F	G	Н	Ι	J	Κ	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Y	Ζ	а	b	С	d	е	f	g	h	i	j	k	Ι	m
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	б 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	0	0	0
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1	8	1	υ	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	U	1	0	0	1	1	1	1	υ	1	1	1	1	1	1	1	1	U	1	1

No. No. No. A B C B C B C B C B C B C B C B C B C C D D D D <th>SW</th> <th>Bit</th> <th>De</th> <th>stina</th> <th>atior</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>1</th> <th></th> <th>1</th> <th></th> <th>1</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>1</th> <th></th> <th>_</th> <th></th>	SW	Bit	De	stina	atior								1		1		1							1																_	
47 1 0 0 0 0 0 0 0 1 1 0	NO.	NO.	А	В	С	D	Е	F	G	Н	Ι	J	К	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Y	Ζ	а	b	С	d	е	f	g	h	i	j	k		m
1 1	47	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
A 0 1 0		2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1
4 0 1 0		3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
N O		4	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
e 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	0	0	0	0
N O		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	0	0	0
B 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	0	0	0
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A 1		2	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	1	1	1
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3 0 1 0		2	0	0	0	0	0	0	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	0
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7 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	0	0	0	0
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SW	Bit	De	stina	atior	1	1						1		1			1				1	-			1		-			1	-	1	1							
NO.	NO.	А	В	С	D	Е	F	G	Н	Ι	J	Κ	L	Μ	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	I	m
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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	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	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	0	0	0

SW	Bit	De	stin	atio	n																																			
NO.	NO.	А	В	С	D	Е	F	G	Н	I	J	Κ	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	С	d	е	f	g	h	i	j	k		m
63	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	0	0	0
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SW	Bit	De	stin	atio	n																																			
NO.	NO.	А	В	С	D	Е	F	G	Н	I	J	Κ	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k		m
71	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	0	0	0
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	3	1	1	0	۰ ۱	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0		0
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	6	0	0	0	n	n	n	0	ñ	n	n	n	0	0 0	0	0	n	0 0	õ	0	n	0	0	0 0	n	0	0	0	0	0	0	0	0	0	0 0	n	0	0	0	0
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SW	Bit																																							
NO.	NO.	А	В	С	D	Е	F	G	Н	Ι	J	Κ	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	С	d	е	f	g	h	i	j	k	Ι	m
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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	0	0	0	0
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	õ	0	0	0	0	0	õ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	0	0	0	n	ñ	n	0 0	0	0	0	0	n	0	0	ñ	n	0	õ	0	ñ	0	0	0 0	0	ñ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	n	0	0	0	0	0	0	0	0	0	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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SW	Bit	De	stin	atior	n																																			
NO.	NO.	Α	В	С	D	Е	F	G	Н	Ι	J	κ	L	Μ	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	I	m
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	<u> </u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	U	0	0
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	/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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	Ű	0	Ű	0	Ű	0	0	0	0	0	0	0	U	0	0
94	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	U	0	0	0	0	0	0	0	U	0	0
	2	U	0	0	0	0	0	0	0	0	U	0	0	0	0	0	0	0	0	0	Û	U	0	U O	U C	0	0	U	0	U	U	U	U C	0	U O	U	U	U	U	υ
	3	U	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	U	0	0	0	U	U	U	U	0
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1	Ø	U	υ	U	0	0	0	U	U	U	U	U	0	U	U	U	10	U	U	υ	υ	U	U	0	U	U	U	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ
SW	Bit	De	stin	atior	ו			1							1									1																
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NO.	NO.	А	В	С	D	Е	F	G	Н	Τ	JΚ	L	Μ	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	С	d	е	f	g	h	i	j	k	Ι	m	
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SW	Bit	De	stin	atior	1																																		
NO.	NO.	А	В	С	D	Е	F	G	н	Ι	JK	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	L	m
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SW	Bit	De	stin	atior	1																																	
NO.	NO.	А	В	С	D	Е	F	G	н	1	JΚ	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	a b	с	d	е	f	g	h	i	j	k	L	m
111	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	1	1	1	1
	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	0	0	0
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1	U U		L .	<u> </u>	L .	<u> </u>	1	<u> </u>	L .	L .		1 '	<u> </u>	~		<u> </u>	<u> </u>	<u> </u>	<u> </u>			1 1	<u> </u>			•			5	•								

SW	Bit	De	stina	atior	1		1			r				1		-		1	1						1					1	-			1						
NO.	NO.	А	В	С	D	Е	F	G	Н	Ι	J	Κ	L	Μ	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	Ι	m
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SW	Bit	De	stina	atior	1								1	1	-		1		-	-	-	1	-	1			-													
NO.	NO.	А	В	С	D	Е	F	G	Н	Τ	J	Κ	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	l r	m
127	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	1	1	1	1
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120	ו ר	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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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100	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	0		0
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	о С	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	0	0	U	0	0	0	0	0	0	0	U	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	U	0	0			U
	/	U	U	U	U	U	0	U	0	U	U	U	U	0	0	U	U	0	0	0	0	0	0	U	U	U	0	U	U	U	U	U	U	U	U	U	U	U		U
	8	0	0	U	0	Ű	0	U	U	0	0	0	U	0	U	0	0	0	0	0	0	0	0	U	0	0	0	0	0	0	0	0	0	0	0	U	U	U	<u>u (</u>	U
134	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	0	0 (υ
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	4	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	1	1	1
	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	0	0	0 (0
	6	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
	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	0	0 (0
1	8	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1

SW	Bit	De	stin	atior	l I																																			
NO.	NO.	А	В	С	D	Е	F	G	н	Ι	J	Κ	L	Μ	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	Ι	m
135	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	0	0	0
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	4	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	1	1	1
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	7	4	4	4	1	1	1	4	1	1	4	1	1	1	1	4	1	4	1	4	1	1	1	1	1	1	4	1	1	1	4	4	4	1	1	1	1	4	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	1	
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	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	0	0	0
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	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	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	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	0	0	0
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	6	0	0	0	0	0	U	U	0	0	U	U	0	0	U C	0	0	0	0	0	U	0	0	0	0	U	U	0	0	0	U	0	0	0	U	U	U	U	U	0
	/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	U	0	U	0
4.0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	U C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	U	U	U	0
141	1	0	0	0	0	U	0	0	0	0	0	0	0	0	0	0	0	0	0	0	U C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	U	0	U	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	0	0	0
	3	0	U	0	0	U	0	0	0	0	0	0	0	0	0	0	U	0	0	0	U C	U	0	0	U C	0	0	0	0	U	0	U	0	0	0	0	U	U	U	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	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	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	U	0	U	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	0	0	0
L	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	0	0	0
142	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	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	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	0	0	0
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SW	Bit	De	stin	atior	ו		-																																	
NO.	NO.	А	В	С	D	Е	F	G	Н	Ι	J	Κ	L	Μ	Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Υ	Ζ	а	b	с	d	е	f	g	h	i	j	k	I	m
143	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	0	0	0
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	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	0	0	0
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	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	0	0	0
146	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	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	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	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	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	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	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	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	0	0	0
147	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	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	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	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	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	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	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	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	0	0	0
148	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	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	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	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	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	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
149	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	U	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	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	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	U	0
	о С	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	
	0	0		0					0		0	0	0	0		0		0		0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0	U	0
150	0	0		0					0		0	0	0	0		0		0		0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0	U	0
150	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	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	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	0
	4 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	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	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	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	0	0	0
1	~						_								· ·	~						5	5					~	0		5	_			· ·		5	~	5	-

[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.)
- 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.

1.1			
		User	Warning of troubles which can be recovered by the user. (Paper jam, consumable part life expiration, etc.)
	Class 1	Service	Warning of troubles which can be recovered only by a serviceman. (Motor trouble, maintenance, etc.)
		Others	-
		Warning	Warning to the user, not a machine trouble (Prelimi- nary warning of life expiration of a consumable part, etc.)
	Class 2	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

							Operat	able mo	de			
Troub	le content	Judg- ment block	Trouble code	Copy scan (including interrup- tion)	Scan (Push)	Scan (Pull)	Scan- To HDD	Print	List print	FAX Send	FAX print	FAST Notifi- cation to host
FAX board trou- ble	 FAX board breakdown 		F6 (00, 01, 04, 21, 30, 97, 98)	0	0	0	0	0	0	△1	△1	∆1
	 SD card break- down 		E7 (07)	х	х	х	х	х	х	х	х	Х
HDD trouble	- HDD breakdown		E7 (03)	Х	Х	Х	Х	Х	Х	Х	Х	Х
	- HDD-ASIC breakdown		E7 (04)	х	х	х	х	х	Х	х	Х	Х
Scanner commu- nication trouble	 SCU communi- cation error 		A0 (02) E7 (80)	х	х	х	х	0	0	х	0	0
Printer port sys- tem trouble	 Printer port sys- tem trouble 		F9 (91)	0	х	х	0	х	\bigtriangleup	0	0	0
Backup battery voltage fall trou- ble	 Backup battery voltage fall 		U1 (01)	х	х	х	х	х	х	x	х	о
	- External serial I/ F communica- tion error (RIC)		U7 (50, 51)	х	х	х	x	х	х	х	х	0
	 Memory error (included not installed the expansion RAM) 		U2 (00, 05, 10, 11, 24, 40, 41, 42)	х	х	x	х	x	х	x	х	△15
Operation dis- able trouble 2	 Connection trouble (Model data discrepancy) (MFPC detection) 	ICU	A0 (10, 11, 15, 20) E7 (60, 61, 65)	x	х	x	x	x	х	x	х	×
	 Serial number data error 		U2 (30)	х	х	х	х	х	х	х	Х	×
	 HDD registra- tion data check sum error 		U2 (50)	х	х	х	x	х	х	х	х	О
Operation dis-	 Memory check error when boot- ing 		E7 (95, 96)	х	х	х	x	х	х	х	х	О
able trouble 3	 Image memory trouble, decode error 		E7 (01, 49, 91, 92, 93, 94)	х	х	х	х	х	х	х	х	о
Operation dis- able trouble 4	 Personal coun- ter connection trouble 		PC (00)	х	х	х	x	х	х	х	х	0
Power controller trouble	 Power controller error 		L8 (20)	х	х	Х	х	х	Х	х	Х	0
Special function trouble	 Special function trouble 		U2 (60)	0	0	0	0	0	0	0	0	0

							Operat	able mo	de			
Troub	le content	Judg- ment block	Trouble code	Copy scan (including interrup- tion)	Scan (Push)	Scan (Pull)	Scan- To HDD	Print	List print	FAX Send	FAX print	FAST Notifi- cation to host
Laser trouble	- LSU breakdown		E7 (20, 28, 29) L6 (10)	х	х	х	х	х	X *10	х	х	0
Engine trouble 1	 Connection trou- ble (Model data discrepancy) (PCU detection) 		A0 (21) E7 (50, 55)	х	х	x	х	х	х	х	х	х
Engine trouble 2	- PCU troubles (motor, fusing, etc.)	PCU	$\begin{array}{c} C1 \ (10) \\ F2 \ (22, 40, 64, \\ 70, 74, 91) \\ H2 \ (00, 02, \\ 03) \\ H3 \ (00, 02) \\ H4 \ (00) \\ H5 \ (01) \\ H7 \ (10) \\ L4 \ (02, 03, 04, \\ 06, 17, 32, 34, \\ 35, 40, 44, 47) \\ L8 \ (02) \\ U2 \ (90, 91) \end{array}$	x	x	x	X	х	X *10	x	x	0
Process system trouble	 LSU/Process system break- down 		E7 (21, 22, 23) F2 (23, 24, 25, 41, 42, 43, 65, 66, 67, 71, 72, 73, 75, 76, 77, 92, 93, 94)	X *19	X *19	X *19	X *19	X *19	X *10 *19	X *19	X *19	0
Paper feed tray 2 trouble	 Paper feed tray 2 breakdown 		F3 (22)	∆3	0	0	0	∆3	∆3 *10	0	∆3	0
Paper feed tray other troubles	 Paper feed tray other breakdown 		U6 (10)	∆11	0	0	0	△11	∆11 *10	0	△11	0
Other troubles	- Other troubles		EE (EC, EL, EU)	0	0	0	0	0	0	0	0	0
Process control trouble	 Process control breakdown (PCU detection) 		F2 (39, 49, 50, 51, 58, 78)	0 *12	0	0	0	0	0	0	0	0
Operation dis- able trouble	 Connection trou- ble (Model data discrepancy) (SCU detection) 		A0 (22)	х	х	x	х	х	х	х	х	х
SCU CPT ASIC trouble	 SCU CPT ASIC error 		UC (02)	∆9	∆9	∆9	∆9	0	0	∆9	0	0
SCU ASIC trou- ble (SCU detec- tion)	 SCU ASIC error (SCU detection) 	8011	UC (20)	х	х	х	х	0	0	х	0	0
Scanner trouble	 SCU EEPROM error 	300	U2 (80, 81)	х	х	х	х	0	0	х	0	0
Scanner trouble 2	 Scanner section breakdown (mir- ror motor, lens, copy lamp) 		L1 (00) L3 (00)	х	х	x	х	0	0	х	0	0
CCD trouble	 CCD break- down (shading, etc.) 		E7 (10, 11, 14)	х	х	x	х	0	0	х	0	О

Error where only history data are saved

						Operata	ble moo	de			
Trouble content	Judg- ment block	Trouble code	Copy scan (including interrup- tion)	Scan (Push)	Scan (Pull)	Scan- To HDD	Print	List print	FAX Send	FAX print	FAST Notifi- cation to host
Error history	PCU	F2 (45)	0	0	0	0	0	0	0	0	0

O: Operation enabled X: Operation disabled

 \bigtriangleup 1: The operation is enabled in a line other than the trouble line.

riangle3: When detected during other than a job, the operation is enabled with a tray other than the trouble tray.

riangle9: When detected during other than a job, the operation is enabled in the black and white mode.

*10: Since communication is enabled, reception can be transferred.

riangle11: When detected during other than a job, the operation is enabled in other than the DESK and the LCC.

*12: A trouble message is displayed. (Example: Ready to copy. F2 trouble)

 \triangle 15: FAST notification function (When in U2-22, trouble notification cannot be made. If there is no abnormality in the FAX software or the FAST data in U2-23, trouble notification can be made.)

*19: When the color mode is set to disable in the "Color mode disable setting" of the system setting, the operation is enabled in the black and white mode.

(2) Trouble detection sequence and trouble cancel sequence when turning on the power



The process has priority when the power is turned ON with the MFP.

When booting, two or more troubles in the list below may be detected. In this case, the trouble code of higher priority is displayed.

Process sequence	Error	code	Content
		60	Watermark check error
		50	HDD user authentication data check sum error
F 11	U2	30	MFPC PWB and PCU PWB manufacturing No. data inconsistency
First (Low priority)		24	User authentication counter check sum error
(Low phonty)		10	User authentication index check sum error
↑	40	15	Incompatible DSK BOOT and program firmware
	AU	20	Conflict firmware and EEPROM data version (MFP)
Ļ	112	11	MFPC PWB EEPROM counter check sum error
11	02	00	MFP EEPROM read/write error
Last (High priority)	F 7	96	MFPC PWB DRAM memory check error (MFPC PWB)
(riigii priority)	E/	95	SoC DRAM memory check error (PRINTER section)
	U1	01	Battery trouble
	E7	60	Combination error between PWB and firmware (MFPC PWB detection)

F. Error code list

Trouble								
CO	de	Trouble content	Trouble	Mechanism	Option	Electricity	FAX	Supply
wain code	Sub		Gerection					
A0	01	PCU ROM error	MFP			0		
_	02	SCU ROM error	MFP			0		
	10	Color profile error	MFP			0		
	15	Incompatible DSK BOOT and program firmware	MFP			0		
	20	Conflict firmware and EEPROM data version (MFP)	MFP			0		
	21	Conflict firmware and EEPROM data version (PCU)	PCU			0		
	22	Conflict firmware and EEPROM data version (SCU)	PCU			0		
C1	10	Main charger trouble	PCU			0		
E7	01	MFP image data error	MFP			0		
	03	HDD trouble	MFP			0		
	04	HDD-ASIC error	MFP			0		
	07	SD card error	MFP			0		
	10	Shading error (Black correction)	SCU			0		
	11	Shading error (White correction)	SCU			0		
	14	CCD-ASIC error	SCU			0		
	20	LSU BD(KC) detection error / LSU LD deform error (K)	PCU			0		
	21	LSU LD deform error (C)	PCU			0		
	22	LSU LD deform error (M)	PCU			0		
	23	LSU BD(MY) detection error / LSU LD deform error (Y)	PCU			0		
	28	LSU - PCU communication error	PCU			0		
	29	LSU ASIC frequency error	PCU			0		
	49	Water Mark data error	MFP			0		
	50	Combination error between PWB and firmware (PCU PWB detection)	PCU			0		
	55	PCU PWB information sum error	PCU			0		
	60	Combination error between PWB and firmware (MFPC PWB detection)	MFP			0		
	61	Combination error between the MFPC PWB and the PCU PWB	MFP			0		
	05	(MFPC PWB detection)						
	65	MEP EEPROM sum check error(26/31cpm machine)	MEP			0		
	80	MFP - SCU PWB communication error	MEP			0		
	90	MFP - PCU PWB communication error	MEP			0		
	91	FAX reception image data error	MEP			0	0	
	92	Copy image data error	MED			0		
	93	Copy, image send, FAX, filing, print image data process error	MED			0		
	94	Image life data process error (when importing life data)				0		
	95	SOC DRAW memory check error	MED			0		
	90	Automatia tanan danaity adjustment error				0		
EE	EU	Automatic toner density adjustment error (Over toner)	PCU			0		
		Automatic toner density adjustment error (Under toner)	PCU			0		
E2	22		PCU			0		0
ΓZ	22	Discharge lamp trouble (K)	PCU					0
	23	Discharge lamp trouble (C)	PCU					0
	24	Discharge lamp trouble (M)	PCU					0
	20	Power thermietor trouble	PCU					0
	30	Temperature and humidity sensor (Ambient temperature detection) trouble	PCU					0
	40	Toner density sensor trouble (K)	PCU					0
	-+U //1	Toner density sensor trouble (IX)	PCU					0
	42	Toner density sensor trouble (0)	PCU					0
	12 //2	Toner density sensor trouble (W)	PCU					0
	-+J //5	Color image density sensor trouble	PCU					0
	47	Ozone duct thermistor trouble	PCU					0
	47		PCU					0
		K drum phase sensor trouble	PCU					0
	50	CL drum phase sensor trouble	PCU					0
	58	Temperature/humidity sensor trouble (HUD_M/TH_M)	PCU					0
	64	Toner supply operation trouble (K)	PCU					0
	65	Toner supply operation trouble (r)	PCU					0
	66	Toper supply operation trouble (0)	PCU					0
	67	Toner supply operation trouble (W)	PCU					0
	70	Improper toner cartridge detection (K)	PCU					0
	71	Improper toner cartridge detection (C)	PCU					0
	72	Improper toner cartridge detection (0)	PCU					0
	73	Improper toner cartridge detection (W)	PCU					0
	74	Toner cartridge CRUM error (K)	PCU					0
	75	Toner cartridge CRUM error (C)	PCU					0
				I	I		·	

Trouble								
co Main	de Sub	Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
code	code		5.011					
F2	76	Toner cartridge CRUM error (M)	PCU					0
	78	Registration image density sensor trouble	PCU					0
	91	High density process control high voltage error (K)	PCU					0
	92	High density process control high voltage error (C)	PCU					0
	93	High density process control high voltage error (M)	PCU					0
	94	High density process control high voltage error (Y)	PCU					0
F3	22	Paper feed tray 2 lift operation trouble	PCU	0				
F6	00	MFPC PWB - FAX communication trouble	MFP				0	
	01	FAX MAIN PWB EEPROM read/write error	FAX				0	
	04	FAX MODEM operation trouble	FAX				0	
	21	Improper combination of TEL/LIU PWB and FAX soft switch	MFP				0	
	30	FAX 1-chip microprocessor access error (FAX detection)	MFP				0	
	97	Incompatibility between FAX control PWB and the main machine	MFP				0	
	98	Incompatibility between the FAX MAIN PWB destination and the main machine destination	MFP				0	
F9	91	Initial communication sequence failure (SoC)	MFP					
H2	00	Thermistor open trouble (TH_UM_AD2)	PCU	0				
	02	Thermistor open trouble (TH_US)	PCU	0				
	03	Thermistor open trouble (TH_UM_CS)	PCU	0				
H3	00	Fusing section high temperature trouble (TH_UM_CS)	PCU	0				
114	02	Fusing section high temperature trouble (TH_US)	PCU	0				
H4	00	Fusing section low temperature trouble (TH_UM_CS)	PCU	0				
	10	5 times continuous PODT not-reach jam	PCU	0				
	00	Scapper feed trouble	SCU	0				
13	00	Scanner return trouble	SCU	0				
14	02	Paper feed motor trouble	PCU	0		0		
L-7	02	Fusing motor trouble	PCU			0		
	04	Developing motor trouble (BLACK)	PCU			0		
	06	Transfer unit lift trouble	PCU			0		
	17	Drum motor lock	PCU			0		
	32	Power source cooling fan trouble	PCU			0		
	34	LSU cooling fan trouble	PCU			0		
	35	Fusing cooling fan trouble	PCU			0		
	40	Ozone fan motor 1 trouble	PCU			0		
	44	Power source cooling fan 2 trouble	PCU			0		
	47	Power source cooling fan 3 trouble	PCU			0		
L6	10	Polygon motor trouble	PCU			0		
L8	02	Full wave signal error	PCU			0		
	20	Communication error of MFPC PWB/LSU mother board	MFP			0		
PC	-	Personal counter not detected	MFP		0			
01	01	Battery trouble	MEP			0		
02	00	MFP EEPROM read/write error	MED			0		
	05	Erroneous detection of account management data / HDD internal authenti-	MFP			0		
	10	Callon DB table end	MED			0		
	10	MEPC PWB SEARING user addrenication index check sum error	MED			0		
	24	MEPC PWB SRAM memory user authentication counter check sum error	MEP			0		
	30	MEPC PWB and PCI PWB manufacturing No. data inconsistency	MFP			0		
	40	SD card system storage data area error	MFP			0		
	41	HDD system storage data area error	MFP			0		
	42	Machine adjustment data (system storage data area) error	MFP			0		
	50	HDD user authentication data check sum error	MFP			0		
	60	Watermark check error	MFP			0		
	80	SCU PWB EEPROM read/write error	SCU			0		
	81	SCU PWB EEPROM check sum error	SCU			0		
	90	PCU PWB EEPROM read/write error	PCU			0		
	91	PCU PWB EEPROM check sum error	PCU			0		
U6	10	Desk paper feed unit paper transport motor trouble	PCU		0			
U7	50	MFPC PWB - Vendor machine communication error	MFP			0		
	51	Vendor machine error	MFP			0		
UC	02	CPT - ASIC error	SCU			0		
	20	DOCC ASIC error	SCU			0		

G. Details of error codes and countermeasures

A0-01 PCU ROM error

Trouble content	
Detail	MFP
Cause	The firmware version-up is not completed properly by interruption of the power during the version-up operation, etc. PCU PWB trouble.
Check & Rem- edy	Use SIM49-1 to perform the firmware version- up procedure again. Replace the PCU PWB.

A0-02 SCU ROM error

Trouble content	
Detail	MFP
Cause	The firmware version-up is not completed properly by interruption of the power during the version-up operation, etc. SCU PWB trouble.
Check & Rem- edy	Use SIM49-1 to perform the firmware version- up procedure again. Replace the MFPC PWB.

A0-10 Color profile error

Trouble content	Color profile error
Detail	MFP
Cause	The content of the color profile is abnormal. Combination error between the MFPC PWB firmware and the color profile
Check & Rem-	Upgrade the firmware collectively.
edy	Replace the MFPC PWB.

A0-15 Incompatible DSK BOOT and program firmware

Trouble content	
Detail	MFP
Cause	Installation of the normal firmware was per-
	formed with a security kit enable.
Check & Rem-	Stop installation of the normal firmware.
edv	

A0-20 Conflict firmware and EEPROM data version (MFP)

Trouble content	
Detail	MFP
Cause	Inconsistency between the MFP firmware ver-
	sion and the EEPROM data version.
Check & Rem-	Check the combination of the firmware.
edv	

A0-21 Conflict firmware and EEPROM data version (PCU)

Trouble content	
Detail	PCU
Cause	Inconsistency between the PCU firmware version and the EEPROM data version.
Check & Rem- edv	Check the combination of the firmware.

A0-22 Conflict firmware and EEPROM data version (SCU)

Trouble content	
Detail	SCU
Cause	Inconsistency between the SCU firmware ver- sion and the EEPROM data version.
Check & Rem- edy	Check the combination of the firmware.

C1-10 Main charger trouble

Trouble content	
Detail	PCU
Cause	The main charger unit is not installed properly. There is an abnormality in the main charger unit. The developer unit is not installed properly. There is an abnormality in the developer unit. Disconnection of the high voltage MC PWB connector. Breakage of the high voltage harness. High voltage MC PWB trouble. PCU PWB trouble.
Check & Rem- edy	Check the output of the main charger with SIM8-2. Check the output of the developing bias with SIM8-1. Check disconnection of the main charger./ Replace. Check disconnection of the developer unit./ Replace. Check disconnection of the high voltage MC PWB connector./Replace. Replace the high voltage PWB. Replace the PCU PWB.

E7-01 MFP image data error

Trouble content	
Detail	MFP
Cause	Image data transfer error in the MFPC PWB. MFPC PWB trouble.
Check & Rem- edy	Check connection of the connector and the harness of the MFPC PWB. Check or replace the MFPC PWB.

E7-03 HDD trouble

Trouble content	
Detail	MFP
Cause	Connector, harness connection trouble in the MFPC PWB and HDD. HDD (error file management area) data abnor- mality (FAT breakage). MFPC PWB trouble.
Check & Rem- edy	Check connection of the connector and the harness of the MFPC PWB and HDD. Use SIM62-2, 3 to check read/write operations of the HDD. Replace the HDD. Check or replace the MFPC PWB.

E7-04 HDD-ASIC error

Trouble content	
Detail	MFP
Cause	HDD-ASIC trouble. (MFPC PWB trouble.) An error occurs in the HDD-ASIC self test when booting.
Check & Rem- edy	Check or replace the MFPC PWB.

E7-07 SD card error

-	
Trouble content	
Detail	MFP
Cause	SD card trouble or contact error
	MFPC PWB trouble.
Check & Rem-	Replace the SD card.
edy	Check the SD card socket.
	Replace the MFPC PWB.

E7-10 Shading error (Black correction)

Trouble content	
Detail	SCU
Cause	Abnormality in the CCD black scan level when the scanner lamp is turned OFF.
	unit. CCD unit abnormality. SCN cnt PWB abnormality.
Check & Rem- edy	Check connection of the harness to the CCD unit. Check the CCD unit. Check the SCN cnt PWB.

E7-11 Shading error (White correction)

Trouble content	
Detail	SCU
Cause	Abnormality in the CCD white reference plate scan level when the scanner lamp is turned ON.
	Improper installation of the harness to the CCD unit.
	Dirt on the mirror, lens, and the reference white plate.
	Scanner lamp lighting trouble.
	Scanner lamp drive PWB trouble
	CCD unit abnormality.
	SCN cnt PWB abnormality.
Check & Rem- edv	Check connection of the harness to the CCD unit.
	Check connection of the harness to the scan- ner lamp unit.
	Check or replace the scanner lamp.
	Check or replace the scanner lamp drive PWB.
	Clean or replace the mirror, the lens, and the
	reference white board.
	Check or replace the CCD unit.
	Check or replace the SCN cnt PWB.

E7-14 CCD-ASIC error

Trouble content	
Detail	SCU
Cause	SCU PWB trouble.
	Improper Installation of the harness to the
	CCD unit.
	CCD unit abnormality.
	SCN cnt PWB abnormality.
Check & Rem-	Check the SCU PWB.
edy	Replace the SCU PWB.
	Check connection of the harness to the CCD
	unit.
	Check or replace the CCD unit.
	Check or replace the SCN cnt PWB.

E7-20 LSU BD(KC) detection error / LSU LD deform error (K)

Trouble content	
Detail	PCU
Cause	Optical axis shift. Reduced laser power, lighting error, laser diode trouble. BD(KC) PWB trouble. Harness and connector trouble between the LD/BD(KC) PWB and the LSUcnt PWB.
Check & Rem- edy	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)

Trouble content	
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the LD PWB and the LSUcnt PWB.
Check & Rem- edy	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)

Trouble content	
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the LD PWB and the LSUcnt PWB.
Check & Rem- edy	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)

Trouble content	
Detail	PCU
Cause	Optical axis shift. Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the LD/BD(MY) PWB and the LSUcnt PWB.
Check & Rem- edy	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 - PCU communication error

Trouble content	
Detail	PCU
Cause	Communication error between the CPU in the PCU PWB and the LSU control ASIC. Improper connection of the communication connector between the PCU PWB and MFPC PWB. Improper connection of the communication connector between the MFPC PWB and the LSUcnt PWB. Harness trouble between the PCU PWB and MFPC PWB. Harness trouble between the MFPC PWB and LSUcnt PWB. PCU PWB trouble. LSUcnt PWB trouble. MFPC PWB trouble.
Check & Rem- edy	Check connection of the connector and the harness between the PCU PWB and the MFPC PWB. Check connection of the connector and the harness between the MFPC PWB and the LSUcnt PWB Replace the PCU PWB. Replace the LSU. Replace the MFPC PWB.

E7-29 LSU ASIC frequency error

Trouble content	
Detail	PCU
Cause	Oscillation abnormality of the external oscilla- tor and the internal oscillating circuit used in the LSU ASIC. LSU ASIC abnormality on the LSUcnt PWB. Frequency of the image transfer clock trouble from the MFPC PWB
Check & Rem- edy	Replace the LSU. Replace the MFPC PWB. Check connection of the connector and the harness between the MFPC PWB and the LSUcnt PWB.

E7-49 Water Mark data error

Trouble content	
Detail	MFP
Cause	Watermark data trouble.
	HDD trouble.
Check & Rem-	Use SIM49-5 to upload the watermark data.
edy	Replace the HDD.

E7-50 Combination error between PWB and firmware (PCU PWB detection)

Trouble content	
Detail	PCU
Cause	A PWB/firmware/LSU which is not compatible with the machine specifications is detected. PCU PWB trouble LSU trouble
Check & Rem- edy	Check the kind and the version of the firm- ware. Check or replace the LSU. Check or replace the PCU PWB.

E7-55 PCU PWB information sum error

Trouble content	PCU EEPROM PWB information sum error
Detail	PCU
Cause	PCU EEPROM sum check error.
	PCU EEPROM trouble.
	PCU EEPROM contact trouble.
Check & Rem-	Replace the PCU PWB.
edy	Replace the PCU EEPROM.

E7-60 Combination error between PWB and firmware (MFPC PWB detection)

Trouble content	
Detail	MFP
Cause	A PWB/firmware which is not compatible with the machine specifications is detected in the MFPC PWB. MFPC PWB trouble.
Check & Rem- edy	Check the kind and the version of the firm- ware. Check or replace the MFPC PWB.

E7-61 Combination error between the MFPC PWB and the PCU PWB (MFPC PWB detection)

Trouble content	
Detail	MFP
Cause	Combination error between the MFPC PWB and the PCU PWB. MFPC PWB trouble. PCU PWB trouble.
Check & Rem- edy	Check the combination between the MFPC PWB and the PCU PWB. Replace the MFPC PWB. Replace the PCU PWB.

E7-65 MFP EEPROM sum check error

Trouble content	
Detail	MFP
Cause	MFPC PWB EEPROM trouble.
	MFPC PWB EEPROM contact trouble.
Check & Rem-	Replace the MFPC PWB.
edy	Replace the MFPC PWB EEPROM.

E7-80 MFP - SCU PWB communication error

Trouble content	
Detail	MFP
Cause	SCN cnt PWB - MFPC PWB connection trouble.
	SCN cnt PWB trouble.
	MFPC PWB trouble.
Check & Rem-	Check connection of the SCN cnt PWB and
edy	the MFPC PWB.
	Check the ground.
	Replace the SCU PWB.
	Replace the MFPC PWB.

E7-90 MFP - PCU PWB communication error

	-
Trouble content	
Detail	MFP
Cause	PCU PWB - MFPC PWB connection trouble. PCU PWB trouble. MFPC PWB trouble.
Check & Rem- edy	Check connection of the PCU PWB and the MFPC PWB. Check the ground. Replace the PCU PWB. Replace the MFPC PWB.

E7-91 FAX reception image data error

Trouble content	An error of FAX reception image data process
	OCCURS.
Detail	MFP
Cause	Image data process abnormality
	HDD trouble
	SD card trouble or contact error
	Image compression data corruption
	MFPC PWB trouble
	FAX MAIN PWB trouble
Check & Rem-	Use SIM60-01 to check the read/write opera-
edy	tions of the memory.
	Replace the HDD.
	Replace or check installation of the SD card.
	Replace the MFPC PWB.
	Replace the FAX MAIN PWB.

E7-92 Copy image data error

Trouble content	An error of copy image data process occurs. (In Non ERDH)
Detail	MFP
Cause	Image data process abnormality HDD trouble Image compression data corruption MFPC PWB trouble DRAM memory trouble or contact error
Check & Rem- edy	Use SIM60-01 to check the read/write opera- tions of the memory. Replace the HDD. Replace the MFPC PWB.

E7-93 Copy, image send, FAX, filing, print image data process error

Trouble content	An image data process error occurs in the fol-
	lowing operation mode:
	- Copy (in ERDH)
	- Copy composing system function (Water
	mark)
	 When in image send
	 When filing documents
	 When displaying the preview
	 When printing with the GDI/PCL printer
	 Copy composing system function (Water
	mark)
Detail	MFP
Cause	Image data process abnormality
	HDD trouble
	Image compression data corruption
	MFPC PWB trouble
	DIMM memory trouble or contact error
Check & Rem-	Use SIM60-01 to check the read/write opera-
edy	tions of the memory.
	Replace the HDD.
	Replace the MFPC PWB.
	Replace or check installation of the DIMM
	memory.

E7-94 Image file data process error (when importing file data)

Trouble content	File image process error (backup restore error) when importing filing data
Detail	MFP
Cause	Image data process abnormality HDD trouble Image compression data corruption MFPC PWB trouble DIMM memory trouble or contact error
Check & Rem- edy	Use SIM60-01 to check the read/write opera- tions of the memory. Replace the HDD. Replace the MFPC PWB. Replace or check installation of the DIMM memory.

E7-95 SoC DRAM memory check error

Trouble content	Soc DRAM memory access trouble
Detail	MFP
Cause	Memory data corruption occurs
	Memory device trouble or contact error
Check & Rem-	Use SIM60-1 to check the read/write opera-
edy	tions of the memory.
	Replace MFP PWB

E7-96 MFPC PWB memory check error

Trouble content	MFPC PWB memory access trouble
Detail	MFP
Cause	Memory data curruption occure
	Memory device trouble or contact error
Check & Rem-	Use SIM60-1 to check the read/write opera-
edy	tions of the memory.
	Replace MFP PWB

EE-EC Automatic toner density adjustment error

Trouble content	The sampling level in the automatic toner den- sity adjustment is outside of 128 +/- 10.
Detail	PCU
Cause	Toner density sensor trouble. Developing unit trouble. PCU PWB trouble.
Check & Rem- edy	Replace the toner density sensor. Replace the developing unit. Replace the PCU PWB.

EE-EL Automatic toner density adjustment error (Over toner)

Trouble content	The sampling level in the automatic toner den- sity adjustment is 76 or less or the control volt- age is 208 or above.
Detail	PCU
Cause	Toner density sensor trouble. Developing unit trouble. PCU PWB trouble.
Check & Rem- edy	Replace the toner density sensor. Replace the developing unit. Replace the PCU PWB.

EE-EU Automatic toner density adjustment error (Under toner)

Trouble content	The sampling level in the automatic toner den- sity adjustment is 178 or above or the control voltage is 51 or less.
Detail	PCU
Cause	Toner density sensor trouble. Developing unit trouble. PCU PWB trouble.
Check & Rem- edy	Replace the toner density sensor. Replace the developing unit. Replace the PCU PWB.

F2-22 Discharge lamp trouble (K)

Trouble content	The lamp is kept open for 1 sec from turning on the discharge lamp.
Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (K) and the PCU PWB. Discharge lamp PWB (K) trouble. PCU PWB trouble.
Check & Rem- edy	Replace the discharge lamp PWB (K). Check the harness and the connector. Replace the PCU PWB.

F2-23 Discharge lamp trouble (C)

Trouble content	The lamp is kept open for 1 sec from turning on the discharge lamp.
Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (C) and the PCU PWB. Discharge lamp PWB (C) trouble. PCU PWB trouble.
Check & Rem- edy	Replace the discharge lamp PWB (C). Check the harness and the connector. Replace the PCU PWB.

F2-24 Discharge lamp trouble (M)

Trouble content	The lamp is kept open for 1 sec from turning on the discharge lamp.
Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (M) and the PCU PWB. Discharge lamp PWB (M) trouble. PCU PWB trouble.
Check & Rem- edy	Replace the discharge lamp PWB (M). Check the harness and the connector. Replace the PCU PWB.

F2-25 Discharge lamp trouble (Y)

Trouble content	The lamp is kept open for 1 sec from turning on the discharge lamp.
Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (Y) and the PCU PWB. Discharge lamp PWB (Y) trouble. PCU PWB trouble.
Check & Rem- edy	Replace the discharge lamp PWB (Y). Check the harness and the connector. Replace the PCU PWB.

F2-30 Power thermistor trouble

Trouble content	
Detail	PCU
Cause	Power thermistor trouble. Power thermistor harness connection trouble. PCU PWB trouble.
Check & Rem- edy	Check connection of the process thermistor harness and the connector. Replace the PCU PWB.

F2-39 Process thermistor trouble

Trouble content	
Detail	PCU
Cause	Process thermistor trouble.
	Process thermistor harness connection trou-
	ble.
	PCU PWB trouble.
Check & Rem-	Replace the process thermistor.
edy	Check connection of the process thermistor
	harness and the connector.
	Replace the PCU PWB.

F2-40 o

oner density sensor trouble (K)

Trouble content	
Detail	PCU
Cause	Toner density sensor output abnormality. Sensor connector and harness connection trouble. Developing unit trouble. PCU PWB trouble.
Check & Rem- edy	Replace the toner density sensor. Check connection of the sensor connector and the harness. Replace the developing unit. Replace the PCU PWB.

F2-41 Toner density sensor trouble (C)

Trouble content	
Detail	PCU
Cause	Toner density sensor output abnormality. Sensor connector and harness connection trouble. Developing unit trouble. PCU PWB trouble.
Check & Rem- edy	Replace the toner density sensor. Check connection of the sensor connector and the harness. Replace the developing unit. Replace the PCU PWB.

F2-42 Toner density sensor trouble

Trouble content	
Detail	PCU
Cause	Toner density sensor output abnormality. Sensor connector and harness connection trouble. Developing unit trouble. PCU PWB trouble.
Check & Rem- edy	Replace the toner density sensor. Check connection of the sensor connector and the harness. Replace the developing unit. Replace the PCU PWB.

F2-43 Toner density sensor trouble (Y)

Trouble content	
Detail	PCU
Cause	Toner density sensor output abnormality. Sensor connector and harness connection trouble. Developing unit trouble. PCU PWB trouble.
Check & Rem- edy	Replace the toner density sensor. Check connection of the sensor connector and the harness. Replace the developing unit. Replace the PCU PWB.

F2-45 Color image density sensor trouble

Trouble content	
Detail	PCU
Cause	Color image density sensor sensitivity adjust- ment trouble. Color image density sensor trouble. Sensor harness and connector connection trouble. Image density sensor dirt. Transfer unit lift operation trouble PCU PWB trouble.
Check & Rem- edy	Replace the color image density sensor. Check connection of the sensor harness and the connector. Clean the image density sensor. Repair the transfer unit lift mechanism. Replace the PCU PWB. Use SIM44-2 to perform the sensitivity adjust- ment of the process control sensor.

F2-47 Ozone duct thermistor trouble

Trouble content	
Detail	PCU
Cause	Ozone duct thermistor trouble. Improper connection of the communication connector between the Ozone duct and the MFPC PWB. MFPC PWB trouble.
Check & Rem- edy	Check connection of the connector and the harness between the Ozone duct and the MFPC PWB. Replace the MFPC PWB

F2-49 LSU thermistor trouble

Trouble content	
Detail	PCU
Cause	The LSU temperature is outside of -28 degrees C - 78 degrees C. LSU thermistor trouble. Improper connection of the communication connector between the PCU PWB and the MFPC PWB. Improper connection of the communication connector between the MFPC PWB and the LSUcnt PWB. Harness trouble between the PCU PWB and MFPC PWB. Harness trouble between the MFPC PWB and LSUcnt PWB. Harness and connector trouble between the LD PWB and the LSUcnt PWB. PCU PWB trouble. LSUcnt PWB trouble. MFPC PWB trouble.
Check & Rem- edy	Check connection of the connector and the harness between the PCU PWB and the MFPC PWB. Check connection of the connector and the harness between the MFPC PWB and the LSUcnt PWB. Check the PWB and connection of the harness in the LSU. Replace the PCU PWB. Replace the MFPC PWB Replace the LSU.

F2-50 K drum phase sensor trouble

Trouble content	
Detail	PCU
Cause	Drum phase sensor trouble. Drum phase sensor harness and connector connection trouble
	Drum drive section trouble. PCU PWB trouble.
Check & Rem- edy	Use SIM30-1 to check the operation of "DHPD_K".
	Replace the drum phase sensor. Check connection of the drum phase sensor harness and the connector. Repair the drum drive section. Replace the PCU PWB.

F2-51 CL drum phase sensor trouble

Trouble content	
Detail	PCU
Cause	Drum phase sensor trouble.
	Drum phase sensor harness and connector
	connection trouble
	Drum drive section trouble.
	PCU PWB trouble.
Check & Rem-	Use SIM30-1 to check the operation of
edy	"DHPD_CL".
	Replace the drum phase sensor.
	Check connection of the drum phase sensor
	harness and the connector.
	Repair the drum drive section.
	Replace the PCU PWB.

F2-58 Temperature/humidity sensor trouble (HUD_M/TH_M)

Trouble content	
Detail	PCU
Cause	Temperature/humidity sensor trouble. Temperature/humidity sensor harness and connector connection trouble MFPC PWB trouble.
Check & Rem- edy	Replace the temperature/humidity sensor. Check connection of the temperature/humidity sensor harness and the connector. Replace the MFPC PWB.

F2-64 Toner supply operation trouble (K)

Trouble content	
Detail	PCU
Cause	Toner motor trouble.
	Toner density sensor trouble.
	Connector/harness trouble.
	PCU PWB trouble.
	Toner cartridge trouble.
	Developing unit trouble.
	Toner transport pipe section trouble
Check & Rem-	Replace the toner motor.
edy	Replace the toner density sensor.
	Connector and harness check.
	Replace the PCU PWB.
	Replace the toner cartridge.
	Replace the developing unit.
	Check the toner transport pipe section.

F2-65 Toner supply operation trouble (C)

Trouble content	
Detail	PCU
Cause	Toner motor trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble.
Check & Rem- edy	Replace the toner density sensor. Connector and harness check. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit. Check the toner transport pipe section.

F2-66 Toner supply operation trouble (M)

Trouble content	
Detail	PCU
Cause	Toner motor trouble.
	Toner density sensor trouble.
	Connector/harness trouble.
	PCU PWB trouble.
	Toner cartridge trouble.
	Developing unit trouble.
	Toner transport pipe section trouble
Check & Rem-	Replace the toner motor.
edy	Replace the toner density sensor.
	Connector and harness check.
	Replace the PCU PWB.
	Replace the toner cartridge.
	Replace the developing unit.
	Check the toner transport pipe section.

F2-67 Toner supply operation trouble (Y)

Trouble content	
Detail	PCU
Cause	Toner motor trouble.
	Toner density sensor trouble.
	Connector/harness trouble.
	PCU PWB trouble.
	Toner cartridge trouble.
	Developing unit trouble.
	Toner transport pipe section trouble
Check & Rem-	Replace the toner motor.
edy	Replace the toner density sensor.
	Connector and harness check.
	Replace the PCU PWB.
	Replace the toner cartridge.
	Replace the developing unit.
	Check the toner transport pipe section.

F2-70 Improper toner cartridge detection (K)

Trouble content	
Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a differ- ent specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Rem- edy	Replace the toner cartridge. Replace the PCU PWB.

F2-71 Improper toner cartridge detection (C)

Trouble content	
Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a differ- ent specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Rem-	Replace the toner cartridge.
edy	Replace the PCU PWB.

F2-72 Improper toner cartridge detection (M)

Trouble content	
Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a differ- ent specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Rem-	Replace the toner cartridge.
edy	Replace the PCU PWB.

F2-73 Improper toner cartridge detection (Y)

Trouble content	
Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a differ- ent specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Rem- edy	Replace the toner cartridge. Replace the PCU PWB.

F2-74 Toner cartridge CRUM error (K)

Trouble content	
Detail	PCU
Cause	Toner cartridge (CRUM) trouble.
	PCU PWB trouble.
	Connector and harness trouble between PCU
	PWB and toner cartridge
Check & Rem-	Replace the toner cartridge.
edy	Replace the PCU PWB.
	Check the connector and the harness between
	the PCU PWB and the toner cartridge.

F2-75 Toner cartridge CRUM error (C)

Trouble content	
Detail	PCU
Cause	Toner cartridge (CRUM) trouble.
	PCU PWB trouble.
	Connector and harness trouble between PCU
	PWB and toner cartridge
Check & Rem-	Replace the toner cartridge.
edy	Replace the PCU PWB.
	Check the connector and the harness between
	the PCU PWB and the toner cartridge.

F2-76 Toner cartridge CRUM error (M)

Trouble content	
Detail	PCU
Cause	Toner cartridge (CRUM) trouble.
	PCU PWB trouble.
	Connector and harness trouble between PCU
	PWB and toner cartridge
Check & Rem-	Replace the toner cartridge.
edy	Replace the PCU PWB.
	Check the connector and the harness between
	the PCU PWB and the toner cartridge.

F2-77 Toner cartridge CRUM error (Y)

Trouble content	
Detail	PCU
Cause	Toner cartridge (CRUM) trouble.
	PCU PWB trouble.
	Connector and harness trouble between PCU
	PWB and toner cartridge
Check & Rem-	Replace the toner cartridge.
edy	Replace the PCU PWB.
	Check the connector and the harness between
	the PCU PWB and the toner cartridge.

F2-78 Registration image density sensor trouble (Transfer belt substrate reflection rate abnormality)

Trouble content	
Detail	PCU
Cause	Image density (registration) sensor trouble (Sensor sensitivity adjustment trouble). PCU PWB trouble. Image density (resist) sensor connector and harness connection trouble Image density (registration) sensor dirt. Transfer belt dirt, scratch.
Check & Rem- edy	Replace the image density (registration) sen- sor. Replace the PCU PWB. Check connection of the connector and the harness of the image density (registration) sensor. Clean the image density (registration) sensor. Clean or replace the transfer belt. Use SIM44-2 to perform the sensibility adjust- ment of the process control sensor.

F2-91 High density process control high voltage error (K)

Trouble content	When executing the high density process con- trol in the toner cartridge-less production pro- cess, the developing bias exceeds 500V.
Detail	PCU
Cause	-Image density sensor trouble, harness con- nection trouble between the PCU PWB and the image density sensor, dirt on the image density sen- sor, transfer belt cleaning trouble -Developing tank abnormality
Check & Rem- edy	 -Use SIM44-02 to execute the gain adjustment of the process control sensor. -When "Error" is displayed, it may be consid- ered as breakdown. Check the sensor and the harness. -When the adjustment is normally completed, check the drum surface and the belt surface. -Replace the developing tank.

F2-92 High density process control high voltage error (C)

Trouble content	When executing the high density process con- trol in the toner cartridge-less production pro- cess, the developing bias exceeds 500V.
Detail	PCU
Cause	-Image density sensor trouble, harness con- nection trouble between the PCU PWB and the image density sensor, dirt on the image density sen- sor, transfer belt cleaning trouble -Developing tank abnormality
Check & Rem- edy	 -Use SIM44-02 to execute the gain adjustment of the process control sensor. -When "Error" is displayed, it may be consid- ered as breakdown. Check the sensor and the harness. -When the adjustment is normally completed, check the drum surface and the belt surface. -Replace the developing tank.

F2-93 High density process control high voltage error (M)

Trouble content	When executing the high density process con- trol in the toner cartridge-less production pro- cess, the developing bias exceeds 500V.
Detail	PCU
Cause	-Image density sensor trouble, harness con- nection trouble between the PCU PWB and the image density sensor, dirt on the image density sen- sor, transfer belt cleaning trouble -Developing tank abnormality
Check & Rem- edy	 -Use SIM44-02 to execute the gain adjustment of the process control sensor. -When "Error" is displayed, it may be consid- ered as breakdown. Check the sensor and the harness. -When the adjustment is normally completed, check the drum surface and the belt surface. -Replace the developing tank.

F2-94 High density process control high voltage error (Y)

Trouble content	When executing the high density process con- trol in the toner cartridge-less production pro- cess, the developing bias exceeds 500V.
Detail	PCU
Cause	-Image density sensor trouble, harness con- nection trouble between the PCU PWB and the image density sensor, dirt on the image density sen- sor, transfer belt cleaning trouble -Developing tank abnormality
Check & Rem- edy	 -Use SIM44-02 to execute the gain adjustment of the process control sensor. -When "Error" is displayed, it may be consid- ered as breakdown. Check the sensor and the harness. -When the adjustment is normally completed, check the drum surface and the belt surface. -Replace the developing tank.

F3-22 Paper feed tray 2 lift operation trouble

Trouble content	LUD2 does not turn ON within the specified time.
Detail	PCU
Cause	LUD2 does not turn ON within the specified time. CLUD2 sensor trouble. Paper feed tray 2 lift unit trouble. PCU PWB trouble. Sensor harness and connector connection trouble
Check & Rem- edy	Check the harness and the connector of LUD2. Replace the lift-up unit. Replace the PCU PWB.

F6-00 MFPC PWB - FAX communication trouble

Trouble content		MFP - FAX communication establishment error / Framing / Parity / Protocol error
Section	I	MFP
Case	Cause	FAX MAIN PWB trouble.
1	Check and Rem- edy	Replace the FAX MAIN PWB.
Case 2	Cause	FAX control PWB - MFPC PWB connector and harness trouble
	Check and Rem- edy	Check the connector and the harness between the FAX MAIN PWB and the MFPC PWB.
Case 3	Cause	FAX MAIN PWB - Mother board connector and harness trouble
	Check and Rem- edy	Check the connector and the harness between the FAX MAIN PWB and the mother board.
Case 4	Cause	FAX MAIM PWB ROM trouble / ROM pin breakage
	Check and Rem- edy	Check the ROM of the FAX MAIN PWB.

F6-01 FAX MAIN PWB EEPROM read/write error

Trouble content		FAX MAIN PWB EEPROM access error (Read and write)
Section	ı	FAX
Case	Cause	FAX MAIN PWB EEPROM trouble
1	Check and Rem- edy	Check that no trouble occurs after replacement of EEPROM. Execute the memory check of SIM66-3 to insure that EEPROM can be accessed.
Case 2	Cause	FAX MAIN PWB EEPROM access circuit trou- ble
	Check and Rem- edy	Replace the FAX MAIN PWB.

F6-04 FAX MODEM operation trouble

Trouble content		FAX MAIN PWB MODEM chip operation trou-
		ble
Section	ı	FAX
Case	Cause	FAX MODEM chip operation trouble.
1	Check	Replace the FAX MAIN PWB.
	and	
	rem-	
	edy	
Case	Cause	The FAX MODEM chip cannot be accessed.
2	Check	Replace the FAX MAIN PWB.
	and	
	Rem-	
1	edv	

F6-21 Improper combination of TEL/LIU PWB and FAX soft switch

Trouble content		Incompatibility between the TEL/LIU PWB and the FAX MAIN PWB information (soft switch)
Section	1	MFP
Case 1	Cause	The destination of the TEL/LIU PWB installed is improper.
	Check and Rem- edy	Check the destination of the TEL/LIU PWB.
Case	Cause	TEL/LIU PWB trouble.
2	Check and Rem- edy	Replace the TEL/LIU PWB.

F6-30 FAX 1-chip microprocessor access error (FAX detectio

Trouble content		FAX 1-chip microprocessor access error
		(Read and write)
Section	1	MFP
Case	Cause	Program writing trouble to the 1-chip micropro-
1		cessor, or no program data written.
	Check	Use SIM66-42 to rewrite the 1-chip micropro-
	and	cessor program.
	Rem-	
	edy	
Case	Cause	FAX 1-chip microprocessor circuit trouble.
2	Check	Replace the FAX MAIN PWB.
	and	
	Rem-	
	edv	

F6-97 Incompatibility between FAX MAIN PWB and the main machine

Trouble	e content	Incompatibility between FAX MAIN PWB and the main machine
Section	1	MFP
Case 1	Cause	The FAX control PWB installed is improper. FAX MAIN PWB trouble.
	Check and Rem- edy	Install a proper FAX MAIN PWB. Replace the FAX MAIN PWB.



F6-98 Incompatibility between the FAX control PWB destination and the main machine destination

Trouble	oontont	Incompatibility between the EAX MAIN DW/P
TIOUDIE	content	incompatibility between the FAX MAIN FWD
		destination and the main machine destination
Section	ı	MFP
Case 1	Cause	Incompatibility between the destination infor- mation written into the FAX MAIN PWB EEPROM and that in the main machine (set with SIM26-6)
	Check and Rem- edy	 Check the destination of the FAX MAIN PWB. Check the destination of the machine. (SIM26-6)

F9-91 Initial communication sequence failure (SoC)

Trouble content	Initial communication sequence failure (SoC)
Detail	MFP
Cause	Reus ASIC trouble
	SoC trouble
	SoC BOOTROM trouble
	Harness connection to MFPC PWB trouble
Check & Rem-	Replace the SoC BOOTROM.
edy	Replace the MFPC PWB.

H2-00 Thermistor open trouble (TH_UM_AD2)

Trouble content	
Detail	PCU
Cause	Thermistor trouble
	PCU PWB trouble
	Thermistor connector and harness connection
	trouble
	Fusing section connector connection trouble
	AC Power trouble
	Fusing unit not installed
Check & Rem-	Use SIM44-14 to check the state of the therm-
edy	istor.
	Replace the thermistor.
	Replace the PCU PWB.
	Check connection of the thermistor connector
	and the harness.
	Check the connector in the fusing section.

H2-02 Thermistor open trouble (TH_US)

Trouble content	
Detail	PCU
Cause	Thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble Fusing section connector connection trouble AC Power trouble
	Fusing unit not installed
Check & Rem- edy	Use SIM44-14 to check the state of the therm- istor. Replace the thermistor. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Check the connector in the fusing section

H2-03 Thermistor open trouble (TH_UM_CS)

Trouble content	
Detail	PCU
Cause	Thermistor trouble
	PCU PWB trouble
	Thermistor connector and harness connection
	trouble
	Fusing section connector connection trouble
	Power unit trouble.
	Fusing unit not installed
Check & Rem-	Use SIM44-14 to check the state of the therm-
edy	istor.
	Replace the thermistor.
	Replace the PCU PWB.
	Check connection of the thermistor connector
	and the harness.
	Check the connector in the fusing section.

H3-00 Fusing section high temperature trouble (TH_UM_CS)

Trouble content	
Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble Power unit trouble. Thermistor connector and harness connection trouble
Check & Rem- edy	Use SIM44-14 to check the state of the therm- istor. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermistor. Check connection of the thermistor connector and the harness.

H3-02 Fusing section high temperature trouble (TH_US)

Trouble content	
Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble Power unit trouble. Thermistor connector and harness connection trouble
Check & Rem- edy	Use SIM44-14 to check the state of the therm- istor. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermistor. Check connection of the thermistor connector and the harness.

H4-00 Fusing section low temperature trouble (TH_UM_CS)

Trouble content	The fusing temperature does not reach the specified level within the specified time from turning ON the power relay.
Detail	PCU
Cause	Thermistor trouble. Heater lamp trouble. MFPC PWB trouble. Thermostat trouble. Connector, harness connection trouble. Power unit trouble.
Check & Rem- edy	Use SIM14 to cancel the trouble. Use SIM44-14 to check the state of the therm- istor. Use SIM5-2 to check the flashing operation of the heater lamp. Replace the thermistor. Replace the heater lamp. Replace the MFPC PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit.



Trouble content	
Detail	PCU
Cause	A fusing jam is not canceled completely. (A jam paper remains.) POD1 sensor trouble Fusing unit installation trouble POD1 sensor connector and harness connec- tion trouble PCU PWB trouble
	Fusing unit, drive section trouble
Check & Rem- edy	Replace the POD1 sensor. Check installation of the fusing unit. Replace the fusing unit.
	Check or repair the fusing drive section. Check connection of the POD1 sensor con- nector and the harness. Replace the PCU PWB. Use SIM14 to cancel the trouble.

H7-10 Recovery error from low fuser temp. (TH_UM_CS)

Trouble content	The fusing temperature does not reach the specified level within the specified time from stopping a job due to fall in the fusing temperature.
Detail	PCU
Cause	Thermistor trouble. Heater lamp trouble. MFPC PWB trouble. Thermostat trouble. Connector, harness connection trouble. Power unit trouble.
Check & Rem- edy	Replace the thermistor. Replace the heater lamp. Replace the MFPC PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Use SIM5-2 to check the flashing operation of the heater lamp.

L1-00 Scanner feed trouble

Trouble content	Scanner feed is not completed within the spec- ified time.
Detail	SCU
Cause	Scanner unit trouble.
	SCN cnt PWB trouble.
	Scanner control PWB trouble.
	Harness and connector connection trouble.
	Scanner home position sensor trouble.
	Scanner motor trouble.
Check & Rem-	Use SIM1-1 to check the scan operation.
edy	Replace the scanner unit.
	Replace the SCN cnt PWB.
	Check connection of the connectors and the
	harness.
	Replace the scanner home position sensor.
	Replace the scanner motor.

L3-00 Scanner return trouble

Trouble content	Scanner return is not completed within the
	specified time.
Detail	SCU
Cause	Scanner unit trouble
	SCU PWB trouble
	SCN control PWB trouble
	Harness and connector connection trouble
	Scanner home position sensor trouble
	Scanner motor trouble
Check & Rem-	Use SIM1-1 to check the scan operation.
edy	Replace the scanner unit.
	Replace the SCN cnt 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 speci- fied time in ON operation of the paper feed motor after warming-up or canceling a jam.
Detail	PCU
Cause	Paper feed motor trouble Paper feed motor harness and connector con- nection trouble PCU PWB trouble
Check & Rem- edy	Use SIM6-1 to check the operation of the paper feed motor. Replace the paper feed motor. Check connection of the paper feed motor har- ness and the connector. Replace the PCU PWB.

L4-03 Fusing motor trouble

Trouble content	The motor lock signal is detected during rota- tion of the fusing motor.
Detail	PCU
Cause	Fusing motor trouble Fusing motor harness and connector connec- tion trouble PCU PWB trouble
Check & Rem- edy	Use SIM6-1 to check the operation of the fus- ing motor. Replace the Fusing motor. Check connection of the fusing motor harness and the connection. Replace the PCU PWB.

L4-04 Developing motor trouble

Trouble content	The motor lock signal is detected during rota- tion of the developing motor.
Detail	PCU
Cause	Developing motor trouble Developing motor harness and connector con- nection trouble MFPC PWB trouble Developing unit trouble
Check & Rem- edy	Use SIM25-1 to check the operation of the developing motor. Replace the developing motor. Check connection of the developing motor har- ness and the connection. Replace the MFPC PWB. Replace the developing motor. Replace the developing unit.

L4-06 Transfer unit lift trouble

Trouble content	A change in the primary transfer position sen- sor cannot be detected within the specified time in lifting operation of the primary transfer unit.
Detail	PCU
Cause	Transfer unit position sensor trouble Dirt on the transfer unit position sensor. PCU PWB trouble Connection trouble of the connector and the harness. Transfer unit lift mechanism trouble Primary transfer belt unit is not installed.
Check & Rem- edy	Use SIM6-3 to check the separating operation of the transfer unit. Install the primary transfer belt unit. Replace the transfer unit position sensor. Clean the transfer unit position sensor. Replace the PCU PWB. Check connection of the connector and the harness. Repair the transfer unit lift mechanism.

L4-17 Drum motor lock trouble

Trouble content	The motor lock signal is detected during rota-
	tion of the drum motor.
Detail	PCU
Cause	Drum motor trouble
	Harness connection trouble between the
	MFPC PWB and the drum motor
	Control circuit trouble
Check & Rem-	Use SIM25-01 to check the operation of the
edy	drum motor.
	Check the harness and the connector between
	the MFPC PWB and the developing motor.
	Replace the MFPC PWB.
	Replace the drum motor.

L4-32 Power source cooling fan trouble

Trouble content	The fan operation signal is not detected.
Detail	PCU
Cause	Power cooling fan trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Rem- edy	Use SIM6-2 to check that the fan is actually rotating. Replace the power cooling fan. Replace the PCU PWB. Check connection of the connectors and the harness.

L4-35 Fusing cooling fan trouble

Trouble content	The fan operation signal is not detected.
Detail	PCU
Cause	Fusing cooling fan trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Rem- edy	Use SIM6-2 to check that the fan is actually rotating. Replace the fusing cooling fan. Replace the PCU PWB. Check connection of the connector and the harness.

L4-40 Ozone fan motor 1 trouble

Trouble content	The lock signal is detected during rotation of
	the ozone fan motor 1.
Detail	PCU
Cause	Harness/connector trouble between the PCU
	PWB and the fan motor.
	PCU PWB trouble.
	Fan motor trouble.
	The fan does not rotate because of the other
	trouble.
	(No power supply to the fan motor)
Check & Rem-	Use SIM6-2 to check the operation of the fan
edy	motor.
	Check the harness and the connector between
	the PCU PWB and the fan motor.
	Replace the PCU PWB.
	Replace the fan motor.

L4-44 Power source cooling fan 2 trouble

Trouble content	The lock signal is detected during rotation of the power source cooling fan 2.
Detail	PCU
Cause	Harness/connector trouble between the PCU PWB and the fan motor. PCU PWB trouble. Fan motor trouble. The fan does not rotate because of the other trouble. (No power supply to the fan motor)
Check & Rem- edy	Use SIM6-2 to check the operation of the fan motor. Check the harness and the connector between the PCU PWB and the fan motor. Replace the PCU PWB. Replace the fan motor.

L4-47 Power source cooling fan 3 trouble

Trouble content	The lock signal is detected during rotation of
	the power source cooling fan 3.
Detail	PCU
Cause	Harness/connector trouble between the PCU
	PWB and the fan motor.
	PCU PWB trouble.
	Fan motor trouble.
	The fan does not rotate because of the other
	trouble.
	(No power supply to the fan motor)
Check & Rem-	Use SIM6-2 to check the operation of the fan
edy	motor.
	Check the harness and the connector between
	the PCU PWB and the fan motor.
	Replace the PCU PWB.
	Replace the fan motor.

L6-10 Polygon motor trouble

Trouble content	The polygon motor does not reach the speci- fied RPM within the specified time after starting rotation of the polygon motor.
Detail	PCU
Cause	Polygon motor trouble. LSUcnt PWB trouble. Harness and connector trouble between the polygon motor unit and the LSUcnt PWB.
Check & Rem- edy	Use SIM61-1 to check the operation of the polygon motor. Check the PWB and connection of the harness in the LSU. Replace the LSU.

L8-02 Full wave signal error

Trouble content	The full wave signal is not detected.
Detail	PCU
Cause	An abnormality in the full wave signal fre- quency is detected (The frequency is detected as 65Hz or above, or 45Hz or less) PCU PWB trouble. Power unit trouble Connection trouble of the connector and the
	harness Power frequency wave form abnormality
Check & Rem- edy	Replace the PCU PWB Replace the power unit Check connection of the connector and the harness Check the power wave form

L8-20 Communication error of MFPC PWB/ LSU mother board

Trouble content	
Detail	MFP
Cause	LSU mother board PWB - MFPC PWB con- nection trouble. MFPC PWB trouble. LSU cnt board trouble.
Check & Rem- edy	Check connection between the LSU mother board PWB and the MFPC PWB. Check the ground of the main unit. Replace the MFPC PWB. Replace the LSU cnt board.



Trouble content	
Detail	MFP
Cause	The personal counter is not installed. The personal counter is not detected. SCU PWB trouble.
Check & Rem- edy	Check connection of the connectors and the harness. Replace the SCU PWB.

U1-01 Battery trouble

Trouble content	RTC backup battery voltage fall
Detail	MFP
Cause	1) Battery life
	2) Battery circuit abnormality
Check and	Check to confirm that the battery voltage is
Remedy	about 2.5V or above.
	Replace the battery.

U2-00 MFP EEPROM read/write error

Trouble content	
Detail	MFP
Cause	MFPC PWB EEPROM trouble
	EEPROM socket contact trouble
	MFPC PWB trouble
	Strong external noises.
Check & Rem-	Replace the MFPC PWB EEPROM.
edy	Replace the MFPC PWB.
	(Refer to the pages on the necessary works
	after replacing the MFPC PWB in the Service
	Manual, and perform the works.)
	Check the power environment.

U2-05 HDD/MFPC PWB SRAM contents inconsistency

Trouble content	The HDD or the MFPC PWB installed is improper. (Erroneous detection of account management data)
Detail	MFP
Cause	The HDD was replaced. The MFPC PWB was replaced. HDD trouble MFPC PWB trouble
Check & Rem- edy	(Refer to the pages on the necessary works after replacing the HDD and the MFPC PWB in the Service Manual, and perform the works.) Use SIM16 to cancel the error.

U2-10 MFPC PWB SRAM user authentication index check sum error

Trouble content	
Detail	MFP
Cause	SRAM user index information (user authenti- cation basic data) check sum error. MFPC PWB SRAM trouble. MFPC PWB trouble. Strong external noises.
Check & Rem- edy	Use SIM16 to cancel the error. (Index information data in the HDD are trans- ferred to the SRAM.) Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.)

U2-11 MFPC PWB EEPROM counter check sum error

Trouble content	
Detail	MFP
Cause	MFPC PWB EEPROM trouble EEPROM socket contact trouble MFPC PWB trouble Strong external noises.
Check & Rem- edy	Use SIM16 to cancel the error. (The previous writing data (about the latest 8 sheets) are writ- ten into the EEPROM.) Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.)

U2-24 MFPC PWB SRAM memory user authentication counter check sum error

Trouble content	
Detail	MFP
Cause	MFPC PWB SRAM trouble
	MFPC PWB trouble
	Strong external noises
Check & Rem-	Use SIM16 to cancel the error. (The check
edy	sum error detection data are calculated again
	to reset the proper check sum data.)
	Replace the MFPC PWB.
	(Refer to the pages on the necessary works
	after replacing the MFPC PWB in the Service
	Manual, and perform the works.)

U2-30 MFPC PWB and PCU PWB manufacturing No. data inconsistency

Trouble content	Inconsistency between the manufacturing No. saved in the PCU PWB and that in the MFPC PWB.
Detail	MFP
Cause	When replacing the PCU PWB or the MFPC PWB, the EEPROM which was mounted on the PWB before replacement is not mounted on the new PWB. MFPC PWB trouble PCU PWB trouble
Check & Rem- edy	Check that the EEPROM is properly set. Check to confirm that the EEPROM which was mounted on the PWB before replacement is mounted on the new PWB. Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.) Replace the PCU PWB.

U2-40 SD card system storage data area error

Trouble content	
Detail	MFP
Cause	A file error occurs in the SD card system stor- age data partition. SD card trouble MFPC PWB trouble
Check & Rem- edy	Turn OFF/ON the power, and the backup data in the HDD are written into the SD card and the machine is automatically booted. Check the MFPC PWB, and replace if neces- sary. Check the SD card, and replace if necessary.

U2-41 HDD system storage data area error

Trouble content	
Detail	MFP
Cause	A file error occurs in the HDD system saved data area, disabling backup of the saved file of the machine adjustment values in the SD card. HDD trouble MFPC PWB trouble
Check & Rem- edy	Check the HDD, and replace if necessary. Check the MFPC PWB, and replace if neces- sary. When replacing the HDD and the MFPC PWB, refer to the chapter of "Necessary works and procedures of HDD and MFPC PWB replace- ment."

U2-42 Machine adjustment data (system storage data area) error

Trouble content	
Detail	MFP
Cause	The saved file of the machine adjustment val- ues in the SD card and the HDD cannot be found or is broken. Both of the SD card set data and the HDD sys- tem saved data area are broken. HDD trouble MFPC PWB trouble SD card trouble
Check & Rem- edy	Check the HDD, and replace if necessary. Check the MFPC PWB, and replace if neces- sary. Check the SD card, and replace if necessary. When replacing the HDD, the MFPC PWB, and the SD card, refer to the chapter of "Nec- essary works and procedures of HDD, MFPC PWB, and SD card replacement." Use SIM to adjust the machine again and set the adjustment values.

U2-50 HDD*¹ user authentication data check sum error

Trouble content	
Detail	MFP
Cause	HDD trouble*1 MFPC PWB trouble Strong external noises.
Check & Rem- edy	Check the data related to the check sum error (address book, image send system registration data (senders record, meta data)) and register again. Use SIM16 to cancel the U2 trouble. Replace the HDD ^{*1} . Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the HDD and the MFPC PWB in the Service Manual, and perform the works.)* ¹

*1: SD card when no HDD is installed.

U2-60 Watermark check error

Trouble content	
Detail	MFP
Cause	Watermark data trouble HDD trouble MFPC PWB trouble
Check & Rem- edy	Use SIM16 to cancel the U2 trouble. Use SIM49-5 to install the watermark data. Replace the HDD. Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the HDD and the MFPC PWB in the Service Manual, and perform the works.)

U2-80 SCU PWB EEPROM read/write error

Trouble content	
Detail	SCU
Cause	SCU PWB EEPROM trouble SCU PWB trouble SCU PWB EEPROM socket connection trou- ble
Check & Rem- edy	Replace the SCU PWB EEPROM. Replace the SCU PWB. Check connection of the SCU PWB EEPROM socket. Check the SIM adjustment value of the follow- ing items, and adjust again if they are improper. - Scanner-related adjustments - Touch panel-related adjustments Use SIM16 to cancel the trouble

U2-81 SCU PWB EEPROM check sum error

Trouble content	
Detail	SCU
Cause	SCU PWB EEPROM trouble.
	Installation of non-initialized EEPROM.
	SCU PWB trouble.
	EEPROM socket contact trouble.
Check & Rem-	Replace the SCU PWB EEPROM.
edy	Replace the SCU PWB.
	Check contact of the EEPROM socket.
	Use SIM16 to cancel the trouble. (The check
	sum error detection data are calculated again
	to reset the proper check sum data.)

U2-90 PCU PWB EEPROM read/write error

Trouble content	
Detail	PCU
Cause	PCU PWB EEPROM trouble
	PCU PWB trouble
	EEPROM socket contact trouble
Check & Rem-	Replace the PCU PWB EEPROM.
edy	Check the SIM adjustment values of the
	engine, and adjust again if they are improper.
	Replace the PCU PWB.
	Check contact of the EEPROM socket.
	Use SIM16 to cancel the trouble.

U2-91 PCU PWB EEPROM check sum error

Trouble content	
Detail	PCU
Cause	PCU PWB EEPROM trouble
	PCU PWB trouble
	EEPROM socket contact trouble
Check & Rem-	Replace the PCU PWB EEPROM.
edy	Replace the PCU PWB.
	Check contact of the EEPROM socket.
	Use SIM16 to cancel the trouble. (The check
	sum error detection data are calculated again
	to reset the proper check sum data.)

U6-10 Desk paper feed unit paper transport motor trouble

Trouble content	
Detail	PCU
Cause	Desk paper feed motor trouble (motor lock, motor rpm abnormality, over-current to the motor). Desk control PWB trouble Connection trouble of the connector and the harness.
Check & Rem- edy	Use SIM4-3 to check the operation of the desk transport motor. Replace the desk control PWB. Replace the desk paper feed motor. Check connection of the connector and the harness.

U7-50 MFPC PWB - Vendor machine communication error

Trouble content	Communication error between the MFP and the	
	serial vendor.	
Detail	MFP	
Cause	Improper setting of the vendor machine specifi- cations (SIM26-3). Vendor machine trouble. MFPC PWB trouble. Connector, harness connection trouble. Strong external poises	
Check & Rem- edy	Cancel the error by turning OFF/ON the power. Check the connector and the harness in the communication line. Change the specifications of the vendor machine (SIM26-3). Replace the MFPC PWB.	

U7-51 Vendor machine error

Trouble content	
Detail	MFP (Notification of a trouble from the serial
	venuor)
Cause	Serial vendor machine trouble.
	Connector, harness connection trouble.
Check & Rem- edy	Err.XX is displayed on the operation panel of the vendor. (XX is the detail code.)
	Repair the vendor machine referring to the detail code.
	Check the connector and the harness in the communication line.

UC-02 CPT - ASIC error

Trouble content	
Detail	RSPF
Cause	SCU PWB trouble. (CPT-ASIC trouble.)
Check & Rem-	Replace the SCU PWB.
edy	

UC-20 DOCC ASIC error

Trouble content	
Detail	SCU
Cause	SCU PWB trouble. (DOCC-ASIC trouble.)
Check & Rem-	Replace the SCU PWB.
edy	

(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	
	0*	Other		*1
	1*	JPEG	FAX (Internet FAX) recep-	*1
	2*	JBIG	tion print (Other than long	*1
	3*	Mxx1ch	size images)	
	4*	Mxx4ch		
E7-91	5*	Other		*1
	6*	JPEG	FAX (Internet FAX) recep-	*1
	7*	JBIG	tion print	*1
	8*	Mxx1ch	(Long size images)	
	9*	Mxx4ch		
	A* - F*	Not Used		*1
	0*	Other		*1
	1*	JPEG		
F7 00	2*	JBIG	OC copy (in Non ERDH)	*1
E7-92	3*	Mxx1ch		*1
	4*	Mxx4ch		
	5* - F*	Not Used	-	*1
	0*	Other		*1
	1*	JPEG	Copy print (in ERDH)	
	2*	JBIG	Copy composing system function (Custom Stamp	
	3*	Mxx1ch	Water mark)	*1
	4*	Mxx4ch	,	
	5*	Other		*1
	6*	JPEG	Image send	
E7 02	7*	JBIG	Document filing	
E7-93	8*	Mxx1ch	 Preview display 	
	9*	Mxx4ch		
	A*	Other		*1
	B*	JPEG	GDI/PCL printer print	
	C*	JBIG	Copy composing system function (Custom Stamp	
	D*	Mxx1ch	Water mark)	*1
	E*	Mxx4ch	,	
	F*	Not Used		*1
	0*	Other		*1
	1*	JPEG		
E7 04	2*	JBIG	 Backup restore (Filing data import) 	*1
E7-94	3*	Mxx1ch		*1
	4*	Mxx4ch		*1
	5* - F*	Not Used		*1

*1: Added code without generating

The lower digit of the added code indicates the kind and the content of the abnormality or the result of the automatic memory check executed when the abnormality is detected.

		Lower digit of the added code Kind/Content of the error								
			*1	*9	*A	*В	*C	*D	*E	*F
			Memory verify NG	-	Huff- man 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	1*, 6*, B*	JPEG	•	-	0	0	0	0	-	0
added code	2*, 7*, C*	JBIG	•	-	-	-	0	0	-	0
Error datastian sizewit	3*, 8*, D*	Mxx1ch	•	-	-	-	-	-	-	0
	4*, 9*, E*	Mxx4ch	•	-	-	-	-	-	-	0

• : 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, HDD, etc.

- : Added code without generating

(2) Countermeasures in case of E7-91 - 94

In case of E7-9x (11), E7-9x (21), E7-9x (31), E7-9x (41)

Cause	In case of E7-91 - 94, the DIMM memory (DRAM) is automatically read/written to per- form 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 rem- edy	 Check the installing state of the MFPC PWB to insure that there is no abnormal- ity. (Disconnect and connect the MFPC PWB to check to insure that there is no error occurring again.) 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 recep- tion data, when broken data are saved, print- ing 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 rem- edy	 Check the MFPC PWB and the HDD 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 MAIN PWB. Perform SIM60-01 (Memory read/write check) to insure that there is no NG. Perform SIM62-02 and SIM62-03 (HDD read/write check) to insure that there is no NG. (It is not required, however, when the job at occurrence of an error is FAX.) Check the installing state of the MFPC PWB to insure that there is no abnormality. (Disconnect and connect the MFPC PWB to check to insure that there is no error occurring again.) Replace the HDD. Replace the MFPC PWB. Replace the SD card. 			

If error E7-91 - 94 as well as E7-03 occurs, there is a high possibility that the error can be removed by replacing the HDD and the MFPC PWB.

(3) Countermeasures against the case where nothing is displayed when the machine is booted

[Trouble content]

If nothing is displayed when the machine is booted, the error code cannot be checked and the cause is hard to identify.

One of the causes may be an abnormality in the boot program of the SD card. To check that, the following method is used.

[Check method]

Check to confirm that the LED (red) under the CPU heat sink on the MFPC PWB shown in the figure below is lighted when the power is supplied.

If the LED is lighted, it is judged as an abnormality of the SD card.



[Countermeasures]

- 1) Replace the SD card with a new one. (Be sure to use a service part.)
- 2) Upgrade the firmware to the latest version.
- 3) Use SIIM66-62 to backup the FAX reception data from the HDD to a USB memory device. (If there is no FAX reception data, this procedure is not required.) (The FAX reception data are backed up in the PDF format. Supply the date to the user.)
- Use SIM66-10 to clear the FAX and image send memory. (Ensure consistency between the HDD data and the image related memory.)

Note

When there is an abnormality around the HDD, E7-03 may occur.

(4) Relation between the MFPC PWB LED status and errors

When the machine cannot be booted, check the LED status of the MFPC PWB to presume the error content and its cause.

LED status (Lighting)	Process operation content	cause for halt during operation
0000	CPU initial setting	Reus ASIC trouble
000 •	Memory adjustment	Memory and its periph- eral circuit trouble
00 • 0	Memory check	Memory and its periph- eral circuit trouble
00 • •	?	?
0.00	Program memory development	Memory-related trouble
0.00	Interruption-related initialization	Reus ASIC trouble
0 • • 0	PCI initialization	PCIe and its peripheral circuit trouble (SoC, etc.)
0	Basic device initialization	Reus ASIC trouble
•000	SD card initialization SATA initialization	Reus ASIC trouble SD card trouble HDD trouble
•00•	OS initialization (1)	Reus ASIC trouble
●0●0	Timer enabling	Reus ASIC trouble
•0••	Serial driver enabling I2C driver enabling	Reus ASIC trouble
• • 00	LCD initialization	Reus ASIC trouble
•••0	Image process IP initialization	Reus ASIC trouble
•••0	OS initialization (2)	Reus ASIC trouble
	Main process	Reus ASIC trouble

<Process content and LED display>

* •: LED ON / O: LED OFF

<When an error occurs>

LED status (Flashing)	Error content	Cause
000	Nonsupport memory	Memory trouble
00 • 0	Nonsupport memory (access speed)	Memory trouble
00 • •	Nonsupport memory controller	Memory trouble
0.00	DDR-PHY setting error	Reus ASIC trouble
0 • • 0	Interruption handler process error	Reus ASIC trouble
•000	Memory check error	Memory trouble
	Memory combination error	Memory trouble

* In case of an error, the LED's flash as shown in the above table.

• ELED ON / O: LED OFF

LED No D25/D24/D23/D22 3 / 2 / 1 / 0

MX-C301 TROUBLESHOOTING 7-26

2. JAM and troubleshooting

A. JAM code list

(1) Main unit

JAM code	JAM content
MFT_L	Manual feed tray paper feed JAM (100K for the paper feed counter)
TRAY1_L	Tray 1 paper feed JAM (100K for the paper feed counter)
TRAY2_L	Tray 2 paper feed JAM (100K for the paper feed counter)
TRAY2	C2PPD not-reached JAM (Cassette2 feed paper)
C2PPD_ST	C2PPD remaining JAM (Cassette2 feed paper)
MFT	PPD2 not-reached JAM (Manual feed tray feed paper)
TRAY1	PPD2 not-reached JAM (Main cassette feed paper)
PPD2_N2	PPD2 not-reached JAM (Cassette 2 feed paper)
PPD2_NA	PPD2 not-reached JAM (ADU feed paper)
PPD2_SM	PPD2 remaining JAM (Manual feed tray 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)
POD1_NA	POD1 not-reached JAM (In the case of a jam at the second surface)
POD1_N	POD1 not-reached JAM
POD1_SA	POD1 remaining JAM (In the case of a jam at the second surface)
POD1_S	POD1 remaining JAM
DRUM	Drum lock detection
FUSER	Fuser winding detection
PRI_JAM	PPD2 JAM (Waiting the image preparation finish time out)
MTR_ILG	Motor driver trouble JAM
SIZE_ILG	Size illegal JAM
STOP_JAM	Emergency stop request JAM (Controller request)
NO_MATCH	Parameter inconsistency

(2) SCU JAM causes

JAM code	JAM content
STOP_JAM	Emergency stop JAM
SPPD1_N	SPPD1 not-reached JAM
SPPD1_S	SPPD1 remaining JAM
SPPD2_N	SPPD2 not-reached JAM
SPPD2_S	SPPD2 remaining JAM
SPPD2_NR	SPPD2 reverse not-reached JAM
SPPD2_SR	SPPD2 reverse remaining JAM
SPSD_SCN	Exposure start notification timer end
P_SHORT	Short size JAM
SDFS_S	Paper JAM
ICU_REQ	ICU factor stop JAM
SPPD1_NR	SPPD1 reverse not reached JAM
SPPD1_SR	SPPD1 reverse remaining JAM

3. Dial tone

When shipping from the factory, the dial tone detection when sending is set to Enable (changed from OFF to ON). When installing this machine, be sure to check and confirm that the dial tone is properly detected and the auto dial sending is enabled.

Check to confirm that the continuous buzzer sound is heard when the on-hook key is pressed. (Press the on-hook key again to cancel the buzzer sound.)

If facsimile communication cannot be executed normally through the IP telephone line, try the general telephone line.

[8] FIRMWARE UPDATE

1. Outline

A. Cases where update is required

ROM update is required in the following cases:

- 1) When there is a necessity to upgrade the performance.
- 2) When installing a new spare part ROM for repair to the machine.
- 3) When installing a new spare parts PWB unit (with ROM) for repair to the machine.
- 4) When there is a trouble in the ROM program and it must be repaired.

2.Update procedure

A.Update method using SIM 49-1

For the update, connect the media or USB flash drive to the USB port that exists in the main body, and select the firmware data in the media or USB flash drive by simulation screen in the main unit.

Media *1 Firmware.sfu Firmwa

*1:

- Store the firmware data (xxx .sfu) to the media or USB flash drive beforehand.
- The media used for the update must have an enough capacity for storing the firmware data.
- The USB flash drive equipped with the security (secure) function cannot be used.

B. Notes for update

(1) Relationship between each ROM and update

Before execution of ROM update, check combinations with ROM's installed in the other PWB's including options. Some combinations of each ROM's versions may cause malfunctions of the machine.

C. Update procedures and kinds of firmware

There are following methods of update of the firmware.

1) Update method using SIM 49-1

Execution of the firmware by SIM49-01

- Insert the media or USB flash drive which stores the firmware into the main unit. (Be sure to use the USB I/F on the operation panel.)
- 2) Enter the SIM49-01.

Press the key of the file to be updated. The screen transfers to the update screen.

		C 0
TEST SIMULATION NO. 49-01		CLOSE
FIRMWARE UPDATE[/usbbd:1/]		
<dir> FOLDER1</dir>	FILE1	
FILE2	<dir> FOLDER2</dir>	
		1/1

- * The number of key changes according to the number of the sfu file in the media or USB flash drive inserted.
- * If the media or USB flash drive was not inserted when entry to the SIM49-01 screen, "INSERT A USB flash drive DEVICE CONTAINING MFP FIRMWARE [OK]" is displayed on the screen. Insert the media or USB flash drive and push the [OK] key to open the file. If the media have not been inserted and [OK] key is pushed, the next screen does not appear and the screen waits the entry. Conversely, if the media or USB flash drive is pulled out on the file list screen, the error is detected by the [FILE] key pressing, and the first screen appears.
- Current version number and the version number to be updated will be shown for each firmware respectively.

						r.	0
TEST SIMULATION	NO. 49	9-01				CI	LOSE
FIRMWARE UPDATE [/usbb	d:1/*****	*****/*****	*****]			
CONFIG		CURRENT	01000000	UPDATED TO	01010000		
ICU (MAIN)		CURRENT	01000000	UPDATED TO	01010000		
ICU (BOOTM)		CURRENT	09000000	UPDATED TO	01000000		
ICU (BOOTCN)		CURRENT	01010000	UPDATED TO	09000000		
ICU (SUB)		CURRENT	01000000	UPDATED TO	01010000		
LANGUAGE		CURRENT	01000000	UPDATED TO	01010000		
GRAPHIC		CURRENT	09000000	UPDATED TO	01000000		
SLIST		CURRENT	01010000	UPDATED TO	09000000		U
PCL (BOOT)		CURRENT	01000000	UPDATED TO	01010000		
PCL (MAIN)		CURRENT	01000000	UPDATED TO	01010000		
PCL (CONFIG)		CURRENT	01010000	UPDATED TO	09000000		
PCL (PROFILE)		CURRENT	01010000	UPDATED TO	09000000		
ALL		ARE YO	U SURE?	YES	NO		1/3

4) Press [ALL] key.

All the firmware programs are selected.

		© 0
TEST SIMULATION	N0. 49-01	CLOSE
FIRMWARE UPDATE [/usbbd:1/************************************	
CONF1G	: CURRENT 01000000 UPDATED TO 01010000	
ICU (MAIN)	: CURRENT 01000000 UPDATED TO 01010000	
ICU (BOOTM)	: CURRENT 09000000 UPDATED TO 01000000	
ICU (BOOTCN)	: CURRENT 01010000 UPDATED TO 09000000	
ICU (SUB)	: CURRENT 01000000 UPDATED TO 01010000	
LANGUAGE	: CURRENT 01000000 UPDATED TO 01010000	
GRAPHIC	: CURRENT 09000000 UPDATED TO 01000000	_
SLIST	: CURRENT 01010000 UPDATED TO 09000000	•
PCL (BOOT)	: CURRENT 01000000 UPDATED TO 01010000	
PCL (MAIN)	: CURRENT 01000000 UPDATED TO 01010000	
PCL (CONFIG)	: CURRENT 01010000 UPDATED TO 09000000	
PCL (PROFILE)	CURRENT 01010000 UPDATED TO 09000000	
ALL	ARE YOU SURE? YES NO + EXECUTE	1/3

- * Normally select all the firmware and execute updating.
- * In this case, firmware which do not exist on the machine side are ignored.

To update a certain firmware only, select the firmware with the firmware display key.

- * If firmware's key is not selected, [EXECUTE] key is gray out and cannot be pressed.
- Press [EXECUTE] key. "ARE YOU SURE? [YES] [NO]" becomes clear. Press [YES] key to start the update of selected firmware.

								© 0
TEST SIMULATION	NO. 49	9-01						CLOSE
FIRMWARE UPDATE [/usbb	d:1/*****	*****	*****]				
CONF1G		CURRENT	01000000	UPDATED TO	01010000			
ICU (MAIN)	۱.	CURRENT	01000000	UPDATED TO	01010000			
ICU (BOOTM)	۱.	CURRENT	09000000	UPDATED TO	01000000			
ICU (BOOTCN)		CURRENT	01010000	UPDATED TO	09000000			
ICU (SUB)		CURRENT	01000000	UPDATED TO	01010000			
LANGUAGE		CURRENT	01000000	UPDATED TO	01010000			
GRAPHIC		CURRENT	09000000	UPDATED TO	01000000			
SLIST		CURRENT	01010000	UPDATED TO	09000000			•
PCL (BOOT)		CURRENT	01000000	UPDATED TO	01010000			
PCL (MAIN)		CURRENT	01000000	UPDATED TO	01010000			
PCL (CONFIG)		CURRENT	01010000	UPDATED TO	09000000			
PCL (PROFILE)	۱.	CURRENT	01010000	UPDATED TO	09000000			
ALL		ARE YO	U SURE?	YES	NO	+	EXECUTE	1/3

The progress is displayed on right side of "FIRMWARE UPDATE" title by 20 steps.

IRMWARE	UPDATE					
	S*****	Е				
	REMAINS FOR **	MINUTES.				
	CAUTION DO NOT	POWER OFF THE	MFP! FIRMWARE	UPDATE IN PROGR	ESS!	

At this time, only the progress gauge is displayed on the screen, and the version and the firmware selection key are not displayed.

If the update is normal completion, following screen is displayed.

	D 0
TEST SIMULATION NO. 49-01	CLOSE
FIRNWARE UPDATE	
COMPLETE: PLEASE TOUCH [OK] TO FINISH.	
	OK

Press [OK] key. (The machine is rebooted.)

Go to SIM22-05 and confirm the firmware has upgraded successfully.

 If the update is not normal completion, following screen is displayed.


B.Firmware update using FTP

FTP software is used to transfer the firmware data (extension ".sfu") from the PC to the machine. The controller recognizes the firmware identifier and the machine automatically switches to firmware write mode. After the firmware is updated, the machine automatically resets.



C.Firmware update using the Web page

An Web browser (service technician's Web page) is used to update the firmware.

- 1) Start the Web browser on a PC and enter the specified URL. A special firmware upgrade page appears.
- Click the "Update of Firmware" key in the Web page. Click the [Browse] key and select the firmware for the update.



 After selecting the file, click the [Submit] key to send the firmware to the machine. Update processing begins. While processing takes place, "Firmware Update, now processing..." appears.

Update of Firmware	
Firmware Update, now processing	

4) When the firmware update is finished, "Firmware Update completed. Please reboot the MFP." appears. Pressing the [Reboot] key, the machine will restart to complete the update. The browser will shift to the following screen.

Update of Firmware	
Close the browser and open again to display latest information.	

"Close the browser and open again to display latest information." will be displayed.

5) Check the firmware version of machine again.

D.Firmware update using the CN update function (There are three methods.)

(1)Outline

The update method using the DIP SW of the MFP $\ensuremath{\mathsf{PWB}}$ is called the CN update.

a.Function

There are the following three functions in the CN update mode.

Firmware update function

This function is used to update the firmware by transferring data from the PC which is connected to the MFP PWB, the SCU PWB, the PCU PWB, the FAX PWB, and various options by means of a USB flash drive or USB cable.

This is basically the same as SIM49-01, but differs in the following points:

When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update, this method can be used to update the firmware.

If, however, an abnormality occurs in the boot program, the SD card and CompactFlash must be replaced with a new one having the normal boot program.

If the boot animation is not displayed, there is an abnormality in the boot program.

If the boot animation is displayed but "Copying is enabled" is not displayed on the copier basic menu, there is an abnormality in the main program.

Firmware version check function

(The method to check the firmware version by using SIM22-5 is easier than this method. Therefore, it is not described in this manual.)

b.Purpose

This function is used in the following cases:

- When an error occurs during firmware update operation other than the CN update.
- When the power is shut down or an error occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update, this method can be used to update the firmware.

If an error occurs in the boot program, this method cannot be used. In such a case, the SD card and CompactFlash must be replaced with a new one having the normal boot program.

c.DIP-SW used in the CN update mode

To enter the CN update mode, turn ON the UPDATE DIP-SW on the MFP $\ensuremath{\mathsf{PWB}}$ and boot the machine.

Confirm whether each SW on the DIP SW1 at the right bottom side of the MFPC is set correctly by referring the followings.

- SW1-1 : The switch must be set to the side of description [1].
- SW1-2 : The switch must be set to the side of description [2].



Confirm whether the DIP SW3 and DIP SW4 at the right bottom side of the MFPC are set correctly by referring the followings. - SW3 : The switch must be set to the side of description [ON].

- SW4 : The switch must be set to the side of description [OFF].



d.Keys used in the CN update mode

The following DIP SWs are used for operations in the CN update mode. Be careful that the functions of the keys differ those in the normal mode.



Key name	Functions in the CN update mode
[OK] key	Executes the selected function or item.
[MENU] key	Selects a menu.
[BACK] key	Selects a menu. (Serves as a cancel key in the execution check screen.)
[UP] key	Selects an item.
[DOWN] key	Selects an item.

(2)Operating procedures

a.Firmware update function

This function is used to revise the firmware by using the USB flash drive for the MFP PWB, the SCU PWB, the PCU PWB, the FAX PWB, and each option.

It is basically same as SIM 49-01, but differs in the following points.

- The update target ROM is automatically selected.
- When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update.

If, however, an abnormality occurs in the boot program, this method cannot be used. On that case, the SD card and CompactFlash must be replaced with a new one having the normal boot program.

When the boot animation is displayed but "Copying is enabled" is not displayed on the copier basic menu, there is an abnormality in the main program (SD card or CompactFlash).

1) Necessary items

- 1) Insert the SD card and CompactFlash to the MFP PWB of the machine.
- 2) USB flash drive with the firmware file (SFU) saved in it.
- NOTE: Save the firmware file in the main directory or in a one-level lower directory.

2) Procedures

- 1) Turn OFF the power, and remove the cabinet and the MFP PWB cover.
- 2) Turn ON the DIP SW of the MFP PWB UP DATE.
- 3) Install the USB flash drive into the USB port.

USB flash drive installing position



4) Turn ON the power.

5) Check to confirm that the machine starts booting. (It takes more than ten seconds to display the menu.)

Display when booting is completed



6) Select the firmware update mode.

Select the update mode with [MENU] key and [BACK] key. **Display of the firmware update mode**

> Firm Update From USB Memory

7) Press [OK] key.

The firmware file saved in the USB flash drive is retrieved, and the file selection menu is displayed.

Display of file selection

Firm Update > F 0100P000.sfu

8) Select the firmware file (SFU).

Select the target firmware file (SFU) with [UP] key and [DOWN] key.

When [OK] key is pressed with a directory name (the head: "> D") displayed, the menu goes to the one-stage lower directory.

When [BACK] key is pressed in the lower-stage directory, the menu returns to the original upper directory.

9) Press [OK] key.

The selected firmware file (SFU) is read. It takes about one minute.

Display of file reading



10)After completion of reading, the firmware update process is continued.

Display of the firmware update process



- * The abbreviated name of the firmware which is under update process is indicated on the right upper corner of the display.
- * During the update process, the display may flash instantaneously. It is a normal operation.

11)Check the update result.

Use [UP] key and [DOWN] key to display the results of all the firmware programs.

Display of the firmware update result

Firm Update IcuM	Firm Update IcuM	Firm Update IcuM
Result : OK	Result : Not Update	Result : NG

- OK: Update is completed successfully.
- NG: Update is failed.
- Not Update: Update is not executed.

12)Turn OFF the power.

- 13)Turn OFF the DIP SW of the MFP PWB UP DATE. (Set the DIP-SW to the normal mode.)
- 14)Turn ON the power, and check to confirm that the machine boots up normally.

Check to confirm that the boot animation is displayed.

- Check to confirm that "Copying is enabled" is displayed on the copier basic menu.
- 15)Check to confirm the version of each firmware with SIM22-5.
- 16)Attach the MFP PWB cover and the cabinet.

E.Firmware update using the CN update function (There are three methods.)

(1)Outline

The update method using the DIP SW of the MFP $\ensuremath{\mathsf{PWB}}$ is called the CN update.

a.Function

There are the following three functions in the CN update mode.

1) Firmware update function

This function is used to update the firmware by transferring data from the PC which is connected to the MFP PWB, the SCU PWB, the PCU PWB, the FAX PWB, and various options by means of a USB flash drive or USB cable.

This is basically the same as SIM49-01, but differs in the following points:

When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update, this method can be used to update the firmware.

If, however, an abnormality occurs in the boot program, the SD card must be replaced with a new one having the normal boot program.

If the boot animation is not displayed, there is an abnormality in the boot program.

If the boot animation is displayed but "Copying is enabled" is not displayed on the copier basic menu, there is an abnormality in the main program.

2) Firmware version check function

(The method to check the firmware version by using SIM22-5 is easier than this method. Therefore, it is not described in this manual.)

3) ROM making function

(This function is not used in the market, and not described in this manual.)

b.Purpose

This function is used in the following cases:

1) When an error occurs during firmware update operation other than the CN update.

When the power is shut down or an error occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update, this method can be used to update the firmware.

If, however, an abnormality occurs in the boot program, the SD card must be replaced with a new one having the normal boot program.

If an error occurs in the boot program, this method cannot be used. In such a case, the SD card must be replaced with a new one having the normal boot program.

c.DIP-SW used in the CN update mode

To enter the CN update mode, turn ON the UPDATE DIP-SW on the MFP $\ensuremath{\mathsf{PWB}}$ and boot the machine.

Confirm whether each SW on the DIP SW1 at the right bottom side of the MFPC is set correctly by referring the followings.

- SW1-1 : The switch must be set to the side of description [1].
- SW1-2 : The switch must be set to the side of description [2].



Confirm whether the DIP SW3 and DIP SW4 at the right bottom side of the MFPC are set correctly by referring the followings. - SW3 : The switch must be set to the side of description [ON].

- SW4 : The switch must be set to the side of description [OFF].



d.Keys used in the CN update mode

The following five keys are used for operations in the CN update mode. Be careful that the functions of the keys differ those in the normal mode.



Key name	Functions in the CN update mode
[OK] key Executes the selected function or item.	
[MENU] key Selects a menu.	
[BACK] key	Selects a menu.
	(Serves as a cancel key in the execution check screen.)
[UP] key	Selects an item.
[DOWN] key	Selects an item.

(2)Operating procedures

a.Firmware update function

This function is used to revise the firmware by using the USB flash drive for the MFP PWB, the SCU PWB, the PCU PWB, the FAX PWB, and each option.

It is basically same as SIM 49-01, but differs in the following points.

- 1) The update target ROM is automatically selected.
- 2) When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update.

If, however, an abnormality occurs in the boot program, this method cannot be used. On that case, the SD card must be replaced with a new one having the normal boot program.

When the boot animation is displayed but "Copying is enabled" is not displayed on the copier basic menu, there is an abnormality in the main program (SD card).

1) Necessary items

- 1) Insert the SD card to the MFP PWB of the machine.
- 2) USB flash drive with the firmware file (SFU) saved in it.

Note

Save the firmware file in the main directory or in a one-level lower directory.

2) Procedures

- 1) Turn OFF the power, and remove the cabinet and the MFP PWB cover.
- 2) Turn ON the DIP SW of the MFP PWB UP DATE. (Tilt it to the PWB side.)
- 3) Install the USB flash drive into the USB port.

USB flash drive installing position



4) Turn ON the power.

5) Check to confirm that the machine starts booting. (It takes more than ten seconds to display the menu.)



Display when booting is completed

6) Select the firmware update mode.

Select the update mode with [MENU] key and [BACK] key.



Display of the firmware update mode

7) Press [OK] key.

The firmware file saved in the USB flash drive is retrieved, and the file selection menu is displayed.



Display of file selection

8) Select the firmware file (SFU).

Select the target firmware file (SFU) with [UP] key and [DOWN] key.

When [OK] key is pressed with a directory name (the head: "> D") displayed, the menu goes to the one-stage lower directory.

When [BACK] key is pressed in the lower-stage directory, the menu returns to the original upper directory.

9) Press [OK] key.

The selected firmware file (SFU) is read. It takes about one minute.



Display of file reading

10)After completion of reading, the firmware update process is continued.



Display of the firmware update process

- * The abbreviated name of the firmware which is under update process is indicated on the right upper corner of the display.
- * During the update process, the display may flash instantaneously. It is a normal operation.

11)Check the update result.

Use [UP] key and [DOWN] key to display the results of all the firmware programs.

Firm Update Result : OK	lcuM	Firm Update Result : Not	lcuM Update	Firm Update Result : NG	IcuM	

Display of the firmware update result

- OK: Update is completed successfully.
- NG: Update is failed.
- Not Update: Update is not executed.
- 12)Turn OFF the power.
- 13)Turn OFF the DIP SW of the MFP PWB UP DATE. (Set the DIP-SW to the normal mode.)
- 14)Turn ON the power, and check to confirm that the machine boots up normally.
 - Check to confirm that the boot animation is displayed.
 - Check to confirm that "Copying is enabled" is displayed on the copier basic menu.
- 15)Check to confirm the version of each firmware with SIM22-5.
- 16) Attach the MFP PWB cover and the cabinet.

[9] MAINTENANCE

1.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 condition				
Display content	Sim26-38-A set value	Counter name Counter value		Enable/ Disable	
(Maintananaa raguirad Cada(TA)	0 (Print continue)		When the Sim21-1 set value is reached	Disable	
(Maintenance required.Code.TA)	1 (Print stop)	(Print stop) Maintenance counter (Total) When 90% of the Sim21-1 set value is reached		Enable	
[Maintenance required. Code: TA]	1 (Print stop)		When the Sim21-1 set value is reached	Disable	
(Maintananaa raguirad Cada(CA)	0 (Print continue)		When the Sim21-1 set value is reached	Enable	
(Maintenance required.Code.CA)	1 (Print stop)	Maintenance counter (Color)	When 90% of the Sim21-1 set value is reached	Disable	
[Maintenance required. Code: CA]	1 (Print stop)		When the Sim21-1 set value is reached	Disable	
	0 (Print continue)	Maintenance counter (Total)	Maintenance counter (Total) When the Sim21-1 set value is reached		Disable
(Maintenance required.Code:AA)	1 (Print stop)	and Maintenance counter (Color)	When 90% of the Sim21-1 set value is reached	Enable	

- 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 condition			
Display content	Sim26-38-B	Counter name	Counter value	Enable/ Disable
	0 (Print continue)	Primary transfer unit print		DISUDIC
(Maintenance required.Code:TK)	1 (Print stop)	counter	When 150K is reached	Enable

- When [TC1 UNIT] counter for the primary transfer unit is cleared by SIM24-4, the counters of [TC1 BELT] (primary transfer unit belt) and [TRANS BLADE] (primary transfer unit blade] are cleared at the same time.

- The above display disappears by cleaning the counters.

C. Fusing unit

	Display condition			
Display content	Sim26-38-D set value	Counter name	Counter value	Enable/ Disable
(Maintenance required Code:EK)	0 (Print continue)	Eusing unit print counter	When 150K is reached	Enable
(Maintenance required.code.FK)	1 (Print stop)	Fusing unit print counter	When 150K is reached	Ellable

 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.

		Drint ich Enchle/		
Display content	Sim26-38-E set value	Counter name	Counter value	Disable
(Maintonanco required	0 (Print continue)	Drum cartridge print counter (K), Drum cartridge accumulated rotation number (K)	When 100K(Other countries than	Enable
Code:DK)	1 (Print stop)		China) or 75K(China) is reached. When 575K rotations is reached.	Disable
Maintenance required	0 (Print continue)	Drum cartridge print counter (C/M/Y)	When 60K(Other countries than	Enable
Code:D(C/M/Y)	1 (Print stop)	Drum cartridge accumulated rotation number (C/ M/Y)	China) or 45K(China) is reached. When 575K rotations is reached.	Disable

- 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 [DRUM CTRG K/C/M/Y] counter for the drum cartridge is cleared by SIM24-4, 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 condition			
Display content	Sim26-38-E set value	Counter name	Counter value	Enable/Disable	
(Maintonanco required	0 (Print continue)	Developer cartridge print counter (K)	When 100K(Other countries than China)	Enable	
Code:VK)	1 (Print stop)	Developer cartridge accumulated rotation number (K)	or 75K(China) is reached. When 575K rotations is reached.	Disable	
(Maintonance required	0 (Print continue)	Developer cartridge print counter (C/M/Y)	When 60K(Other countries than China)	Enable	
Code:V(C/M/Y))	1 (Print stop)	Developer cartridge accumulated rotation number (C/M/Y)	or 45K(China) is reached. When 575K rotations is reached.	Disable	

- 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	SIM26-38-A Set value	Counter name	Counter value	Print JOB Enable/Disable
(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	Disable
	0 (Print continue)			Enable for monochrome,
Replace the toner cartridge. (K) (End)	1 (Print stop)	The pixel count from near end reaches the specified value.	Specified pixel count	Disable for color (Disable for a JOB which requires K toner)
Replace the toner cartridge. (C/M/ Y) (End)	0 (Print continue) 1 (Print stop)	Toner supply amount is decreasing.	ATC sensor output variation	Enable

- 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 condition		
Display content	SIM26-38-A Set value	Counter name	Counter value	Print JOB Enable/Disable
Replace Toner collection	0 (Print continue)	When the waste toner full detect	Enable	
container. (with OK key)	1 (Print stop)	20900 count is reached from the	Ellable	
Replace Toner collection	0 (Print continue)	When 83600 count is reached fr	Disable	
container.	1 (Print stop)	tion.		

- When the Toner collection container is replaced, the display disappears.

H. Other (Ozone Filter)

		Display condition		
Display content SIM26-38-A Set value		Counter name	Counter value	Print JOB Enable/Disable
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 (mono- chrome)	-	-		-	-		-		-	-	
	OPC drum unit (color)	-		-			-				-	
Developing section	Developing unit (mono- chrome)	-	-		-	-		-		-	-	
	Developing unit (color)	-		-			-				-	
Tanar cartridge	Toner cartridge BK	User repla	Jser replacement for every toner empty.									
Toner cartridge CMY User replacement for every toner empty.												
Toner collection con- tainer	Toner collection container	Replaced	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
		Paper feed roller	0	0	0	0	0	Replace when the RSPF feed counter reaches
		Paper pickup roller	0	0	0	0	0	100K or parts are worn.
		Each transport roller	Х	Х	Х	Х	Х	
		Scan plate	0	0	0	0	0	
RSPF section	RSPF unit	Paper exit roller	Х	Х	Х	Х	Х	
		Discharge brush	Х	Х	Х	Х	Х	
		OC mat	0	0	0	0	0	
		Gears	Х	Х	Х	Х	Х	
		Belts	Х	Х	Х	Х	Х	
		CCD	Х	Х	Х	Х	Х	
		Table glass, SPF glass	Х	Х	Х	Х	Х	
Seepher and		Scanner lamp (bar LED PWB)	Х	Х	Х	Х	Х	Air cleaning on the bar and the PWB.
tion	Scanner unit	Rail	х	х	х	х	х	Grease the indicated area with MOLYKOTE EM50-L when checking.
		Drive belt	Х	Х	Х	Х	Х	
		Drive gears / pulley	Х	Х	Х	Х	Х	
Transfer sec-	Primary trans- fer unit	Primary transfer unit	х	-		-		Replace at 150K or 2 year of use.
tion	Secondary transfer unit	Secondary transfer roller	х	-	0	-	0	Replace as needed
	LSU	Dust-proof glass	Х	Х	Х	Х	Х	
LSU section	Others	LSU cleaning paper	Х					Replace as needed
		Paper feed roller	Х	0	0	0	0	Replace at 100K of each counter or 1 year of
Paper feed	Manual paper	Separation roller	Х	0	0	0	0	use.
section	naper feed unit	Torque limiter	Х	Х	Х	Х	Х	
	paper loca and	Sensors	Х	Х	Х	Х	Х	
Paper regis-		PS auxilrary roller	Х	0	0	0	0	
tration		Transport rollers	Х	0	0	0	0	
section		Paper guides	0	0	0	0	0	
transport sec-		Discharge brush	Х	Х	Х	Х	Х	
tion)/Paper exit section/ ADU section		Gears	х	x	х	x	x	Apply to the specified area when checking. FLOIL GE-676
		Gears (grease)	х	х	х	х	х	Apply to the specified area when checking. FLOIL G-313S
Drive section		Shaft earth sections conduction grease	х	х	х	х	х	Apply to the specified area when checking. FLOIL GE-676
		Belts	Х	Х	Х	Х	Х	
		Sensors	Х	Х	Х	Х	Х	
Fusing sec- tion	Fusing unit	Fusing unit	х	-		-		Replace at 150K or 2 year of use.
Other		Process registration sensor	Х	0	0	0	0	Clean when the Fusing unit and the Drum car- tridge is replaced.
		Ozone filter	Х					Replace at 75K
		Suction filter	Х					

MX-CS11

Section name	Unit name	Part name	When calling	75 K	150 K	225K	300 K	Remark
		Pick-up roller	0	0	0	0	0	When the CS11 paper feed counter reaches a value of
		Paper feed roller	0	0	0	0	0	100K or when one year has elapsed since the start of
		Separation roller	0	0	0	0	0	use.
		Torque limiter	Х	Х	Х	Х	Х	
MX-CS11		Transport rollers	Х	0	0	0	0	
		Transport paper guides	0	0	0	0	0	
		Discharge brush	Х	Х	Х	Х	Х	
		Gears	Х	х	х	х	х	Apply to the specified area when checking. FLOIL GE- 676

A. RSPF section

X: Check (Clean, replace, or adjust according to necessity.) \bigcirc : Clean \blacktriangle : Replace \triangle : Adjust \ddagger : Lubricate

No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Paper feed roller	0	0	0	0	0	Replace when the RSPF feed counter reaches 100K or
2	Paper pickup roller	0	0	0	0	0	parts are worn.
3	Each transport roller	Х	Х	Х	Х	Х	
4	Scan plate	0	0	0	0	0	
5	Paper exit roller	Х	Х	Х	Х	Х	
6	Discharge brush	Х	Х	Х	Х	Х	
7	OC mat	0	0	0	0	0	
8	Gears	Х	Х	Х	Х	Х	
9	Belts	Х	Х	Х	Х	Х	



B.Scanner section

X: Check (Clean, replace	, or adjust according	o necessity.) 🔾 : Clear	n ≜: Replace ∆: .	Adjust 🕸: Lubricate
--------------------------	-----------------------	-------------------------	--------------------------	---------------------

No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	CCD	Х	Х	Х	Х	Х	
2	Table glass, SPF glass	Х	Х	Х	Х	Х	
3	Scanner lamp (bar LED PWB)	Х	х	х	х	х	Air cleaning on the bar and the PWB.
4	Rail	х	х	х	х	х	Grease the indicated area with MOLYKOTE EM50-L when check- ing.
5	Drive belt	Х	Х	Х	Х	Х	
6	Drive gears / pulley	Х	Х	Х	Х	Х	



C.Developing section

X: Check (Clean, replace, or adjust according to necessity.) \bigcirc : Clean \blacktriangle : Replace \triangle : Adjust \ddagger : Lubricate

No	Unit name	When calling	45K	75 K	90 K	135 K	150 K	180K	225 K	270 K	300 K	Remarks
4	Developing unit (monochrome)	-	-		-	-		-		-	-	
1	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



 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.



 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.)



 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.



After adjusting the position





- (Note4) Connect the connector of the developing unit firmly. * When the connector is not connected correctly, the developing adjustment error occurs.
- Execute SIM24-5 to clear the developing unit counters. Then, execute SIM25-2 to adjust the developing unit automatically.

D.Drum cartridge

X: Check (Clean, replace, or adjust according to necessity.) \bigcirc : Clean \blacktriangle : Replace \triangle : Adjust \ddagger : Lubricate

No	Unit name	When calling	45K	75 K	90 K	135 K	150 K	180K	225 K	270 K	300 K	Remarks
4	OPC drum unit (monochrome)	-	-		-	-		-		-	-	
1	OPC drum unit (color)	-		-			-				-	



E.Transfer section

X: Check (Clean, replace, or adjust according to necessity.) \bigcirc : Clean \blacktriangle : Replace \triangle : Adjust \ddagger : Lubricate

No.	Unit name	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Primary transfer unit	Primary transfer unit	Х	-		-		Replace at 150K or 2 year of use.
2	Secondary transfer unit	Secondary transfer roller	Х	-	0	-	0	Replace as needed



F. LSU section

X: Check (Clean, replace, or adjust according to necessity.) \Rightarrow : Clean \blacktriangle : Replace \triangle : Adjust \Rightarrow : Lubricate

No.	Unit name	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	LSU	Dust-proof glass	Х	Х	Х	Х	Х	
2	Others	LSU cleaning paper	Х					Replace as needed



G. Manual paper feed section

4

Sensors

		-			-		
No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Paper feed roller	Х	0	0	0	0	Deplese at 100K of each counter or 1 year of use
2 Separation roller		Х	0	0	0	0	Replace at 100K of each counter of 1 year of use.
3	Torque limiter	Х	Х	Х	Х	Х	

Х

Х

Х

X: Check (Clean, replace, or adjust according to necessity.) \Rightarrow : Clean \blacktriangle : Replace \triangle : Adjust \Rightarrow : Lubricate

Х

Х



H. Transport, Reverse, Paper exit section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean \blacktriangle : Replace \triangle : Adjust \Rightarrow : Lubricate

No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	PS auxilrary roller	Х	0	0	0	0	
2	Transport rollers	Х	0	0	0	0	
3	Paper guides	0	0	0	0	0	
4	Discharge brush	Х	Х	Х	Х	Х	
5	Gears	Х	Х	Х	Х	Х	Apply to the specified area when checking. FLOIL GE-676



I. Drive section

 \times : Check (Clean, replace, or adjust according to necessity.) O: Clean \blacktriangle : Replace \triangle : Adjust \Rightarrow : Lubricate

No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Gears (grease)	Х	Х	Х	Х	Х	Apply to the specified area when checking. FLOIL G-313S
2	Shaft earth sections conduction grease	х	х	х	х	х	Apply to the specified area when checking. FLOIL GE-676
3	Belts	Х	Х	Х	Х	Х	
4	Sensors	Х	Х	Х	Х	Х	





J.Fusing section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean \blacktriangle : Replace \triangle : Adjust \Leftrightarrow : Lubricate

No.	Part name	When calling	75 K	150 K	225K	300 K	Remark
1	Fusing unit	Х	-		-		Replace at 150K or 2 year of use.



K. Other (Filter) section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean \blacktriangle : Replace \triangle : Adjust \Leftrightarrow : Lubricate

No.	Unit name	When calling	45K	75 K	90 K	135	K 150	к	180K	225 K	270 K	300 K	Remarks
1	Toner cartridge BK	User replacement for every toner empty.											
2	Toner cartridge CMY	User repla	User replacement for every toner empty.										
3	Toner collection container	Replaced by the user when full is detected.											
	1												
No.	Part name	When calling	75	K 1	50 K	225K	300 K	K Remark					
1	Process registration sensor	Х	0)	0	0	0	Clean when the Fusing unit and the Drum cartridge is replaced.					
2	Ozone filter	Х						Replace at 75K					
3	Suction filter	Х			A								



[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) Right cabinet front NE

- 1) Remove remove the Operation plate NE.
- 2) Remove pawls and remove the Right cabinet front NE.





(4)Rear cabinet upper NE, Rear cabinet NE

1) Remove screws and pawls. Then, remove the Rear cabinet upper NE and the Rear cabinet NE.





- (5) Paper exit tray rear connection cabinet
- 1) Remove the Paper exit tray left cabinet NE.
- 2) Remove the rear connection cabinet.



(6)Right cabinet rear NE, Upper cabinet right NE

- 1) Remove the Rear cabinet uooer NE and the Rear cabinet NE.
- 2) Open the right door.



 Remove the Right cabinet rear NE and the Upper cabinet right NE.



B. Operation panel section



(1) Operation panel unit

1) Raise the operation panel unit and remove screws shown in the figure.



 Turn back the operation panel unit and place it shown in the figure. Then, remove the FFC and the operation panel unit.



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.





Regarding the connection part (B), remove the FFC by referring the following procedure.

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.



C. RSPF unit



⁽¹⁾ RSPF unit

- 1) Remove the Rear cabinet NE, the Right cabinet NE and the Upper cabinet right NE.
- 2) Remove the RSPF cable from the SCU PWB and the screws fixing the RSPF cable and the earth cable.



3) Remove the RSPF unit from the main unit.



D. Scanner unit



- 1) Remove the RSPF unit.
- 2) Remove the Operation panel unit.
- 3) Remove the Upper cabinet left.
- 4) Remove the Left cabinet NE.
- 5) Remove the Rear cabinet NE.
- 6) Remove the FFC and harness from the scanner unit referring the following procedures.
 - * Remove the FFC by releasing the lock of the FFC connector.



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.



Regarding the connection part (B), remove the FFC by referring the following procedure.

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.



7) Remove the operation panel base by removing the screws and FFCs shown in the figure.



8) Open the front cabinet and remove the operation panel bottom cover.



9) Remove the scanner unit.





E. Toner collection container





- (1) Toner collection container
- 1) Pull out the Paper tray.
- 2) Open the front cover.
- 3) Remove the Toner collection container.



MX-C301 DISASSEMBLY AND ASSEMBLY 10-7

F. Toner supply section



(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 clogging symptom.)



G. Development unit



- 1) Remove the Toner collection container.
- 2) Remove the toner cartridges.
- 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



- 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



- 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. .
- 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.



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 and the wire to wire connector.



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



- 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. Three screws are needed to be removed.





Parts		
1	LIU PWB	
2	FAX MAIN PWB	
3	DC DC PWB	
4	MFPC PWB	
5	HDD	
6	HV PWB	
7	AC DC PWB	
8	PCU PWB	
9	FAN I/F PWB	
10	PCU PWB	

(1) LIU PWB

- 1) Remove the right cabinet rear NE.
- 2) Remove the rear cabinet rear NE.
- 3) Remove the LIU PWB.



(2) FAX MAIN PWB

1) Remove the FAX unit.



- 2) Remove the FAX LIU PWB.
- 3) Remove the plate for fixing the FAX MAIN PWB.



4) Remove the FAX MAIN PWB.



(3) DC DC PWB

- 1) Remove the right cabinet rear NE.
- 2) Remove the rear cabinet rear NE.
- 3) Remove the FAX unit.



4) Remove the DC DC PWB unit.



5) Remove the DC DC PWB.



(4)MFPC PWB

- 1) Remove the right cabinet rear NE
- 2) Remove the rear cabinet rear NE
- 3) Remove the FAX MAIN PWB unit.
- 4) Remove the MFPC cover.





 Remove the screws and FFCs from MFPC by referring the following procedures. Then, remove the MFPC PWB.
* 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.



(5)HDD

- 1) Remove the right cabinet rear NE
- 2) Remove the rear cabinet rear NE
- 3) Remove the rear cabinet support frame NE.



4) Remove the screws and connectors. Then, remove the HDD unit.



5) Remove the HDD from the fixing plates.



(6)HV PWB

- 1) Remove the right cabinet rear NE
- 2) Remove the rear cabinet rear NE
- 3) Remove the FAX MAIN PWB unit.
- 4) Remove the MFPC PWB fixing plate.



5) Remove the PWB protection sheet NE and the MFPC cover.



6) Remove the HV PWB.



- (7) AC DC PWB
- 1) Open the front cover.
- 2) Remove the paper exit tray.
- Remove the harnesses and the AC DC PWB with the stubby driver.



(8)PCU PWB

- 1) Remove the right cabinet rear NE
- 2) Remove the rear cabinet rear NE
- 3) Remove the FAX unit.
- 4) Remove the harnesses and the FFC connected to the PCU PWB by referring the following procedures. Then, remove the PCU PWB unit
 - * 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.



5) Remove the PCU PWB from the PCU PWB unit.



(9)FAN IF PWB

- 1) Remove the right cabinet rear NE
- 2) Remove the rear cabinet rear NE
- 3) Remove the FAX unit.
- 4) Remove the PCU PWB unit
- 5) Remove the FAN IF PWB.



(10)SCN PWB

- 1) Remove the Upper cabinet left.
- 2) Remove the Left cabinet NE.
- 3) Remove the Rear cabinet NE.
- 4) Remove the all connectors and FFC to the SCN PWB.



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.



Regarding the connection part (B), remove the FFC by referring the following procedure.

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.



5) Remove screws shown in the figure.



6) Pull out the SCN PWB unit.



7) Remove the SCN PWB.



O. Drive unit



Parts Main drive unit

- 1) Remove the right cabinet rear NE
- 2) Remove the rear cabinet rear NE
- 3) Remove the FAX MAIN PWB unit.
- 4) Remove the MFPC PWB.
- 5) Remove the HV PWB.
- 6) Remove the PCU PWB unit
- 7) Disconnect the connector, harnesses, circle terminals and the reusable band of the main drive unit.



8) Remove the main drive unit.



2.Disassembly and assembly of each unit

A. Operation panel unit



No.	Name	
1	LCD unit	
2	70 LVDS HN PWB	
3	KEY-LED PWB	

(1) 70 LVDS HN PWB

1) Remove the FFCs to the 70 LVDS PWB and remove the Operation panel unit.



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.



Regarding the connection part (B), remove the FFC by referring the following procedure.

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.



2) Remove the FFCs to the 70 LVDS PWB and remove the Operation panel unit.



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.



Regarding the connection part (B), remove the FFC by referring the following procedure.

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.



3) Remove the screws and remove the 70LVDS HN PWB.



(2) LCD unit

- 1) Remove the 70LVDS HN PWB.
- 2) Open the pawls and remove the screws. Then, remove the LCD unit.
- NOTE: Use enough care not to put finger prints on the LCD surface.



(3)KEY-LED PWB

- 1) Remove the Operation panel unit.
- 2) Remove the screws and remove the FFC. Then, remove KEY-LED PWB.



B.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 Upper door cabinet R.



3) Remove the E ring, remove the paper feed shaft unit.



 Remove the pressure release lever, bearings washers, stoppers and Paper feed drive gear.



5) Remove the resin ring, 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 front cabinet, the rear cabinet R and the upper door cabinet R.



- 2) Remove the paper feed shaft unit.
- 3) Remove the transportation unit.



4) Remove the E-ring, the pulley, the belt and the bearing.



5) Remove the earth cable and remove the PS roller



6) Remove the motor fixing plate.



7) Remove the E ring, the gear and the bearing.



8) Remove the Upper transport roller.



9) Remove the gate.



10)Remove the E ring, the gear and the bearing.



11)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 rear cabinet R.



3) Remove the resin E-ring and the clutch.



4) Remove the E ring.



5) Remove the Paper exit roller and the BC paper exit roller.



6) 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.



C.Scanner unit

No.	Name	
1	Drive belt	
2	Glass	
3	Rail	
4	CCD 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 turn the scanner upper cover.



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)Glass

- 1) Remove the glass from the upper cover by removing the doule-sided tapes.
- 2) Remove the glass.



(4)CCD unit

- 1) Remove the scanner upper cover.
- 2) Remove the shaft fixing plate shown in the figure.



 Push the plate inside as shown in the figure and remove the drive belt from the gears.



When fixing the drive belt, check the direction of the teeth of the drive belt. The teeth of the drive belt has to be meshed with the tooth of the gear.



4) Raise the CCD unit and pull out the shaft from the CCD unit.



5) Remove the FFC from the CCD unit.



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.



When removing the FFC, tilt the FFC slightly. Then, raise the fixing cramp with using the thin tip screw driver.



When fixing the fixing cramp. hook the right part of the fixing cramp at first shown in the figure. Them, fix it completely.



D.Transfer section



1	Secondary transfer roller

- (1) Secondary transfer roller
- 1) Remove the E ring and the roller collar.



 Remove the roller shaft, and remove the secondary transfer roller.



E. LSU section

(1)LSU cleaning tool

Parts		
1	LSU cleaning tool	

1) 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.



F.Manual paper feed section

Parts		
1	Paper feed roller	
2	Separation roller	
3	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.



G.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.



 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 unit is composed of the LCD unit, the 70 LVDS HN PWB, the USB I/F PWB, and the KEY PWB. It displays the machine operation.

It is provided with the USB I/F which is used for the firmware update, USB print, and Scan to USB.

2. 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.



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 scan- ning.
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 scan- ning.
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	Туре	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.

<JAM detection>

	IAM contents	JAM detection method		Basic distance (A)[mm]	JAM margin dis-	JAM detection dis-
JAM Code	JAW Contents	JAM start trigger	JAM judgement condition	Dasic distance (A)[iiiii]	tance(B)[mm]	tance (A+B)[mm]
ICU_REQ	ICU factor stop JAM	-	Stop by a job stop request commend from ICU to SCU	-	-	-
SDFS_S	Paper JAM	Start of the light quantity correction between papers	When canceling of the light quantity correction between papers does not make it in time.	-	-	-
SPPD1_N	SPPD1 not- reached JAM	Starts the paper feed	SPPD1 ON	99.2	150	249.2
SPPD1_NR	SPPD1 reverse not reached JAM	Reverse start posi- tion	SPPD1 ON	111.1	50	161.1
SPPD2_N	SPPD2 not- reached JAM	SPPD1ON	SPPD2 ON	140.5	50	190.5
SPPD2_NR	SPPD2 reverse not-reached JAM	Reverse start posi- tion	SPPD2 ON	117.1	50	167.1
SPPD1_S	SPPD1 remain- ing JAM	SPPD1ON	SPPD1 OFF	Normal mode : 355.6mm Long paper mode(FAX) : 500mm	50	Normal mode : 405.6mm Long paper(FAX) : 550mm
SPPD1_SR	SPPD1 reverse remaining JAM	SPPD1ON	SPPD1 OFF	355.6	50	405.6
SPPD2_S	SPPD2 remain- ing JAM	SPPD1 OFF	SPPD2 OFF	141.1	50	191.1
SPPD2_SR	SPPD2 reverse remaining JAM	SPPD1 OFF	SPPD2 OFF	141.4	50	191.1
SPSD_SCN	Exposure start notification timer end	Arrival at temporal stop position	Exposure start command from ICU to SCU no recep- tion timeout	-	-	-
STOP_JAM	Emergency stop JAM	-	Trouble mode transition request from ICU to SCU Emergency stop by a com- mand	-	-	-
P_SHORT	Short size JAM	SPPD1 OFF	When the paper length is less than 69.0mm on the single scanning When the paper length is less than 159.4mm on the 2-sided scanning	-	-	-

<Single scanning timing figure>





<2-sided scanning timing figure>



(2)Original transportation

- 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 CCD Unit is situated under the slit glass to scan the moving original document.
- 3) The image on the original is scanned by the CCD 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.

(3)Paper transportation (main body side)

- 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	CCD unit	Scans the document images and radiates lights onto a document for the CCD to scan document images.

B. Outline

This section performs the following functions.

- Light is radiated to the document by the scanner lamp, and the contrast of the reflected light is read by the CCD elements of three lines of RGB to be converted into the image signal (analog).
- 2) The image signals (analog) are converted into 10bit digital signals by the A/D converter.
- The image signals (digital) are sent to the image process section (scanner control PWB).

C. Optical section drive

The CCD 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 SCN $\ensuremath{\mathsf{PWB}}$.

D. Scanner lamp drive

The scanner lamp (CLI) is driven by generating the scanner lamp drive voltage with the LED drive PWB in the carriage unit according to the control signal sent from the SCN PWB.

E. Image scan/color separation

Light is radiated to the document by the scanner lamp, and the contrast of the reflected light is read by the CCD elements of three lines of RGB to be converted into the image signal (analog).

The color components of document images are extracted to R, G, and B separately by the three kinds of CCD elements (R,G,B).

The red CCD extracts the red component of document images, the green CCD green the components, and the blue CCD the blue components. This operation is called the color separation.

The CCD unit looks like one unit, but it includes three kinds of CCD elements, R, G, and B.

The document scan in the main scanning direction is performed by the CCD element.

The document scan in the sub scanning direction is performed by shifting the carriage unit with the scanner motor. Document images are optically reduced by the lens and reflected to the CCD. The scan resolution is 600 dpi.





F. Image signal A/D conversion

 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 10bit 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 transport and switchback section

A. Electrical and mechanism relation diagram



FUM Fusing drive motor Drives the fusing unit, the paper feed section and Regi	stration 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.

7. Paper exit 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.
POD1	Paper exit detector 1	Detects paper pass in the paper exit section. Detects a paper jam.
POC	Paper exit clutch	Controls the drive timing of paper exit roller (drive).
POD2	Paper exit detector 2	Detects paper pass in the paper exit section. Detects a paper jam.
TFD	Paper exit tray full detector	Detects paper full in the paper exit tray.

No.	Name	Function and operation
1	Paper exit roller (drive)	To exit paper onto the exit tray and perform switch back operations when in duplex mode.
2	Paper exit roller (idle)	To apply pressure to a paper with the paper exit roller (Drive), to give a feeding force of the exit roller to a paper.
3	Discharge Brush1	To discharge static generated in the fuser section.
4	Discharge Brush2	To discharge static generated in the paper exit section.

B. Paper exit operation

The fuser motor drives the paper exit clutch which drives the paper exit roller. The paper exit roller along with pressure from the paper exit idle rollers drive the paper into the paper exit tray.

C. Switchback operation

In duplex mode, POD1 detects the lead edge of the paper from the fuser section. After a specific amount of time, dependant on paper size, the paper exit clutch is turned off and the paper exit reverse clutch is turned on reversing the direction of the paper into the duplex paper path for transfer of image onto side two of the paper.

8. Automatic document feeder

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 lase beams per color.	

No.	Name	Function and operation		
1	LD PWB	Controls the drive and the power of the laser diode.		
2	Collimator lens	Focuses laser beams.		
3	fø 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	Controls the LD PWB and the polygon motor drive based on the control signal and the image data from the MFPC 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

10.OPC drum section

A.Electrical and mechanism relation diagram



Signa	al name	Name	Function/Operation	
DHPD_CL OPC drum rotation sensor (CL)		drum rotation sensor (CL)	Detects rotation and the phase of the OPC drum (CL).	
DHPD_K OPC drum rotation sensor (BK)		drum rotation sensor (BK)	Detects rotation and the phase of the OPC drum (BK).	
DL_BK Discharge lamp (K)		harge lamp (K)	Discharges electric charges on the OPC drum (K).	
DL_C Discharge lamp (C)		harge lamp (C)	Discharges electric charges on the OPC drum (C).	
DL_M Discharge lamp (M)		harge lamp (M)	Discharges electric charges on the OPC drum (M).	
DL_Y Discharge lamp (Y)		harge lamp (Y)	Discharges electric charges on the OPC drum (Y).	
DVM	Deve	eloping motor (CL)	Drives the developing/OPC drum section (CL).	
DM	Deve	eloping 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	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	Crum	Stores data related to control of the toner cartridge. Detects a new toner cartridge.
(Y,M,C,K)		
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	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.



Monochrome print mode

Relationship between the transfer belt mode (state) and the transfer belt mode sensor

	Senso	r state
Mode (State)	1TUD	1TUD K
	CL	
Color print mode: All the OPC drums are in close	OFF	ON
contact with the transfer belt.		
Free position: All the OPC drums are separated	ON	OFF
from the transfer belt.		
Monochrome print mode: Only the K OPC drum is	ON	ON
in close contact with the transfer belt.		

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_UM	Heater lamp (HL\LM)	Heats the fuser heat roller.
TH_UM	Thermistor UM(MAIN)	Regulates Heat Roller Temperature at center of the Heat Roller.
TH_US	Thermistor US(SUB)	Regulates Heat Roller Temperature at the end of the Heat Roller.
TS_UM	Thermostat (MAIN)	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 ACpower 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

Color toner (Y, M, C, and K) on paper is heated and pressed by the fusing roller, to be fused on paper. At this moment, color toners (Y, M, C, and K) are mixed and the machine realizes the colors which are close to the actual document.

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.

The temperature setting of the roller can be done by SIM43-1, 43-2, 43-20, 43-21 and 43-24.

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/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.
CFM1	Cooling Fan Motor	Cools the Power Supply unit

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] VARIOUS STORAGE DATA HANDLING

1.HDD/SD card memory map

A.HDD partition

HDD size = 250GB (Actual size 220GB)

		0	1	2	3	4	5	6	7	8		9
Outer track 0 [L-1] 0.2GB 10												
	30											
	~											
	120											
	130											
	140	[I-3] 0.8GB Not use	[I-4] 1GB	[L-2] 1GB	[S-0] 0.2GB	S-1] 2.5GB		[S-2] 0.5GB [S	-3] 2GB		[S-4] 2G	BNotuse
	150	[S-5] 16GB										
	160			[S-6] 4GB				[S-7]4GB				
	170	0 [S-8] 50GB										
	180											
	190											
200												
	210											
	220	[S-9] 6GB						[S-10] 8G	В			
r er ck	230					[L-3] 1GB Not use						
	[GB]						I					

B.HDD data contents

No.	File system	Stored data	NOTE
L-1	Not available	ICU Firmware	Speed up the starting up operation
I-1	Image data	Image data (ERDH/Temporary storage)	1000 documents, 10000 images
I-2	Image data	Image data (Document filing)	3000 documents, 20000 images
I-3	Image data	Not available	Not used
1-4	Image data	FAX/Internet Fax receive images	
L-2	Not available	System storage data (Address book, image send system registration data)	
S-0	Universal	System setting value data (for backup)	
S-1	Universal	Download font User profile User macro Database system file	
S-2	Universal	Document filing (database) Job log(database) Job completion list	
S-3	Universal	System log	
S-4	Universal	Not available	Not used
S-5	Universal	Spool area for printer	
S-6	Universal	Application work area (user file used in SMB direct print)	
S-7	Universal	eOSA application file	
S-8	Universal	User file saved in the SMB server	
S-9	Universal	Data backup when installing DSK (address book, account information)	
S-10	Universal	e-manual watermark	
L-3	Not available		Not used

C.SD card partition

SD card size = 4GB (Actual size 3.6GB)

	0	100	200	300	400	500	600	700	800	900 [[
0	[L-101] 500MB	1				[S-101] 500ME	3			
1	[S-102] 500ME	3				[S-105] 100MB	[S-103] 924ME	3		
2						[l-101] 1GB				
3										

[GB]

D.SD card data contents

No.	File system	Stored data	NOTE
L-101	Not available	ICU firmware (Boot/Main) Boot animation Boot (CN Update mode) ARM9 firmware Iang.sfu (Ianguage data) graph.sfu (Animation data)	
S-101	Universal	font web help spdl Option FontROM	
S-102	Universal	Same as above (Mirror)	
S-105	Universal	Setting value data file (System setting/SIM setting data (Image quality adjustment)/FAX Soft SW)	
S-103	Universal	Key operator setting storage data FAX reception data (For power shut off and paper empty) FEP leaning data (Japanese/Chinese) Firmware update data (differential between new and old) (For FSS) Account management information/User authentication data	
I-101	Image data	FAX/Internet Fax receive images	

2.Necessary steps when replacing the PWB, HDD and the SD Card

A.MFP substrate replacement procedure (work flow)



Registered user information will not be recovered if the MFP PWB is affected by U2-05 trouble. (*1)

1) Attach the flash ROM, the memory, the EEPROM, the SD card etc. of the MFP PWB on the service parts MFP PWB and install it to the main unit.



Ground your body with grounding band during the work.

- 2) When U2 trouble occurs, use SIM16 to cancel it.
- 3) Set as follows after restarting the main unit.

At this timing, F6-21 may occur. Whether it may occur or not, go to execute procedure 1.

(1) Set the appropriate country code by Sim66-02 (clear the software switches related to FAX).



Make sure to execute even if the fax option is not installed on the machine.

B.Procedures necessary for HDD replacement

Note for HDD replacement

- Data of the following list are saved in the HDD of the complex machine. If the HDD operates normally and data backup is possible before replacement, perform data backup and then replace the HDD.
- If the HDD does not operate normally, data cannot be backed up.
- The HDD replacement procedures with a broken HDD differs from that with a normal HDD.

Contents of this chapter

- HDD storage data and backup
- Replacement procedures when HDD storage data can be backed up
- Replacement procedures when HDD storage data cannot be backed up due to breakdown of HDD
- Reinstall and update procedures of Operation Manual data saved in HDD
- Reinstall and update procedures of watermark data.

(1)HDD storage data and backup

Some HDD storage data can be backed up, and some other data cannot. Some HDD storage data can be reinstalled, and some other storage data cannot.

If the HDD operates normally before replacement and data can be backed up, back up the data before replacement of the HDD referring to the HDD storage data list. Then reinstall the data after replacement of the HDD.

a.HDD storage data list

No.	Data kind	Before installa- tion (When ship- ping from the factory)	After installa- tion (After use by users)	Enable/Dis- able of data backup	Backup means	Enable/Dis- able of data reinstall	Data reinstall procedures	Rein- stall operator
1	e-Manual	Available	Available	Disable	*1	Enable	Sim49-3	Service
2	Address book	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
3	Image send series registra- tion data (Sender's informa- tion, meta data, etc.)	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
4	User authentication Account management	Not available	Available	Enable	Sim56-2	Enable	Sim56-2	Service
5	Japanese FEP dictionary (Learning)	Not available	Available	Disable	Not available	Disable		-
6	Chinese FEP dictionary (Learning)	Not available	Available	Disable	Not available	Disable		-
7	JOB LOG	Not available	Available	Enable	Perform with WEB PAGE.	Disable		-
8	JOB completion list	Not available	Available	Disable	Not available	Disable		-
9	New N/A (FSS) information	Not available	Available	Disable	Not available	Disable		-
10	User font (Added)	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	
11	User macro	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	Service or User
12	Document filing	Not available	Available	Enable	Perform with WEB PAGE.	Enable	Perform with WEB PAGE.	
13	Some of system setting data	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
14	Watermark	Available	Available	Disable	*2	Enable	Sim49-5	Service
15	User color profile	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	Service
16	Individual setting informa- tion for direct WEB brows- ing	Not available	Available	Disable		Disable		Service
17	Cookie file for OSA applica- tion	Not available	Available	Disable		Disable		Service
18	eOSA application file	Not available	Installation of application	Disable		Enable	Reinstallation of application	Service
19	User file saved in the SMB server (NAS)	Not available	Available	Disable		Disable		Service

*1: The e-Manual cannot be backed up, but can be reinstalled by using Sim49-3 and USB flash drive.

*2: Watermark data cannot be backed up, but can be reinstalled by using Sim49-5 and USB flash drive.

(2). Replacement procedures when HDD data can be backed up

a.Work contents and procedures

Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *			
Step 1	Back up the HDD storage data before replacement. (Servicing) Use SIM56-2 or the device cloning, or the storage backup function to backup the data. (Back up the data to the USB flash drive.) (Backup enable data: HDD storage data list No. 2, 3, 4 (Address book, Image send series registration data, User				
Step 2	Back up the HDD storage data b or servicing) Back up the data to PC with Web (Backup enable data: HDD stora (Document filing data, JOB LOG	efore replacement. (User o page. ge data list No. 7, 10, 14 data))			
Step 3	When there are some FAX or Intr SIM66-62 to backup the image d the USB flash drive. (The backup file type, and cannot be restored backup data are given to the use	ernet Fax data, use ata from the SD card to b image data are of PDF to the machine. The r.)			
Step 4	Replace the HDD.				
Step 5	Boot the complex machine. -> Formatting is automatically performed.	Boot the complex machine.			
Step 6		The trouble code, U2-05, is displayed> Cancel with SIM16.			
Step 7	Since a blank HDD is automati- cally formatted, there is no need to perform formatting pro- cedure with SIM.	Use SIM62-1 to format the HDD.			
Step 8	Use SIM66-10 to clear the FAX in ory is cleared in order to keep co HDD data and the image related malfunctions. (The memory must FAX model but in the scanner an els.)	mage memory. The mem- mpliance between the memory and to prevent be cleared not only in the d the Internet Fax mod-			
Step 9	Use SIM49-3 to install the manua	al data to the HDD.			
Step 10	The trouble code, U2-60, is displ install the watermark data to the machine, use SIM16 to cancel th	ayed> Use SIM49-5 to HDD> After booting the e "U2-60" trouble.			
Step 11	Import the data backed up in Step 1. Use SIM56-2, or the device cloning, or the storage backup to import. (Import enable data: HDD storage data list No. 2, 3, 4 (Address book, Image send series registration data, User authentication data))				
Step 12	Import the data backed up with th Step 2. Import enable data: Document fil macro (The JOB LOG data can be back imported.)	ne Web page function in ing data, User font, Use ed up but cannot be			

(3)Replacement procedures when the HDD storage data cannot be backed up due to breakdown

a.Display when HDD breakdown

When a trouble occurs in the HDD, the error code display of E7-03 is popped up.

In this case, the main power must be turned OFF and the HDD must be replaced.

b.Work contents and procedures

Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Install a HDD to the machine, and boot the complex machine. -> Formatting is automatically performed.	Install a HDD to the machine, and boot the complex machine.
Step 2		The trouble code, U2-05, is displayed> Cancel with SIM16.
Step 3	Since a blank HDD is automati- cally formatted, there is no need to perform formatting pro- cedure with SIM.	Use Sim62-1 to format the HDD.
Step 4	When there are some FAX or Int SIM66-62 to backup the image d the USB flash drive. (The backup file type, and cannot be restored backup data are given to the use	ernet Fax data, use ata from the SD card to b image data are of PDF to the machine. The rr.)
Step 5	Use SIM66-10 to clear the FAX is ory is cleared in order to keep co HDD data and the image related malfunctions. (The memory must FAX model but in the scanner an els.)	mage memory. The mem- impliance between the memory and to prevent to be cleared not only in the d the Internet Fax mod-
Step 6	Use SIM49-3 to install the manua	al data to the HDD.
Step 7	The trouble code, U2-60, is displ install the watermark data to the machine, use SIM16 to cancel th	ayed> Use SIM49-5 to HDD> After booting the le "U2-60" trouble.

With the above procedures, the HDD is reset to the state of factory shipping.

(4)Reinstall and update procedures of the HDD storage Operation Manual data

1) Obtain the Operation Manual data.

Download the Operation Manual data from the utility menu on the web site (Tech-DS home page).

Copy the downloaded files to the USB device without changing the file hierarchy.

To upload to the complex machine, files of "**_pdf_fax.idx" and "**_pdf.idx" and "version.txt" as well as the Operation Manual data (**.pdf) are required. When the downloaded files are copied without changing the file hierarchy, these files also are copied.

Note

When data are uploaded from the USB flash drive to the HDD, if there are some data in the HDD, the files in the memory are compared with the files in the HDD and only the files which satisfy the following conditions are written into the HDD.

- The file size is different.
- The time stamp is different.
- The file exists only in the USB flash drive.

Important

The data backed up with SIM56-2 must not be installed to another machine. If installed, the adjustment data will be over-written and a trouble may be generated.

2) Enter the SIM49-3 mode.

					ଢ 0
IMULATION NO. 49-03					CLOSE
AL UPDATE [/usbbd:1/	(1)				
<pre> dir> fol</pre>	DER1		FILE1		
FILE2			<dir> FOLD</dir>	ER2	
<dir> MAN</dir>	UAL1				
					1/1
	IMULATION NO.49-03 AL UPDATE [/usbdil] <dir> FOL FILE2 <dir> MAN <dir> MAN</dir></dir></dir>	INULATION NO.49-03 AL UPDATE [/usbbd:1/] (DIR> FOLDER1 [FILE2 (DIR> MANUAL1	INULATION NO.49-03 AL UPDATE [/usbbd:1/] CDIR> FOLDER1 FILE2 CDIR> MANUAL1	INULATION NO. 49-03 AL UPDATE [/usbd:1/] COIR> FOLDERI FILE2 COIR> MANUALI	IMULATION NO.49-03 AL UPDATE [/wsbd:1/] (DIR> FOLDER1 FILE2 (DIR> FOLDER2 (DIR> FOLDER2

- 3) Insert the USB flash drive into the machine.
 - When the USB flash drive is not inserted, "INSERT A STOR-ANGEE-MANUAL STORED ON" is displayed. When [OK] button is pressed, the screen shifts to the folder select menu 1.
- 4) Select the folder of the Operation Manual data. (The screen shifts to the Operation Manual data install menu.)

The current version and the update version are displayed.

5) Press [EXECUTE] button.

[EXECUTE] button is highlighted, and [YES] and [NO] buttons are changed from gray-out to active display.

6) When [YES] button is pressed, the selected Operation Manual is installed.

When install is completed, "COMPLETE" is displayed. In case of an abnormality, "ERROR" is displayed.

(5)Watermark data reinstall and update procedures

1) Obtain the watermark data.

Download the watermark data from the utility menu on the web site (Tech-DS home page).

Copy the downloaded files to the USB device without changing the file hierarchy.

Note

When data are uploaded from the USB flash drive to the HDD, if there are some data in the HDD, the files in the memory are compared with the files in the HDD and only the files which satisfy the following conditions are written into the HDD.

- The file size is different.
- The time stamp is different.
- The file exists only in the USB flash drive.
- 2) Enter the SIM49-5 mode.

	☑ 0
TEST SIMULATION NO. 49-05	CLOSE
WATER MARK UPDATE [/usbbd:1/]	
<dir> FOLDER1 FILE1</dir>	
FILE2 (DIR> FOLDER2	
<dir> WM1</dir>	
	1/1
	1/1

- 3) Insert the USB flash drive into the machine.
 - When the USB flash drive is not inserted, "INSERT A STOR-ANGEE-MANUAL STORED ON" is displayed. When [OK] button is pressed, the screen shifts to the folder select menu 1.
- 4) Select the folder of the watermark data. (The screen shifts to the watermark data install menu.)

The current version and the update version are displayed.

5) Press [EXECUTE] button.

[EXECUTE] button is highlighted, and [YES] and [NO] buttons are changed from gray-out to active display.

When [YES] button is pressed, the selected watermark data are installed.

When install is completed, "COMPLETE" is displayed. In case of an abnormality, "ERROR" is displayed.

C.Procedures necessary for SD card replacement

(1) SD card data and backup

Some SD card storage data can be backed up, and some other cannot. Some SD card storage data can be reinstalled, and some other cannot. If the SD card operates normally before replacement and data can be backed up, back up the data before replacement of the SD card referring to the storage data list. Then reinstall the data after replacement of the SD card.

The SD card includes the following data.

SD card backup

Partition number		Stored data	Enable/Disable of data backup	Backup means	Enable/Disable of data reinstall	Data reinstall pro- cedures
L-101	ICU firmware data	ICU firmware (Boot/Main) lang.sfu graph.sfu Boot animation Boot (CN) ARM9 firmware	Disable		Enable	SIM49-1 (BOOT cannot be installed again.)
		font	Disable		Enable	SIM49-1
S 101	ICU firmware fixed data	web help	Disable		Enable	SIM49-1
3-101	(Pre-install)	spdl	Disable		Enable	SIM49-1
		Option FontROM	Disable		Enble	SIM49-1
S-102	ICU firmware fixed data (Mirror)	Same as above	Disable		Enable	SIM49-1
S-105	System data	Setting value data file (System set- ting/SIM setting data (Image quality adjustment)/FAX Soft SW)	Disable	SIM56-2	Enable	SIM56-2
		Key operator custom setting data (Data changed from the default)	Enable	System setting - data backup - device cloning	Enable	System setting - data backup - device cloning
		FAX reception data (For power shut off and paper empty)	Disable		Disable	
S-103	User data	FEP learning data (Japanese/Chi- nese)	Disable		Disable	
		Firmware update data (differential between new and old) (For FSS)	Disable		Disable	
		Account management information/ User authentication data	Enable	sim56-02	Enable	SIM56-2
I-101	FAX reception data	FAX/Internet Fax reception image data	Enable	SIM66-62	Disable	

1) Use SIM56-02 to backup the SD card data to the USB flash drive.

- 2) When the operation panel home screen has been customized, backup the SD card data by using the device cloning function.
- 3) When there are some FAX/Internet Fax data received, use SIM66-62 to backup the image data to the USB flash drive in the PDF file type, and give the PDF file to the user. (The data cannot be restored to the machine.)
- 4) Replace the SD card with a new one.
- 5) Upgrade the firmware to the latest version.
- Use SIM66-10 to clear the image send memory. (This is in order to obtain consistency between the HDD data and the image related memory.)
- 7) Use SIM56-02 to restore the data backed up in procedure 1).
- 8) Restore the data backed up in procedure 2) by using the device cloning function.



When replacing the SD card, be sure to use only the specified SD card supplied as a service part.

The firmware required for booting must be included in the SD card used in this machine. The commercially available SD cards have no such data.

Note

When U2-40 error occurs, if the error cannot be canceled by SIM16, or when E7-07 error occurs, there may be some trouble in the SD card.



The data backed up with SIM56-2 must not be installed to another machine. If installed, the adjustment data will be overwritten and a trouble may be generated.

3. HDD/SD card SIM format operation

The relations between SIM62/66 and formatted (deleted) data are as follows:

- *1: Physical format ("0" is written to the all area.)
- *2: Logical format (Only the management area is initialized.)
- *3: Nothing is done.

SIM66-10 FAX image memory clear

HDD

Partition number	Partition	
I-1	ERDH work + Temporary storage	*3
I-2	Document filing data (Standard + User)	*3
I-4	FAX/Internet Fax reception data	*2
L-1	IOCU firmware data	*3
L-2	System storage data	*3
S-0	System setting value data (for backup)	*3
S-1	User data 1	*3
S-2	Application #1 (Job log data)	*3
S-3	System log	*3
S-5	Printer spooler	*3
S-6	Application work	*3
S-9	DSK data save	*3
S-10	Pre-install data (e-manual/ Watermark)	*3

SD Card

Partition number	Partition	
I-101	FAX/Internet Fax reception data	*2
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	ICU firmware fixed data (Mirror)	*3
S-103	User data 2	*3
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3

SIM62-1 Hard disk format

HDD

Partition number	Partition	
I-1	ERDH work + Temporary storage	*1
I-2	Document filing data (Standard + User)	*1
1-4	FAX/Internet Fax reception data	*1
L-1	System storage data	*1
L-2	System storage data	*3
S-0	System setting value data (for backup)	*3
S-1	User data 1	*1
S-2	Application #1 (Job log data)	*1
S-3	System log	*1
S-5	Printer spooler	*1
S-6	Application work	*1
S-7	eOSA application file	*1
S-8	User file saved in the SMB server (NAS)	*1
S-9	DSK data save	*1
S-10	Pre-install data (e-manual/ Watermark)	*3

SD Card

Partition number	Partition	
I-101	FAX/Internet Fax reception data	*1
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	ICU firmware fixed data (Mirror)	*3
S-103	User data 2	*1
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3

SIM62-8 Hard disk format (Excluding the system area)

HDD	
-----	--

Partition number	Partition			
I-1	ERDH work + Temporary storage	*1		
I-2	Document filing data (Standard + User)	*1		
I-4	FAX/Internet Fax reception data	*1		
L-1	System storage data	*3		
L-2	System storage data	*3		
S-0	System setting value data (for backup)	*3		
S-1	User data 1	*1		
S-2	Application #1 (Job log data)	*1		
S-3	System log	*1		
S-5	Printer spooler	*1		
S-6	Application work	*1		
S-7	eOSA application file	*1		
S-8	User file saved in the SMB server (NAS)	*1		
S-9	DSK data save	*1		
S-10	Pre-install data (e-manual/ Watermark)	*3		

SD Card

Partition number	Partition			
I-101	FAX/Internet Fax reception data	*1		
L-101	ICU firmware	*3		
S-101	ICU firmware fixed data (Pre-install)	*3		
S-102	ICU firmware fixed data (Mirror)	*3		
S-103	User data 2	*1		
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3		

SIM62-10 Job complete list (Job log data) delete

HDD

Partition number	Partition				
I-1	ERDH work + Temporary storage	*3			
I-2	Document filing data (Standard + User)	*3			
1-4	FAX/Internet Fax reception data	*3			
L-1	System storage data	*3			
L-2	System storage data	*3			
S-0	System setting value data (for backup)	*3			
S-1	User data 1	*3			
S-2	Application #1 (Job log data)	*2			
S-5	Printer spooler	*3			
S-6	Application work	*2			
S-9	DSK data save	*3			
S-10	Pre-install data (e-manual/ Watermark)	*3			

SD Card

Partition number	Partition	
I-101	FAX/Internet Fax reception data	*3
I-102	FAX/Internet Fax reception data (Backup)	*3
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	ICU firmware fixed data (Mirror)	*3
S-103	User data 2	*3
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3

SIM62-11 Document filing data delete

HDD

Partition number		
I-1	ERDH work + Temporary storage	*2
I-2	Document filing data (Standard + User)	*2
I-4	FAX/Internet Fax reception data	*3
L-1	System storage data	*3
L-2	System storage data	*3
S-0	System setting value data (for backup)	*3
S-1	User data 1	*3
S-2	Application #1 (Job log data)	*3
S-5	Printer spooler	*2
S-6	Application work	*3
S-9	DSK data save	*3
S-10	Pre-install data (e-manual/ Watermark)	*3

SD Card

Partition number	Partition			
I-101	FAX/Internet Fax reception data	*3		
L-101	ICU firmware	*3		
S-101	ICU firmware fixed data (Pre-install)	*3		
S-102	ICU firmware fixed data (Mirror)	*3		
S-103	User data 2	*3		
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3		

SIM62-13 Hard disk format (Manual area only)

HDD

Partition number	Partition			
I-1	ERDH work + Temporary storage	*3		
I-2	Document filing data (Standard + User)	*3		
1-4	FAX/Internet Fax reception data	*3		
L-1	System storage data	*3		
L-2	System storage data	*3		
S-0	System setting value data (for backup)	*3		
S-1	User data 1	*3		
S-2	Application #1 (Job log data)	*3		
S-5	Printer spooler	*3		
S-6	Application work	*3		
S-9	DSK data save	*3		
S-10	Pre-install data (e-manual/ Watermark)	*2		

SD Card

Partition number	Partition			
I-101	FAX/Internet Fax reception data	*3		
L-101	ICU firmware	*3		
S-101	ICU firmware fixed data (Pre-install)	*3		
S-102	ICU firmware fixed data (Mirror)	*3		
S-103	User data 2	*3		
S-105	System data (System setting/ SIM setting data (Image quality adjustment)/FAX Soft SW)	*3		

[13] ELECTRICAL SECTION

1.Block Diagram

A.System block diagram





C.SCN PWB





E.LSUcnt PWB







2.Powe line diagram

A.AC power line diagram









3.Actual wiring chart

A.MFPC, LSU, FAX, USB



B.Scanner, RSPF, Operational panel



C.Process, Developer, Right door, Paper feed, Paper exit



D.Drive unit, Paper feed, HV, Fusing unit





+

4.Signal list

Signal			Connector Level		Connec-	Pin	Pin	
Name	CN Pin Name	Description	L	н	tor Number	Num- ber	PWB	NOTE
POD1	POD1	Detect After-fixing paper		Detect:On Paper	CN1	5	PCU	Delivery Unit:POD1
TFD2	TFD2	Detect Delivery Full		Detect:Full	CN1	2	PCU	Delivery Unit:TFD2
TH_UM	TH_UM	Thermal of Fixing Unit(Main)	(Analog)		CN2	2	PCU	Fixing Unit:TH_UM
TH_UM_CS	TH_UM_CS	Thermal of Fixing Unit(Main)	(Analog)		CN2	1	PCU	Fixing Unit:TH_UM_CS
TH_UM2	TH_UM2	Thermal of Fixing Unit(Sub)	(Analog)		CN2	6	PCU	Fixing Unit:TH_UM2
TH_US	TH_US	Thermal of Fixing Unit(Sub)	(Analog)		CN2	4	PCU	Fusing Unit:TH_US
FUM_CLK	FUM_CLK	Fusing Motor Clock	(Clock)		CN5	3	PCU	Fusing Motor
FUM_D	FUM_D	Fusing Motor Drive Control	Motor On		CN5	4	PCU	Fusing Motor
FUM_LD	FUM_LD	Detect Fusing Motor Lock		Detect:Lock	CN5	5	PCU	Fusing Motor
DSW_R	DSW-R	Detect Right Door Switch Close		Door Close(24V)	CN7	3	PCU	Right Door Switch
DSW_F	INT24V	Detect Front Door Switch Close		Door Close(24V)	CN8	1	PCU	Front Door Switch
DSW_R	DSW-R	Detect Right Door Switch Close		Door Close(24V)	CN8	2	PCU	Right Door Switch
TNC_C	TNC_C	Cyan Toner Clutch Control		Clutch On(FET DS On)	CN9	3	PCU	TNC_C
TNC_K	TNC_K	Black Toner Clutch Control		Clutch On(FET DS On)	CN9	1	PCU	TNC_K
TNC_M	TNC_M	Magenta Toner Clutch Control		Clutch On(FET DS On)	CN9	5	PCU	TNC_M
TNC_Y	TNC_Y	Yellow Toner Clutch Control		Clutch On(FET DS On)	CN9	7	PCU	TNC_Y
CRM_C_CK	CRM_C_CK	Cyan Toner CRM I2C I/F Clock	(Clock)		CN10	13	PCU	Cyan Toner CRM
CRM_C_DT	CRM_C_DT	Cyan Toner CRM I2C I/F Serial Data	(Serial Data)		CN10	15	PCU	Cyan Toner CRM
CRM_K_CK	CRM_K_CK	Black Toner CRM I2C I/F Clock	(Clock)		CN10	5	PCU	Black Toner CRM
CRM_K_DT	CRM_K_DT	Black Toner CRM I2C I/F Serial Data	(Serial Data)		CN10	7	PCU	Black Toner CRM
CRM_M_C K	CRM_M_CK	Magenta Toner CRM I2C I/F Clock	(Clock)		CN10	6	PCU	Magenta Toner CRM
CRM_M_DT	CRM_M_DT	Magenta Toner CRM I2C I/F Serial Data	(Serial Data)		CN10	8	PCU	Magenta Toner CRM
CRM_Y_CK	CRM_Y_CK	Yellow Toner CRM I2C I/F Clock	(Clock)		CN10	14	PCU	Yellow Toner CRM
CRM_Y_DT	CRM_Y_DT	Yellow Toner CRM I2C I/F Serial Data	(Serial Data)		CN10	16	PCU	Yellow Toner CRM
1TUD_CL	1TUD_CL	Detect CL Transfer belt Con- tact/Separates	-	-	CN11	3	PCU	1TUD_CL
1TUD_K	1TUD_K	Detect K Transfer belt Contact/ Separates	-	-	CN11	6	PCU	1TUD_K
1TURC	1TURC	Transfer belt Contact/Sepa- rates Clutch Control		Clutch On(FET DS On)	CN15	8	PCU	Main Drive Unit:1TURC
DHPD_CL	DHPD_C	Detect CL Drum phase	-	-	CN15	3	PCU	Main Drive Unit:DHPD_C
DHPD_K	DHPD_K	Detect K Drum phase	-	-	CN15	6	PCU	Main Drive Unit:DHPD_K
PSFM_LD	PSFM_LD	Detect Power Supply Cooling FAN Lock		Detect:Lock	CN15	11	PCU	PSFM
PSFM_V	PSFM_V	Power Supply Cooling FAN Drive Control		FAN Power On(24V)	CN15	10	PCU	PSFM
PSFM_CNT	PSFM_CNT	Power Supply Cooling FAN Speed Control	High Speed rotation	Low Speed rota- tion	CN15	13	PCU	PSFM
FUFM_LD	FUFM_LD	Detect Fixing Cooling FAN Lock		Detect:Lock	CN28	2	PCU	FUFM
FUFM_V	FUFM_V	Fixing Cooling FAN Drive Con- trol		FAN Power On(24V)	CN28	1	PCU	FUFM
DM_CLK	DM_CLK	Drum Motor Clock	(Clock)		CN14	5	PCU	Main Drive Unit:DM
DM_D	DM_D	Drum Motor Drive Control	Motor On		CN14	7	PCU	Main Drive Unit:DM
DM_LD	DM_LD	Detect Drum Motor Lock		Detect:Lock	CN14	9	PCU	Main Drive Unit:DM
DVM_CLK	DVM_CLK	Development Motor Clock	(Clock)		CN14	6	PCU	Main Drive Unit:DVM
DVM_D	DVM_D	Development Motor Drive Con- trol	Motor On		CN14	8	PCU	Main Drive Unit:DVM
DVM_LD	DVM_LD	Detect Development Lock		Detect:Lock	CN14	10	PCU	Main Drive Unit:DVM
HUD_M	HUD_M	Humidity of Manual bypass	(Analog)		CN21	6	PCU	Right Door Unit:HUD_M
MPED	MPED	Detect Paper Manual bypass		Paper detection	CN21	5	PCU	Manual bypass Unit:MPED
TH_M	TH_M	Thermal of Manual bypass	(Analog)		CN21	2	PCU	TH_M
DVTYP_C	DVTYP_C	Detect Cyan Developer tank discernment		Detect	CN16	A5	PCU	DV Unit
DVTYP_K	DVTYP_K	Detect Black Developer tank discernment		Detect	CN16	A11	PCU	DV Unit
DVTYP_M	DVTYP_M	Detect Magenta Developer tank discernment		Detect	CN16	B14	PCU	DV Unit

Signal Name	CN Pin Name	Description	Conne	ctor Level H	Connec- tor Number	Pin Num- ber	PWB	NOTE
DVTYP_Y	DVTYP_Y	Detect Yellow Developer tank		Detect	CN16	B8	PCU	DV Unit
TCS_C	TCS_C	Detect Cyan Toner Concentra-	(Analog)		CN16	A2	PCU	DV Unit
TCS_K	TCS_K	Detect Black Toner Concentra-	(Analog)		CN16	A8	PCU	DV Unit
TCS_M	TCS_M	Detect Magenta Toner Concen-	(Analog)		CN16	B11	PCU	DV Unit
TCS_Y	TCS_Y	Detect Yellow Toner Concentra-	(Analog)		CN16	B5	PCU	DV Unit
TNFD	TNFD	Detect Waste Toner Full		Detect:Full	CN16	B3	PCU	TNFD Sensor
TSG_C	TSG_C	Cyan Toner Concentration Sen- sor Control	(Analog)		CN16	A4	PCU	DV Unit
TSG_K	TSG_K	Black Toner Concentration Sen- sor Control	(Analog)		CN16	A10	PCU	DV Unit
TSG_M	TSG_M	Magenta Toner Concentration Sensor Control	(Analog)		CN16	B13	PCU	DV Unit
TSG_Y	TSG_Y	Yellow Toner Concentration Sensor Control	(Analog)		CN16	B7	PCU	DV Unit
DL_C	DL_C	Cyan Discharge LED Lamp Light volume Control	(PWM)		CN19	3	PCU	DL_C
DL_K	DL_K	Black Discharge LED Lamp Light volume Control	(PWM)		CN19	1	PCU	DL_K
DL_M	DL_M	Magenta Discharge LED Lamp Light volume Control	(PWM)		CN19	5	PCU	DL_M
DL_Y	DL_Y	Yellow Discharge LED Lamp Light volume Control	(PWM)		CN19	7	PCU	DL_Y
CPED1	CPED1	Detect Tray1 Paper		Detect:Non Paper	CN17	9	PCU	CPED1
CPUC	CPUC1	Tray1 Feed Clutch Control		Clutch On(FET DS On)	CN17	6	PCU	CPUC1
MPFC	MPFC	Manual feed Clutch Control		Clutch On(FET DS On)	CN17	2	PCU	MPFC
PPD2	PPD2	Detect Regist		Detect:Non Paper	CN17	11	PCU	PPD2
RRC	RRC	Resist Roller Clutch Control		Detect:Non Paper	CN17	4	PCU	RRC
PCS_F	PCS_F	Detect Process Control Light volume	(Analog)		CN18	1	PCU	PCS_F
PCSS	PCSS	Process Control Shutter Sole- noid Control		Solenoid On(FET DS On)	CN18	10	PCU	PCSS
REGS_F	REGS_F	Detect Front Regist Light vol- ume	(Analog)		CN18	2	PCU	REGS_F
REGS_F_L ED	REGS_F_LED	Front Regist LED Light volume Control	(Analog)		CN18	3	PCU	REGS_F_LED
REGS_R	REGS_R	Detect Rear Regist Light vol- ume	(Analog)		CN18	6	PCU	REGS_R
REGS_R_L ED	REGS_R_LED	Rear Regist LED Light volume Control	(Analog)		CN18	7	PCU	REGS_R_LED
C2LUM	C2LUM	Tray2 Lift Up Motor Control		Motor On	CN20	4	PCU	2nd Cas- sette(Option):C2LUM
C2MM_CLK	C2MM_CLK	Tray2 Main Motor Clock		Motor On	CN20	12	PCU	2nd Cas- sette(Option):C2MM
C2MM_D	C2MM_D	Tray2 Main Motor Drive	(Clock)		CN20	14	PCU	2nd Cas- sette(Option):C2MM
C2MM_LD	C2MM_LD	Detect Tray2 Main Motor Lock	Motor On		CN20	16	PCU	2nd Cas- sette(Option):C2MM
C2PFC	C2PFC	Tray2 Feed Clutch Control		Clutch On	CN20	6	PCU	2nd Cas- sette(Option):C2PFC
C2TRC	C2TRC	Tray2 Conveyance Clutch Con- trol		Clutch On	CN20	5	PCU	2nd Cas- sette(Option):C2TRC
CSSELA	CSSELA	Tray2 Sensor Data Select Code A	(Select Code)		CN20	7	PCU	2nd Cassette(Option)
CSSELB	CSSELB	Tray2 Sensor Data Select Code B	(Select Code)		CN20	9	PCU	2nd Cassette(Option)
CSSELC	CSSELC	Tray2 Sensor Data Select Code C	(Select Code)		CN20	11	PCU	2nd Cassette(Option)
LSUFM_LD	LSUFM_LD	Detect LSU FAN Lock		Detect:Lock	CN20	19	PCU	LSUFM
LSUFM_V	LSUFM_V	LSU FAN Control		FAN Power On(24V)	CN20	17	PCU	LSUFM
TH_P	TH_P	Thermal of Ozone Duct	(Analog)	<u>`</u>	CN20	18	PCU	TH PWB
Y_CS2	Y_CS2	Tray2 Sensor Data(CSSELA,B,C Code Select)	(Select Sen- sor Data)		CN20	13	PCU	2nd Cassette(Option)
ADUC	ADUC	ADU Conveyance Clutch Con- trol		Clutch On(FET DS On)	CN4	6	PCU	ADUC
Cirmol			Connector Level		Connec- Pin			
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Name	CN Pin Name	Description	L	н	tor Number	Num- ber	PWB	NOTE
POC	POC	Delivery clutch normal rotation Control		Clutch On(FET DS On)	CN4	2	PCU	POC
PORC	PORC	Delivery clutch reversal Control		Clutch On(FET DS On)	CN4	4	PCU	PORC
OZFM_CNT	OZFM_CNTPW M	Ozone exhaust FAN Speed Control	(PWM)		CN23	7	PCU	OZFM1
OZFM1_LD	OZFM1_LD	Detect Ozone exhaust FAN Lock		Detect:Lock	CN23	5	PCU	OZFM1
OZFM1_V	OZFM1_V	Ozone exhaust FAN Control		FAN Power On(24V)	CN23	3	PCU	OZFM1
FUFM_CNT	FUFM_CNT	Fixing Cooling FAN Speed Con- trol	(PWM)		CN3	1	PCU	FUFM
CFM1_V	CFM1_V	Detect Cooling FAN Lock		Detect:Lock	CN3	2	PCU	CFM1_V
CFM1_CNT	CFM1_CNT	Controls the ON/OFF of Cool- ing FAN		FAN Power On	CN3	4	PCU	CFM1_CNT
CFM1_LD	CFM1_LD	Change the rotation of Cooling FAN	High speed rotation	Low speed rota- tion	CN3	5	PCU	CFM1_LD
FW	FW	Power unit FW signal	(Clock)		CN3	10	PCU	Power Unit
HL_OUT	HL_OUT	Controls the Fusing HL		Heater lamp On	CN3	11	PCU	Power Unit
TH_PS	TH_PS	Power Unit temperature sensor	(Analog)		CN3	12	PCU	Power Unit
HL_PR	HL_PR	Controls the relay of Fusing unit		HL Relay On	CN3	14	PCU	Power Unit
POF	POF	Observe the power unit signal		Normal	CN12	3	PCU	MFPC PWB
TxD_PCU	TxD_PCU	MFPC communication (When receiving)	(Serial Data)		CN12	11	PCU	MFPC PWB
RxD_PCU	RxD_PCU	MFPC communication (When sending,)	(Serial Data)		CN12	12	PCU	MFPC PWB
CTS_PCU	CTS_PCU	Ready for receiving the PCU status.	(Serial Data)		CN12	13	PCU	MFPC PWB
RTS_PCU	RTS_PCU	Allows to send the PCU com- mand.	(Serial Data)		CN12	14	PCU	MFPC PWB
RES_PCU	RES_PCU	PCU Reset		When resetting	CN12	15	PCU	MFPC PWB
HV_DT	HV_DT	Communication data for HV PWB.	(Serial Data)		CN13	5	PCU	HV PWB
HV_CLK	HV_CLK	Communication data lock for HV PWB.	(Clock)		CN13	6	PCU	HV PWB
HV_LD	HV_LD	Communication latch signal for HV PWB.	Data latch signal.		CN13	7	PCU	HV PWB
HV_REM	HV_REM	HV remote control signal		HV output ON	CN13	8	PCU	HV PWB
DV- AC_REM	DV-AC_REM	AC HV remote control signal		HV output ON	CN13	9	PCU	HV PWB
MC_ERR	MC_ERR	Detect the HV error.		HV error	CN13	10	PCU	HV PWB
24V2	DC Power Sup- ply From AC/ DC PWB (24V)	DC Power Supply From AC/DC PWB (24V)	not Supply	Supply	CN1	3	DCDC PWB	AC/DC PWB
24V2	DC Power Sup- ply From AC/ DC PWB (24V)	DC Power Supply From AC/DC PWB (24V)	not Supply	Supply	CN1	4	DCDC PWB	AC/DC PWB
DCDC_OV	DCDC Over- voltage Detec- tion Signal	Shutdown AC/DC PWB if any of outputs of DCDC PWB become an overvoltage.	-	Shutdown AC/DC PWB	CN1	5	DCDC PWB	AC/DC PWB
5VN	DC Power Sup- ply To PCU PWB (5VN)	DC Power Supply To PCU PWB (5VN)	not Supply	Supply	CN2	2	DCDC PWB	PCU PWB
5VN	DC Power Sup- ply To SCU PWB (5VN)	DC Power Supply To SCU PWB (5VN)	not Supply	Supply	CN2	4	DCDC PWB	SCU PWB
3.3V	DC Power Sup- ply To PCU PWB (3.3V)	DC Power Supply To PCU PWB (3.3V)	not Supply	Supply	CN2	6	DCDC PWB	PCU PWB
3.3V	DC Power Sup- ply To SCU PWB (3.3V)	DC Power Supply To SCU PWB (3.3V)	not Supply	Supply	CN2	8	DCDC PWB	SCU PWB
3.3V	DC Power Sup- ply To MFPC PWB (3.3V)	DC Power Supply To MFPC PWB (3.3V)	not Supply	Supply	CN2	10	DCDC PWB	MFPC PWB
12V	DC Power Sup- ply To PCU PWB (12V)	DC Power Supply To PCU PWB (12V)	not Supply	Supply	CN2	11	DCDC PWB	PCU PWB
12V	DC Power Sup- ply To PCU PWB (12V)	DC Power Supply To PCU PWB (12V)	not Supply	Supply	CN2	12	DCDC PWB	SCU PWB

[14] TOOL LIST

Name	Part code	Note
Color copy test chart	UKOG-0326FCZZ/UKOG-0326FC11	
SIT chart	UKOG-0280FCZZ/UKOG-0280FCZ1	
Gray test chart	UKOG-0162FCZZ	
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	com	position	code	of	lead-free	solder>
001001		poontion	0040	۰.	1000 1100	001001

<

Solder composition	Solder composition code
Sn- <u>A</u> g-Cu	а
Sn-Ag- <u>B</u> i Sn-Ag- <u>B</u> i-Cu	b
Sn- <u>Z</u> n-Bi	Z
Sn- <u>I</u> n-Ag-Bi	i
Sn-Cu- <u>N</u> i	n
Sn-Ag-Sb	S
Bi-Sn-Ag- <u>P</u> Bi-Sn-Ag	р

(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.

(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.	~
	5.
(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 inkorrekter 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 (MANGANESS 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.

CAUTION DOUBLE POLE/NEUTRAL FUSING



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> First edition: June 2014 Latest edition: May 2016