d-Color**MF3303/MF3303en**
d-Color**MF4003/MF4003en**

Multifunction Digital Copier

SERVICE MANUAL

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A SAFETY AND IMPORTANT WARNING ITEMS

Read carefully the safety and important warning items described below to understand them before doing service work.

1. IMPORTANT NOTICE

- Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, OLIVETTI (hereafter called OLI) strongly recommends that all servicing be performed only by OLI-trained service technicians.
- Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, OLI does not warrant, either explicitly or implicitly, that the information contained in this service manual is complete and accurate.
- The user of this service manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this service manual is intended. Therefore, this service manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly. Keep this service manual also for future service.
- Distributors or OLI issue password for customer engineers (CE) as necessary. The password is required for operations or machine settings that are based on this service manual. These customer engineers (CE) must manage the password carefully. Never leak the password to a third party.

2. DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

2.1 Description items in this Service Manual

In this Service Manual, each of three expressions "⚠DANGER", "⚠WARNING", and "⚠ CAUTION" are defined as follows.
When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

⚠ DANGER	: Action having a high possibility of suffering death or serious injury
⚠ WARNING	: Action having a possibility of suffering death or serious injury
⚠ CAUTION	: Action having a possibility of suffering a slight wound and property damage

2.2 Description items for safety and important warning items

Symbols used for safety and important warning items are defined as follows:

: Precaution when servicing the product.	 General precaution	 Electric hazard	 High temperature
: Prohibition when servicing the product.	 General prohibition	 Do not touch with wet hand	 Do not disassemble
: Direction when servicing the product.	 General instruction	 Unplug	 Ground/Earth

Illustrations representing the power plug and wall outlet used in the following descriptions are only typical. Their shapes differ depending on the country or region.

3. SAFETY WARNINGS

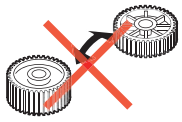
3.1 MODIFICATIONS NOT AUTHORIZED BY OLIVETTI

OLIVETTI brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.
Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. the points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

3.1.1 Actions requiring special attention

⚠WARNING

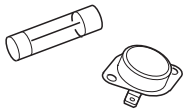
- Do not make any modifications to the product unless otherwise instructed by OLI.
- Do not use any part not specified by OLI.



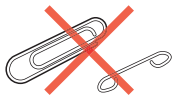
- Do not use any power cord or power plug not specified by OLI.



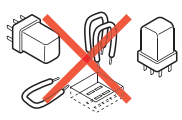
- Use only the protective fuses specified by OLI.
  Use of any type of fuse or related part not specified by OLI makes safety devices inoperative which may result in a fire from high heat.



- Do not disable fuse functions or use a wire, metal clip, solder, or other conductor in place of the fuse.
  Fire may result from high heat.

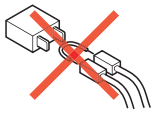


- Do not disable relay functions (for example, inserting a piece of paper between relay contacts to hamper circuit action.)
  Fire may result from high heat.



⚠WARNING

- Do not disable safety functions (for example, interlocks and safety circuits).
  Safety devices become inoperative, resulting in fire from high heat, electric shock, or injury.



3.2 POWER PLUG SELECTION

In some countries or areas, the power plug provided with the product may not fit the wall outlet used in the area. In that case, it is the obligation of the customer engineer (hereafter called the CE) to attach the appropriate power plug or power cord set in order to connect the product to the supply.

3.2.1 Power Cord Set or Power Plug

⚠WARNING

- Use a power supply cord set which meets the following criteria:
  - provided with a plug having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - provided with three-conductor cable having enough current capacity, and
  - the cord set meets regulatory requirements for the area.

  Use of inadequate cord set leads to fire or electric shock.



⚠WARNING

- Attach power plug which meets the following criteria:
  - having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - meets regulatory requirements for the area.

  Use of inadequate cord set leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.

- The wires in the power supply cord shall be connected to the terminals of the plug in accordance with the following:

Color of the wire		Terminal of the plug
Brown	Black	Marked with "L", "A" or "W" or colored RED
Light Blue	White	Marked with "N" or colored BLACK
Green-and-Yellow		Marked with "E", "PE" or " ⏚ " or colored GREEN or GREEN-AND-YELLOW

- Wrong connection may cancel safeguards within the product, and results in fire or electric shock.

3.3 CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

OLIVETTI brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and customer engineer (hereafter called the CE) from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

3.3.1 Power Supply

(1) Connection to Power Supply

⚠WARNING

- The power outlet should have a capacity of at least the maximum power consumption and be dedicated only to the product.
  The current that can be passed through the outlet is limited and any current exceeding the limit could result in fire.



- If the wall outlet has two or more receptacles and the product and another electrical appliance are plugged into this wall outlet, make sure that the total load does not exceed the rating of the wall outlet. The current that can be passed through the outlet is limited and any current exceeding the limit could result in a fire.

⚠WARNING

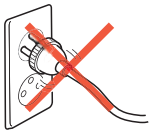
- Do not use any conversion plug adapter even if the power plug shape does not match your wall outlet.

  The shapes of the power plug and the wall outlet are set according to the voltage and allowable current. Use of a conversion plug adapter could result in an abnormal voltage or insufficient current capacity, leading to a fire. It may also result in an electric shock due to a grounding failure.

  If the plug shape does not match the wall outlet, request the user to perform power source installation work.

- Make sure the power cord is plugged into the wall outlet securely.

  If the power plug is left loose in the wall outlet, contact failure may occur, leading to abnormal heating of the power plug and a risk of fire.



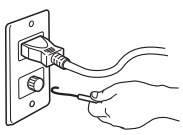
(2) Ground Connection

⚠WARNING

- Check whether the product is grounded properly.

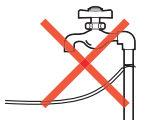
  If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.

  Connect power plug to grounded wall outlet.



⚠WARNING

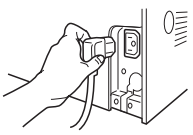
- Make sure of correct ground connection.
  If the grounding wire is connected to an inappropriate part, there is a risk of explosion or electric shock. Do not connect the grounding wire to any of the following parts:
  a. Gas pipe: Gas explosion or fire may result.
  b. Lightning rod: Risk of electric shock or fire during lightning.
  c. Grounding wire for telephone line: Risk of electric shock or fire during lightning.
  d. Water pipe and faucet: These parts do not serve as a ground connection because of a plastic part that is very often installed midway within the water pipe.

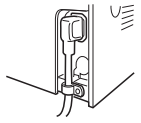


(3) Power Plug and Cord

⚠WARNING

- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.
  When a securing measure is provided, secure the cord with the fixture properly.
  If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.





⚠WARNING

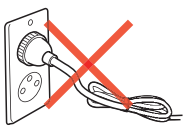
- Do not allow the power cord to be stepped on or pinched.
  Overheating may occur there, leading to a risk of fire.



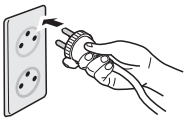
- Check whether the power cord is damaged. Check whether the sheath is damaged.
  If the power plug, cord, or sheath is damaged, replace with a new power cord (with plug and connector on each end) specified by OLI. Using the damaged power cord may result in fire or electric shock.



- Do not bundle or tie the power cord.
  Overheating may occur there, leading to a risk of fire.

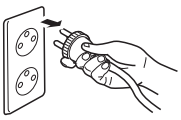


- Check whether dust is collected around the power plug and wall outlet.
  Using the power plug and wall outlet without removing dust may result in fire.



- Do not insert the power plug into the wall outlet with a wet hand.
  The risk of electric shock exists.

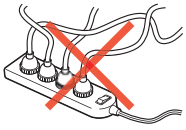
- When unplugging the power cord, grasp the plug, not the cable.
  The cable may be broken, leading to a risk of fire and electric shock.



(4) Wiring

⚠WARNING

- Never use multi-plug adapters to plug multiple power cords in the same outlet.
  If used, the risk of fire exists.



⚠WARNING

- When an extension cord is required, use one that meets the rated current, rated voltage, and the relevant safety standards of the country.

  Current that can be passed through the extension cable is limited and fire may result from the use of an inappropriate type of an extension cable.

  Do not use an extension cable reel with the cable taken up. Fire may result.



3.3.2 Installation Requirements

(1) Prohibited Installation Places

⚠WARNING

- Do not place the product near flammable materials or volatile materials that may catch fire.

  A risk of fire exists.



- Do not place the product in a place exposed to water such as rain.

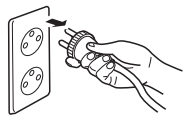
  A risk of fire and electric shock exists.

(2) When not Using the Product for a long time

⚠WARNING

- When the product is not to be used for an extended period of time (for holidays, for example), instruct the user to turn OFF the power switch and unplug the power cord from the power outlet.

  Dust collected around the power plug and outlet may cause fire.



(3) Ventilation

⚠CAUTION

- The product generates ozone gas during operation.

  If the smell of ozone is present in the following cases, ventilate the room.

  a. When the product is used in a poorly ventilated room

  b. When making a lot of copies

  c. When using multiple products at the same time



(4) Stability

⚠CAUTION

- Be sure to lock the caster stoppers.

  In the case of an earthquake, the product may slide, leading to an injury.

3.3.3 After Service

(1) Inspection before Servicing

⚠WARNING



- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure using the recommended personal safety equipment and using only the prescribed tools.

  Do not make any adjustment not described in the documentation.

  If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.

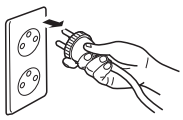




- Before conducting an inspection, be sure to disconnect the power plugs from the Main Body and Accessories (Options).

  When the power plug is inserted into the wall outlet, some units are still powered even if the POWER switch is turned OFF.

  A risk of electric shock exists.

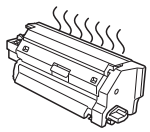


⚠CAUTION



- The area around the fixing unit is hot.

  You may get burned.



⚠CAUTION

- Do not leave the machine unattended during transportation, installation, and/or inspection.

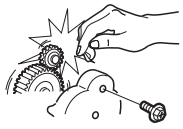
  If the machine is left unattended, face protrusions toward the wall or take other necessary precautions to prevent a user or other person in the area from stumbling over a protrusion of the machine or being caught by a cable, possibly causing a fall to the floor or other personal injury.

(2) Work Performed with the Product Powered On

⚠WARNING

- Take every care when making adjustments or performing an operation check with the product powered.

  If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk of injury.



- Take every care when servicing with the external cover detached.

  High-voltage exists around the drum unit. A risk of electric shock exists.

- If it is absolutely necessary to service the machine with the door open or external covers removed, always be attentive to the motion of the internal parts.

  A normally protected part may cause unexpected hazards.

⚠CAUTION

- Do not keep gazing at a lamp light during the service procedure with the product powered ON.
  Eyestrain may result.

(3) Safety Checkpoints

⚠WARNING

- When a product fault is reported from a user, check parts and repair the fault appropriately with safety in mind.
  A damaged product, personal injury, or fire may result.

- Whenever mounting an option on the machine, be attentive to the motion of the other workers performing the task.
  Another worker may be injured by a pinch point between the machine and the option.

- When mounting an option on the machine, be careful about the clearance between the machine and the option.
  You may be injured with your finger or hand pinched between the machine and the option.

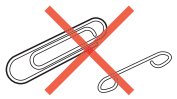
- When removing a part that secures a motor, gear, or other moving part, disassembling a unit, or reinstalling any of such parts and units, be careful about moving parts and use care not to drop any part or unit. During the service procedure, give sufficient support for any heavy unit.
  You may be injured by a falling part or unit.

⚠WARNING

- Check the external covers and frame for possible sharp edges, burrs, and damage.
  They can be a cause of injury during use or servicing.

- When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs on the frame and parts.
  They may injure your hands or fingers.

- Do not allow any metal parts such as clips, staples, and screws to fall into the product.
  They can short internal circuits and cause electric shock or spark bursting into flame.



- Check wiring for pinched and any other damage.
  Current can leak, leading to a risk of electric shock or fire.

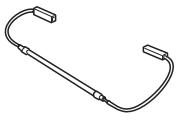
- Check high-voltage cables and sheaths for any damage.
  Damage may lead to product failure and/or the risk of fire.



- Do not disassemble or adjust the write unit (PH unit) incorporating a laser.
  The laser light can enter your eye, leading to a risk of loss of eyesight.

- Do not supply power with the write unit (PH unit) shifted from the specified mounting position.
  The laser light can enter your eye, leading to a risk of loss of eyesight.

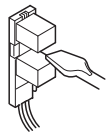
- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.
  A risk of fire exists.



⚠WARNING

- Check the interlock switch and actuator for loosening and check whether the interlock functions properly.

  If the interlock does not function, you may receive an electric shock or be injured when you insert your hand in the product (e.g., for clearing paper jam).



- Make sure the wiring cannot come into contact with sharp edges, burrs, or other pointed parts.

  Damage may lead to the risk of electric shock or fire.



- Make sure that all screws, components, wiring, connectors, etc. that were removed for safety check and maintenance have been reinstalled in the original location. (Pay special attention to forgotten connectors, pinched cables, forgotten screws, etc.)

  A risk of product trouble, personal injury, electric shock, and fire exists.



- Never use any flammable or combustible spray, fluid, gas, or similar substance in and around the product.

  Do not use any flammable or combustible dust spray, in particular, to clean the interior of the product.

  Fire or explosion may result.

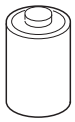


⚠CAUTION

- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.
  Toner remnants and dust may lead to product failure and/or the risk of fire.

- Check electrode units such as a charging corona unit for deterioration and signs of leakage.
  Damage may lead to product failure and/or the risk of fire.

- When replacing a battery, replace it with a new one as specified.
  Dispose of the used battery as instructed on its packaging or by local ordinance.
  There is a risk of explosion if the battery is replaced with an incorrect type.



(4) Handling of Consumables

⚠WARNING

- For handling of consumables (toner, developer, photoconductor, etc.) and their storage precautions, see MSDS.

(5) Handling of Service Materials

⚠CAUTION

- Handle with care according to MSDS.
  Use of solvent may involve explosion, fire, or personal injury.



3.4 Used Batteries Precautions

3.4.1 ALL Areas

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

3.4.2 Germany

VORSICHT!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.
Ersatz nur durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ.
Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

3.4.3 France

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.

3.4.4 Denmark

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

3.4.5 Finland, Sweden

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

3.4.6 Norway

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

3.5 Laser Safety

3.5.1 Laser Safety

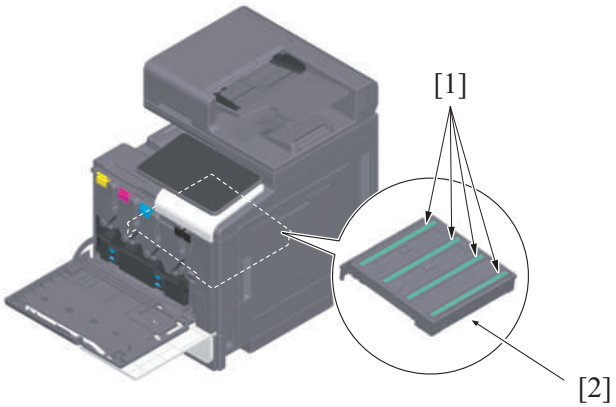
This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

3.5.2 Internal Laser Radiation

- This product employs a Class 3B laser diode that emits an invisible laser beam. The laser diode and the scanning polygon mirror are incorporated in the print head unit.
- The print head unit is NOT A FIELD SERVICEABLE ITEM. Therefore, the print head unit should not be opened under any circumstances.

semiconductor laser	
Maximum power of the laser diode	25mW
Maximum average radiation power (*)	10.1 µW (d-Color MF4003/MF4003en), 8.3 µW (d-Color MF3303/d-Color MF3303en)
Wavelength	770 to 800 nm

*at laser aperture of the Print Head Unit



[1]	Laser Aperture of the Print Head Unit	[2]	Print Head Unit

(1) U.S.A., Canada (CDRH Regulation)

- This machine is certified as a Class 1 Laser product under Radiation Performance Standard according to the Food, Drug and Cosmetic Act of 1990. Compliance is mandatory for Laser products marketed in the United States and is reported to the Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration of the U.S. Department of Health and Human Services (DHHS). This means that the device does not produce hazardous laser radiation.
- The label shown on " A.3.5.3 Laser Safety Label" indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

⚠WARNING

⚠ Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

semiconductor laser	
Maximum power of the laser diode	25 mW
Wavelength	770 to 800 nm

(2) All Areas

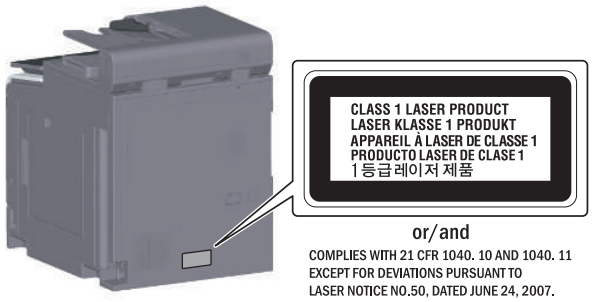
⚠WARNING

⚠ Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

semiconductor laser	
Maximum power of the laser diode	25 mW
Wavelength	770 to 800 nm

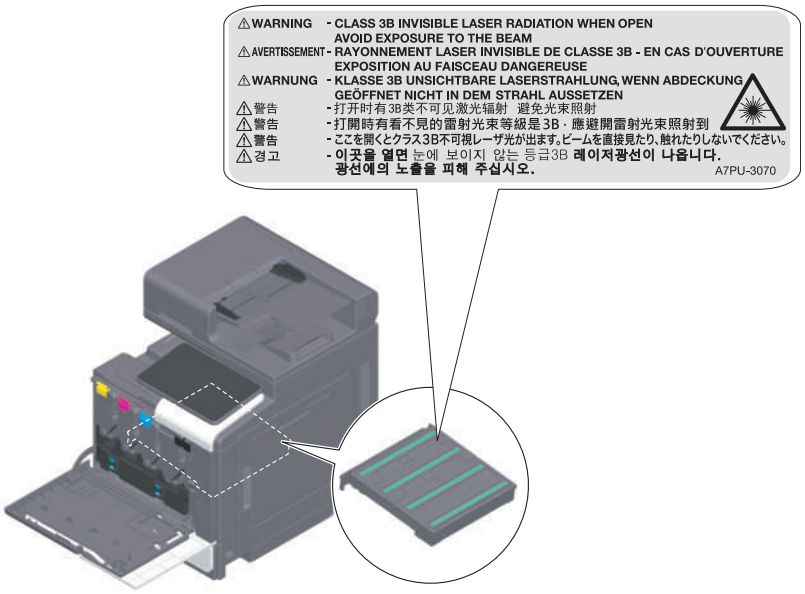
3.5.3 Laser Safety Label

A laser safety label is attached to the outside of the machine as shown below.



3.5.4 Laser Warning Label

A laser warning label is attached to the inside of the machine as shown below.



3.5.5 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- Be sure to unplug the power cord whenever performing a service job in the laser beam path (around the PH unit).
- If it is absolutely unavoidable to perform a service job with the power cord plugged in, strictly observe the following precautions:
  1. Before starting the service job, take off your watch, ring, and other reflective articles and be sure to wear laser protective goggles.
  2. Keep other personnel away from the work site.
  3. Do not bring any highly reflective tool into the laser beam path during the service procedure.

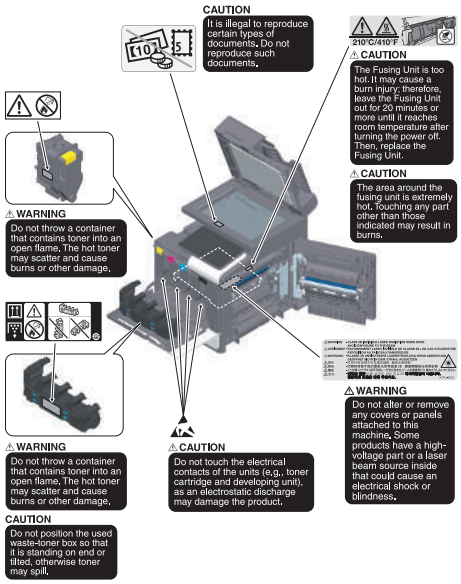
4. WARNING INDICATIONS ON THE MACHINE

Caution labels shown are attached in some areas on/in the machine.
When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.

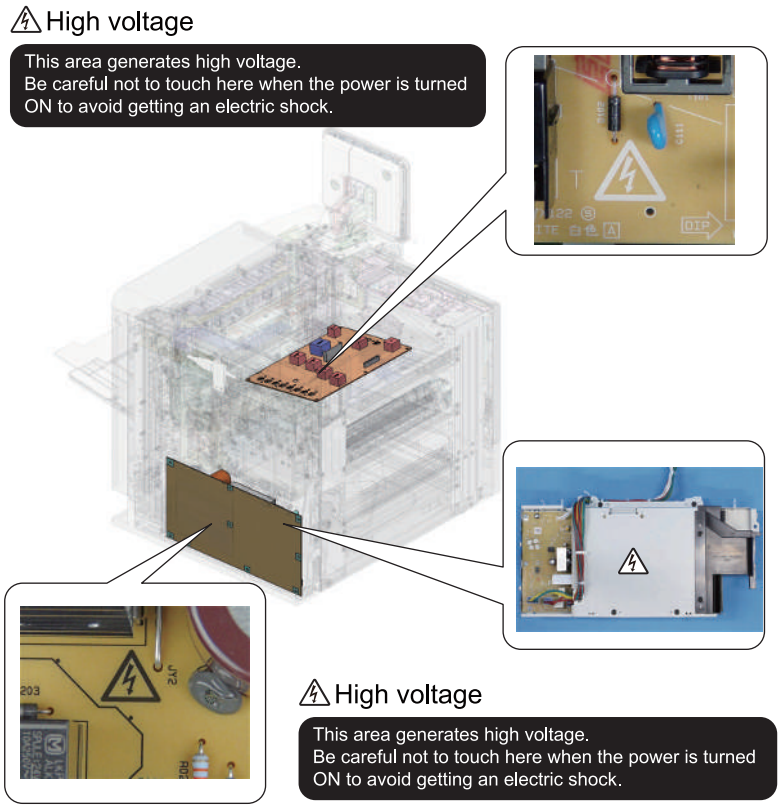
4.1 Warning indications inside the machine

⚠CAUTION

⚠ You may be burned or injured if you touch any area that you are advised not to touch by any caution label. Do not remove caution labels. If any caution label has come off or soiled and therefore the caution cannot be read, contact our service office.



4.2 Warning indications on the boards



5. MEASURES TO TAKE IN CASE OF AN ACCIDENT

1. If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage.
2. If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and OLI must be notified.
3. To determine the cause of the accident, conditions and materials must be recorded through direct on-site checks, in accordance with instructions issued by OLI.
4. For reports and measures concerning serious accidents, follow the regulations specified by every distributor.

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B NOTATION OF THE CONTENTS

1. PRECAUTION ON HANDLING THIS MANUAL

CAUTION

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

2. PRODUCT NAME

In this manual, each of the products is described as follows:

1	d-Color MF3303/MF3303en/MF4003/MF4003en	Main body
2	Microsoft Windows 10	Windows 10
3	Microsoft Windows 11	Windows 11
4	When the description is made in combination of the OS's mentioned above	Windows 10/11

3. BRAND NAME

TRADEMARKS OF OTHER COMPANIES

- The company names and product names mentioned in this manual are the brand name or the registered trademark of each company.

OWN TRADEMARKS

- KONICA MINOLTA, KONICA MINOLTA logo, and bizhub are the registered trademarks of KONICA MINOLTA, INC.
- © 2019 KONICA MINOLTA, INC.

4. FEEDING DIRECTION

- When the long side of the paper is parallel with the feeding direction, it is called short edge feeding. The feeding direction which is perpendicular to the short edge feeding is called the long edge feeding.
- Short edge feeding will be identified with [S (abbreviation for Short edge feeding)] on the paper size. No specific notation is added for the long edge feeding. When the size has only the short edge feeding with no long edge feeding, [S] will not be added to the paper size.

Sample notation

Paper size	Feeding direction	Notation
A5	Long edge feeding	A5
	Short edge feeding	A5S
A4	Short edge feeding	A4

5. NOTE FOR THE SPECIFICATIONS

- These specifications are subject to change without notice.
- Some models within the product series listed in this manual may not be available in some countries and regions.

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C PRODUCT OUTLINE

1. PRODUCT SPECIFICATIONS

1.1 d-Color MF3303/MF3303en/MF4003/MF4003en

1.1.1 Basic specifications

Items	Specifications		
Type	Scanner, ADF, printer integrated desktop/console type (When the optional desk/paper feed cabinet is installed)		
Control panel	10.1-inch TFT color LCD WVGA (electrostatic touch panel)		
Printing process	Semiconductor laser and electrostatic dry-powdered image transfer to plain paper		
Photoconductor	OPC drum		
Developing system	Dry 2 components developing method, HMT developing system		
Charging system	DC roller charging system		
Discharge Method	Eraseless		
Image transfer system	1st: Belt transfer system, 2nd: Roller transfer system		
Paper separating system	Curvature separation system		
Fusing system	Upper 2-axis pad pressure fusing		
Heating system	Halogen lamp		
Original scanning	Flatbed CIS scanning system (sheet through system when DF is used)		
Exposure lamp	LED light		
Scanning resolution	Main scan direction: 600 dpi, Sub scan direction: 600 dpi		
Original glass	Stationary (unit scan)		
Original alignment	Rear left edge		
Types of original	Sheets, Books, Three-dimensional objects		
Max. original size	A4 or Legal S		
Max. original weight	Max. 3 kg (6 5/8 lb)		
Exposure system	1 beam LD exposure system x 4 and 1 polygon mirror scan exposure system		
Exposure resolution	Main scan direction: 600 dpi, Sub scan direction: 600 dpi Main scan direction: 1200 dpi, Sub scan direction: 1200 dpi (reduced speed)		
Image loss	Leading edge: 4.2 mm (3/16 inch) Trailing edge: 4.2 mm (3/16 inch) Rear edge: 4.2 mm (3/16 inch) Front edge: 4.2 mm (3/16 inch)		
Warm-up time (at an ambient temperature of 23 °C/73.4 °F and rated source voltage) (Period from the time Main Power Switch was turned on to the time this machine is ready for printing.)	Color: 15 sec. or less Black: 13 sec. or less		
First copy time (Tray1, A4 or 8 1/2 x 11, full size)	d-Color MF4003/MF4003en	Color: 5.4 sec. or less Black: 4.8 sec. or less	
	d-Color MF3303/MF3303en	Color: 6.3 sec. or less Black: 5.6 sec. or less	
Copying speed for multi-copy cycle (A4 or 8 1/2 x 11, plain paper)	d-Color MF4003/MF4003en	(Tray 1, A4, full size)	Color: 40 sheets/min. (1-sided), 40 sheets/min. (2-sided) Black: 40 sheets/min. (1-sided), 40 sheets/min. (2-sided)
		(Tray 1, 8 1/2 x 11, full size)	Color: 42 sheets/min. (1-sided), 42 sheets/min. (2-sided) Black: 42 sheets/min. (1-sided), 42 sheets/min. (2-sided)
	d-Color MF3303/MF3303en	(Tray 1, A4, full size)	Color: 33 sheets/min. (1-sided), 33 sheets/min. (2-sided) Black: 33 sheets/min. (1-sided), 33 sheets/min. (2-sided)
		(Tray 1, 8 1/2 x 11, full size)	Color: 35 sheets/min. (1-sided), 35 sheets/min. (2-sided) Black: 35 sheets/min. (1-sided), 35 sheets/min. (2-sided)
Process speed	d-Color MF4003/MF4003en	243.0 mm/s: Plain paper, Plain paper+, Thin paper 121.5 mm/s: Thick 1, Thick 1+, Thick 2, Envelope, Postcard, Label, Coated paper, 1200 dpi	
	d-Color MF3303/MF3303en	200.0 mm/s: Plain paper, Plain paper+, Thin paper	

Items	Specifications	
		100.0 mm/s: Thick 1, Thick 1+, Thick 2, Envelope, Postcard, Label, Coated paper, 1200 dpi
Fixed zoom ratios	Full size	x1.000
	Reduction	x0.500, x0.612, x0.707, x0.816, x0.866 (Europe) x0.500, x0.647, x0.733, x0.785 (US)
	Enlargement	x1.154, x1.224, x1.414, x1.632, x2.000 (Europe) x1.214, x1.294, x1.545, x2.000 (US)
	Zoom ratios memory	3 memories
Variable zoom ratios	x0.250 to x4.000	in 0.001 increments
Paper feeding separation system	Manual	Small roller separation system with torque limiter
	Tray 1	Roller separation system with pick-up mechanism
Copy exit tray capacity	Plain paper	250 sheets
Memory capacity	Main memory: 5 GB Standard storage: 256 GB, 1TB (Option)	
External memory function	Supported external memory devices	USB flash memory compatible with the USB (1.1/2.0) interface FAT32-formatted memory device Not including security features (Possible to turn OFF security features) Memory capacity of 32GB or less recommended. A USB flash memory that appears as multiple drives on a computer cannot be used.
Material	Toner cartridge, Imaging unit, Waste toner box, Transfer belt unit, Fusing unit For details, refer to PERIODICAL MAINTENANCE.	

1.1.2 Paper

Type/Size		Tray 1	Manual bypass tray
Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)) (*)		500 sheets	100 sheets
Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))			
1-sided special paper			
Plain paper+ (91 to 105 g/m^2 (24 3/16 lb to 27 15/16 lb))		20 sheets	20 sheets
Thick 1 (106 to 120 g/m^2 (28 3/16 lb to 31 15/16 lb))			
Thick 1+ (121 to 157 g/m^2 (32 3/16 to 41 3/4 lb))			
Thick 2 (158 to 210 g/m^2 (42 to 55 5/8 lb))			
Coated paper 1 (100 to 120 g/m^2 (26 5/8 to 31 15/16 lb))			
Coated paper 1+ (121 to 157 g/m^2 (32 3/16 to 41 3/4 lb))			
Coated paper 2 (158 to 210 g/m^2 (42 to 55 5/8 lb))			
Label			
Letterhead (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))			
Postcard			
Envelope		30 sheets	10 sheets
Regular paper size		A4S to A6S, Postcard (100 x 148 mm, 3 15/16 x 5 13/16 inches), B5, B6, 16K, 4 x 6, 5$^1/_2$ x 8$^1/_2$S to 11 x 8$^1/_2$S	A4S to A6S, A5S, Postcard (100 x 148 mm), B5, B6, 6K, 8K 8$^1/_2$ x 14 to 5$^1/_2$ x 8$^1/_2$S, 5$^1/_2$ x 8$^1/_2$S, 4 x 6S, 8 x 13
Custom paper size	Width	100 to 216 mm (3 15/16 to 8 1/2 inches)	90 to 216 mm (3 9/16 to 8 1/2 inches)
	Length	148 to 297 mm (5 13/16 to 11 11/16 inches)	148 to 356 mm (5 13/16 to 14 inches)

- *: The paper weight can be selected from the panel, either 60 to 90 g/m^2 (15 15/16 to 23 15/16 lb) or 60 to 70 g/m^2 (15 15/16 to 18 5/8 lb).

NOTE

- **1-sided special paper, coated paper, postcard, envelope, and label cannot be fed for duplex printing.**

1.1.3 Print volume

d-Color MF4003/MF4003en

Items		Europe
Average print volume (prints/month)	Color	928
	Black	1972

Items		Europe
Maximum print volume (prints/month)	Color	
	Black	

d-Color MF3303/MF3303en

Items		Europe
Average print volume (prints/month)	Color	646
	Black	1254
Maximum print volume (prints/month)	Color	
	Black	

1.1.4 Machine specification

Items		Specifications		
Power requirement	Voltage	AC 100 V	AC 110 V to 127 V	AC 220 V to 240 V
	Current	14.5 A	12 A	7.5 A
	Frequency	50/60 Hz		
Max. power consumption		1,450 W or less		
Power consumption in each mode	Standby	255 W or less *3		
	Low power mode	100 W or less *3		
	Sleep mode *1	7 W *3		
	Sub power OFF mode	0.7 W *3		
	ErP auto power off mode	0.5 W *3		
	Plug-in power consumption	0.4 W		
Dimension	Except for North America	420 mm (W) x 528 mm (D) x 572 mm (H) *4 (16 9/16 inches (W) x 20 13/16 inches (D) x 22 1/2 inches (H) *4)		
	North America	471 mm (W) x 528 mm (D) x 572 mm (H) *4 (18 9/16 inches (W) x 20 13/16 inches (D) x 22 1/2 inches (H) *4)		
Space requirements		855 mm (W) x 956 mm (D) x 792 mm (H) *5 (33 11/16 inches (W) x 37 5/8 inches (D) x 31 3/16 inches (H) *5)		
Weight	Except for North America	Approx. 39 kg (85 lbs.) (including main body, DF, TB, IU, WTB)		
	North America	Approx. 39.2kg (86 7/16 lbs.) (including main body, DF, TB, IU, WTB)		
Operating environment	Temperature	10 to 30 °C / 50 to 86 °F (with a fluctuation of 10 °C / 18 °F or less per hour)		
	Humidity	15 to 85% (Relative humidity with a fluctuation of 10 % or less per hour)		
	Levelness	Difference between front and back, right and left should be 1 degree or under.		

*1: [Utility] -> [Maintenance] -> [Timer Setting] -> [Power Settings] -> [Power Consumption in Sleep Mode]
*2: Even in sub power off mode, [Disable], [Enabled] and [High] are selectable in [Utility] -> [Maintenance] -> [Timer Setting] -> [Power Settings] -> [Power Consumption in Sleep Mode].
*3: The value is only provided for reference. It varies depending on different operating environments.
*4: Width when the manual bypass tray and paper feed tray are closed.
*5: Manual bypass tray, paper feed tray and paper exit tray are pulled out, and DF is open.

1.1.5 Print function

Items	Specifications	
Printer language	PCL5e/c Emulation PCL 6 (XL Version 3.0) Emulation PostScript 3 (3016) Emulation XPS ver.1.0	
Printer driver (PCL/FAX/XPS)	Server	Windows Server 2012 Windows Server 2012 R2 Windows Server 2016 Windows Server 2019 Windows Server 2022 (x64)
	Client	Windows 10 (x86/x64) Windows 11
Printer driver (PS)	Server	Windows Server 2012 Windows Server 2012 R2 Windows Server 2016 Windows Server 2019 Windows Server 2022 (x64)
	Client	Windows 10 (x86/x64) Windows 11 Mac OS (10.14, 10.15, 11, 12, 13) Red Hat Enterprise Linux
Multi model-PS-PPD	Server	Windows Server 2019 Windows Server 2022 (x64)

Items	Specifications	
	Client	Windows 10 (x86/x64) Windows 11 Windows 10 (ARM64) Windows 11 (ARM64)
Host interface	Ethernet 10Base-T, 100Base-TX, 1000Base-T USB2.0/1.1 USB_Host	
Built-in fonts (PCL)	European	80 fonts
	Japanese	HGMinchoL, HGPMinchoL, HGGothicB, HGPGothicB
Built-in fonts (PostScript 3 Emulation)	European	Type1 font 137 fonts
	Japanese	HGMinchoL, HGGothicB

1.1.6 Scan function

Items	Specifications	
Scanning resolution	Push: 200 dpi/300 dpi/400 dpi/600 dpi Pull: 100 dpi/200 dpi/300 dpi/400 dpi/600 dpi	
Scanning speed (using DF)	(A4, 1-sided original, scanning resolution of 300 dpi)	Color: 45 sheets/min. Black: 45 sheets/min.
	(8 1/2 x 11, 1-sided original, scanning resolution of 300 dpi)	Color: 48 sheets/min. Black: 48 sheets/min.
Scanning size (scanner glass)	Except for North America	Width 215.9 mm x Length 297 mm (Width 8 1/2 inches x Length 11 11/16 inches) (Max.)
	North America	Width 215.9 mm x Length 355.6 mm (Width 8 1/2 inches x Length 14 inches) (Max.)
Scanning size (DF)	Width 215.9 mm x Length 1,000 mm (Width 8 1/2 inches x Length 39 3/8 inches) (Max.): 400 dpi or less Width 215.9 mm x Length 355.6 mm (Width 8 1/2 inches x Length 14 inches) (Max.): 600 dpi	
Interface	Ethernet (10Base-T/100Base-TX/1000Base-T)	
Communication protocol	TCP/IP (FTP, SMB, SMTP, WebDAV) IPv4/IPv6	
TWAIN driver	Type	HDD TWAIN Driver Real Time Mode Twain Driver
	Supported operating system	Windows 10 (x86/x64) Windows 11
Function	Scan to FTP, Scan to PC (SMB), Scan to E-Mail, Scan to BOX [SSD], Scan to USB memory, Scan to WebDAV, Scan to Me, Scan to Home, Scan to Web service (WSD scan)	
Output method	TIFF, PDF, Compact PDF, JPEG, XPS, Compact XPS, OOXML (pptx, xlsx, docx), Searchable PDF, PDF/A, Linearized PDF	
Output page setting	Specified number of separate pages (1 to 999 pages), Multi page	

1.1.7 Web browser function

- Main specifications of the web browser installed are as follows.

Items	Specifications
Browser engine	Chromium Browser
Supported protocol	HTTP (HTTP 0.9/1.0/1.1) HTTPS TCP/IP
Supported markup language	HTML 4.01 A part of HTML 5.0 XHTML 1.1/Basic
Style sheet	CSS3
Script language	JavaScript 1.7 ECMAScript (3rd/5th/5.1) Ajax*1
DOM	Level 2 Level 3
File type	JPEG BMP PNG GIF Animation GIF PDF
Supported SSL/TLS version	SSL3.0 TLS1.0 TLS1.1 TLS1.2

Items	Specifications
	TLS1.3
Supported character code	Japanese (Shift_JIS) Japanese (ISO-2022-JP) Japanese (EUC-JP) Chinese Simplified (GB2312) Chinese Traditional (Big5) Western European (ISO-8859-1) Unicode (UTF-8)
PDF viewer	Adobe Reader LE PDFium

- *1: Limited to the JavaScript-supported range only.

NOTE

- **Using the web browser function available with this machine, the contents on the Internet can be accessed from the control panel. Users are responsible for the contents that they access, download, or upload as well as the contents of other communication. Users shall follow the rules of their company and laws of their country. OLIVETTI and its group companies accept no responsibility for the users' use of the Internet.**

NOTE

- **When using a web browser function, 26 dots from the perimeter of the touch panel area is not sensitive area. Service Mode Software Switch Setting It is possible to narrow the non-sensitive area by using [Software Switch Setting] in Service Mode as with followings. However, the touch panel cannot detect touch operation correctly.**
  - **Switch No.143 [00000000] at Bit assignment/[00] at HEX assignment non-sensitive area: 26 dots from the perimeter of the touch panel**
  - **Switch No.143 [00000001] at Bit assignment/[01] at HEX assignment non-sensitive area: 16 dots from the perimeter of the touch panel**
  - **Switch No.143 [00000010] at Bit assignment/[02] at HEX assignment non-sensitive area: 9 dots from the perimeter of the touch panel**

1.1.8 Automatic document feeder

Items		Specifications	
Name		Automatic document feeder	
Type		Paper feed section	Paper feed from top of stack
		Document reading section	Front Side: Reading by CIS Back side: Reading by CIS
		Reverse section	Straight exit system
		Paper exit section	Straight exit system
Installation		Screw clamp to the main body	
Document alignment		Center	
Original direction		Face up	
Mode		Standard mode, Mixed original detection mode, Scan mode/FAX mode	
Original scanning speed	A4	45 sheets/min. (1-sided: 300dpi)	
		90 sheets/min. (2-sided: 300dpi)	
	8 1/2 ×11	48 sheets/min. (1-sided: 300dpi)	
		96 sheets/min. (2-sided: 300dpi)	
Power requirement		Supplying method: Supplied from the main body	
Max. power consumption		-	
Dimension		-	
Weight		-	
Operating environment		Conforms to the operating environment of the main body.	

(1) Type of documents

Items	Mode	Specifications
Type	Standard mode (Plain paper) Mixed original detection mode (Plain paper) Scan mode/FAX mode (Plain paper)	1-sided original mode: 50 to 128 g/m^2 (15 15/16 to 23 15/16 lb)) 2-sided original mode: 50 to 128 g/m^2 (15 15/16 to 23 15/16 lb))
Document size *	Standard mode, Scan mode/FAX mode	A6S to A4S, PostcardS Width 215.9 mm to Length 355.6 mm (Width 8 1/2 inches to Length 14 inches) (Max.) (600 dpi) Width 215.9 mm to Length 1,000 mm (Width 8 1/2 inches to Length 39 3/8 inches) (Max.) (400 dpi or less)
Capacity	Standard mode Mixed original detection mode, Scan mode/FAX mode	80 sheets (80 g/m2) or stack of 9 mm (3/8 inches) and below (including paper curl)

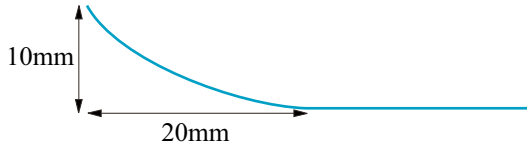
- *: In the mixed original detection mode, refer to Mixed original feed chart.

(2) Particular originals

- If fed, paper feed will be possible to some extent but trouble occurrence will be possible.

Type of original	Possible trouble
Sheets lightly curled (Curled amount: 10 to 15 mm (3/8 to 9/16 inches)) *1	Dog-eared, exit failure, transport failure
Thermal paper (Heat sensitive paper)	Edge folded, exit failure, transport failure
Paper immediately after paper exit from the main unit	Paper feed failure, transport failure
Paper with many punched holes (e.g., loose leaf *2, CF paper *3)	Multi-page feed due to flashes from holes
Folded original (including half-folded and Z-folded originals) *4	Paper feed failure, transport failure, image distortion
Sheets with 2 to 4 holes	Transport failure
Coated paper (including inkjet paper)	Paper feed failure, transport failure
Super lightweight paper (E.g., Oji special paper View Corona series)	Paper feed failure, transport failure

- *1: Amount of curl: When the original is less than 10 mm (3/8 inches) in vertical and 20 mm (13/16 inches) in horizontal direction and the amount of float of the folded original is less than 10 mm (3/8 inches), the feed and the image are guaranteed.



*2: Limited to vertical feeding
*3: No crease on perforation
*4: Creases must be smoothed out. (amount of float: 15 mm (9/16 inches) or less)

(3) Prohibited originals

- Prohibited originals that cause trouble

Type of original
Sheets stapled or clipped together
Book original
Sheets with paper attached
Sheets clipped or notched
Torn paper
Original weighing less than 35 g/m^2 (9 5/16 lb) or 128 g/m^2 (34 1/16 lb) or more
Significantly curled original (amount of curl exceeding 15 mm (9/16 inches))
OHP film
Label sheet
Offset master paper
Glossy photographic paper or glossy enamel paper

1.2 FK-517

1.2.1 Basic specifications

(1) General specifications

Applicable lines	PSTN, PBX	
Protocol	Group 3 (compliant to ITU-T T.30) • ECM • F-code communication • Olivetti non-standard protocol: No • Group 4: No	
Maximum data rate	33,600 bps	
Coding method	• MH • MR • MMR • JBIG	
Modulation method	• V.27 ter • V.29 • (V.33): V.33 is for reception only. • V.17 • V.8 • V.34	
Communication resolution	Normal	• 8 lines/mm × 3.85 lines/mm • 200 dpi x 100 dpi

	Fine	• 8 lines/mm × 7.7 lines/mm • 200 dpi x 200 dpi
	Super fine	• 8 lines/mm × 15.4 lines/mm (only for reception) • 16 lines/mm × 15.4 lines/mm • 400 dpi x 400 dpi
	Ultra fine	600 dpi x 600 dpi
	• Fixed to mm at transmission (except 600 dpi) • mm and inch are available at reception. • Selection by using the [Resolution] key. • You can not change settings on every page.	
Fax memory size	• 256 GB (256 GB in the main body storage is used as a memory.) • 10,000 pages can be stored including all Scan/Box/Printer/Fax documents.	
FAX memory backup	Image data is saved in main body storage.	
Communication time	Level of 2 seconds (Olivetti standard A4 chart, 33,600 bps)	
Resolution conversion	At sending	• Scanner: inch • Density conversion: inch -> mm • Communication: mm / inch (600 dpi only)
	At receiving (mm)	• Density conversion: mm -> inch • Print: inch
	At receiving (inch)	• Density conversion: inch -> inch • Print: inch

(2) Scanning section

Scanning method	Platen documents	Impossible to scan book documents (book mode)
	DF book documents	• Scanning mode: 1-Sided, 2-Sided and cover + 2-Sided • Possible to scan the DF mixed size documents.
Scanning resolution	Normal	• 8 lines/mm x 3.85 lines/mm • 200 dpi x 100 dpi
	Fine	• 8 lines/mm x 7.7 lines/mm • 200 dpi x 200 dpi
	Super fine	• 16 lines/mm x 15.4 lines/mm • 400 dpi x 400 dpi
	Ultra fine	600 dpi x 600 dpi
	• Selection by using the [Resolution] key. • You can not change settings on every page.	
Mixed original	Possible to mix documents of different sizes. • After rotation of images, sizes are changed by EOM every time the length of the scan line is changed at sending. • Possible to mix sizes (A and B).	
Density selection	Selection by using the [Density] key. [Light] / [Standard] / [Dark] • You can not change settings on every page.	
Maximum scanning document width	215.9 mm	
Maximum scanning document length	Platen mode	355.6 mm
	Long original mode of DF	1,000 mm
Effective scanning range	When a document is smaller than the effective scanning area, the area outside the document is erased. • DF scanning: left, right, head, and bottom mask of 3 mm each (0 to 5 mm) • Platen scanning: left, right and head mask of 2 mm each (fixed)	
Page division at sending	No	
Halftone	256 level error diffusion • Users can change settings by using the [Text], [Text/Photo, Printed], [Text/Photo, PhotoPaper], [Photo, Printed], [Photo, PhotoPaper], [Dot Matrix Original] or [Copied Paper] key.	
Automatic background control (ABC)	Yes	

(3) Recording section

Recording	Laser electrostatic printing system
Recording paper size	• All sizes except for B6 and Postcard (See the copier basic specifications.) • Auto recording paper selection • Note: A5 and B5 paper is used only for A5 and B5 reception respectively
Recording paper cassette	• Tray 1 to Tray 4 • Manual bypass tray
Staple	No
Recording speed	Compliant to the copier standards
Recording size	Legal size maximum

Maximum reception length	1,000 mm • In case of being larger than the maximum reception length, a communication error occurs. • When the memory over occurs during reception, the received data is printed.
Reduction record	When the received image information is larger than the recording paper, it is automatically reduced to the recording paper size and recorded.
Two-sided reception	Yes (Utility Mode)
2-in-1 reception	No
Smoothing	Yes (at converting the resolution)
Print/Fax output settings	Yes
Bypass print	Possible to use as an active tray in auto selection mode.
Total page counter	Yes
Monitor print	No (copy at sending)

(4) Line connecting section

NCU type	A-A~, line control by silicon DAA
Connecting terminal	RJ11
Modem	Matsushita MMD-5020
Modem sending level	-10 to -15 dBm (Country spec)
DTMF sending level	-10 to -15 dBm (Country spec)
Receiving sensitivity	• G3 reception: up to -48 dB • Tone reception: up to -52 dB
Dialing signal	DP (10pps) and DTMF

(5) Control panel section

FAX / copy / scan / box	Mode switching	by panel key selection • Possible to change modes during an operation of each mode. • No mode return by the auto reset.
	Initial screen after power-on	Screen at power off or facsimile screen. (depending on parameter setting))
Interruption during scanning	When pressing the interrupt key while scanning documents to be transmitted, INTERRUPT LED blinks. Copy screen appears after scanning is completed.	
Interruption during recording in the FAX mode screen	Operations by using the interrupt key are invalid.	
FAX start	by using the start key.	
Stop	by using the stop key. • Possible to appoint to stop from the job list so as to stop during operations of the multi jobs.	
FAX free memory display	RDH memory • % indication on LCD during scanning, recording and stand-by. File memory • Display in the JOB LIST screen	
File existence indication	In the following cases, the data Indicator (LED) on the control panel lights up. • Upon reception of FAX • When a document is saved in the bulletin board box, polling TX box, and memory RX user box.	
Display during the FAX communications	No display by LCD panel icon. Icons are displayed on the FAX waiting screen and the FAX operation screen.	
Error display	Displayed by LCD panel	
Time display	Date and time displayed. • Present time is displayed on the sub-area.	
Remote station ID display	Yes • Displayed by number display before communications • The TSI/CSI display during communications	
Other operation keys	[Application] key: Moves to the FAX application function setting screen. • Check Setting key: Valid • */# button: Yes • Help button: Yes	

1.3 PF-P20

Type

Items	Specifications
Name	500-sheet paper feed cassette
Type	Front loading type
Installation	Desk type

Items	Specifications
Paper feeding system	Paper separation by roller with pick-up mechanism
Document alignment	Center

Paper

Items	Type	Size	Capacity
PF-P20	Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	A4, B5, 8$^1/_2$ x 11, 7$^1/_4$ x 10$^1/_2$	500 sheets
	Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))		
	1-sided special paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))		

Machine specification

Items		Specifications
Power requirement		Supplied from the main body
Max. power consumption		15W or less
Dimension	PF-P20	420 mm (W) x 528 mm (D) x 145 mm (H) (16 9/16 inches (W) x 20 13/16 inches (D) x 5 11/16 inches (H))
Weight	PF-P20	Approx. 7.8 kg (17 3/16)

Operating environment

- Conforms to the operating environment of the main body.

1.4 PF-P27

Type

Items	Specifications
Name	500-sheet paper feed cassette
Type	Front loading type
Installation	Desk type
Paper feeding system	Paper separation by roller with pick-up mechanism
Document alignment	Center

Paper

Items	Type	Size	Capacity
PF-P27	Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	A4, B5, 8$^1/_2$ x 11, 7$^1/_4$ x 10$^1/_2$	500 sheets
	Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))		
	1-sided special paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))		

Machine specification

Items		Specifications
Power requirement		Supplied from the main body
Max. power consumption		15W or less
Dimension	PF-P27	420 mm (W) x 528 mm (D) x 145 mm (H) (16 9/16 inches (W) x 20 13/16 inches (D) x 5 11/16 inches (H))

Items		Specifications
Weight	PF-P27	Approx. 7.8 kg (17 3/16)

Operating environment
- Conforms to the operating environment of the main body.

1.5 FS-P04

Type

Items	Specifications
Name	Finisher FS-P04
Type	Off-line type stapler

Paper

Items	Specifications
Paper type	Weight: 52 to 90 g/m^2
Staple capacity	2 sheets of 52 g/m^2 (Thick paper) to 20 sheets of 90 g/m^2 (Plain paper)
Continuous stapling interval	Once 3 sec.

Machine specification

Items	Specifications
Power requirement	DC 24 V ± 10% (supplied from the main body)
Dimension	101 mm (W) x 115.3 mm (D) x 74.5 mm (H) (3 inches (W) x 4 9/16 inches (D) x 2 15/16 inches (H))
Weight	Approx. 1.3 kg (2 7/8 lb)

Operating environment
- Conforms to the operating environment of the main body.

1.6 CU-202

Type

Items	Specifications
Name	Clean unit
Type	Exhaust scrubber
Suction system	Dual parallel fan
UFP trapping system	UFP filter
UFP collection efficiency	UFP filter collection capacity: More than 90 %
Maximum suction air volume	0.7m^3/min (Avg. flow velocity: 0.1 m/sec)
Exhaust direction	Exhaust downflow

Machine specification

Items	Specifications
Power requirement	DC 24 V (supplied from the main body)
Dimension	285 mm (W) x 111 mm (D) x 228 mm (H) 11 1/4 inches (W) x 4 3/8 inches (D) x 9 inches (H)
Weight	Approx. 2.7 kg (6 lb)

Operating environment
- Conforms to the operating environment of the main body.

1.7 CU-204

Type

Items	Specifications
Name	Clean unit
Type	Exhaust scrubber
Suction system	Dual parallel fan
UFP trapping system	UFP filter
UFP collection efficiency	UFP filter collection capacity: More than 90 %
Maximum suction air volume	0.7m^3/min (Avg. flow velocity: 0.1 m/sec)
Exhaust direction	Exhaust downflow

Machine specification

Items	Specifications
Power requirement	DC 24 V (supplied from the main body)
Dimension	285 mm (W) x 111 mm (D) x 228 mm (H) 11 1/4 inches (W) x 4 3/8 inches (D) x 9 inches (H)
Weight	Approx. 2.7 kg (6 lb)

Operating environment

- Conforms to the operating environment of the main body.

1.8 i-Option

1.8.1 Available function for i-Option

- The functions available for i-Option are as follows.

(1) List of advanced functions

Function	Overview	Required option
Searchable PDF	Allows you to paste transparent text data into a PDF file when converting scanned original data into PDF files, and create a searchable PDF file. This function automatically creates text information from scanned images using OCR character recognition technology.	• LK-105
Barcode font	Allows you to generate a bar code based on data sent to this machine from the ERP (Enterprise Resource Planning) system, and print it from this machine. You can directly print data without using the printer driver.	• LK-106
Unicode font	Allows you to print text information (unicode) of multiple languages sent to this machine from the ERP (Enterprise Resource Planning) system. You can directly print data without using the printer driver.	• LK-107
OCR font	OCR font can be used on this machine. OCR font is standardized font that enables text to be appropriately recognized when the OCR (Optical Character Recognition) is used.	• LK-108
Encryption PDF (Digital ID)	Allows you to encrypt the PDF using a user digital signature when sending a PDF file.	• LK-110
Searchable PDF (Fax RX Document)	Allows you to create a text searchable PDF file when converting a received fax into a PDF file using the Forward TX function or TSI Routing function and sending it to PC.	
OOXML File Conversion	Allows you to send or store the scanned original data by converting it into an OOXML (DOCX or XLSX) file. Also allows you to paste transparent text data and create a text searchable OOXML file. This function automatically creates text information from scanned images using OCR character recognition technology.	
Compact PDF (Print RX Document)	Allows you to select a file type as Compact PDF when fetching the data stored in the box of this machine using the printer driver and sending it by E-mail or sending it to PC.	
High image quality compact PDF	This function improves the image processing accuracy when creating a Compact PDF data. This function improves the reproducibility of the colored characters or lines. Also, it allows you to set the reversed characters as the texts to be searched.	
E-mail RX Print	Allows you to print the file attached to an E-mail from this machine when the E-mail has been sent to the address of this machine.	
ThinPrint function	Allows you to enable the ThinPrint function on this machine. ThinPrint is such a function allows you to make a speedy print by compressing the data or controlling the marginal zone when sending a print job from ThinPrint Engine (.print Engine) to ThinPrint Client (.print Client). This machine operates as ThinPrint Client (.print Client).	• LK-111
Ubiquitous Printing	Ubiquitous printing is a function that executes print jobs, which are spooled in an MFP through the user's computer once, from any MFP in a ubiquitous group that consists of multiple MFPs.	• LK-114
TPM (Trusted Platform Module)	TPM (Trusted Platform Module) is a hardware chip used for processing such as information encryption and decryption. Security enhancement is realized by encrypting confidential information such as certificates and passwords of this machine. The TPM key used for encrypting confidential information on the machine is saved in a dedicated storage space mounted on the TPM chip. No external devices can access the storage space and the confidential information can be kept in utmost security.	• LK-115

Function	Overview	Required option
	In addition, for future possible replacement of the TPM chip, information required for restoring the TPM key can be saved for backup in a USB memory device.	
Virus Scan Functions	To run the virus scan on a file which is to be read or written via the file system. The virus scan is to be ran on such a data that it is sent or received between the external cloud, PC or USB memory. Internet connection is required to update the pattern file.	• LK-116
IP fax (SIP)	Sends and receives a fax via network communication without using a telephone line. This function is available between devices compatible with IP fax.	• LK-117
My Panel	Allows you to use the touch panel, which is customized only for you, through any MFP connected to the network. The touch panel customization settings are stored on the My Panel Manager server. If necessary, they can be changed on My Panel Manager.	• My Panel Manager Application license
My Address	Allows you to use a dedicated address book through any MFP connected to the network. The dedicated address book is stored on the My Panel Manager server. If necessary, it can be edited on My Panel Manager.	• My Panel Manager Device license

(2) Activation procedures of i-Option

For details of the activation procedures, refer to the followings.

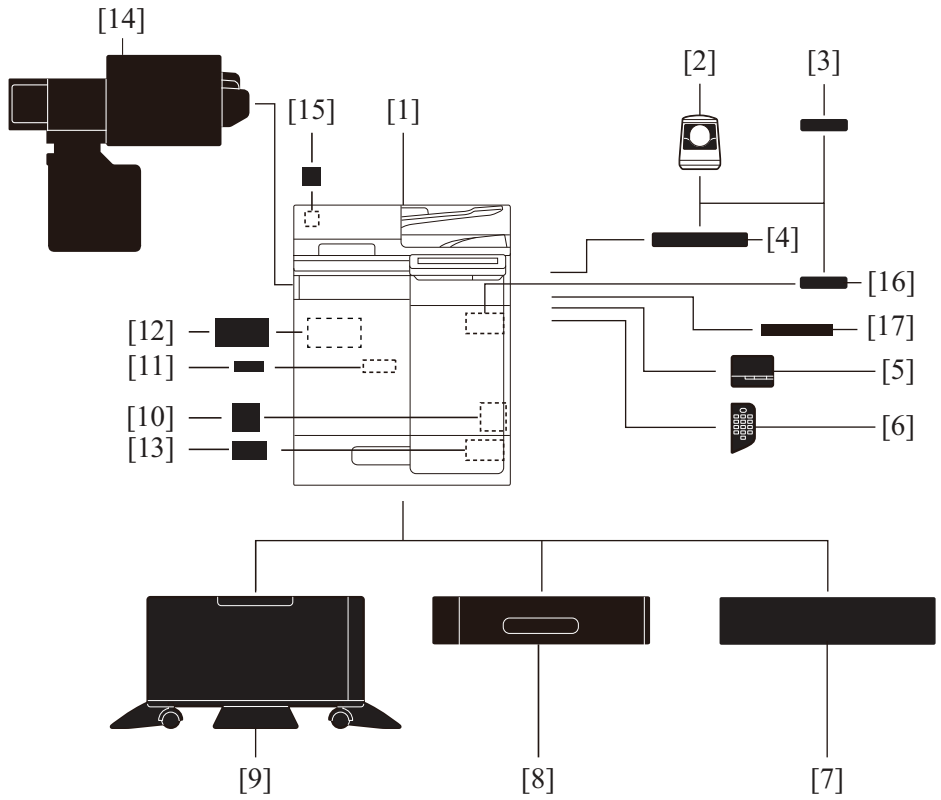
- Activation via Administrator Settings: License Settings.
- Activation via Service Mode: License Management - Activation

2. OVERALL COMPOSITION

2.1 SYSTEM CONFIGURATION

2.1.1 System configuration

(1) System front view



[1]	d-Color MF3303/MF3303en/MF4003/MF4003en	[2]	Authentication Unit AU-102
[3]	Authentication Unit AU-201S	[4]	Working Table WT-P03
[5]	Finisher FS-P04	[6]	Keypad KP-102
[7]	Paper Feed Unit PF-P22	[8]	Paper Feed Unit PF-P20 (*2, *3) Paper Feed Unit PF-P27 (*3)
[9]	Desk DK-P04	[10]	Local Interface Kit EK-P08/EK-P09
[11]	Expanded Memory Unit EM-908	[12]	Fax Kit FK-517 (*4)
[13]	Upgrade Kit UK-221	[14]	Clean Unit CU-202/Mount Kit MK-P09 (*5, *6) Clean Unit CU-204/Mount Kit MK-P09 (*6)
[15]	Double Feed Detection Kit UK-P19	[16]	Mount Kit MK-P08
[17]	Keyboard Holder KH-P02	-	-

*1: AU-201S is supported in d-Color MF4003/MF3303
*2: d-Color MF4003/ MF3303
*3: d-Color MF4003en/MF3303en
*4: Standard equipment of d-Color MF4003/d-Color MF4003en for Europe
*5: d-Color MF4003/d-Color MF4003en (Only for Europe)
*6: d-Color MF3303/d-Color MF3303en (Only for Europe)

2.1.2 Optional configuration

(1) Combination configuration of main body and paper feed options

1	Main body	PF-P20		
2	Main body	PF-P27		
3	Main body	DK-P04		
4	Main body	PF-P20	PF-P20	
5	Main body	PF-P27	PF-P27	
7	Main body *1	PF-P27	PF-P27	PF-P27

12	Main body	PF-P20	PF-P22	
13	Main body	PF-P27	PF-P22	
16	Main body	PF-P22	PF-P22	
18	Main body	PF-P20	DK-P04	
19	Main body	PF-P27	DK-P04	
22	Main body	PF-P22	DK-P04	
24	Main body	PF-P20	PF-P20	DK-P04
25	Main body	PF-P27	PF-P27	DK-P04
28	Main body	PF-P20	PF-P22	DK-P04
29	Main body	PF-P27	PF-P22	DK-P04
32	Main body	PF-P22	PF-P22	DK-P04

NOTE

- **PF-P20 unit can be mounted to the d-Color MF4003/MF3303.**
- **PF-P20/PF-P27/P unit can be mounted to the d-Color MF4003en/MF3303en (PF-P20 and PF-P27 can be mounted together)**
- **Up to three PF-P20/PF-P27 units can be mounted. When three units are mounted, the Clean Unit is not available. (d-Color MF4003en/ MF3303en only)**

(2) Combination configuration of main body and post-processing options

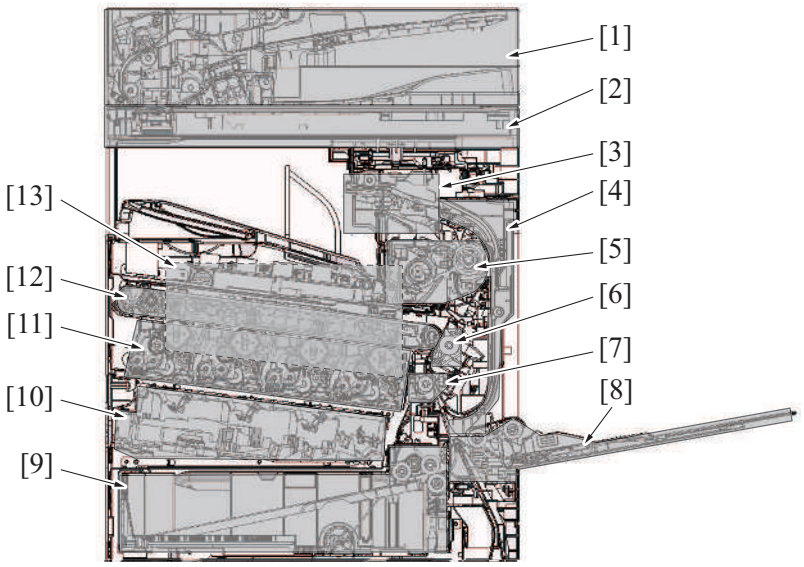
1	Main body	FS-P04

(3) Combination of main body and fax kit

1	Main body	FK-517 (*)

- *: Standard equipment of d-Color MF4003/MF4003en for Japan/North America/Europe

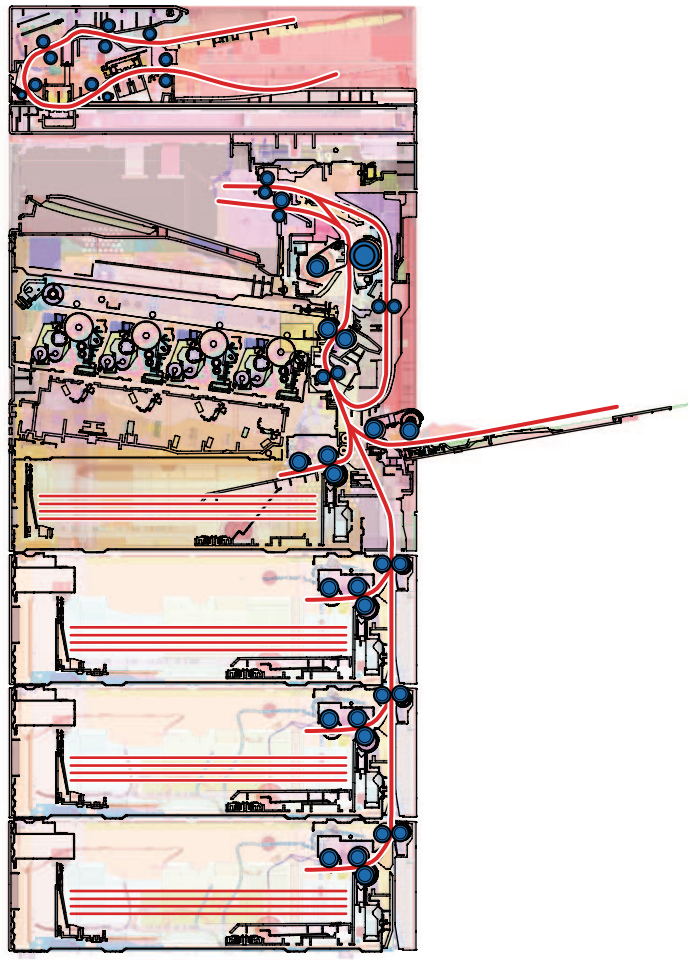
2.2 Section configuration



[1]	Auto document feed section	[2]	Scanner section
[3]	Paper exit/reverse section	[4]	Duplex section
[5]	Fusing section	[6]	2nd transfer section
[7]	Registration section	[8]	Paper feed section (Manual bypass tray)
[9]	Paper feed section	[10]	Write section (PH section)
[11]	Imaging unit	[12]	1st transfer section
[13]	Toner supply section	-	-

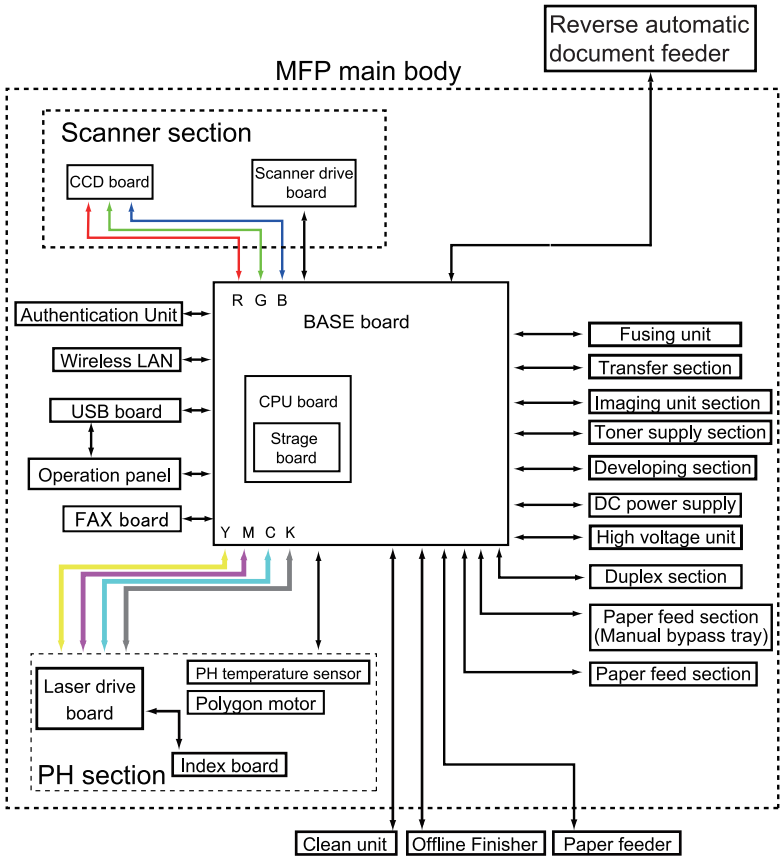
2.3 Paper path

Main body + PF-P20 + PF-P20, Main body + PF-P27 + PF-P27 + PF-P27



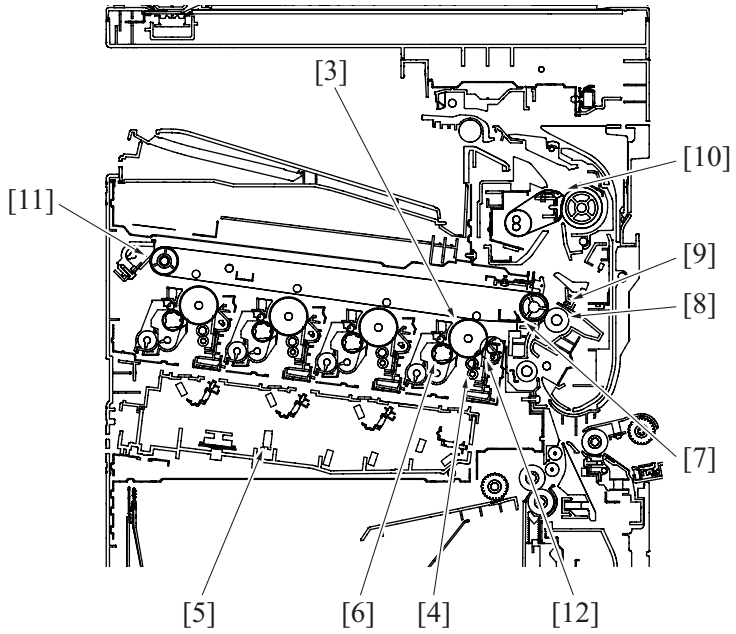
- List of drive rollers and sensors in the paper path

2.4 CONTROL BLOCK DIAGRAM



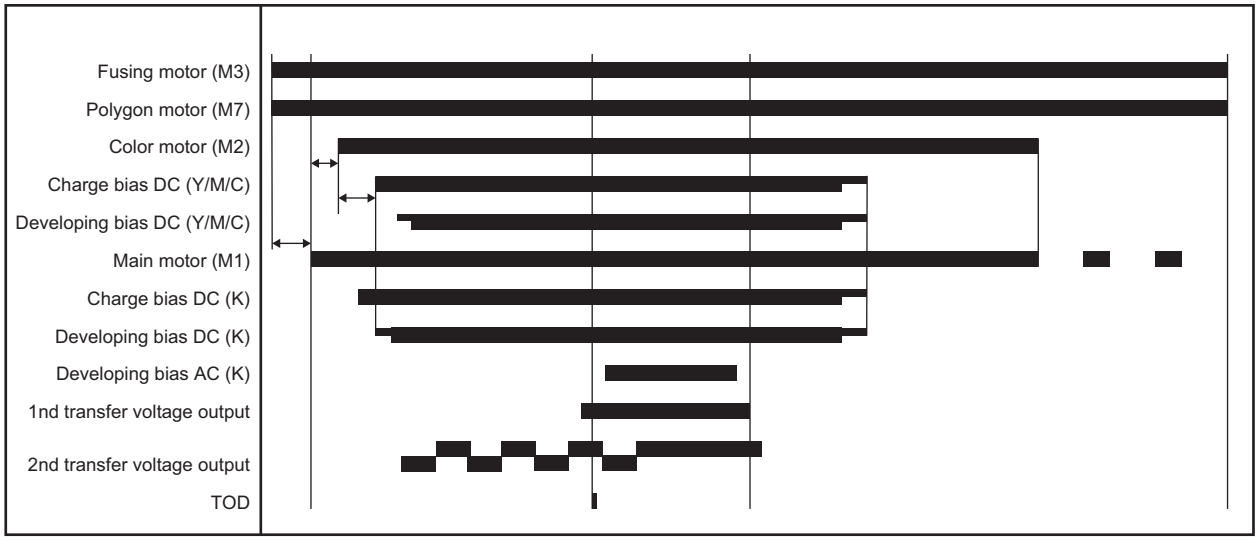
2.5 IMAGE CREATION PROCESS

[1] → [2]



[1]	Photoelectric conversion	The light reflected off the surface of the original is separated into different colors using the color filters (R, G, and B); CCD then converts it into a corresponding electric signal and outputs the signal to the IR imaging processing section.
[2]	Printer image processing	• The electric signal is converted to digital image signals. After going through some corrections, video signals (C, M, Y, and K) are output to the printer image processing section. • D/A conversion will be performed after the VIDEO signals (Y, M, C, K) are corrected. This data will control the emission of the laser diode.
[3]	Photoconductor	The image of the original projected onto the surface of the photoconductor is changed to a corresponding electrostatic latent image.
[4]	Photoconductor charging	Supply DC (-) charge on the photoconductor.
[5]	Laser exposure	Expose photoconductor to a laser beam to develop electrostatic latent image.
[6]	Developing	The toner, agitated and negatively charged in the developer mixing chamber, is attracted onto the electrostatic latent image formed on the surface of the photoconductor. It is thereby changed to a visible, developed image.
[7]	1st transfer	A DC positive voltage is applied to the backside of the transfer belt, thereby allowing the visible, developed image on the surface of each of the photoconductors (Y, M, C, and K) to be transferred onto the transfer belt.
[8]	2nd transfer	A DC positive voltage is applied to the backside of the paper, thereby allowing the visible, developed image on the surface of the transfer belt to be transferred onto the paper.
[9]	Separation	The paper, which has undergone the 2nd transfer process, is neutralized so that it can be properly separated from the transfer belt by the paper separator claws.
[10]	Transfer belt cleaning	Residual toner on the surface of the transfer belt is collected for cleaning by cleaning blade.
[11]	Fusing	The visible toner image transferred onto the surface of the paper is melted by the heat of the fusing roller and fixed to the paper by pressure.
[12]	Photoconductor cleaning	The residual toner left on the surface of the photoconductor is scraped off.

2.6 IMAGE FORMING CONTROL



2.7 Process speed

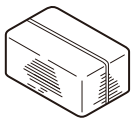
Paper Type/Mode	d-Color MF4003/MF4003en	d-Color MF3303/MF3303en
• Plain paper • Plain paper+ • Recycled paper	243 mm/sec	200 mm/sec
• Thick 1 • Thick 1+ • Thick 2	121.5 mm/sec	100 mm/sec
• Special Paper* • Gloss mode 1200 dpi	121.5 mm/sec	100 mm/sec

- *: Special paper (postcard, envelope, label, coated paper)

D SERVICE TOOL

1. d-Color MF3303/MF3303en/MF4003/MF4003en

Service material list

Name	Shape	Parts No.	Remarks
Cleaning pad (30 pcs)		No code	30pcs/1 pack
Hydro-wipe		No code	10pcs/1pack

2. Utility tool

2.1 IC card information setting tool of card reader

2.1.1 Outline

- Before connecting a card reader to the MFP, it is necessary to prepare an IC card information setting file with the loadable driver.
- To prepare this file, a tool is used for preparing the IC card information setting file for use in each card reader.

Card reader	IC card information setting file preparation tool
AU-201S	Auth Device Tool Advanced for AU-201/AU-201S
OMNIKEY 5427CK (AU-205H)	Auth Device Advanced for 5427CK (AU-205H)
YSoft	Auth Device Tool Advanced for YSoft CR

System requirement of tools

OS	• Windows 7 • Windows 8.1 • Windows 10 Support both 32-bit (x86) and 64-bit (x64) editions.
Library	Microsoft .Net Framework3.5 SP1 or later
Hard disk	10 MB or more free space is required
Display	800 x 600 pixels, 16 bit full color

2.1.2 IC card information setting procedures

(1) Setting IC card information in the loadable driver in advance

(a) Auth Device Tool Advanced for AU-201/AU-201S

1. Obtain the J.1.4 Authentication Device 2 that is compatible with the type of card used.
   NOTE
   - **Use the loadable driver in advanced combination with the firmware version.**
2. Start the Auth Device Tool Advanced for AU-201/AU-201S.
3. Select [Import Loadable Driver] from [File] and select the loadable driver.
4. Select card type.
5. If the card is good for detailed settings, click [Detail Setting/Extra Data Setting].
6. Input the necessary extended data. (For details, ask the IC card administrator.)
7. Select Loadable Driver in [Export Format] and click [Export].
8. Select the loadable driver to be updated and the output location of the loadable driver and click [OK].
9. Copy the output loadable driver (ICC_LDR.tar) to the root directory of the USB memory.
   NOTE
   - **Please do not save any other data in the USB memory.**
10. Call the Service Mode to the screen of the MFP.
11. Select [System 2] -> [Driver Install] -> [Install].
12. Connect the USB memory in which the loadable driver has been saved to the USB port on the side of the control panel.
13. Select [Loadable driver] and touch the [Start] to install the loadable driver.
14. Touch [Reboot]. The system restarts automatically, and the initial screen is displayed.
15. Remove the USB memory and select [Card] in [Billing Settings] -> [Authentication Device 2].
16. Touch [Reboot]. The system restarts automatically, and the initial screen is displayed.
17. Set the authentication user.

(b) Auth Device Tool Advanced for 5427CK (Setting: TypeA/HID Prox/Multiple)

NOTE
- **Selecting [Multiple] makes cards of HID Prox, HID iCLASS and TypeA available at the same time.**

1. Obtain the J.1.4 Authentication Device 2 that is compatible with the type of card used.
   NOTE
   - **Use the loadable driver in advanced combination with the firmware version.**
2. Start the Auth Device Tool Advanced for OMNIKEY 5427CK (AU-205H).
3. Select card type. (Except for HID iCLASS)
4. Select Loadable Driver in [Export Format] and click [Export].
5. Select the loadable driver to be updated and the output location of the loadable driver and click [OK].
6. Copy the output loadable driver (ICC_LDR.tar) to the root directory of the USB memory.
   NOTE
   - **Please do not save any other data in the USB memory.**
7. Call the Service Mode to the screen of the MFP.
8. Select [System 2] -> [Driver Install] -> [Install].
9. Connect the USB memory in which the loadable driver has been saved to the USB port on the side of the control panel.
10. Select [Loadable driver] and touch the [Start] to install the loadable driver.
11. Touch [Reboot]. The system restarts automatically, and the initial screen is displayed.
12. Remove the USB memory and select [Card] in [Billing Settings] -> [Authentication Device 2].
13. Touch [Reboot]. The system restarts automatically, and the initial screen is displayed.
14. Set the authentication user.

(c) Auth Device Tool Advanced for 5427CK (HID iCLASS)

1. Obtain the J.1.4 Authentication Device 2 that is compatible with the type of card used.
   NOTE
   - **Use the loadable driver in advanced combination with the firmware version.**
2. Start the Auth Device Tool Advanced for OMNIKEY 5427CK (AU-205H).

3. Select HID iCLASS.
4. Click [Detail Setting].
5. Set the card ID length.
6. Select Loadable Driver in [Export Format] and click [Export].
7. Select the loadable driver to be updated and the output location of the loadable driver and click [OK].
8. Copy the output loadable driver (ICC_LDR.tar) to the root directory of the USB memory.
   NOTE
   - **Please do not save any other data in the USB memory.**
9. Call the Service Mode to the screen of the MFP.
10. Select [System 2] -> [Driver Install] -> [Install].
11. Connect the USB memory in which the loadable driver has been saved to the USB port on the side of the control panel.
12. Select [Loadable driver] and touch the [Start] to install the loadable driver.
13. Touch [Reboot]. The system restarts automatically, and the initial screen is displayed.
14. Remove the USB memory and select [Card] in [Billing Settings] -> [Authentication Device 2].
15. Touch [Reboot]. The system restarts automatically, and the initial screen is displayed.
16. Set the authentication user.

(d) Auth Device Tool Advanced for YSoft CR

NOTE

- **If a YSoft card reader is used, when performing authentication, the default setting for the loadable driver makes the card to be informed as an HID Prox card regardless of which type you are using. To change the card type when performing authentication, using Auth Device Tool Advanced for YSoft CR to choose a corresponding card type to be reported to the authentication program from the following list.**

Card Reader Name	Readable Card Type	IC Card Information Setting (card type to be reported)
OLI USB Reader v3 MF & Legic	LEGIC	TypeA (1) (*1)
OLI USB Reader v3 Indala	Indala	Indala
OLI USB Reader v3 MF+	EM4100, EM4102, RFID 125 kHz	EM4100/ EM4102/ RFID 125 kHz
	Mifare	TypeA (1) (*1)
	HID Prox	HID Prox (1) (*2)
	HID iCLASS	HID iCLASS (1) (*3)

- ***1: The content (ID) to be read from the type A card setting differs from which to be read by using AU-201/AU-201S.**
- ***2: The content (ID) to be read from the HID Prox card setting differs from which to be read by using AU-201H.**
- ***3: The content (ID) to be read from the HID iCLASS card setting differs from which to be read by using AU-202H.**

1. Obtain the J.1.4 Authentication Device 2.
   NOTE
   - **Use the loadable driver in advanced combination with the firmware version.**
2. Start the Auth Device Tool Advanced for YSoft CR.
3. Select card type.
4. Select Loadable Driver in [Export Format] and click [Export].
5. Select the loadable driver to be updated and the output location of the loadable driver and click [OK].
6. Copy the output loadable driver (ICC_LDR.tar) to the root directory of the USB memory.
   NOTE
   - **Please do not save any other data in the USB memory.**
7. Call the Service Mode to the screen of the MFP.
8. Select [System 2] -> [Driver Install] -> [Install].
9. Connect the USB memory in which the loadable driver has been saved to the USB port on the side of the control panel.
10. Select [Loadable driver] and touch the [Start] to install the loadable driver.
11. Touch [Reboot]. The system restarts automatically, and the initial screen is displayed.
12. Remove the USB memory and, accessing [Billing Settings] -> [Authentication Device 2], select [Card].
13. Touch [Reboot]. The system restarts automatically, and the initial screen is displayed.
14. Set the authentication user.

(2) Installing IC card information setting only in the MFP afterward

(a) Preparations

- Using the Data Administrator, register the target MFP in advance.
- Set the MFP into a state in which it can communicate over the network.
- Accessing Web Connection -> [Administrator mode] -> [Security Settings], issue a self-signed certificate from [Device Certificate Setting] and install it.
- Accessing Web Connection -> [Administrator mode] -> [Network Settings], set use of [SSL/TLS] in [OpenAPI] to “SSL Only”.

NOTE

- **Only one loadable device driver must be stored in the USB memory, and please do not save any other data in the USB memory.**

(b) Auth Device Tool Advanced for AU-201/AU-201S

1. Install the J.1.4 Authentication Device 2 that is compatible with the type of card used.
   NOTE
   - **Use the loadable driver in advanced combination with the firmware version.**
2. Start the Auth Device Tool Advanced for AU-201/AU-201S.
3. Select card type.

4. If the card is good for detailed settings, click [Detail Setting/Extra Data Setting].
5. Input the necessary extended data. (For details, ask the IC card administrator.)
6. Select IC card information setting file in [Export Format] and click [Export].
7. Set the encrypted password.
8. Save the file (iccConfig.bin).
9. Start the Data Administrator, and select the target MFP.
10. In the [Settings for multiple device] tab, click [Batch setting of IC Card Information].
11. Using [Browse], select the file saved in step 8.
12. Click [Open] and type the encrypted password set in step 7.
13. Click [Next] and select the device to be imported.
    Input the MFP administrator password and click [OK].
14. Click [Start] and write the file in the MFP.
15. Check that “Normal” is shown in [Status].
    Click [Finished] to close the screen.
16. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
17. Set the authentication user.

(c) Auth Device Tool Advanced for 5427CK (Setting: TypeA/HID Prox/Multiple)

1. Install the J.1.4 Authentication Device 2 on the MFP.
   NOTE
   - **Use the loadable driver in advanced combination with the firmware version.**
2. Start the Auth Device Tool Advanced for 5427CK (AU-205H).
3. Select card type. (Except for HID iCLASS)
4. Select IC card information setting file in [Export Format] and click [Export].
5. Set the encrypted password.
6. Save the file (iccConfig.bin).
7. Start the Data Administrator, and select the target MFP.
8. In the [Settings for multiple device] tab, click [Batch setting of IC Card Information].
9. Using [Browse], select the file saved in step 6.
10. Click [Open] and type the encrypted password set in step 5.
11. Click [Next] and select the device to be imported.
    Input the MFP administrator password and click [OK].
12. Click [Start] and write the file in the MFP.
13. Check that “Normal” is shown in [Status].
    Click [Finished] to close the screen.
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
15. Set the authentication user.

(d) Auth Device Tool Advanced for 5427CK (HID iCLASS)

1. Install the J.1.4 Authentication Device 2 on the MFP.
   NOTE
   - **Use the loadable driver in advanced combination with the firmware version.**
2. Start the Auth Device Tool Advanced for 5427CK (AU-205H).
3. Select HID iCLASS.
4. Click [Detail Setting].
5. Set the card ID length.
6. Select IC card information setting file in [Export Format] and click [Export].
7. Set the encrypted password.
8. Save the file (iccConfig.bin).
9. Start the Data Administrator, and select the target MFP.
10. In the [Settings for multiple device] tab, click [Batch setting of IC Card Information].
11. Using [Browse], select the file saved in step 8.
12. Click [Open] and type the encrypted password set in step 7.
13. Click [Next] and select the device to be imported.
    Input the MFP administrator password and click [OK].
14. Click [Start] and write the file in the MFP.
15. Check that “Normal” is shown in [Status].
    Click [Finished] to close the screen.
16. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
17. Set the authentication user.

(e) Auth Device Tool Advanced for YSoft CR

NOTE

- **If a YSoft card reader is used, when performing authentication, the default setting for the loadable driver makes the card to be informed as an HID Prox card regardless of which type you are using. To change the card type when performing authentication, using Auth Device Tool Advanced for YSoft CR to choose a combination of corresponding card types to be reported to the authentication program from the following list.**

Card Reader Name	Readable Card Type	IC Card Information Setting (card type to be reported)
OLI USB Reader v3 MF & Legic	LEGIC	TypeA (1) (*1)
OLI USB Reader v3 Indala	Indala	Indala
OLI USB Reader v3 MF+	EM4100, EM4102, RFID 125 kHz	EM4100/ EM4102/ RFID 125 kHz

Card Reader Name	Readable Card Type	IC Card Information Setting (card type to be reported)
	Mifare	**TypeA (1) (*1)**
	HID Prox	**HID Prox (1) (*2)**
	HID iCLASS	**HID iCLASS (1) (*3)**

- ***1: The content (ID) to be read from the type A card setting differs from which to be read by using AU-201/AU-201S.**
- ***2: The content (ID) to be read from the HID Prox card setting differs from which to be read by using AU-201H.**
- ***3: The content (ID) to be read from the HID iCLASS card setting differs from which to be read by using AU-202H.**

1. Install the J.1.4 Authentication Device 2 to the MFP.
   NOTE
   - **Use the loadable driver in advanced combination with the firmware version.**
2. Start the Auth Device Tool Advanced for YSoft CR.
3. Select card type.
4. Select IC card information setting file in [Export Format] and click [Export].
5. Set the encrypted password.
6. Save the file (iccConfig.bin).
7. Start the Data Administrator, and select the target MFP.
8. In the [Settings for multiple device] tab, click [Batch setting of IC Card Information].
9. Using [Browse], select the file saved in step 6.
10. Click [Open] and type the encrypted password set in step 5.
11. Click [Next] and select the device to be imported.
    Input the MFP administrator password and click [OK].
12. Click [Start] and write the file in the MFP.
13. Check that “Normal” is shown in [Status].
    Click [Finished] to close the screen.
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
15. Set the authentication user.

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E MAINTENANCE

1. Concept of maintenance

Concept of periodical maintenance

- Cleaning/replacement cycle for each maintenance item of main body/options can be evaluated with the total counter or each life counter value of [Service Mode] -> [Counter] -> [Life].
- Make sure to replace all maintenance parts to new ones. Reusing of the old parts may cause an image failure or other troubles.

Concept of consumable/part replacement time

- The replacement time for each consumable and part is available from [Service Mode] -> [Counter] -> [Life].
- The replacement time means the standard replacement time when prints are made under the conditions as defined in the another section, specified conditions for replacement time. The actual replacement time may vary depending on how the machine is used or the environment.
- “M” refers to the rotation time of each unit.

Consumables/part name	Target model		Field standard yield *1	Replacement time *2	Life stop *2
Imaging unit/K	d-Color MF4003/ MF4003en	Europe	168,000 sheets	9373M	9965M
	d-Color MF3303/ MF3303en	Europe	159,000 sheets	11388M	11958M
Imaging unit/Y,M,C	d-Color MF4003/ MF4003en	Europe	55,000 sheets	4687M	4921M
	d-Color MF3303/ MF3303en		56,000 sheets	5694M	5979M
Transfer belt unit	d-Color MF4003/ MF4003en	Europe	168,000 sheets	8619M	9050M
	d-Color MF3303/ MF3303en	Europe	159,000 sheets	10472M	10996M
Transfer roller unit	d-Color MF4003/ MF4003en	Europe	168,000 sheets	8619M	9050M
	d-Color MF3303/ MF3303en	Europe	159,000 sheets	10472M	10996M
Fusing unit	d-Color MF4003/ MF3303/MF4003en MF3303en		400,000 sheets	400,000 counts / 38408M	420,000 counts / 40329M
Toner filter	d-Color MF4003/ MF3303/MF4003en MF3303en		-	200,000 counts	-

- *1: For details of specified conditions of field standard yield, see the following tables.
  *2: The replacement time changes depending on the setting of the replacement timing intelligent control. For details, see J.2.10 Engine FW DipSW.

Specified conditions of field standard yield

Europe

Items		d-Color MF4003/d-Color MF4003en	d-Color MF3303/d-Color MF3303en
Printing	Color	1 P/J	1 P/J
	Black	4 P/J	3 P/J
Paper size		A4S	
Coverage		Each color 5%	

2. Periodical replacement parts list

2.1 d-Color MF3303/MF3303en/MF4003/MF4003en

Classification	Part name		Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Paper feed section	Tray 1 feed roller		AVGR25620R	1	200,000	*2 *4	E.3.1.1 Replacing the tray 1 pick-up roller, tray 1 feed roller
	Tray 1 pick-up roller		AVGR25619K	1	200,000		
	Tray 1 separation roller	d-Color MF4003 MF3303	AVGR06906N	1	200,000		E.3.1.2 Replacing the tray 1 separation roller
		d-Color MF4003en MF3303en	AVGR14002G				
	Manual bypass tray feed roller		AVGR29915A	1	200,000	*2 *4	E.3.1.3 Replacing the manual bypass tray feed roller
	Manual bypass tray pick-up roller		AVGR19657W	1	200,000		E.3.1.4 Replacing the manual bypass tray pick-up roller
	Manual bypass tray separation pad		AVGR29899R	1	200,000		E.3.1.5 Replacing the manual bypass tray separation pad
Processing section	Toner cartridge/Y,M,C		B1336, 8, 9	1	9,000	*1 *3	E.3.1.6 Replacing the toner cartridge
	Toner cartridge/K		B1337	1	13,000		
	Imaging unit/ Y,M,C	d-Color MF4003/ MF4003en	B1340 B1342 B1343	1	55,000	*1 *3	E.3.1.7 Replacing the imaging unit
		d-Color MF3303/ MF3303en	B1341	1	56,000		
	Imaging unit/K	d-Color MF4003/ MF4003en		1	168,000		
		d-Color MF3303/ MF3303en		1	159,000		
	Toner filter		AVGR27491D	1	200,000	*2	E.3.1.8 Replacing the toner filter
	Waster toner bottle	d-Color MF4003/ MF4003en	B1356	1	27,360	*1 *3 *5	E.3.1.9 Replacing the waster toner bottle
		d-Color MF3303/ MF3303en		1	26,820		
Image transfer section	Transfer belt unit	d-Color MF4003/ MF4003en	AVGR29850K	1	168,000	*3	E.3.1.10 Replacing the transfer belt unit
		d-Color MF3303/ MF3303en		1	159,000		

Classification	Part name		Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
	Transfer roller	d-Color MF4003/ MF4003en	AVGR29857L	1	168,000	*3	E.3.1.11 Replacing the transfer roller unit
		d-Color MF3303/ MF3303en		1	159,000		
Fusing section	Fusing unit		AVGR31797 C (220-240V)	1	400,000	*3	E.3.1.12 Replacing the fusing unit

*1: The parts can be replaced either by user or service engineer.
*2: Life counter value
*3: Field standard yield
*4: Replace these parts at the same time.
*5: A waste toner full condition is detected with detecting the actual waste toner emissions.

2.2 PF-P20/PF-P27

Part name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Pick-up roller	AVGR25619K	1	200,000	*1 *2	E.3.2.1 Replacing the tray 2/3/4 pick-up roller, feed roller
Feed roller	AVGR25620R	1	200,000		
Separation roller	AVGR14002G	1	200,000		E.3.2.2 Replacing the tray 2/3/4 separation roller

*1: Life counter value
*2: Replace these parts at the same time.

3. Periodical replacement procedure

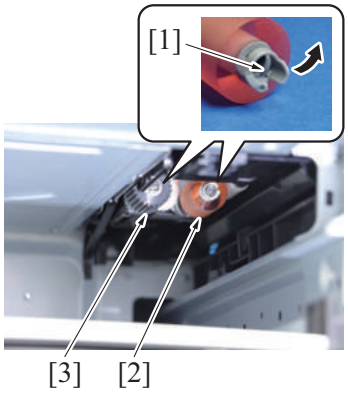
NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

3.1 d-Color MF3303/MF3303en/MF4003/MF4003en

3.1.1 Replacing the tray 1 pick-up roller, tray 1 feed roller

1. Remove the tray 1.
   F.4.1.7 Tray1

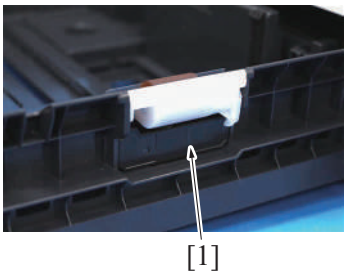


2. Release the tab [1] of each roller, and remove the tray 1 feed roller [2] and tray 1 pick-up roller [3].
3. To reinstall, reverse the order of removal.
4. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [1st Feed Count].

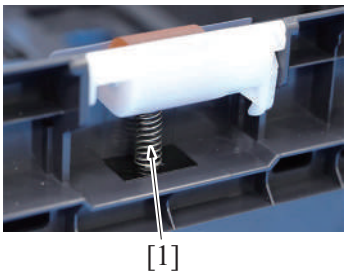
3.1.2 Replacing the tray 1 separation roller

<d-Color MF4003/MF3303>

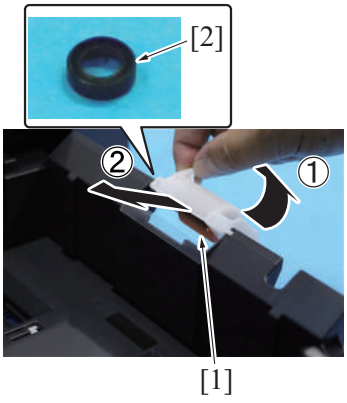
1. Slide out the tray 1.
2. Remove the cover [1].

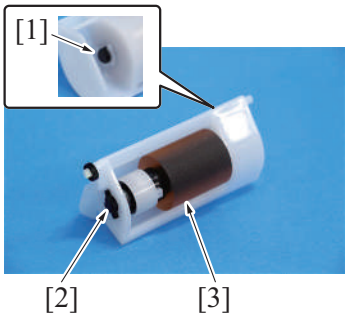


3. Remove the spring [1].



4. Remove the tray 1 separation roller assy [1].
   NOTE
   - **Make sure not to lose the collar [2] when removing the tray 1 separation roller assy.**





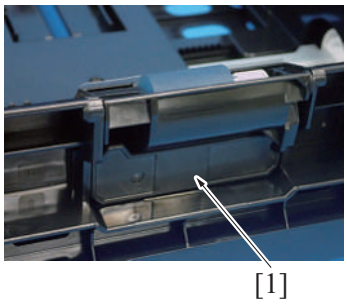
5. Remove the C-clip [1], pull out the shaft [2], and remove the tray 1 separation roller assy [3].

6. To reinstall, reverse the order of removal.
7. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [1st Feed Count].

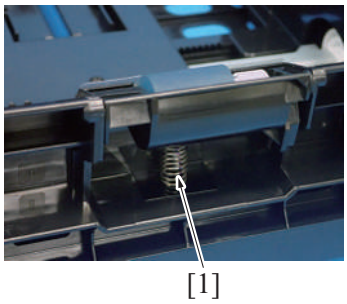
<d-Color MF4003en/MF3303en>

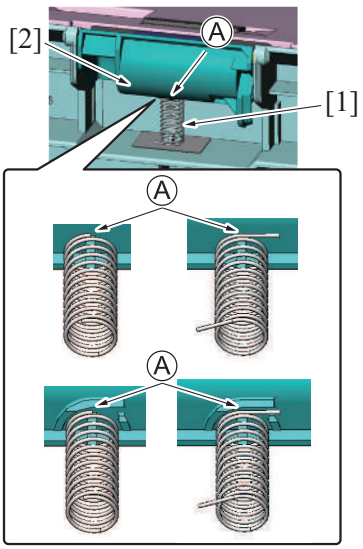
1. Slide out the tray 1.

2. Remove the cover [1].

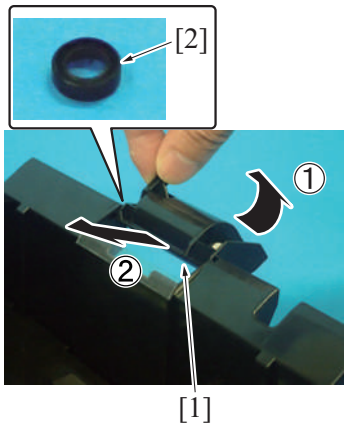


3. Remove the spring [1].

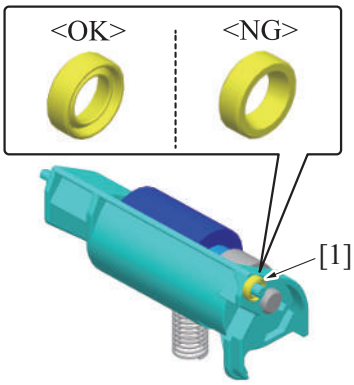




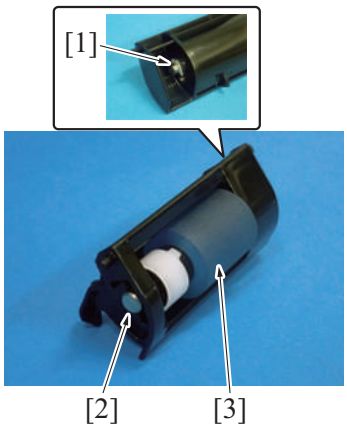
4. **NOTE**
   - **Install the spring [1], so that the tip [A] of the spring is facing outside.**
   - **Note that there are 4 ways of combination of the spring [1] and holder [2] due to their shapes.**



5. Remove the tray 1 separation roller assy [1].
NOTE
- **Make sure not to lose the collar [2] when removing the tray 1 separation roller assy.**



6. **NOTE**
- **Install the collar [1], so that the side with a groove is facing outside.**



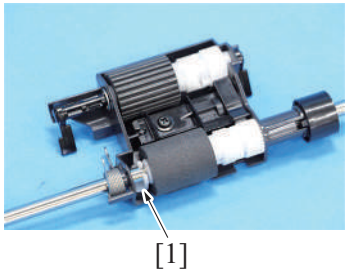
7. Remove the C-clip [1], pull out the shaft [2], and remove the tray 1 separation roller assy [3].

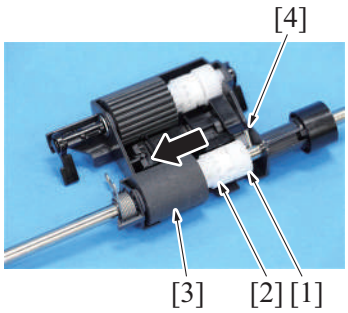
8. To reinstall, reverse the order of removal.
9. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [1st Feed Count].

3.1.3 Replacing the manual bypass tray feed roller

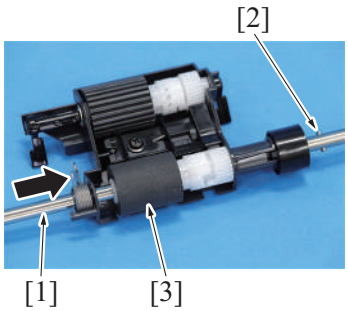
1. Open the right door.
2. Remove the manual bypass tray unit.
F.4.2.1 Manual bypass tray unit
3. Remove the bypass tray paper feed clutch.
F.4.5.1 Bypass tray paper feed clutch (CL2)
4. Remove the manual bypass tray roller unit.
F.4.2.5 Manual bypass tray roller unit

5. Remove the C-clip [1] or E-clip [1].





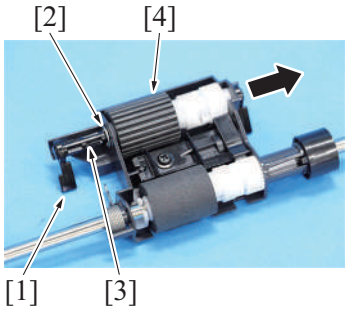
6. Slide the gear [1], gear [2] and feed roller [3], and remove the pin [4].
NOTE
- **Be careful not to loss the pin.**



7. Slide the shaft [1], and remove the pin [2].
NOTE
- **Be careful not to loss the pin.**
8. Pull out the haft [1], and remove the feed roller [3].
9. To reinstall, reverse the order of removal.
10. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [Manual Tray Feed Count].

3.1.4 Replacing the manual bypass tray pick-up roller

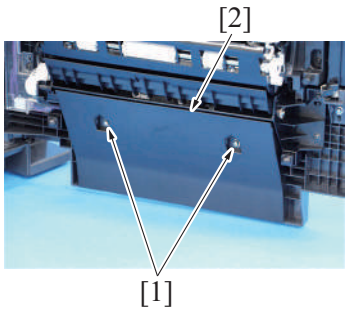
1. Open the right door.
2. Remove the manual bypass tray unit.
F.4.2.1 Manual bypass tray unit
3. Remove the bypass tray paper feed clutch.
F.4.5.1 Bypass tray paper feed clutch (CL2)
4. Remove the manual bypass tray roller unit.
F.4.2.5 Manual bypass tray roller unit



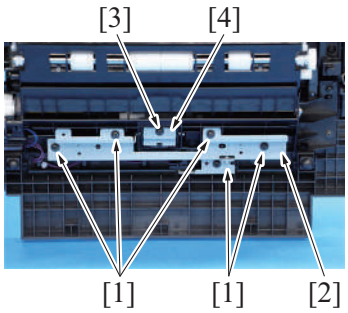
5. Remove the lever [1] and the E-ring [2].
6. Pull out the shaft [3], and remove the manual bypass tray pick-up roller [4].
7. To reinstall, reverse the order of removal.
8. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [Manual Tray Feed Count].

3.1.5 Replacing the manual bypass tray separation pad

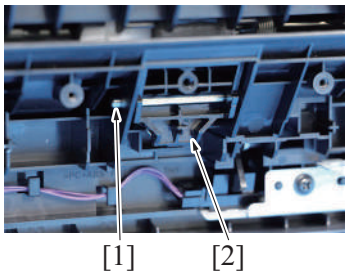
1. Open the right door.



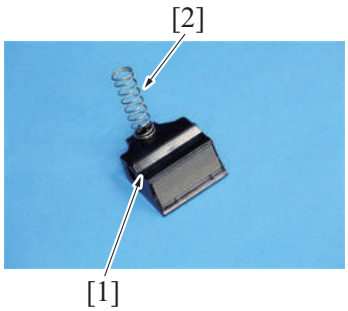
2. Remove two screws [1], and remove the cover [2].



3. Remove five screws [1] and the plate [2].
4. Remove the screw [3] and the plate [4].



5. Slide the shaft [1], and remove the separation pad assy [2].



6. Remove the spring [2] from the separation pad [1].

7. To reinstall, reverse the order of removal.
8. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [Manual Tray Feed Count].

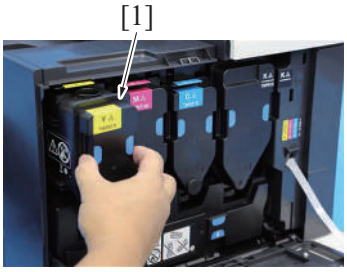
3.1.6 Replacing the toner cartridge

(1) Removal procedure

NOTE

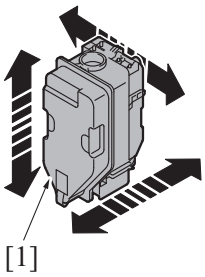
- **Although the procedure shown below is for the replacement of the toner cartridge/Y, use the same procedure to replace other colors of toner cartridges.**

1. Open the front door.

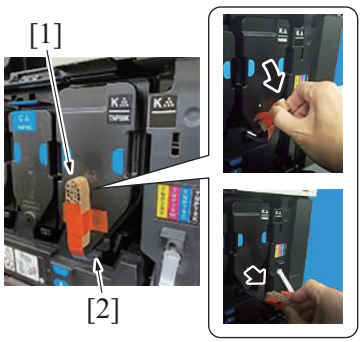


2. Remove the toner cartridge [1].

(2) Reinstall procedure



1. Remove the new toner cartridge [1] from its packaging, hold it with both hands and shake it several times.
   NOTE
   - **Shake the toner cartridge well.**
     If shaking is not enough, that may cause trouble.

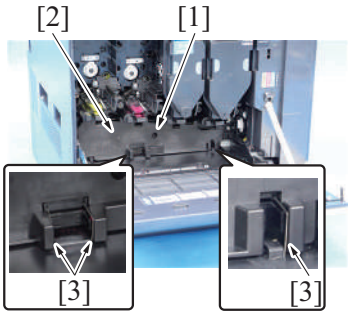


2. Remove the protective materials [1] from the toner cartridges of each color together with the tapes, and pull out the protective films [2] together with the protective materials [1] while holding it.
   NOTE
   - **Make sure to remove the protective films [2] completely.**
   - **Make sure that the toner cartridges are pushed all the way in.**

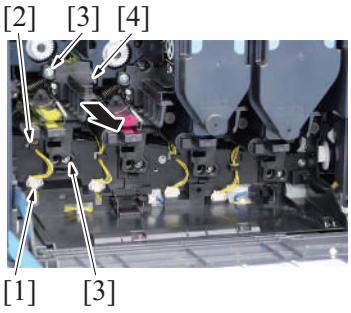
3. To reinstall, reverse the order of removal.

3.1.7 Replacing the imaging unit

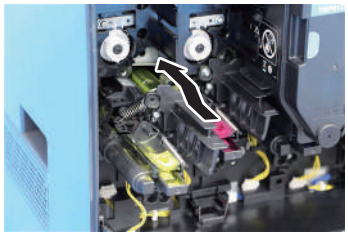
1. Remove the toner cartridge of the same color as the imaging unit to be removed, and remove the right neighbor toner cartridge.
   E.3.1.6 Replacing the toner cartridge
2. Remove the waste toner bottle.
   E.3.1.9 Replacing the waster toner bottle



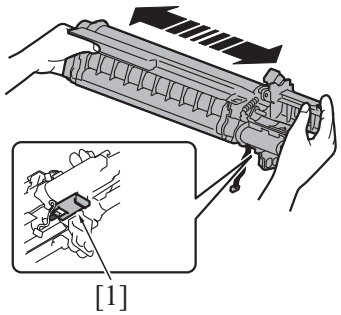
3. Remove the screw [1], and remove the cover [2].
   NOTE
   - **Make sure not to deform or loss the tension spring [3] when removing or installing the cover.**
   - **Make sure not to hide the tension spring [3] inside the cover when installing the cover.**



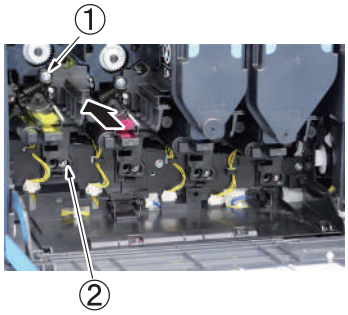
4. Disconnect the connector [1], and remove the harness from the harness guide [2].
5. Remove two screws [3], and remove the imaging unit [4].



6. **NOTE**
   - **When installing the imaging unit, completely push it in.**



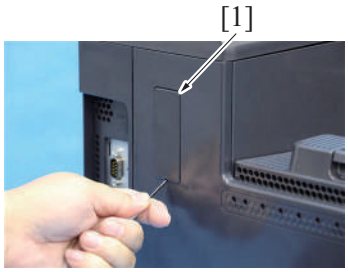
7. **NOTE**
   - **When install a new imaging unit, hold both sides of the imaging unit by hands, and shake it back and forth horizontally 10 times.**
     - Do not touch the photoconductor.
     - Do not damage the photoconductor.
     - Do not expose the photoconductor to a light for a long time.
     - Do not touch the shutter [1] on the toner discharge port under the imaging unit.
     - After shaking the imaging unit, make sure that no toner is spilled out.



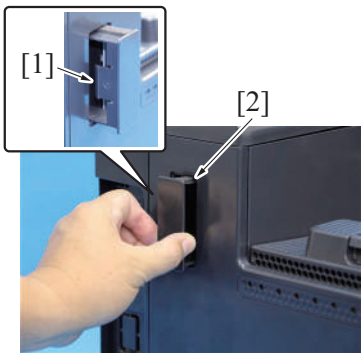
8. **NOTE**
   - **When installing the imaging unit, be sure to tighten the screws from (1) to (2) in that order.**
   - **Otherwise, it may cause a color shift or magnification shift in the main scanning direction.**

9. To reinstall, reverse the order of removal.
10. Select [Service Mode] -> [Machine] -> [Color Registration Adjustment] to adjust the value for correcting the color shift to 0.
11. Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and perform the function.
12. Select [Service Mode] -> [Machine] -> [Main Scanning Direction Zoom] to adjust the zoom in main scanning direction.
13. Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and perform the function.
14. Repeat the step 10 and 11 until the Main Scanning Direction Zoom Adjustment is met.
15. Select [Service Mode] -> [Machine] -> [Color Registration Adjustment] and perform the adjustment for correcting the color shift.
16. Select [Service Mode] -> [Machine] -> [Printer Area] -> [Printer Image Centering Side 1] to adjust the side of print position for each paper source.
17. Select [Service Mode] -> [Machine] -> [Printer Area] -> [Prt. Image Center. Side 2 (Dup)] to adjust the side of 2-sided print position for each paper source.

3.1.8 Replacing the toner filter



1. Pull out the toner filter [1].

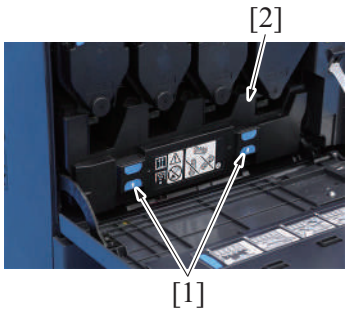


2. Unhook the tab [1], and remove the toner filter [2].

3. To reinstall, reverse the order of removal.
4. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [Toner Filter].

3.1.9 Replacing the waster toner bottle

1. Open the front door.

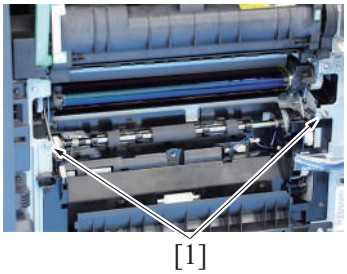


2. Hold the both handles [1], and remove the waste toner bottle [2].
3. Clean the surface around the waste toner collecting port.
   E.5.1.10 Cleaning of the area around the waste toner collecting port
4. Reinstall the above parts following the removal steps in reverse.

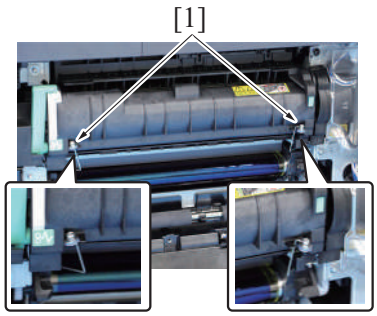
3.1.10 Replacing the transfer belt unit

(1) Removal procedure

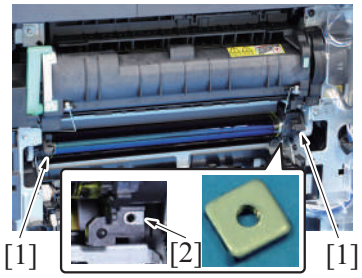
1. Remove the toner cartridge.
   E.3.1.6 Replacing the toner cartridge
2. Remove the waste toner bottle.
   E.3.1.9 Replacing the waster toner bottle
3. Remove the imaging unit.
   E.3.1.7 Replacing the imaging unit
4. Remove the IDC sensor assy.
   F.4.7.1 IDC sensor (IDCS1)



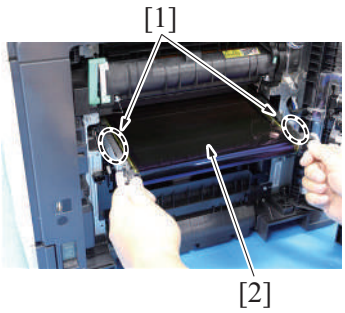
5. Remove two screws [1].



6. Hook two transfer unit pressers [1] on the fusing unit.

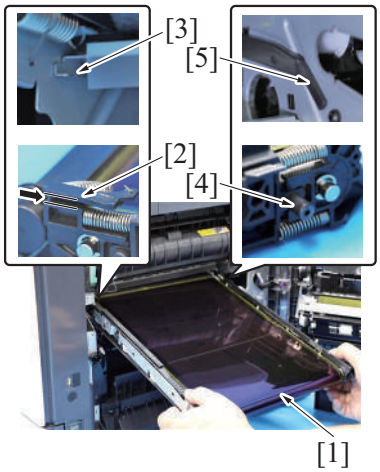


7. Hold the handle [1] of the transfer belt unit, and pull it out.
   NOTE
   - **Make sure not to drop or lose the plate nut [2].**

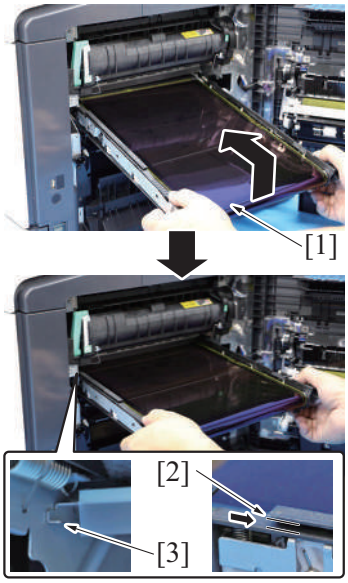


8. Hold the position [1] and remove the transfer belt unit [2].
NOTE
- **Do not touch the surface of the transfer belt unit.**
- **Cover the transfer belt unit with something such shade cloth to protect its surface from dust or foreign matter.**
- **If accidentally touched the surface of the transfer belt, lightly wipe it using the Hydro-wipe (No code). Do not clean with alcohol or water.**

(2) Reinstall procedure



1. Insert the transfer belt unit [1] so that the left groove [2] in the tip is along the rail [3], and the right shaft [4] on the tip is along the rail [5].
NOTE
- **Insert the transfer belt unit with care not to allow its docking gear to be damaged by hitting it against the rail or associated part.**
- **Do not touch the surface of the transfer belt unit.**
- **If accidentally touched the surface of the transfer belt, lightly wipe it using the Hydro-wipe (No code). Do not clean with alcohol or water.**



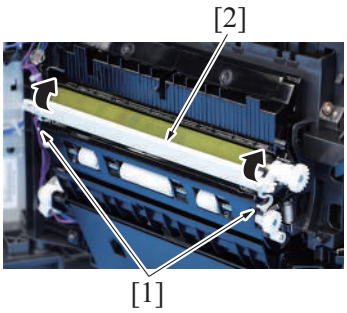
2. Hold up the transfer belt [1], and insert the transfer belt unit so that the groove [2] is along the rail [3].

3. To reinstall, reverse the order of removal.
4. Carry out the [Service Mode] -> [Counter] -> [Life] -> [New Release].
5. Select [Transfer Belt Unit].
6. Press the Start key and perform New Release.
7. Select [Service Mode] -> [Machine] -> [Color Registration Adjustment] to adjust the value for correcting the color shift to 0.
8. Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and perform the function.
9. Select [Service Mode] -> [Machine] -> [Main Scanning Direction Zoom] to adjust the zoom in main scanning direction.
10. Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and perform the function.
11. Repeat the step 8 and 9 until the Main Scanning Direction Zoom Adjustment is met.
12. Select [Service Mode] -> [Machine] -> [Color Registration Adjustment] and perform the adjustment for correcting the color shift.

3.1.11 Replacing the transfer roller unit

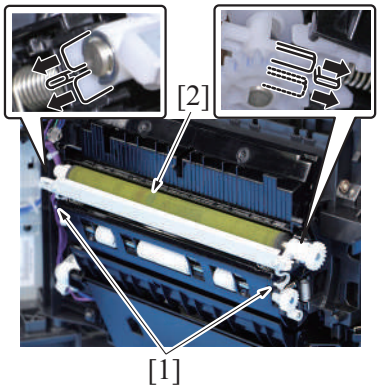
(1) Removal procedure

1. Open the right door.

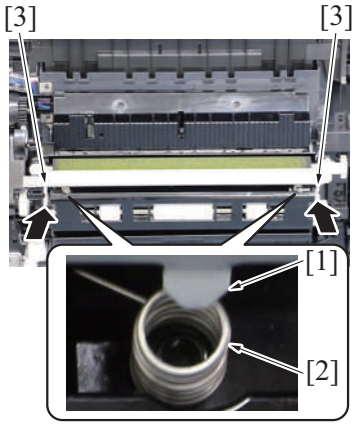


2. Unlock the lock levers [1] of the transfer roller unit (at two places).
3. Holding onto the lock levers [1] (at two places), remove the transfer roller unit [2].

(2) Reinstall procedure



1. Holding onto the lock levers [1] (at two places), mount the new transfer roller unit [2].
   NOTE
   - **The transfer roller unit must be engaged in the transfer roller unit supporter.**



2. Insert two protrusions [1] of the transfer roller unit into the center of the pressure spring [2].
3. Lock the lock levers [3] (at two places).
   NOTE
   - **Make sure that the levers are locked in position both at front and rear.**

4. Close the right door.
5. Carry out the [Service Mode] -> [Counter] -> [Life] -> [New Release].
6. Select [Transfer Roller Un].
7. Press the Start key and perform New Release.

3.1.12 Replacing the fusing unit

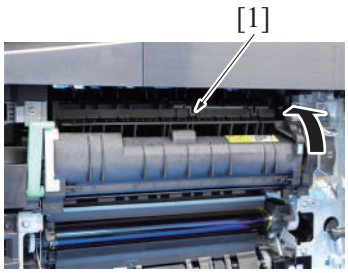
⚠CAUTION



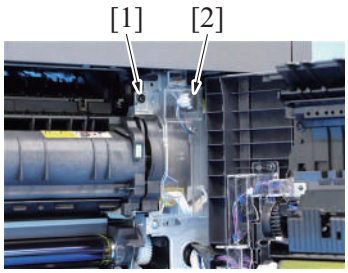
- The temperature gets high in the vicinity of the fusing unit. You may get burned when you come into contact with the area.

  Before replacement operations, make sure that more than 20 minutes have elapsed since the main power switch was turned off.

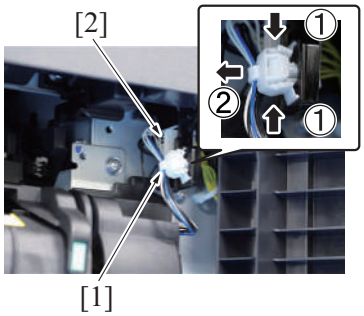
1. Open the right door.



2. Open the separation guide [1].

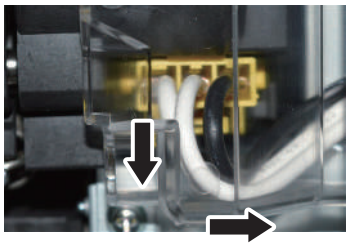


3. Remove the screw [1], and remove the cover [2].

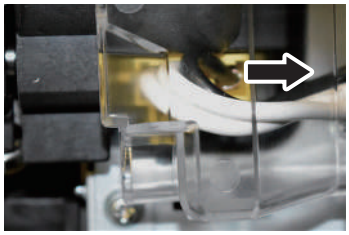


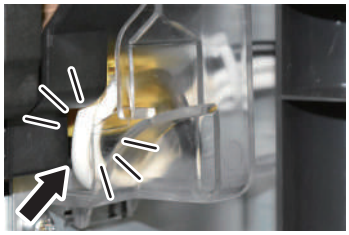
4. Remove the cable tie [1] from the main body, and disconnect the connector [2].

<OK>

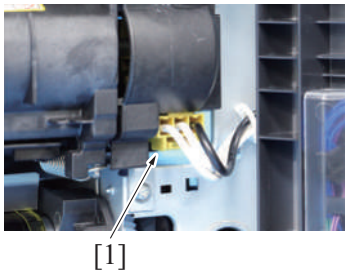


<NG>

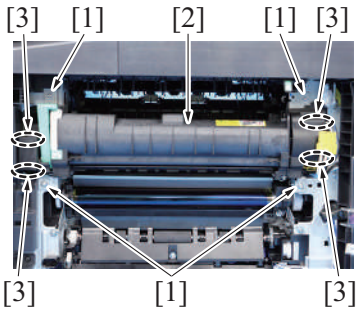




5. **NOTE**
   - **When installing the cover, make sure that the harness is once routed downward, then in the horizontal direction.**
   - **Make sure not to pinch the harness by the cover when installing the cover.**

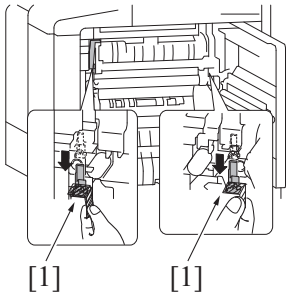


6. Disconnect the connector [1].
NOTE
- **When removing the connector [1], press the claw to release the lock, then remove it.**



7. Remove four screws [1], and remove the fusing unit [2].
NOTE
- **When removing the fusing unit, hold the parts [3] shown in the illustration. Make sure to hold it firmly so that it would not fall due to its weight.**

8. To reinstall, reverse the order of removal.



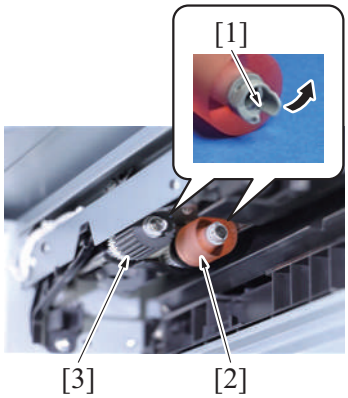
9. Remove protective materials [1] (two places) from the fusing unit which has been installed to the main body.

10. Carry out the [Service Mode] -> [Counter] -> [Life] -> [New Release].
11. Select [Fusing Unit].
12. Press the Start key and perform New Release.

3.2 PF-P20/PF-P27

3.2.1 Replacing the tray 2/3/4 pick-up roller, feed roller

1. Remove the tray.
F.6.3 Tray 2, tray 3, tray 4 (PF-P20//PF-P27)



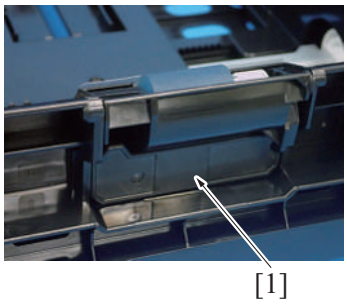
2. Unhook the tab [1], and remove the feed roller [2] and pick-up roller [3].

3. To reinstall, reverse the order of removal.
4. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [2nd Feed Count], [3rd Feed Count] or [4th Feed Count].

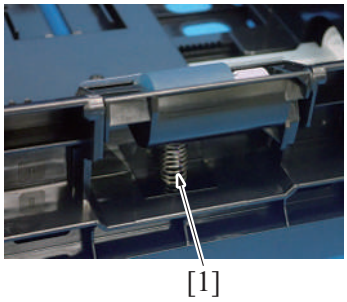
3.2.2 Replacing the tray 2/3/4 separation roller

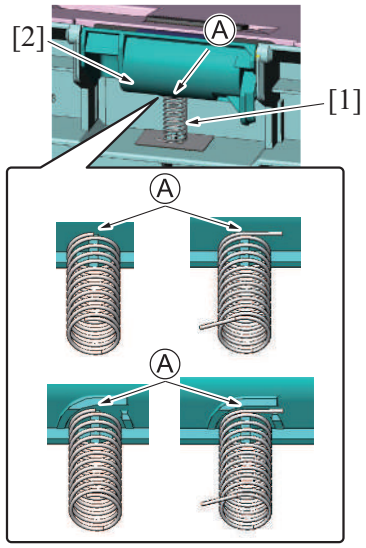
1. Slide out the tray.

2. Remove the cover [1].



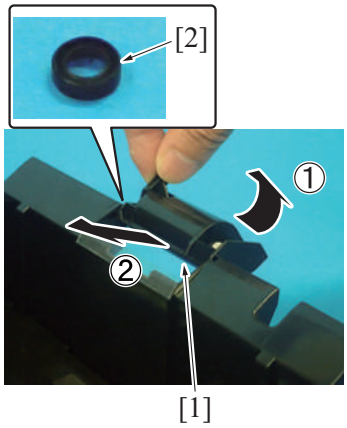
3. Remove the spring [1].

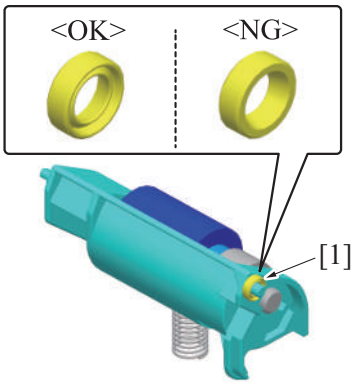




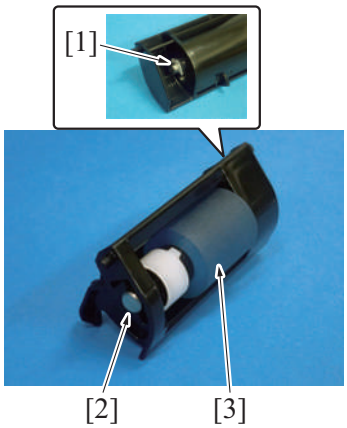
4. **NOTE**
   - **Install the spring [1], so that the tip [A] of the spring is facing outside.**
   - **Note that there are 4 ways of combination of the spring [1] and holder [2] due to their shapes.**

5. Remove the separation roller assy [1].
   NOTE
   - **Make sure not to lose the collar [2] when removing the separation roller assy.**





6. **NOTE**
   - **Install the collar [1], so that the side with a groove is facing outside.**



7. Remove the C-clip [1], pull out the shaft [2], and remove the separation roller assy [3].

8. To reinstall, reverse the order of removal.
9. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [2nd Feed Count], [3rd Feed Count] or [4th Feed Count].

4. Cleaning parts list

- Clean with reference to the numeric values displayed on the total counter or the messages displayed on the control panel.

4.1 d-Color MF3303/MF3303en/MF4003/MF4003en

Classification	Part name	Cleaning cycle	Ref. page
Scanner section	Original glass	At abnormal image occurring (image noise, etc.)	E.5.1.1 Cleaning original glass
Tray 1	Tray 1 feed roller	At paper feeding jam	E.5.1.2 Cleaning tray 1 pick-up roller, tray 1 feed roller
	Tray 1 pick-up roller	At paper feeding jam	
	Tray 1 separation roller	At paper feeding jam	E.5.1.3 Cleaning tray 1 separation roller
Manual bypass tray	Manual bypass tray feed roller	At paper feeding jam	E.5.1.5 Cleaning the manual bypass tray feed roller
	Manual bypass tray pick-up roller	At paper feeding jam	E.5.1.4 Cleaning manual bypass tray pick-up roller
	Manual bypass tray separation pad	At paper feeding jam	E.5.1.6 Cleaning the manual bypass tray separation pad
Processing section	Transfer belt unit	At abnormal image occurring	E.5.1.7 Cleaning the transfer belt unit
	PH window	At abnormal image occurring	E.5.1.8 Cleaning the PH window
Transport section	Registration roller	60,000	E.5.1.9 Cleaning of the registration roller
Image transfer section	Around waste toner collecting port	60,000	E.5.1.10 Cleaning of the area around the waste toner collecting port
	2nd image transfer entrance guide	200,000 or When transfer belt unit is replaced	E.5.1.11 Cleaning of the 2nd image transfer entrance guide
	IDC sensor window	200,000 or When transfer belt unit is replaced	E.5.1.12 Cleaning of the IDC sensor window
Duplex section	Duplex transport roller	60,000	E.5.1.13 Cleaning of the duplex transport rollers
ADF	ADF paper guide	At abnormal image occurring (image noise, etc.)	E.5.1.14 Cleaning ADF paper guide
	ADF pick-up roller	At abnormal image occurring (image noise, etc.)	E.5.1.15 ADF pick-up roller, ADF feed roller, ADF separation pad
	ADF feed roller	At abnormal image occurring (image noise, etc.)	
	ADF separation pad	At abnormal image occurring (image noise, etc.)	

4.2 PF-P20/PF-P27

Part name	Cleaning cycle	Ref. page
Pick-up roller	At paper feeding jam	E.5.2.1 Cleaning the tray 2/3/4 pick-up roller, feed roller
Feed roller	At paper feeding jam	
Separation roller	At paper feeding jam	E.5.2.2 Cleaning the tray 2/3/4 separation roller

5. Cleaning/Lubrication procedure

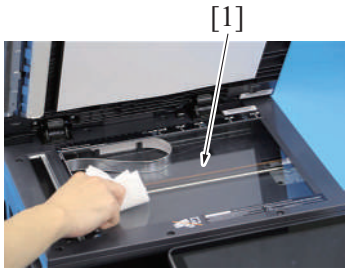
NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

5.1 d-Color MF3303/MF3303en/MF4003/MF4003en

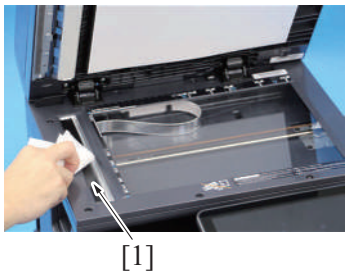
5.1.1 Cleaning original glass

1. Open the ADF.



2. Using a cleaning pad dampened with alcohol, wipe the original glass [1] clean of dirt.

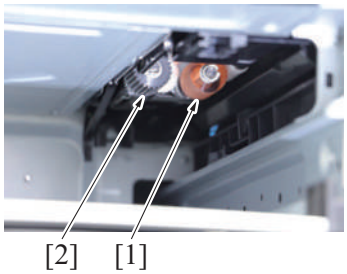
3. Using a cleaning pad dampened with alcohol, wipe the document reading glass [1] clean of dirt.



5.1.2 Cleaning tray 1 pick-up roller, tray 1 feed roller

1. Remove the tray 1.
F.4.1.7 Tray1

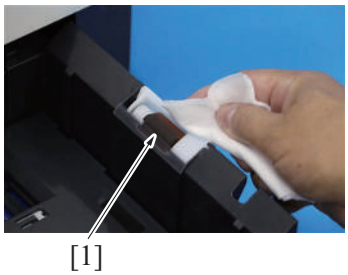
2. Using a cleaning pad dampened with alcohol, wipe the tray 1 feed roller [1] and tray 1 pick-up roller [2] clean of dirt.



5.1.3 Cleaning tray 1 separation roller

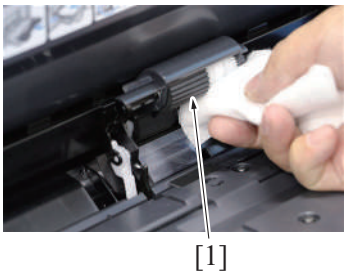
1. Slide out the tray 1.

2. Using a cleaning pad dampened with alcohol, wipe the tray 1 separation roller [1] clean of dirt.



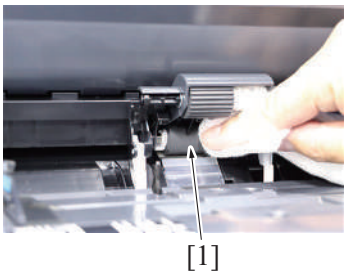
5.1.4 Cleaning manual bypass tray pick-up roller

1. Using a cleaning pad dampened with alcohol, wipe the manual bypass tray pick-up roller [1].



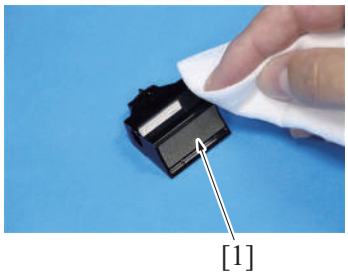
5.1.5 Cleaning the manual bypass tray feed roller

1. Using a cleaning pad dampened with alcohol, wipe the manual bypass tray feed roller [1] clean of dirt.



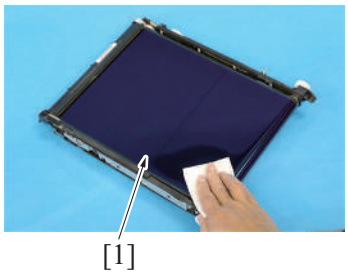
5.1.6 Cleaning the manual bypass tray separation pad

1. Open the right door.
2. Remove the manual bypass tray separation pad.
   E.3.1.5 Replacing the manual bypass tray separation pad
3. Using a cleaning pad dampened with alcohol, wipe the manual bypass tray separation pad [1].



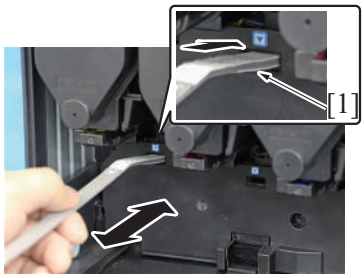
5.1.7 Cleaning the transfer belt unit

1. Remove the transfer belt.
   E.3.1.10 Replacing the transfer belt unit
2. Using a hydro-wipe (No code), wipe the transfer belt [1].
   NOTE
   - **Do not wipe out with water.**
   - **Do not wipe out with any solvents.**



5.1.8 Cleaning the PH window

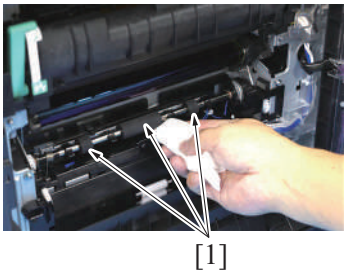
1. Open the front door.
2. Remove the waste toner bottle.
   E.3.1.9 Replacing the waster toner bottle



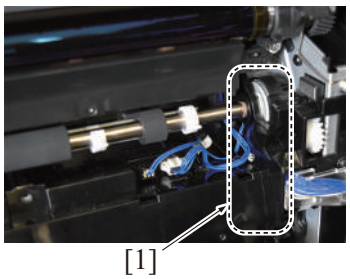
3. Clean the PH window by putting the PH window cleaning jig [1] back and forth a couple times.

5.1.9 Cleaning of the registration roller

1. Open the right door.
2. Remove the IDC sensor assy.
   F.4.7.1 IDC sensor (IDCS1)



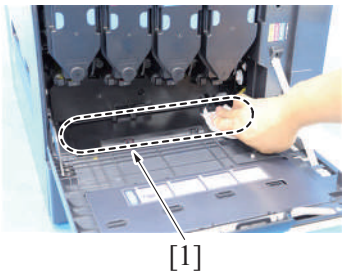
3. Using a cleaning pad with alcohol, wipe the registration roller [1] clean of dirt.



4. **NOTE**
   - **Wipe the areas [1] around the registration clutch clean of paper dust and dirt.**

5.1.10 Cleaning of the area around the waste toner collecting port

1. Remove the waste toner bottle.
   E.3.1.9 Replacing the waster toner bottle

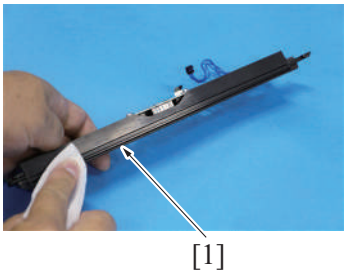


2. Wipe the areas [1] around the waste toner collecting port clean of spilled toner and dirt.

5.1.11 Cleaning of the 2nd image transfer entrance guide

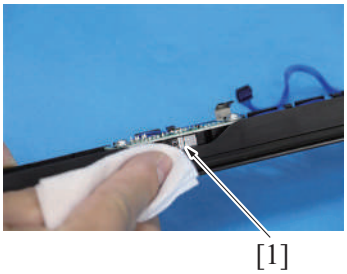
1. Open the right door.
2. Remove the IDC sensor assy.
   F.4.7.1 IDC sensor (IDCS1)

3. Wipe the 2nd transfer entrance guide [1] clean of dirt.



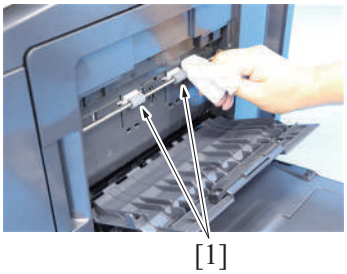
5.1.12 Cleaning of the IDC sensor window

1. Open the right door.
2. Remove the IDC sensor assy.
   F.4.7.1 IDC sensor (IDCS1)
3. Wipe the IDC sensor window [1] clean of dirt.



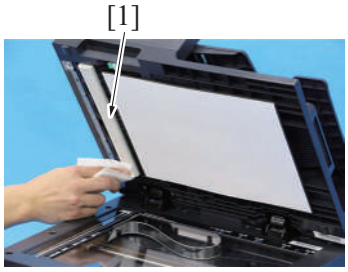
5.1.13 Cleaning of the duplex transport rollers

1. Open the duplex unit transport cover.
2. Using a cleaning pad dampened with alcohol, wipe the duplex unit transport roller [1] clean of dirt.



5.1.14 Cleaning ADF paper guide

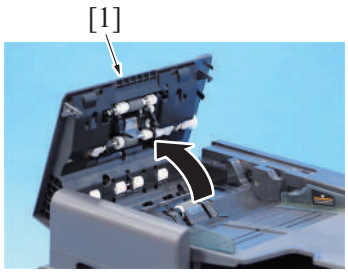
1. Open the ADF.
2. Using a cleaning pad dampened with alcohol, wipe the ADF paper guide [1] clean of dirt.



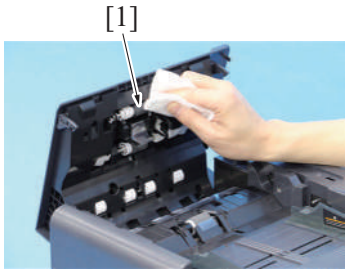
5.1.15 ADF pick-up roller, ADF feed roller, ADF separation pad

NOTE

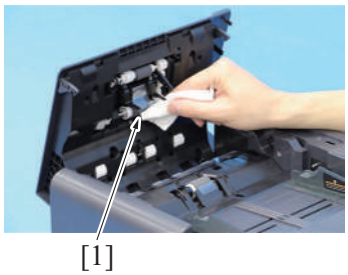
- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**



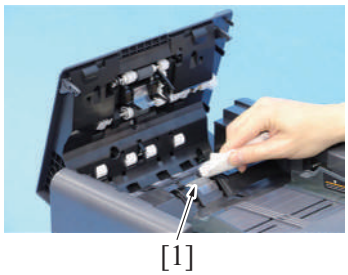
1. Open the ADF upper door [1].



2. Using a cleaning pad dampened with alcohol, wipe the ADF pick-up roller [1] clean of dirt.



3. Using a cleaning pad dampened with alcohol, wipe the ADF feed roller [1] clean of dirt.

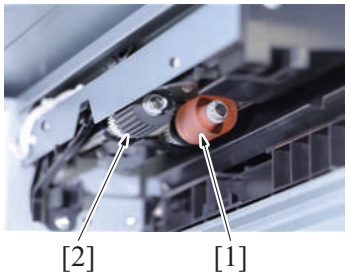


4. Using a cleaning pad dampened with alcohol, wipe the ADF separation pad [1] clean of dirt.

5.2 PF-P20/PF-P27

5.2.1 Cleaning the tray 2/3/4 pick-up roller, feed roller

1. Remove the tray.



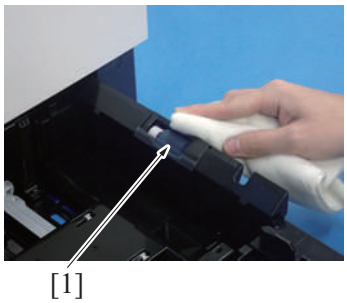
2. Using a cleaning pad dampened with alcohol, wipe the feed roller [1] and pick-up roller [2] clean of dirt.

3. To reinstall, reverse the order of removal.

5.2.2 Cleaning the tray 2/3/4 separation roller

1. Slide out the tray.

2. Using a cleaning pad dampened with alcohol, wipe the separation roller [1] clean of dirt.



3. To reinstall, reverse the order of removal.

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F DISASSEMBLY/REASSEMBLY

1. Disassembly/adjustment prohibited items

1.1 Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

1.2 Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

1.3 Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

1.4 Warnings for disassembly

⚠WARNING

- When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs on the frame and parts.

  They may injure your hands or fingers.

⚠WARNING

- If it is absolutely necessary to service the machine with the door open or external covers removed, always be attentive to the motion of the internal parts.

  A normally protected part may cause unexpected hazards.

⚠WARNING

- When removing a part that secures a motor, gear, or other moving part, disassembling a unit, or reinstalling any of such parts and units, be careful about moving parts and use care not to drop any part or unit. During the service procedure, give sufficient support for any heavy unit.

  You may be injured by a falling part or unit.

1.5 Warnings / Precautions during setup or transportation

⚠WARNING

- Whenever mounting an option on the machine, be attentive to the motion of the other workers performing the task.

  Another worker may be injured by a pinch point between the machine and the option.

⚠WARNING

- When mounting an option on the machine, be careful about the clearance between the machine and the option.

  You may be injured with your finger or hand pinched between the machine and the option.

⚠CAUTION

- Do not leave the machine unattended during transportation, installation, and/or inspection. If the machine is left unattended, face protrusions toward the wall or take other necessary precautions to prevent.

  A user or other person in the area from stumbling over a protrusion of the machine or being caught by a cable, possibly causing a fall to the floor or other personal injury.

2. Units from which removing is prohibited

2.1 PH unit

2.1.1 Reason for prohibition

- The laser runs inside the PH unit. Opening the cover may cause dust to enter and interrupt the laser. Do no remove any screw which may disassemble the PH unit.

2.2 Fusing unit

2.2.1 Reason for prohibition

- Inner part of the fusing unit and the position of the fusing belt are adjusted prior to shipping. Do not remove any screw which may disassemble the fusing unit.

3. Disassembly/assembly warning/caution items

3.1 Removal/installing of boards

⚠WARNING



- When performing disassembly, be sure to unplug the power cord from the power outlet.

  When the power cord is inserted into the power outlet, some units are still powered even if the POWER switch is turned OFF. A risk of electric shock exists.

⚠WARNING



- To prevent electric shock, do not touch the hazards area on DC power supply unit with the lid opening for 12 hours after unplugging the power cord.

  The voltage may take time to drop after unplugging the power cord if the device is experiencing a malfunction.

⚠CAUTION

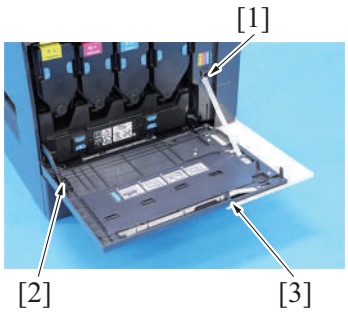


- When removing or installing a circuit board or other electrical component, refer to “Handling of boards” and follow the corresponding removal or installing procedures.
- The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.
- Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.

4. d-Color MF3303/MF3303en/MF4003/MF4003en

4.1 Exterior parts

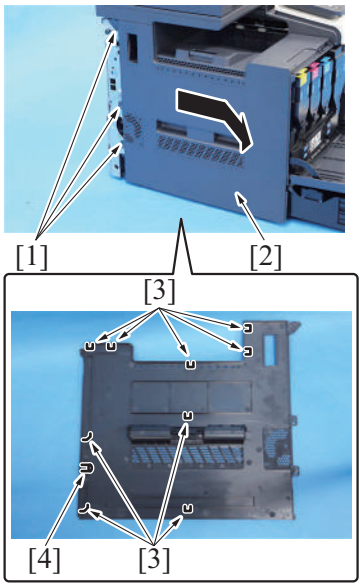
4.1.1 Front door



1. By twisting the ends of the stopper [1], remove it from the main body.
2. Remove the screw [2], and remove the front door [3].
3. To reinstall, reverse the order of removal.

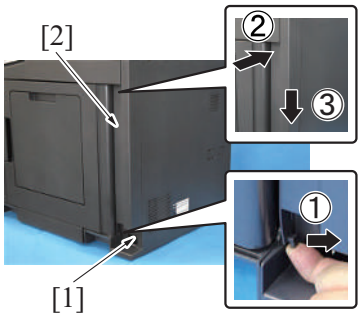
4.1.2 Left cover

1. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
2. Remove the rear cover.
   F.4.1.3 Rear cover
3. Slide out the tray 1.
4. Open the front door.

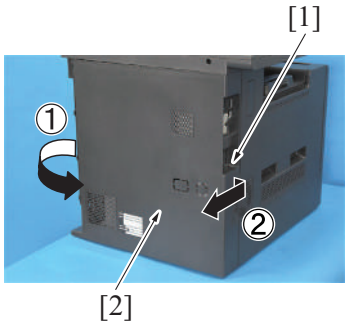


5. Remove three screws [1], and remove the left cover [2].
   NOTE
   - **When mounting the left cover, make sure nine claws [3] and a boss [4] are attached to the main body.**
6. To reinstall, reverse the order of removal.

4.1.3 Rear cover



1. Remove the screw [1].
2. With the lock being released, press the claw to remove the cover [2] while sliding it downward.

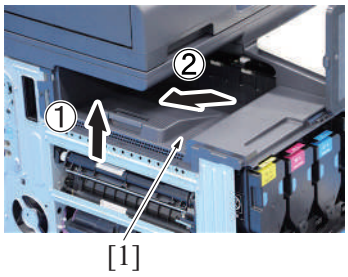


3. Remove the screw [1], and remove the rear cover [2].

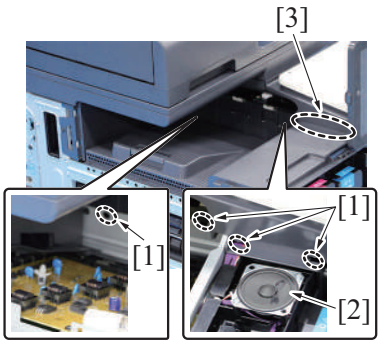
4. To reinstall, reverse the order of removal.

4.1.4 Exit cover

1. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
2. Remove the rear cover.
   F.4.1.3 Rear cover
3. Remove the left cover.
   F.4.1.2 Left cover



4. Remove the exit cover [1].

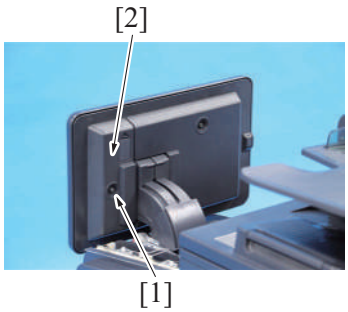


5. **NOTE**
   - **When mounting the exit cover, make sure that tabs of the exit cover are hooked firmly into the four holes [1].**
   - **When mounting the exit cover, pay attention not to damage the speaker [2] by the tabs.**
   - **If the clearance [3] is wide, the tabs may not be hooked. Check the state of the tabs.**

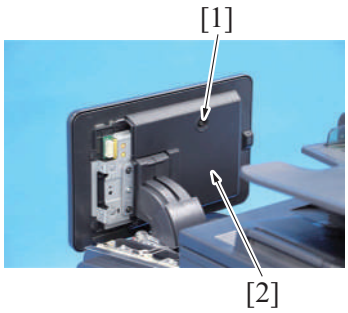
6. To reinstall, reverse the order of removal.

4.1.5 Control panel unit

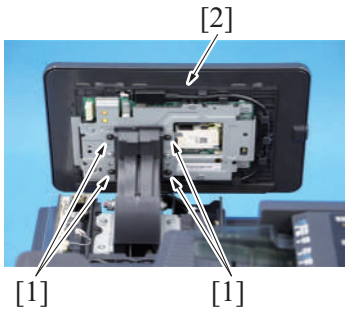
1. Remove the control panel cover.
   F.4.1.6 Control panel cover



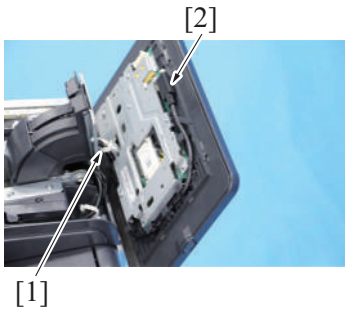
2. Remove the screw [1], and remove the cover [2].



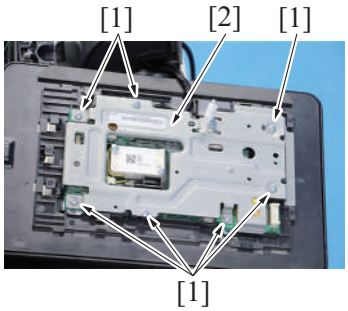
3. Remove the screw [1], and remove the cover [2].



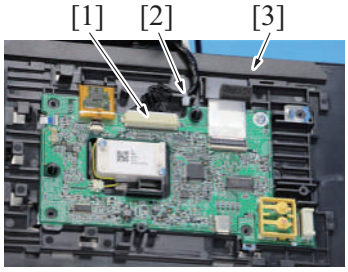
4. Remove four screws [1] and remove the control panel unit [2].



5. Remove the cable from the wire saddle [1].
6. Disconnect the cable [2], then remove the cable from the cable guide.



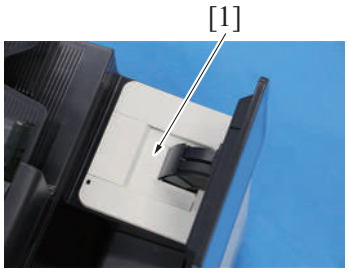
7. Remove seven screws [1], and remove the plate [2].



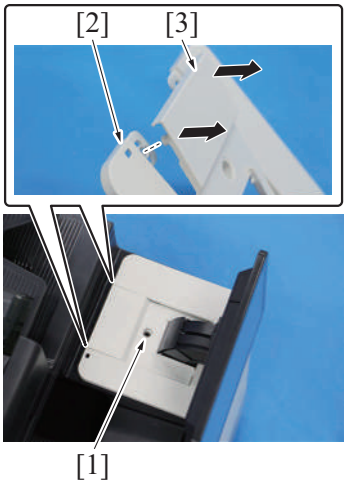
8. Disconnect the connector [1], cut the cable tie [2], and remove the control panel unit [3].
NOTE
- **When reinstalling the control panel unit, use the new cable tie.**

9. To reinstall, reverse the order of removal.

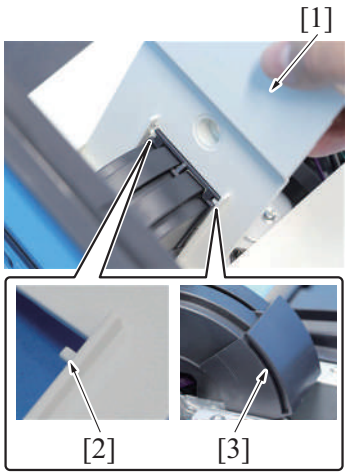
4.1.6 Control panel cover



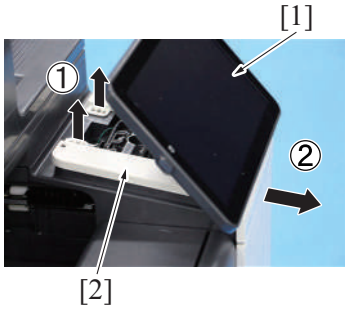
1. Remove the cap [1].



2. Remove the screw [1].
3. Remove the cover [3] from the control panel cover [2].



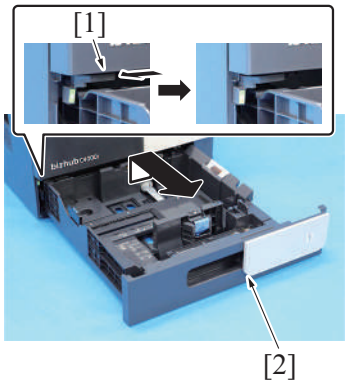
4. Raise the protrusion [2] of the cover [1] along the groove [3], and remove the cover [1].



5. Incline the control panel [1] to about 45 degrees.
6. Remove the control panel cover [2].
7. To reinstall, reverse the order of removal.

4.1.7 Tray1

1. Slide out the tray 1 and unload paper from it.

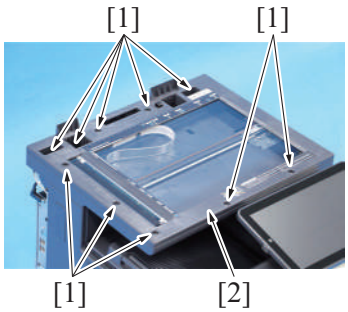


2. Slide the stopper [1].
3. Hold up the tray 1 [2] to remove it.

4. To reinstall, reverse the order of removal.

4.1.8 Scanner upper cover

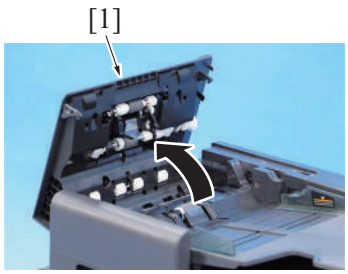
1. Remove the ADF.
F.4.2.9 ADF



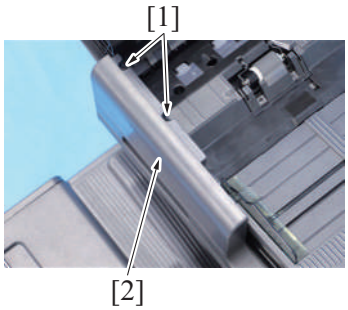
2. Remove 10 screws [1], and remove the scanner upper cover [2].

3. To reinstall, reverse the order of removal.

4.1.9 Front cover (ADF)



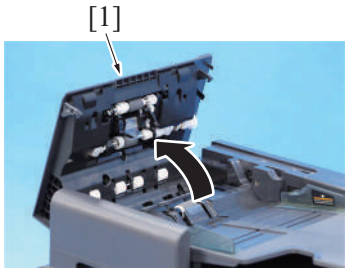
1. Open the ADF upper door [1].



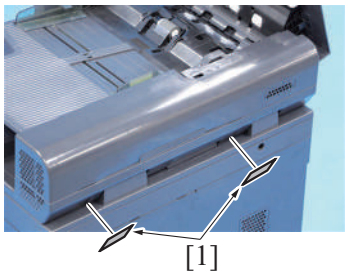
2. Remove two screws [1], and remove the front cover [2].

3. To reinstall, reverse the order of removal.

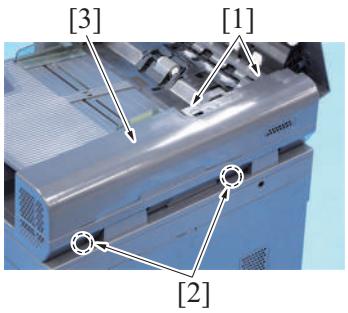
4.1.10 Rear cover (ADF)



1. Open the ADF upper door [1].

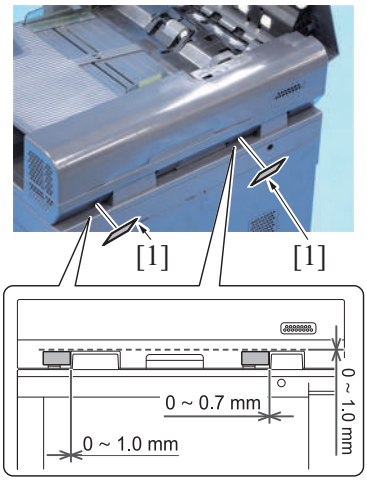


2. Peel off the film [1].
   NOTE
   - **Sometimes the film [1] may not be provided.**



3. Remove the two screws [1], release two tabs [2], and remove the rear cover [3].

4. To reinstall, reverse the order of removal.

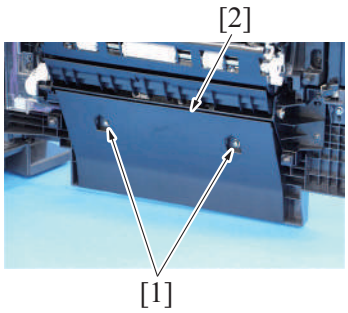


5. **NOTE**
   - **When mounting the rear cover, place an order including the film (No code).**
   - **After mounting the rear cover, stick the film [1] on the position shown in the illustration.**

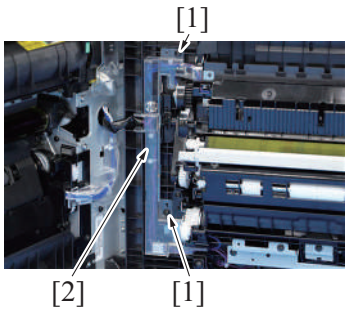
4.2 Units

4.2.1 Manual bypass tray unit

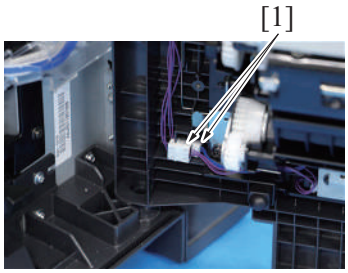
1. Open the right door.



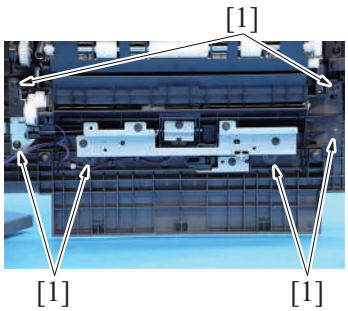
2. Remove two screws [1], and remove the cover [2].



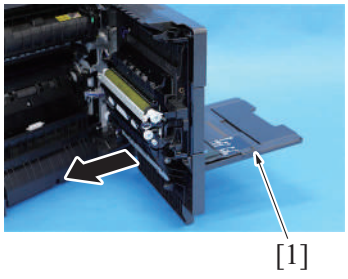
3. Remove two screws [1], and remove the cover [2].



4. Disconnect two connectors [1].



5. Remove six screws [1].



6. Open the manual bypass tray unit [1] and remove it.

7. To reinstall, reverse the order of removal.

4.2.2 PH unit

⚠CAUTION

- Do not replace the printer head unit with the power cord being connected.

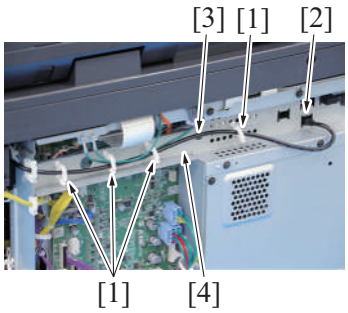
  Laser beam generated during the above mentioned activity may cause blindness.

⚠CAUTION

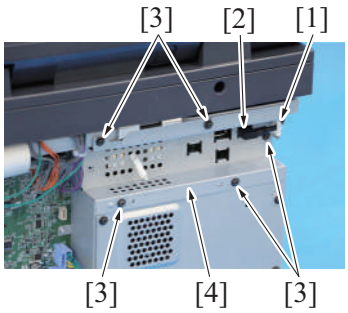
- Do not disassemble or adjust the printer head unit.

  Laser beam generated during the above mentioned activity may cause blindness.

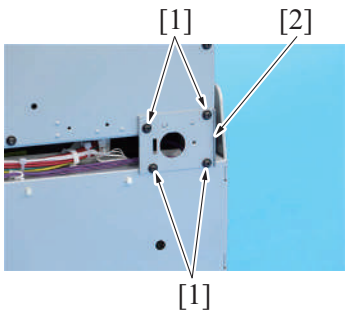
1. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
2. Remove the rear cover.
   F.4.1.3 Rear cover
3. Remove the left cover.
   F.4.1.2 Left cover



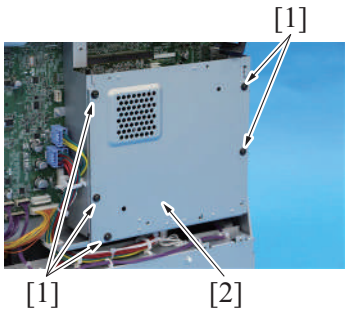
4. Remove the cable and ground wire from four wire saddles [1], and disconnect the connector [2].
5. Remove the screw [3], and remove the plate [4].



6. Remove the cable from the edge cover [1], and disconnect the connector [2].
7. Remove five screws [3], and remove the plate [4].

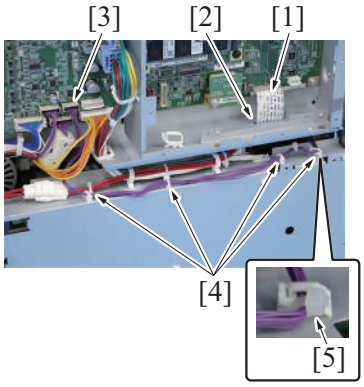


8. Remove four screws [1], and remove the plate [2].

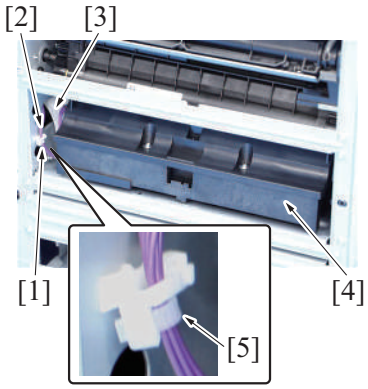


9. Remove five screws [1], and remove the plate [2].

10. Remove the fax kit.
F.5.1 Fax Kit



11. Disconnect the flat cable [1], and pass it through the hole [2].
12. Disconnect the connector [3], and remove the harness from four wire saddles [4].
NOTE
- **When routing the harness through the wire saddle, make sure that the cable tie [5] is located in the position (in front of the wire saddle) shown in the illustration.**

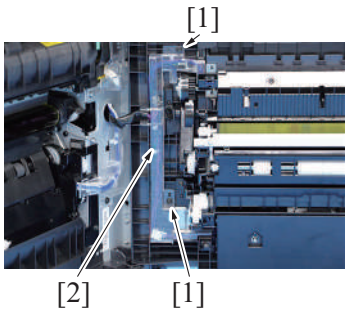


13. Remove the harness from the wire saddle [1].
14. Slide out the harness [2] and the flat cable [3] to remove the PH unit [4].
NOTE
- **When routing the harness through the wire saddle, make sure that the cable tie [5] is located in the position (under the wire saddle) shown in the illustration.**

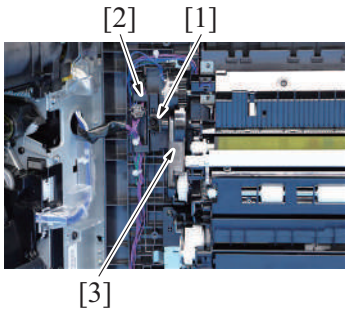
15. To reinstall, reverse the order of removal.
16. Turn ON the main power switch.
17. Select [Service Mode] -> [Machine] -> [Color Registration Adjustment] to adjust the value for correcting the color shift to 0.
18. Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and perform the function.
19. Select [Service Mode] -> [Machine] -> [Main Scanning Direction Zoom] to adjust the zoom in main scanning direction.
20. Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and perform the function.
21. Repeat the step 18 and 19 until the Main Scanning Direction Zoom Adjustment is met.
22. Select [Service Mode] -> [Machine] -> [Color Registration Adjustment] and perform the adjustment for correcting the color shift.
23. Select [Service Mode] -> [Machine] -> [Printer Area] -> [Printer Image Centering Side 1] to adjust the side of print position for each paper source.
24. Select [Service Mode] -> [Machine] -> [Printer Area] -> [Prt. Image Center. Side 2 (Dup)] to adjust the side of 2-sided print position for each paper source.

4.2.3 2nd transfer pressure unit

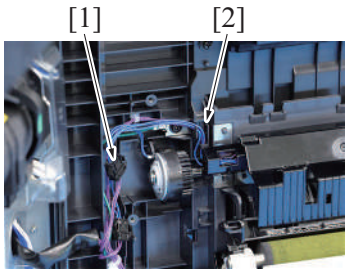
1. Open the right door.



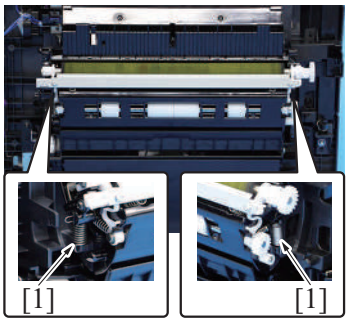
2. Remove two screws [1], and remove the cover [2].



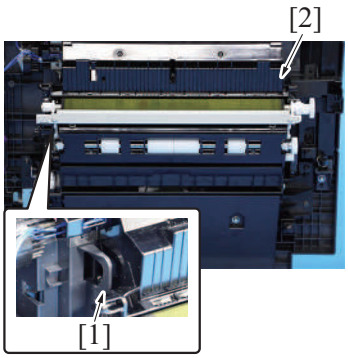
3. Remove the screw [1], and remove the harness guide [2] and the gear assy [3].



4. Disconnect the connector [1], and remove the harness from the harness guide [2].



5. Remove two springs [1].



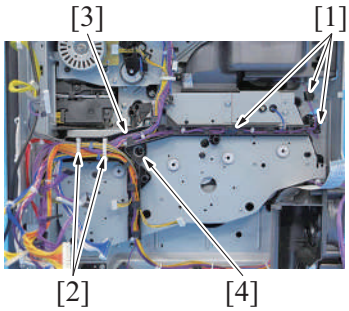
6. Unhook the hook [1], and remove the 2nd transfer pressure unit [2].

7. To reinstall, reverse the order of removal.

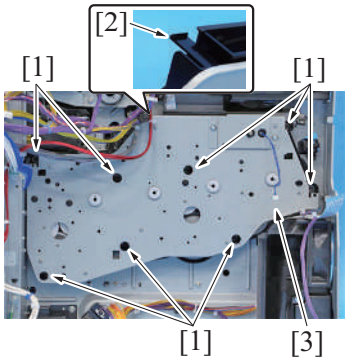
4.2.4 Main drive unit

1. Remove the toner cartridge/Y,M,C,K.
   E.3.1.6 Replacing the toner cartridge
2. Remove the waste toner bottle.
   E.3.1.9 Replacing the waster toner bottle
3. Remove the imaging unit/Y,M,C,K.
   E.3.1.7 Replacing the imaging unit
4. Remove the transfer belt unit.
   E.3.1.10 Replacing the transfer belt unit
5. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
6. Remove the rear cover.
   F.4.1.3 Rear cover
7. Remove the left cover.
   F.4.1.2 Left cover
8. Remove the PWB box.
   F.4.2.7 PWB box
9. Remove the DC power supply.
   F.4.3.4 DC power supply (DCPS)

10. Remove the main motor.
    F.4.4.1 Main motor (M1)
11. Remove the color motor.
    F.4.4.2 Color motor (M2)

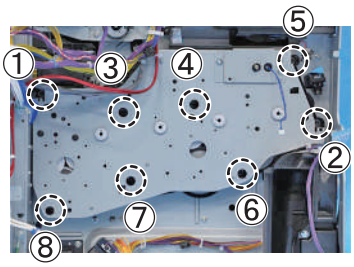


12. Disconnect three connectors [1].
13. Remove the harness from the two wire saddles [2] and the harness guide [3].
14. Remove the screw [4], and remove the harness guide [3].



15. Remove eight screws [1].
16. Remove the tab [2], and remove the main drive unit [3].

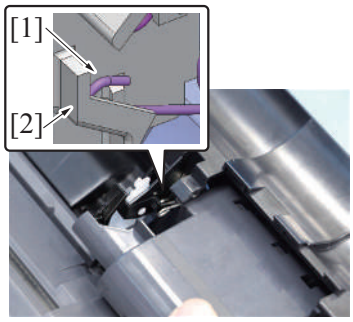
17. To reinstall, reverse the order of removal.



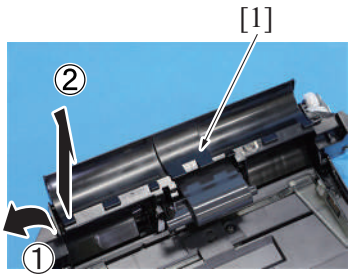
18. **NOTE**
    - **When installing the main drive unit, be sure to tighten the screws from (1) to (8) in that order.**

4.2.5 Manual bypass tray roller unit

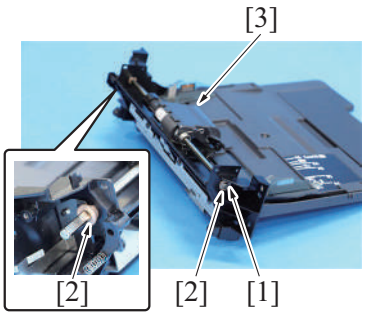
1. Open the right door.
2. Remove the manual bypass tray unit.
   F.4.2.1 Manual bypass tray unit
3. Remove the bypass tray paper feed clutch.
   F.4.5.1 Bypass tray paper feed clutch (CL2)



4. Remove the spring [1] from the spring holder [2].



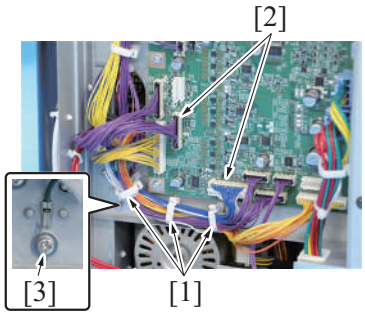
5. Remove the cover [1].



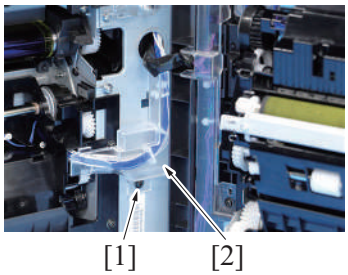
6. Remove the E-ring [1] and two bushings [2].
7. Remove the manual bypass tray roller unit [3].
8. To reinstall, reverse the order of removal.

4.2.6 Paper feed unit

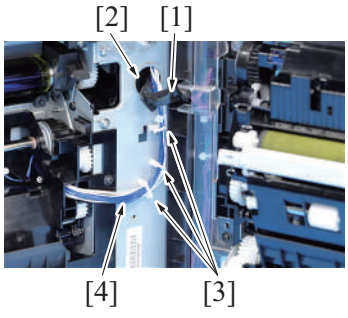
1. Slide out the tray 1.
2. Remove the rear cover.
   F.4.1.3 Rear cover
3. Open the right door.
4. Remove the IDC sensor assy.
   F.4.7.1 IDC sensor (IDCS1)



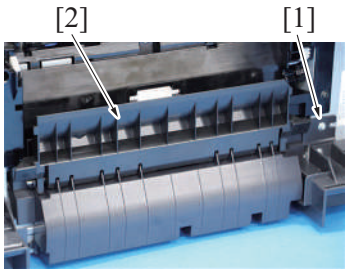
5. Remove the harness from three wire saddles [1], and disconnect two connectors [2].
6. Remove the screw [3].



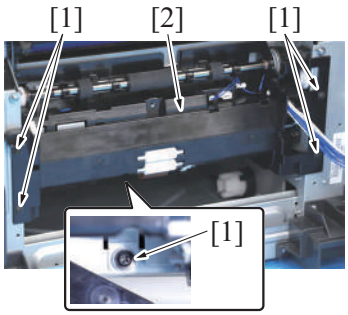
7. Remove the screw [1], and remove the cover [2].



8. Pull the harness [1] out of the hole [2].
9. Remove the harness from three wire saddles [3].
10. Pull the harness [4] out of the hole [2].



11. Remove the screw [1], and remove the guide [2].

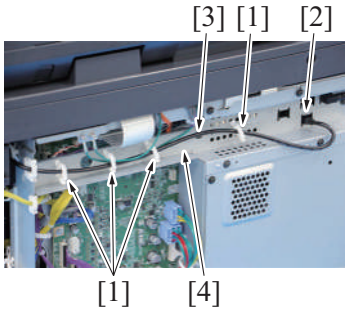


12. Remove five screws [1], and remove the paper feed unit [2].

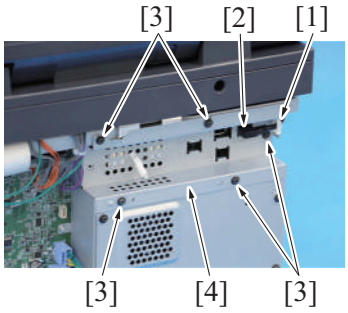
13. To reinstall, reverse the order of removal.

4.2.7 PWB box

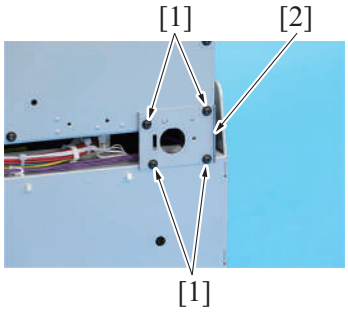
1. Remove the toner filter assy.
E.3.1.8 Replacing the toner filter
2. Remove the rear cover.
F.4.1.3 Rear cover
3. Remove the left cover.
F.4.1.2 Left cover



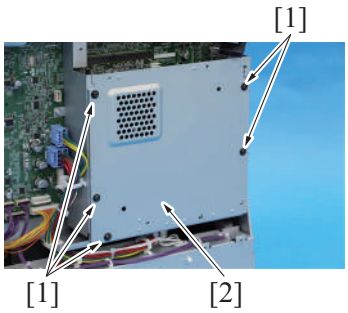
4. Remove the cable and ground wire from four wire saddles [1], and disconnect the connector [2].
5. Remove the screw [3], and remove the plate [4].



6. Remove the cable from the edge cover [1], and disconnect the connector [2].
7. Remove five screws [3], and remove the plate [4].

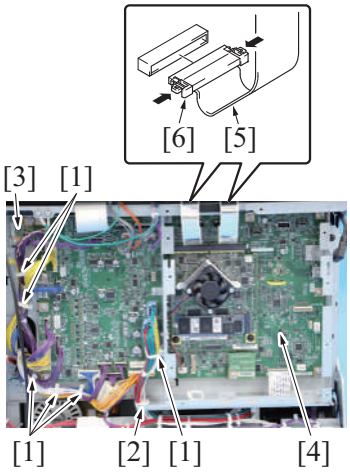


8. Remove four screws [1], and remove the plate [2].

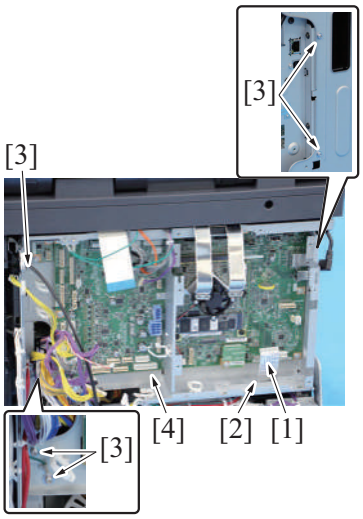


9. Remove five screws [1], and remove the plate [2].

10. Remove the fax kit.
F.5.1 Fax Kit



11. Remove the harness from six wire saddles [1] and the edge cover [2].
12. Remove all connectors and flat cables on the backup board [3] and the base board [4].
NOTE
- **When removing the flat cable [5], unlock the connector [6], and remove the cable together with the connector.**
- **If you have disconnected the connector [6] from the flat cable [5], replace the connector with a new one (Parts No. AVGR29060 K).**



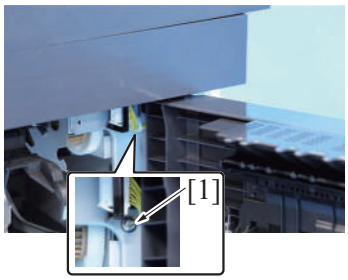
13. Pass the flat cable [1] through the hole [2].
14. Remove five screws [3], and remove the PWB box [4].

15. To reinstall, reverse the order of removal.

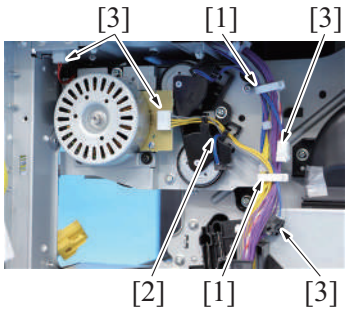
4.2.8 Fusing drive unit

1. Remove the fusing unit.
E.3.1.12 Replacing the fusing unit
2. Remove the toner filter assy.
E.3.1.8 Replacing the toner filter
3. Remove the rear cover.
F.4.1.3 Rear cover
4. Remove the left cover.
F.4.1.2 Left cover
5. Remove the PWB box.
F.4.2.7 PWB box

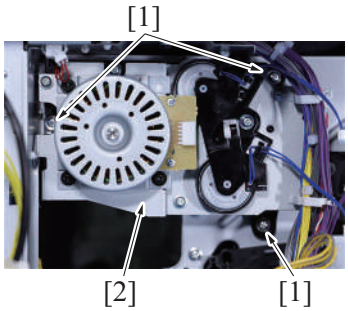
6. Remove the screw [1].



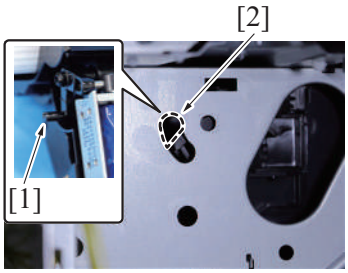
7. Remove the harness from the two wire saddles [1] and the harness guide [2].
8. Disconnect four connectors [3].



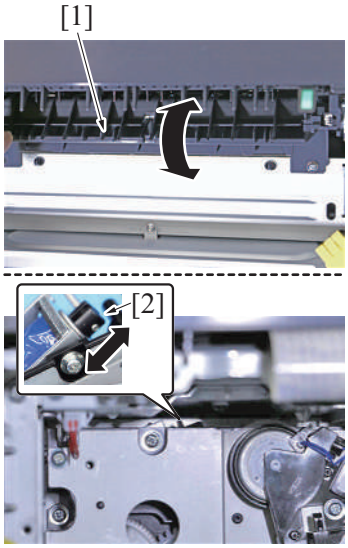
9. Remove three screws [1], and remove the fusing drive unit [2].



10. **NOTE**
    - **When installing the fusing drive unit, make sure insert the tip of the exit path switch solenoid lever [1] to the position [2] as shown in the illustration (placing state the edge of lever [1] on the guide in the back of the plate).**



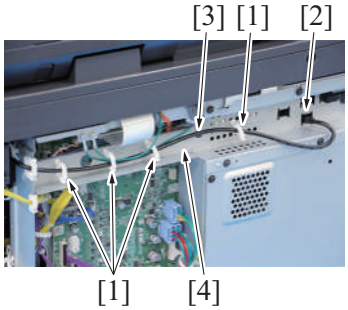
11. **NOTE**
    - **After installing the fusing drive unit, check that the edge of the exit path switch solenoid [2] operates together, moving the switchback guide [1] up and down.**



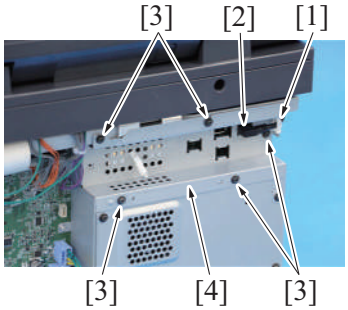
12. To reinstall, reverse the order of removal.

4.2.9 ADF

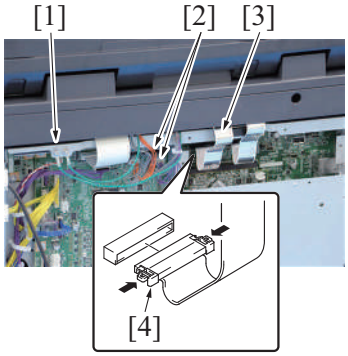
1. Remove the rear cover.
   F.4.1.3 Rear cover



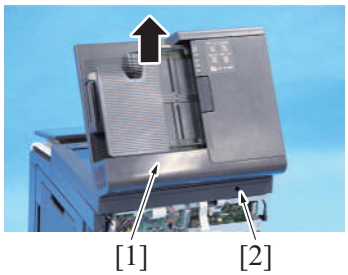
2. Remove the cable and ground wire from four wire saddles [1], and disconnect the connector [2].
3. Remove the screw [3], and remove the plate [4].



4. Remove the cable from the edge cover [1], and disconnect the connector [2].
5. Remove five screws [3], and remove the plate [4].



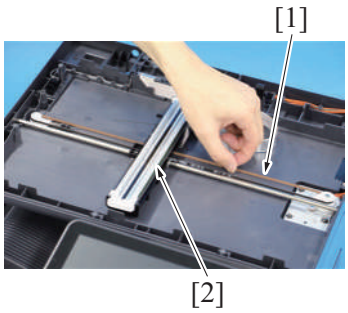
6. Remove the screw [1], and disconnect two connectors [2] and the flat cable [3].
   NOTE
   - **When removing the flat cable [3], unlock the connector [4], and remove the cable together with the connector.**
   - **If you have disconnected the connector [4] from the flat cable [3], replace the connector with a new one (Parts No. AVGR29060 K).**



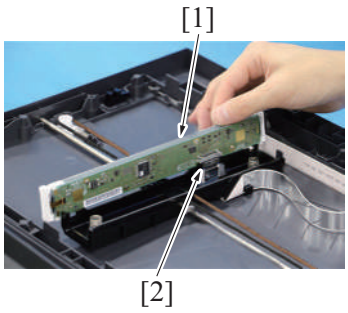
7. Remove the screw [2] while lifting up the ADF [1], and remove the ADF [1].
8. To reinstall, reverse the order of removal.
9. When the ADF have been replaced, select [Service Mode] -> [ADF] -> [Shading Repair] -> [Init. Data Input] and perform the function.

4.2.10 CIS module

1. Remove the rear cover.
   F.4.1.3 Rear cover
2. Remove the ADF.
   F.4.2.9 ADF
3. Remove the scanner upper cover.
   F.4.1.8 Scanner upper cover



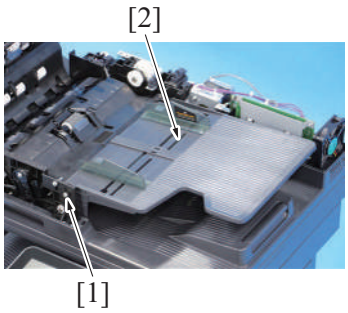
4. Slide the CIS module assy [2] to the position shown in the illustration while holding the belt [1].



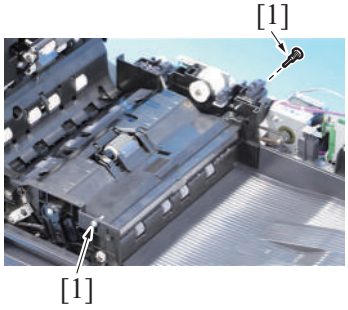
5. Raise the CIS module [1].
6. Disconnect the flat cable connector [2], and remove the CIS module [1].
7. To reinstall, reverse the order of removal.

4.2.11 DF CIS module assy

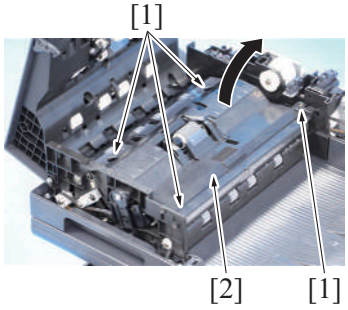
1. Remove the rear cover (ADF).
   F.4.1.10 Rear cover (ADF)
2. Remove the front cover (ADF).
   F.4.1.9 Front cover (ADF)



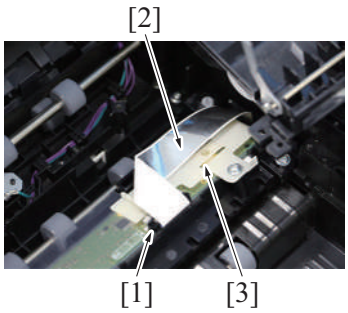
3. Remove the screw [1], and remove the document feed tray [2].



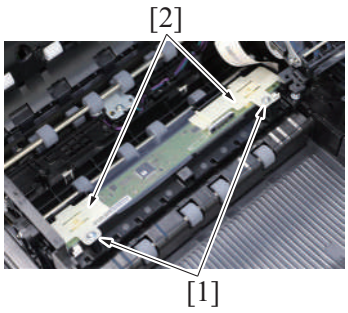
4. Remove two screws [1].



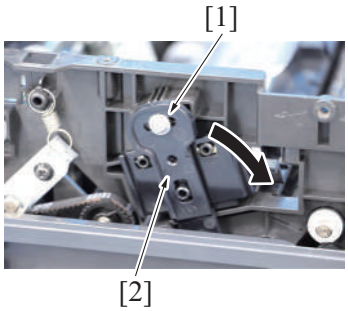
5. Remove four screws [1], and evacuate the DF lower guide assy [2].



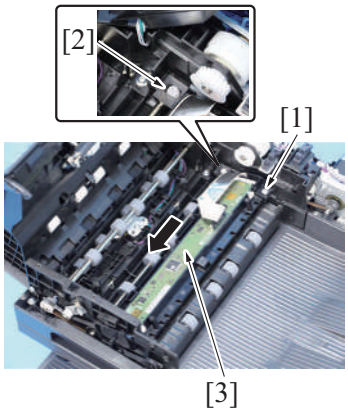
6. Disconnect the flat cable connector [1], and remove the flat cable [2] from the stopper [3] of the DF CIS module.



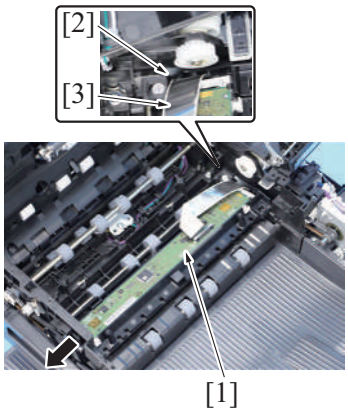
7. Remove two screws [1], and remove two stoppers [2] of the DF CIS module.



8. Remove the screw [1], and evacuate the stopper [2] of the DF CIS module.



9. Remove the screw [1].
10. Rotate the adjustment screw [2], and slide the DF CIS module assy [3].

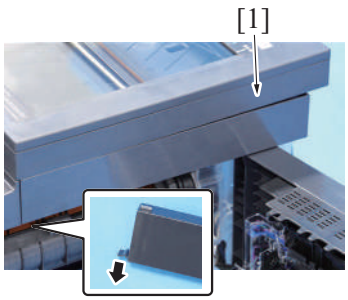


11. Raise the DF CIS module assy [1], and remove the flat cable [3] from the harness guide [2].
12. Remove the DF CIS module assy [1].

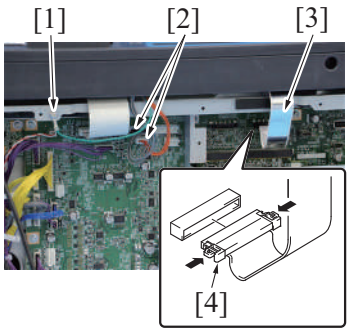
13. To reinstall, reverse the order of removal.
14. When the DF CIS module assy have been replaced, select [Service Mode] -> [ADF] -> [Shading Repair] -> [Init. Data Input] and perform the function.

4.2.12 Scanner unit

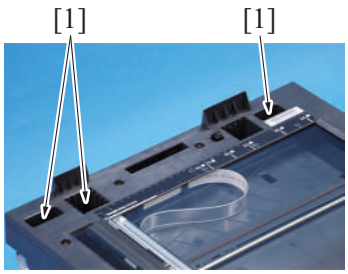
1. Open the front door.
2. Remove the rear cover.
   F.4.1.3 Rear cover
3. Remove the ADF.
   F.4.2.9 ADF
4. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
5. Remove the left cover.
   F.4.1.2 Left cover
6. Remove the exit cover.
   F.4.1.4 Exit cover
7. Remove the control panel cover.
   F.4.1.6 Control panel cover
8. Open the right door.



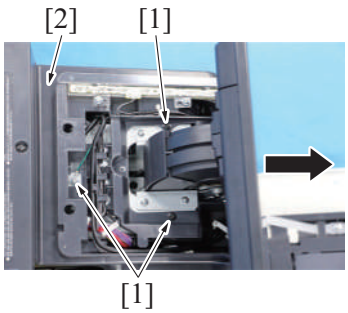
9. Remove the cover [1].



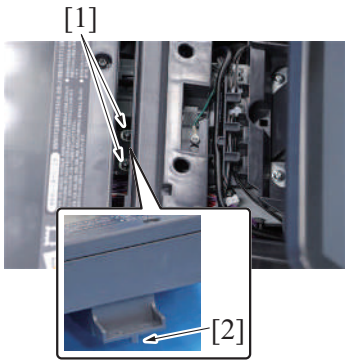
10. Remove the screw [1], and disconnect two connectors [2] and the flat cable [3].
    NOTE
    - **When removing the flat cable [3], unlock the connector [4], and remove the cable together with the connector.**
    - **If you have disconnected the connector [4] from the flat cable [3], replace the connector with a new one (Parts No. AVGR29060 K).**



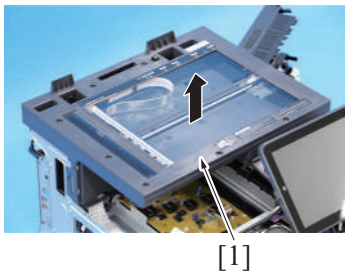
11. Remove three screws [1].



12. Remove three screws [1], and slide the cover [2].



13. Remove two screws [1], and remove the boss [2].
NOTE
- **When installing the scanner unit, make sure that the boss [2] is attached to the frame of the main body.**

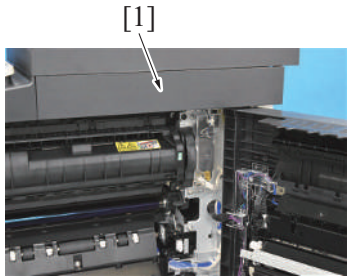


14. Remove the scanner unit [1].

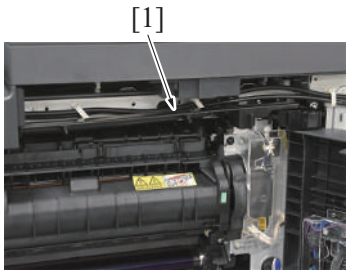
15. To reinstall, reverse the order of removal.

4.2.13 Paper exit unit

1. Remove the rear cover.
F.4.1.3 Rear cover
2. Open the right door.

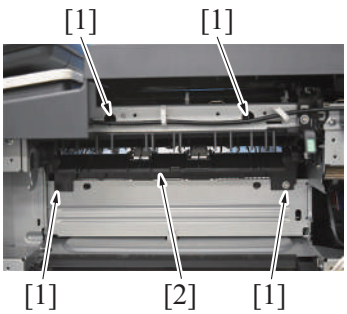


3. Remove the cover [1].

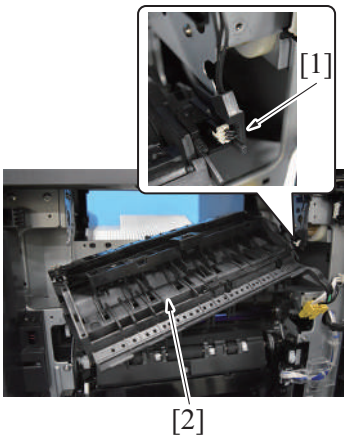


4. Remove the cover [1].

5. Remove the fusing unit.
E.3.1.12 Replacing the fusing unit



6. Remove four screws [1], and pull the paper exit unit [2] out.



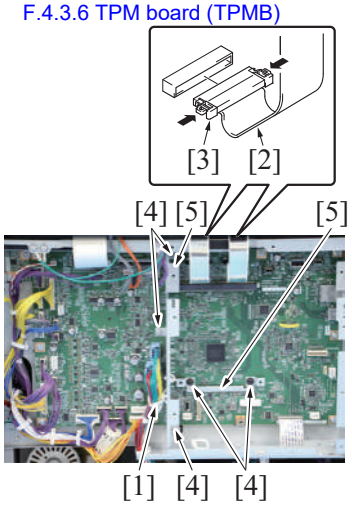
7. Remove the harness from the harness guide, and disconnect the connector [1]. Remove the paper exit unit [2].

8. To reinstall, reverse the order of removal.

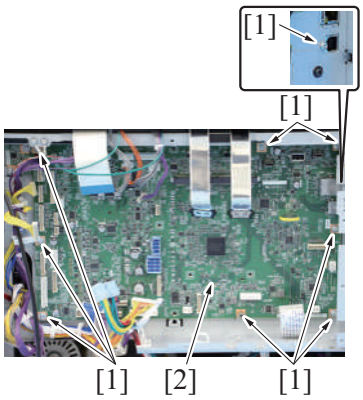
4.3 Boards

4.3.1 Base board (BASEB)

1. Remove the rear cover.
   F.4.1.3 Rear cover
2. Remove the CPU board.
   F.4.3.3 CPU board (CPUB)
3. Remove the TPM board.
   F.4.3.6 TPM board (TPMB)



4. Remove the harness from the wire saddle [1].
5. Remove all connectors and flat cables.
   NOTE
   - **When removing the flat cable [2], unlock the connector [3], and remove the cable together with the connector.**
   - **If you have disconnected the connector [3] from the flat cable [2], replace the connector with a new one (Parts No. AVGR29060 K).**
6. Remove five screws [4], and remove two plates [5].



7. Remove nine screws [1], and remove the base board [2].

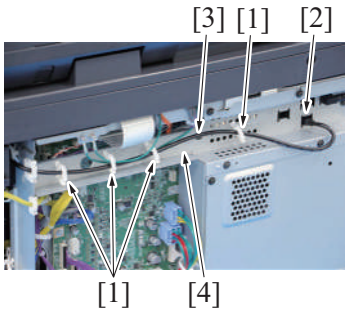
8. To reinstall, reverse the order of removal.

4.3.2 Storage board (STRGB)

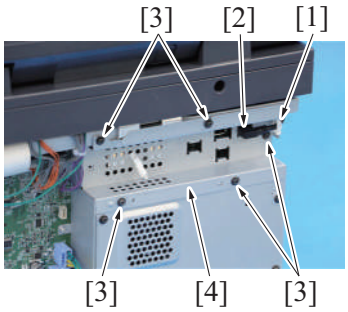
NOTE

- **Never use the combination of the used storage board removed from another machine and the CPU board. This combination causes corruption of stored data. Note that the combination of the original storage board and the used CPU board removed from another machine also causes the same problem.**
- **Never replace the storage board and CPU board with new one at the same time.**
- **When replacing with a 96-layer storage board or a 112-layer storage board, it is necessary to adapt the corresponding BootProgram.**
- **Before displacing the storage board, make sure that it is not encrypted. If it is encrypted, it must be decrypted.**

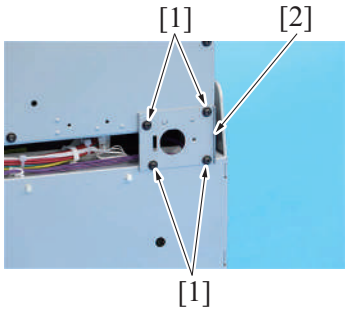
1. Remove the rear cover.
F.4.1.3 Rear cover



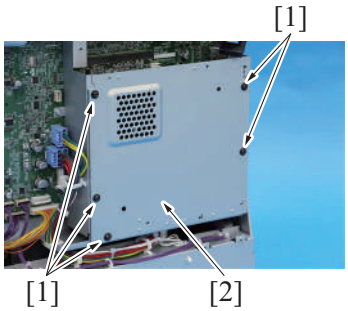
2. Remove the cable and ground wire from four wire saddles [1], and disconnect the connector [2].
3. Remove the screw [3], and remove the plate [4].



4. Remove the cable from the edge cover [1], and disconnect the connector [2].
5. Remove five screws [3], and remove the plate [4].

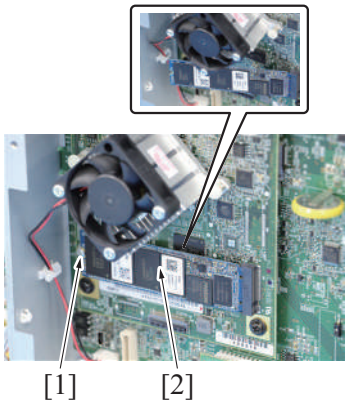


6. Remove four screws [1], and remove the plate [2].



7. Remove five screws [1], and remove the plate [2].

8. Remove the fax kit.
F.5.1 Fax Kit

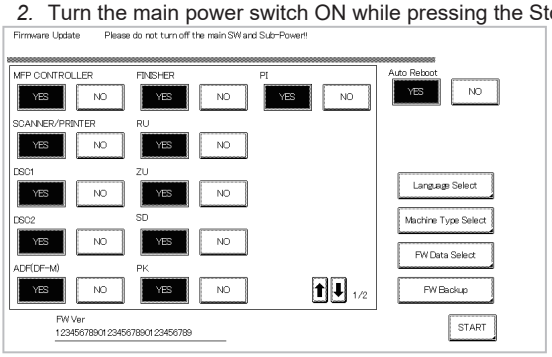


9. Remove the screw [1], and remove the storage board [2].
NOTE
- **When mounting the storage board, insert it obliquely.**

10. To reinstall, reverse the order of removal.

Actions after replacement of the board

1. Connect the USB memory containing the firmware to the USB port on the main body.
2. Turn the main power switch ON while pressing the Stop key.



3. A firmware update screen appears, touch [START] and start rewriting of the firmware.
4. After rewriting of the firmware is completed, the machine restarts automatically.



5. When the [Recover Data] appears on the screen, touch [Recover Data].
6. When the confirmation message appears, touch [Yes].

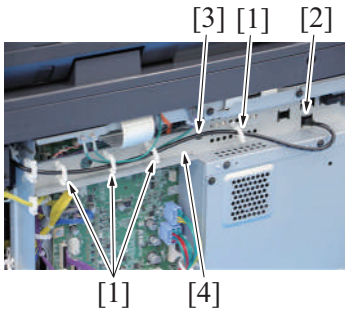
7. When the “Turn the main power switch OFF and ON” screen appears, turn OFF the main power switch and remover the USB memory.
8. Turn ON the main power switch.
9. After starting up the machine, check the firmware version in Service Mode.
10. If the firmware version is not the latest, upgrade the firmware.
11. If there is any data retrieved with backup utility, conduct the recovery of data.

4.3.3 CPU board (CPUB)

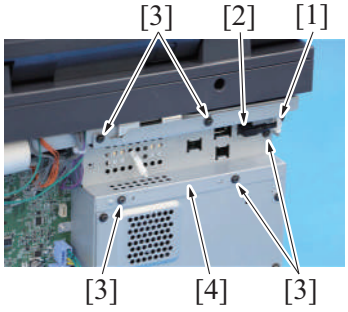
NOTE

- **Never use the combination of the used CPU board removed from another machine and the storage board. This combination causes corruption of stored data. Note that the combination of the original CPU board and the used storage board removed from another machine also causes the same problem.**
- **Never replace the CPU board and storage board with new one at the same time.**
- **Before displacing the CPU board, make sure that it is not encrypted. If it is encrypted, it must be decrypted.**

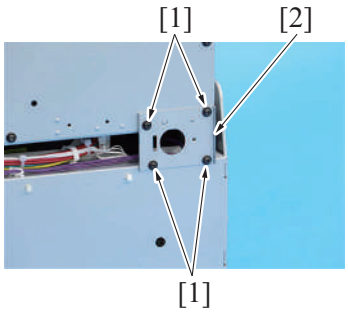
1. Remove the rear cover.
   F.4.1.3 Rear cover



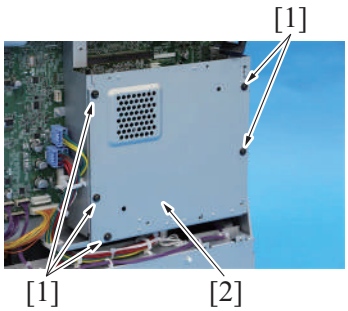
2. Remove the cable and ground wire from four wire saddles [1], and disconnect the connector [2].
3. Remove the screw [3], and remove the plate [4].



4. Remove the cable from the edge cover [1], and disconnect the connector [2].
5. Remove five screws [3], and remove the plate [4].

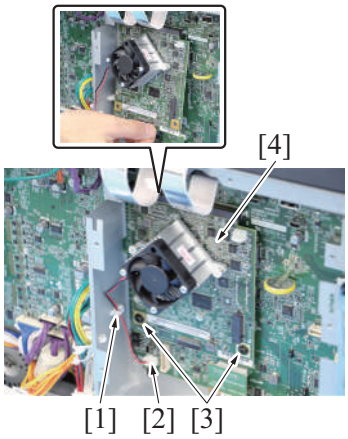


6. Remove four screws [1], and remove the plate [2].



7. Remove five screws [1], and remove the plate [2].

8. Remove the storage board.
F.4.3.2 Storage board (STRGB)



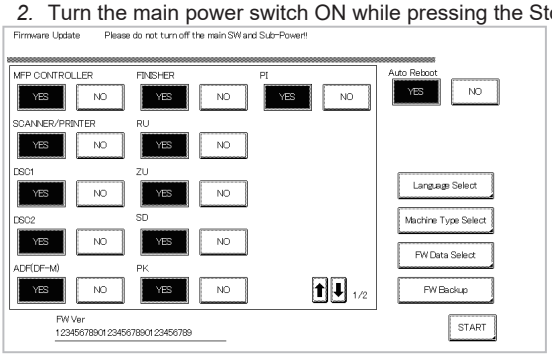
9. Remove the harness from the wire saddle [1], and disconnect the connector [2].
10. Remove two screws [3], and remove the CPU board [4].
NOTE
- **When mounting the CPU board, insert it obliquely.**

11. To reinstall, reverse the order of removal.

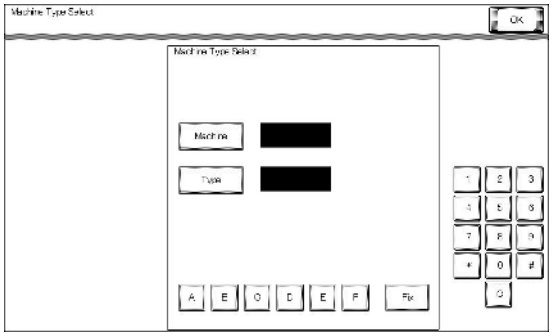
Actions after replacement of the board

NOTE
- **Be sure to configure settings in [Machine] and [Type] from [Machine Type Select] immediately after replacing the CPU board with a new one.**

1. Connect the USB memory containing the firmware to the USB port on the main body.
2. Turn the main power switch ON while pressing the Stop key.



3. A firmware update screen appears, touch [Machine Type Select].



4. Enter [Machine] and [Type] information according to the Table : Machine type information. Then touch [Fix].
5. Touch [OK].
6. Turn OFF the main power switch, and remove the USB memory.
7. Turn ON the main power switch.



8. Wait until the trouble code (C-D3C0) screen appears.
9. [Recover Data] appears on the trouble code screen, and touch [Recover Data].
10. When the confirmation message appears, touch [Yes].

11. When the “Turn the main power switch OFF and ON” screen appears, turn OFF the main power switch.
12. Turn OFF and ON the main power switch.
13. If there is any data retrieved with backup utility, conduct the recovery of data.
14. Update the firmware to the latest version.

Table: Machine type information

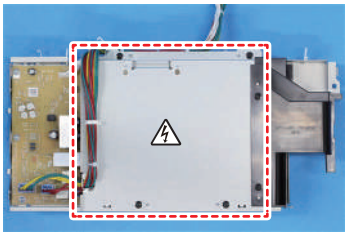
First four digits of the serial number	AAJN	A93E
[Machine]	11 (for device with S/N AAJN321)	11 (for device with S/N A93E321)
	18 (for device with S/N AAJN325)	18 (for device with S/N A93E325)
[Type]	1	2

4.3.4 DC power supply (DCPS)

⚠WARNING

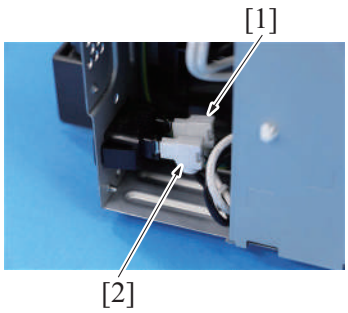
- **To prevent electric shock, do not touch the hazards area on DC power supply unit with the lid opening for 12 hours after unplugging the power cord.**

  The voltage may take time to drop after unplugging the power cord if the device is experiencing a malfunction.



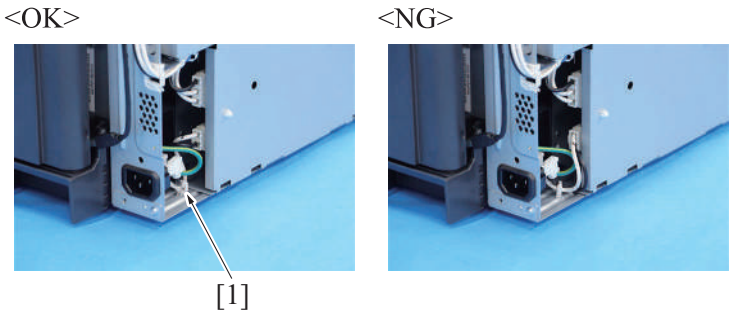
⚠CAUTION

- **When reconnecting the AC inlet, make sure that the white harness [1] is connected to the rear part and the black harness [2] is connected to the front part of the AC inlet.**

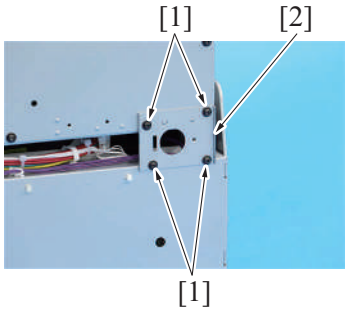


⚠CAUTION

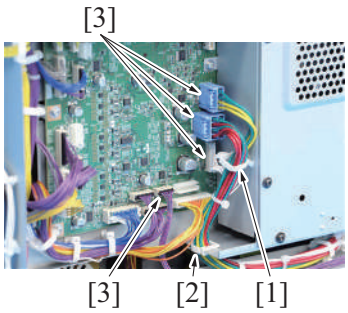
- Make sure that the harness is routed inside the main body.
- Make sure that the harness is routed through the wire saddle [1].



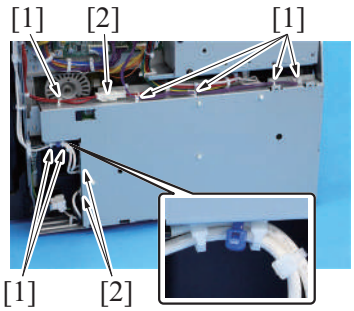
1. Remove the rear cover.
   F.4.1.3 Rear cover



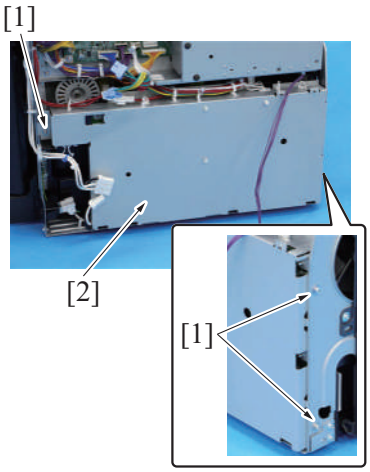
2. Remove four screws [1], and remove the plate [2].



3. Remove the harness from the wire saddle [1] and the edge cover [2], and disconnect four connectors [3].



4. Remove the harness from seven wire saddles [1], and disconnect three connectors [2].
NOTE
- **When installing the DC power supply, make sure the position of the tie band.**

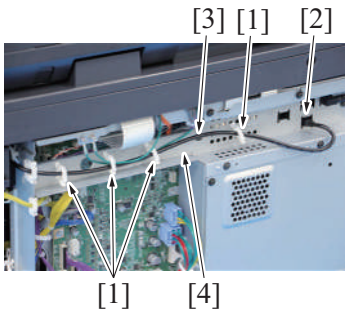


5. Remove three screws [1], and remove the DC power supply [2].

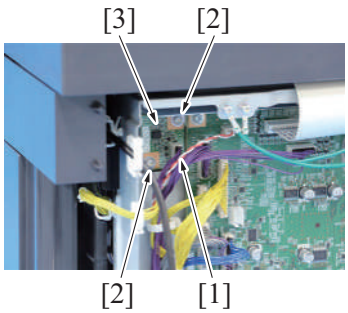
6. To reinstall, reverse the order of removal.

4.3.5 Backup board (ERB)

1. Remove the rear cover.
F.4.1.3 Rear cover



2. Remove the cable and ground wire from four wire saddles [1], and disconnect the connector [2].
3. Remove the screw [3], and remove the plate [4].



4. Disconnect the connector [1].
5. Remove two screws [2], and remove the backup board [3].

6. To reinstall, reverse the order of removal.
7. **NOTE**
   - **Since the counter will be cleared when the backup board is replaced with a new one, replace the following parts with new ones.**
   - **When the transfer belt unit, transfer roller and the fusing unit have been replaced with new ones, perform [New Release] in the service mode.**
   - **Imaging unit/Y,M,C,K**
   - **Transfer belt unit**
   - **Fusing unit**
   - **Transfer roller**
   - **Feed roller, pick-up roller, separation roller (including options)**
   - **Separation pad**
   - **Toner filter**

   NOTE
   - **When the new backup board is installed, the error message: "License management error occurred." is displayed. Conduct the i-Option recovery operation.**
8. Open the front door and turn on the main power switch.
9. Enter the Service Mode. Make individual adjustments shown in Table 1: Readjustment items in the order listed, using the machine management list and the adjustment lists that were output at the time of main body installation and maintenance.

   NOTE
   - **Ensure the front door is opened.**

   NOTE
   - **Conduct the readjustment of the above adjustment items before the starting the initial warm-up operation after replacing the backup board.**
10. Turn OFF the main power switch.
11. Turn ON the main power switch and close the front door. Check to see that warm-up and image stabilization operations are completed normally.
12. Enter the Service Mode again. Make individual adjustments shown in Table 2: Readjustment items in the order listed, using the machine management list and the adjustment lists that were output at the time of main body installation and maintenance.
13. Select [Service Mode] -> [EnhancedSecurity] -> [Engine FW DipSW] and set the keys of Table 3: Valid switch No. to ON (highlight).

Table 1: Readjustment items

Adjustment items	Service mode readjustment items			Ref. Page
1	Machine	Printer Area		I.5.3.1 Leading Edge Adjustment
2				I.5.3.2 Printer Image Centering Side 1
3				I.5.3.3 Leading Edge Adj. Side 2 (Duplex)
4				I.5.3.4 Prt. Image Center. Side 2 (Dup)
5	System 2	Unit Change	Near Empty Display Timing	I.10.4.2 Warning display

Table 2: Readjustment items

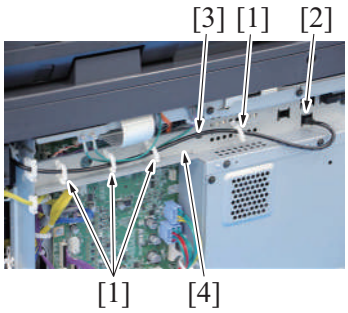
Adjustment items	Service mode readjustment items		Ref. Page
1	Machine	Main Scanning Direction Zoom	I.5.6 Main Scanning Direction Zoom

Table 3: Valid switch No.

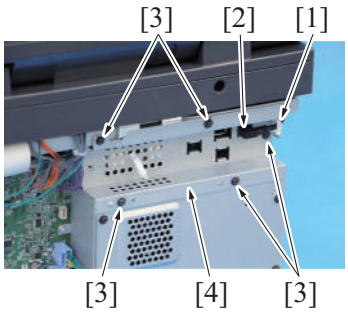
Region	Valid switch No.
Europe	[14], [46], [48], [50]
Other than the above	[14], [48], [50]

4.3.6 TPM board (TPMB)

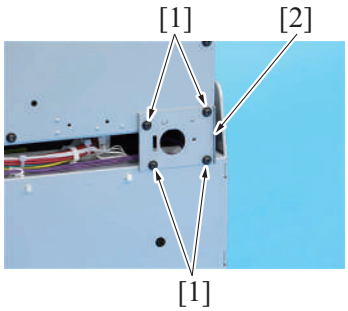
1. Remove the rear cover.
   F.4.1.3 Rear cover



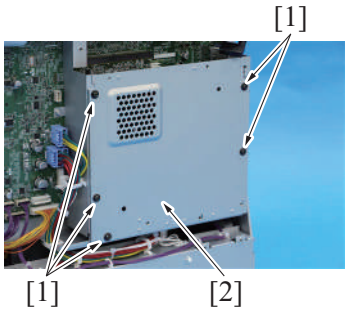
2. Remove the cable and ground wire from four wire saddles [1], and disconnect the connector [2].
3. Remove the screw [3], and remove the plate [4].



4. Remove the cable from the edge cover [1], and disconnect the connector [2].
5. Remove five screws [3], and remove the plate [4].

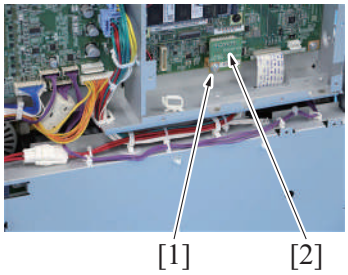


6. Remove four screws [1], and remove the plate [2].



7. Remove five screws [1], and remove the plate [2].

8. Remove the fax kit.
F.5.1 Fax Kit



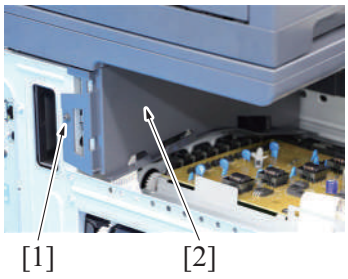
9. Remove the screw [1], and remove the TPM board [2].

10. To reinstall, reverse the order of removal.

4.3.7 High voltage unit (HVPS)

1. Remove the toner filter assy.
E.3.1.8 Replacing the toner filter
2. Remove the rear cover.
F.4.1.3 Rear cover
3. Remove the left cover.
F.4.1.2 Left cover
4. Remove the exit cover.
F.4.1.4 Exit cover

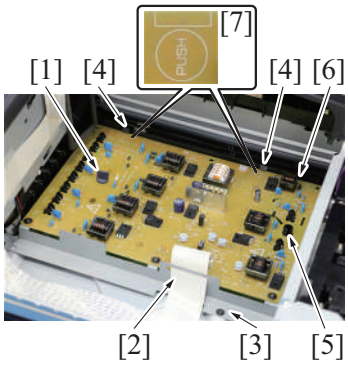
5. Remove the screw [1], and remove the cover [2].



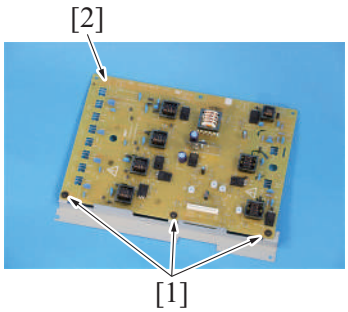
6. Remove the stopper [1].
7. Disconnect the flat cable [2], and remove the screw [3].
8. Unhook two tabs [4] and the tab [5], and remove the high voltage unit assy [6].

NOTE

- **Pay attention not to damage the flat cable when removing high voltage unit assy.**
- **When installing the high voltage unit assy, be careful not to touch the electronic parts around the stopper [1] and the tab [5] to prevent those parts from being damaged.**
- **When installing the high voltage unit assy, push the press part [7] to lock the tab.**
- **When installing the high voltage unit assy, make sure that the tab [5] is locked.**



9. Remove three screws [1], and remove the high voltage unit [2].

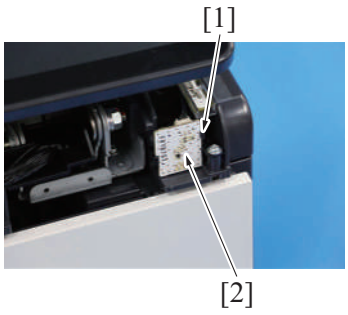


10. To reinstall, reverse the order of removal.

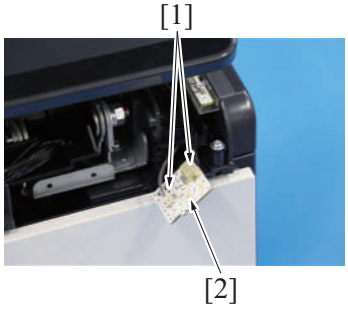
4.3.8 Machine condition monitor board/Fr (MCMB/Fr)

1. Remove the control panel cover.
F.4.1.6 Control panel cover

2. Unhook the tab [1], and slide out the machine condition monitor board/Fr [2].



3. Disconnect two connectors [1], and remove the machine condition monitor board/Fr [2].

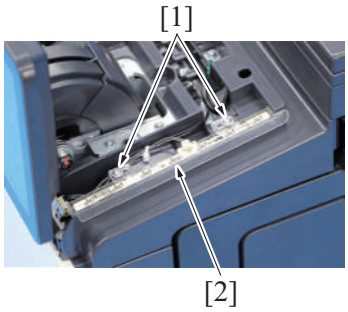


4. To reinstall, reverse the order of removal.

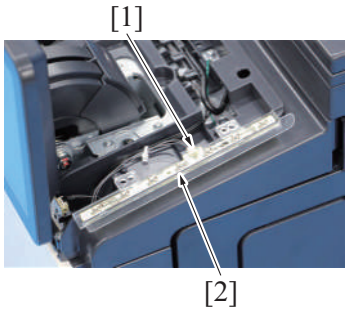
4.3.9 Machine condition monitor board/Edg (MCMB/Edg)

<d-Color MF4003/MF3303>

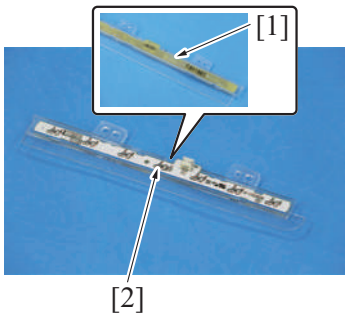
1. Remove the control panel cover.
F.4.1.6 Control panel cover



2. Remove two screws [1], and slide out the machine condition monitor board/Edg assy [2].



3. Disconnect the connector [1], and remove the machine condition monitor board/Edg assy [2].

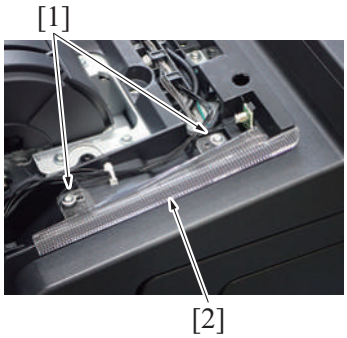


4. Release the lock [1], and remove the machine condition monitor board/Edg [2].

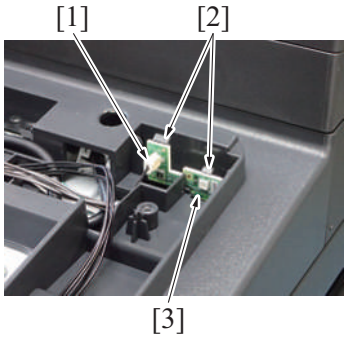
5. To reinstall, reverse the order of removal.

<d-Color MF4003en/MF3303en>

1. Remove the control panel cover.
F.4.1.6 Control panel cover



2. Remove two screws [1], and remove the light guide [2].

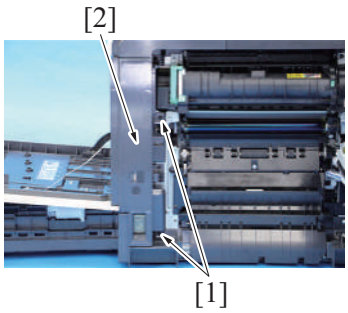


3. Disconnect the connector [1].
4. Unhook two tabs [2], and remove the machine condition monitor board/Edg [3].

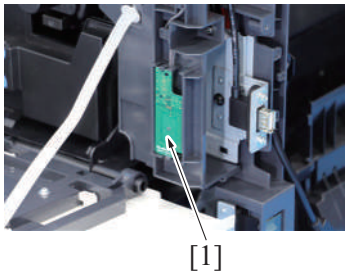
5. To reinstall, reverse the order of removal.

4.3.10 NFC board (NFCB)

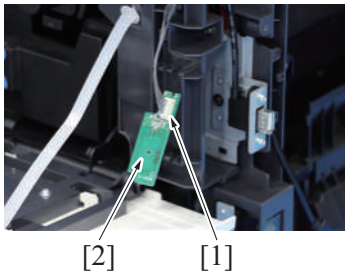
1. Slide out the tray 1.
2. Open the front door.
3. Open the right door.



4. Remove two screws [1], and remove the front right cover/1 [2].



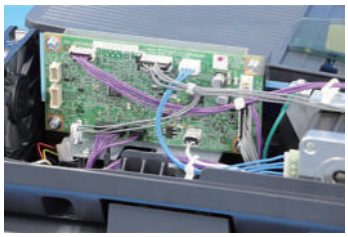
5. Slide out the NFC board [1].



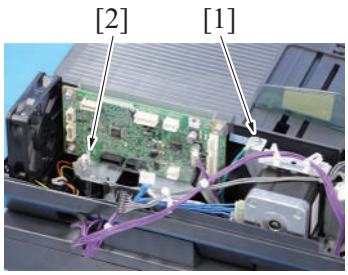
6. Disconnect the connector [1], and remove the NFC board [2].
7. To reinstall, reverse the order of removal.

4.3.11 DF control board (DFCB)

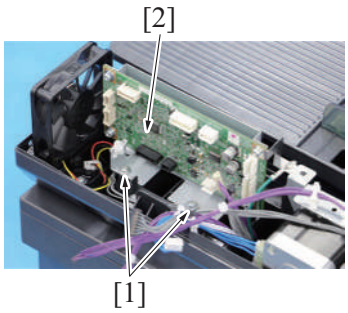
1. Remove the rear cover (ADF).
F.4.1.10 Rear cover (ADF)



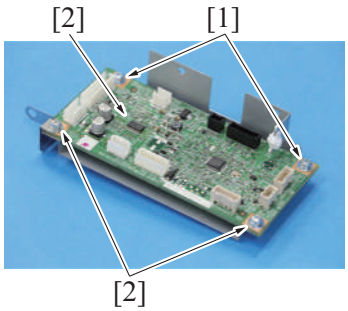
2. Disconnect all connectors from the DF control board.



3. Remove the screw [1], and disconnect the ground wire.
4. Remove the harness from the edge cover [2].



5. Remove two screws [1], and remove the DF control board assy [2].



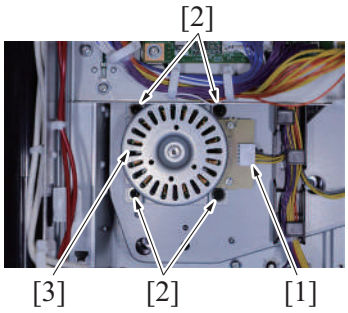
6. Remove four screws [1], and remove the DF control board [2].

7. To reinstall, reverse the order of removal.

4.4 Motors

4.4.1 Main motor (M1)

1. Remove the rear cover.
   F.4.1.3 Rear cover
2. Remove the DC power supply.
   F.4.3.4 DC power supply (DCPS)

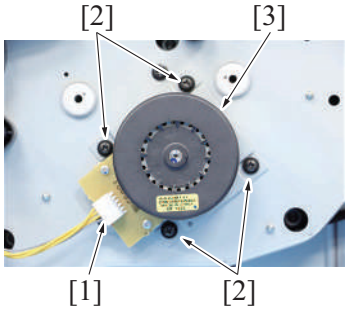


3. Disconnect the connector [1].
4. Remove four screws [2] and remove the main motor [3].
   NOTE
   - **When installing the motor, try to insert it straight, and take care not to damage the gears.**
   - **When removing or installing the motor, do not hold the rotor but hold the plate of the motor or the board.**
   - **When installing the motor, use care not to mistake in the kind of the mounting screws (M3x5 mm).**

5. To reinstall, reverse the order of removal.

4.4.2 Color motor (M2)

1. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
2. Remove the rear cover.
   F.4.1.3 Rear cover
3. Remove the left cover.
   F.4.1.2 Left cover
4. Remove the PWB box.
   F.4.2.7 PWB box
5. Remove the DC power supply.
   F.4.3.4 DC power supply (DCPS)

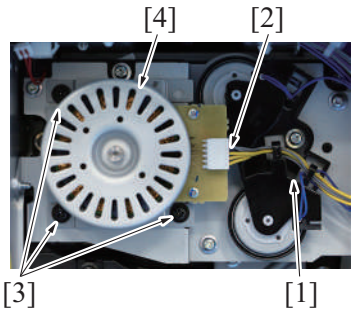


6. Disconnect the connector [1].
7. Remove four screws [2], and remove the color motor [3].
   NOTE
   - **When installing the motor, try to insert it straight, and take care not to damage the gears.**
   - **When removing or installing the motor, do not hold the rotor but hold the plate of the motor or the board.**
   - **When installing the motor, use care not to mistake in the kind of the mounting screws (M3x5 mm).**

8. To reinstall, reverse the order of removal.

4.4.3 Fusing motor (M3)

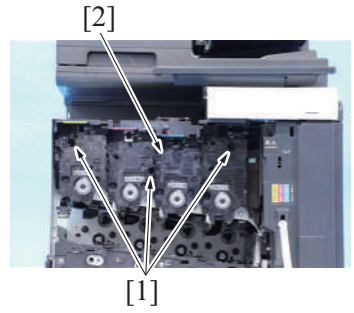
1. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
2. Remove the rear cover.
   F.4.1.3 Rear cover
3. Remove the left cover.
   F.4.1.2 Left cover
4. Remove the PWB box.
   F.4.2.7 PWB box



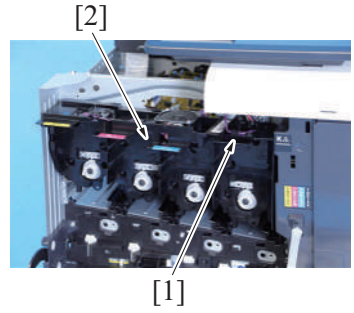
5. Remove the harness from the harness guide [1].
6. Disconnect the connector [2].
7. Remove three screws [3] and remove the fusing motor [4].
   NOTE
   - **When installing the motor, try to insert it straight, and take care not to damage the gears.**
   - **When removing or installing the motor, do not hold the rotor but hold the plate of the motor or the board.**
   - **When installing the motor, use care not to mistake in the kind of the mounting screws (M3x5 mm).**
8. To reinstall, reverse the order of removal.

4.4.4 Toner supply motor/YM (M4), Toner supply motor/CK (M5)

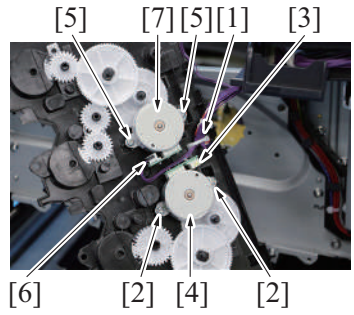
1. Remove the waste toner bottle.
   E.3.1.9 Replacing the waster toner bottle
2. Remove the toner cartridge.
   E.3.1.6 Replacing the toner cartridge
3. Remove the imaging unit.
   E.3.1.7 Replacing the imaging unit
4. Remove the exit cover.
   F.4.1.4 Exit cover



5. Remove three screws [1], and remove the toner supply unit [2].



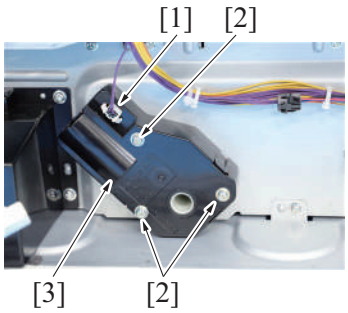
6. Remove the harness from the harness guide [1].
7. Remove the toner supply unit [2].



8. Remove the harness from the wire saddle [1].
9. Remove two screws [2] and the connector [3], and remove the toner supply motor/YM [4].
10. Remove two screws [5] and the connector [6], and remove the toner supply motor/CK [7].
11. To reinstall, reverse the order of removal.

4.4.5 Tray 1 lift-up motor (M6)

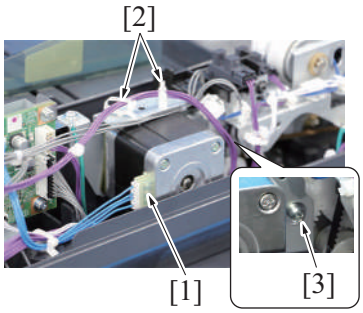
1. Remove the rear cover.
   F.4.1.3 Rear cover
2. Remove the DC power supply.
   F.4.3.4 DC power supply (DCPS)



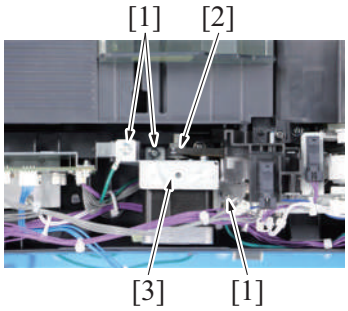
3. Disconnect the connector [1].
4. Remove three screws [2], and remove the tray 1 lift-up motor [3].
5. To reinstall, reverse the order of removal.

4.4.6 Document main motor (M8)

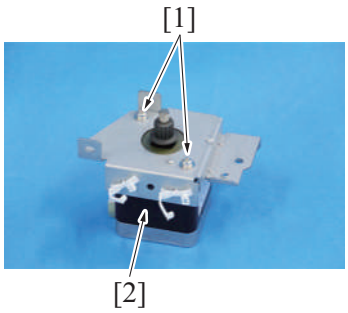
1. Remove the rear cover (ADF).
   F.4.1.10 Rear cover (ADF)



2. Disconnect the connector [1].
3. Remove the harness from two wire saddles [2].
   NOTE
   - **If the screw [3] has been installed, remove the screw [3].**



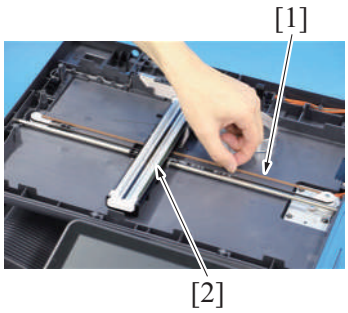
4. Remove three screws [1], and disconnect the ground wire.
5. Remove the belt [2], and remove the document main motor assy [3].



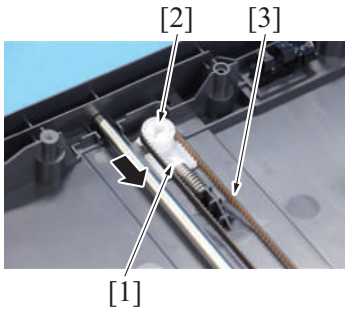
6. Remove two screws [1], and remove the document main motor [2].
7. To reinstall, reverse the order of removal.

4.4.7 Scanner motor (M9)

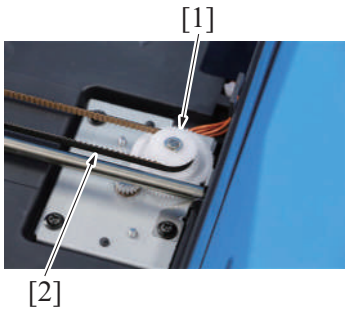
1. Remove the rear cover.
   F.4.1.3 Rear cover
2. Remove the ADF.
   F.4.2.9 ADF
3. Remove the scanner upper cover.
   F.4.1.8 Scanner upper cover



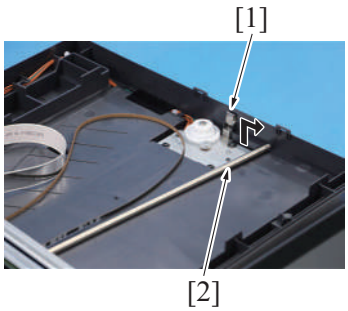
4. Slide the CIS module assy [2] to the position shown in the illustration while holding the belt [1].



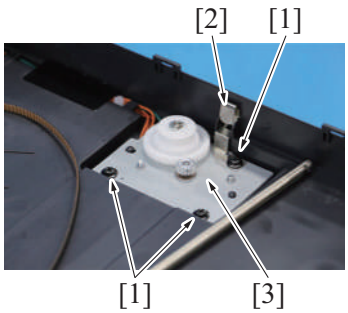
5. Remove the belt [3] from the pulley [2] while pressing on the position [1] shown in the illustration.



6. Remove the belt [2] from the gear [1].

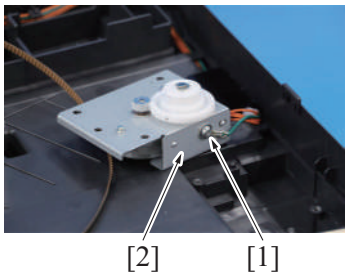


7. Pull out the shaft [2] from the plate spring [1].

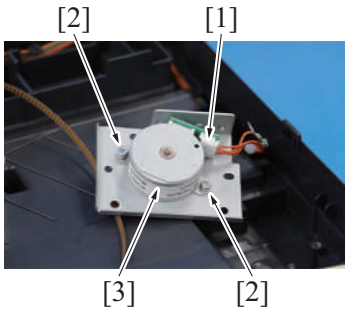


8. Remove three screws [1] and the plate spring [2], and remove the scanner motor assy [3].

9. Remove the screw [1], and remove the plate [2].



10. Disconnect the connector [1].
11. Remove two screws [2], and remove the scanner motor [3].



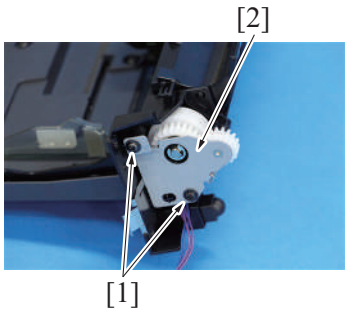
12. To reinstall, reverse the order of removal.

4.5 Clutches

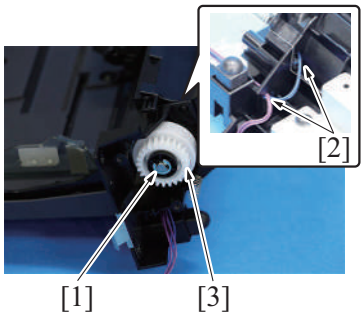
4.5.1 Bypass tray paper feed clutch (CL2)

1. Open the right door.
2. Remove the manual bypass tray unit.
   F.4.2.1 Manual bypass tray unit

3. Remove two screws [1], and remove the plate [2].



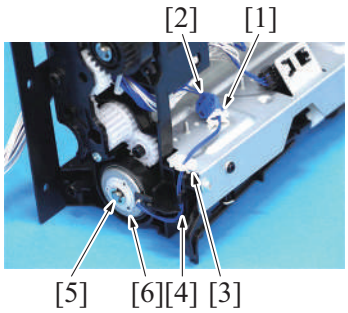
4. Remove the E-ring [1].
5. Disconnect the harness from the two holes [2], and remove the bypass tray paper feed clutch [3].



6. To reinstall, reverse the order of removal.

4.5.2 Tray 1 paper feed clutch (CL3)

1. Remove the rear cover.
   F.4.1.3 Rear cover
2. Open the right door.
3. Remove the IDC sensor assy.
   F.4.7.1 IDC sensor (IDCS1)
4. Remove the paper feed unit.
   F.4.2.6 Paper feed unit

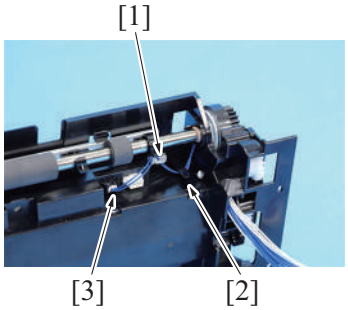


5. Remove the harness from the wire saddle [1], and disconnect the connector [2].
6. Remove the harness from the edge cover [3] and the harness guide [4].
7. Remove the E-ring [5], and remove the tray 1 paper feed clutch [6].

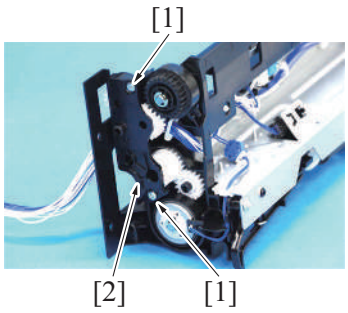
8. To reinstall, reverse the order of removal.

4.5.3 Registration clutch (CL4)

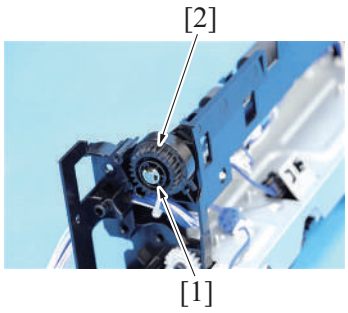
1. Remove the rear cover.
   F.4.1.3 Rear cover
2. Open the right door.
3. Remove the IDC sensor assy.
   F.4.7.1 IDC sensor (IDCS1)
4. Remove the paper feed unit.
   F.4.2.6 Paper feed unit



5. Remove the harness from the wire saddle [1] and the harness guide [2], and disconnect the connector [3].



6. Remove two screws [1] and remove the gear assy [2].

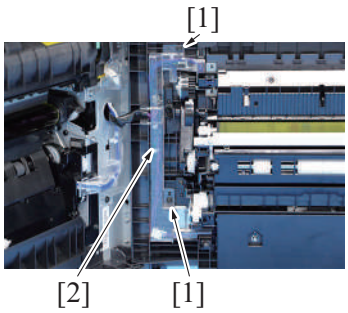


7. Remove the E-ring [1], and remove the registration clutch [2].

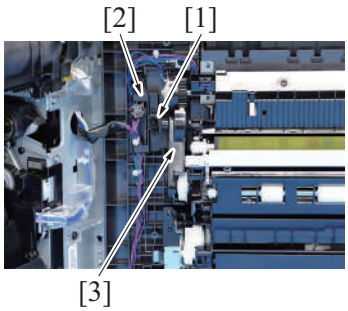
8. To reinstall, reverse the order of removal.

4.5.4 ADU transport clutch (CL5)

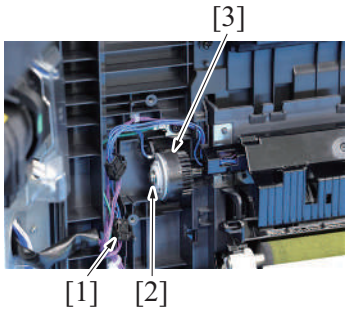
1. Open the right door.



2. Remove two screws [1], and remove the cover [2].



3. Remove the screw [1], and remove the harness guide [2] and the gear assy [3].

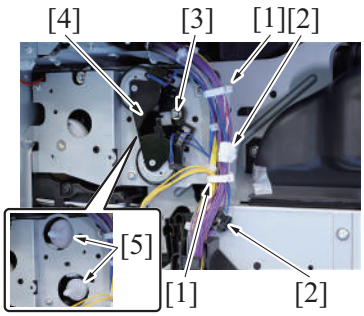


4. Disconnect the connector [1].
5. Remove the E-ring [2] and remove the ADU transport clutch [3].

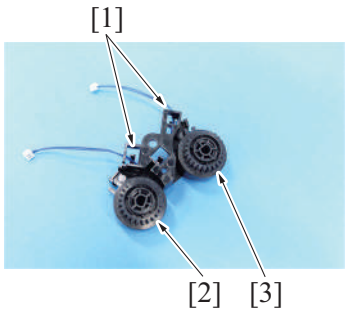
6. To reinstall, reverse the order of removal.

4.5.5 ADU feed clutch (CL6)/ADU reversal clutch (CL7)

1. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
2. Remove the rear cover.
   F.4.1.3 Rear cover
3. Remove the left cover.
   F.4.1.2 Left cover
4. Remove the PWB box.
   F.4.2.7 PWB box
5. Remove the fusing motor.
   F.4.4.3 Fusing motor (M3)



6. Remove the harness from two wire saddles [1], and disconnect two connectors [2].
7. Remove the screw [3], and remove the ADU clutch assy [4].
   NOTE
   - **Make sure not to drop the two gears [5].**

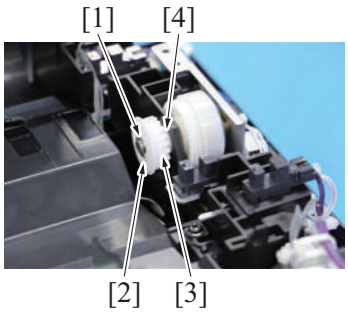


8. Remove the harness from the harness guide [1], and remove the ADU forward rotation clutch [2] or the ADU reverse rotation clutch [3].

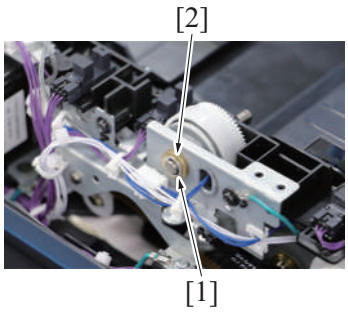
9. To reinstall, reverse the order of removal.

4.5.6 Document paper feed clutch (CL8)

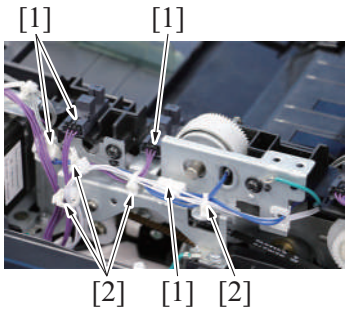
1. Remove the rear cover (ADF).
F.4.1.10 Rear cover (ADF)



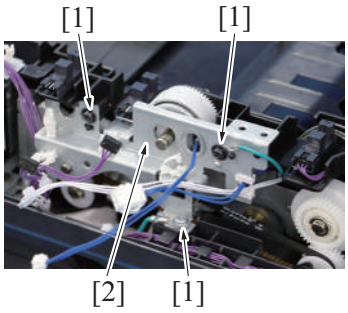
2. Remove the E-ring [1], flange [2], gear [3], and remove the bushing [4].
NOTE
- **Sometimes, the flange [2] and the gear [3] may be integrated.**



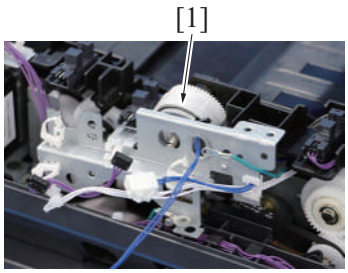
3. Remove the E-ring [1] and bushing [2].



4. Disconnect four connectors [1], and remove all harnesses from four wire saddles [2].



5. Remove three screws [1], and remove the plate [2].

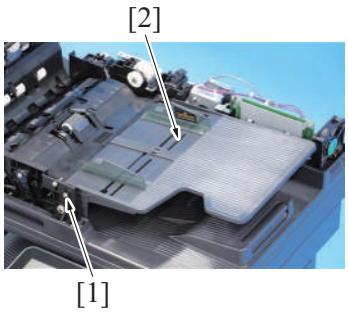


6. Remove the document paper feed clutch [1].

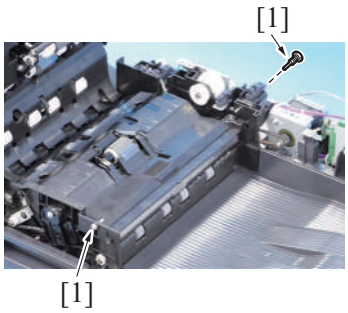
7. To reinstall, reverse the order of removal.

4.5.7 Document registration clutch (CL9)

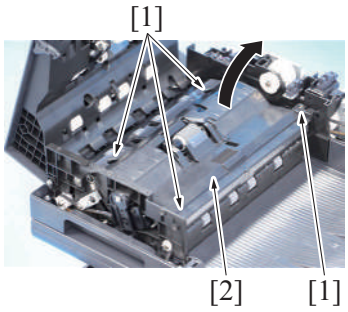
1. Remove the rear cover (ADF).
F.4.1.10 Rear cover (ADF)
2. Remove the front cover (ADF).
F.4.1.9 Front cover (ADF)



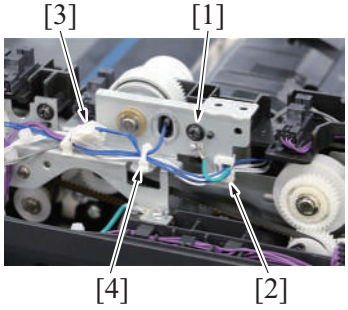
3. Remove the screw [1], and remove the document feed tray [2].



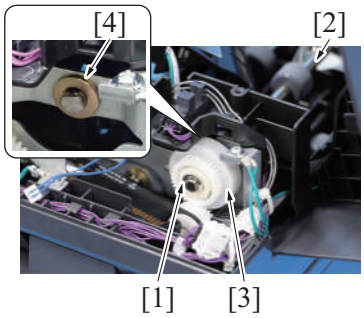
4. Remove two screws [1].



5. Remove four screws [1], and evacuate the DF lower guide assy [2].



6. Remove the screw [1], and remove the ground wire from the edge cover [2].
7. Disconnect the connector [3], and remove the harness from the wire saddle [4] and the edge cover [2].

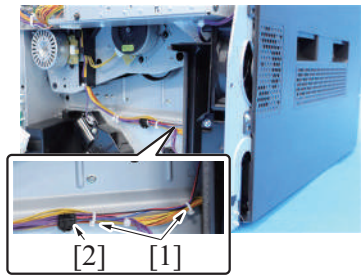


8. Remove the E-ring [1].
9. Remove the document registration clutch [3] while pulling out the shaft [2].
   NOTE
   - **When removing the document registration clutch, take care not to lose the bushing [4].**
10. To reinstall, reverse the order of removal.

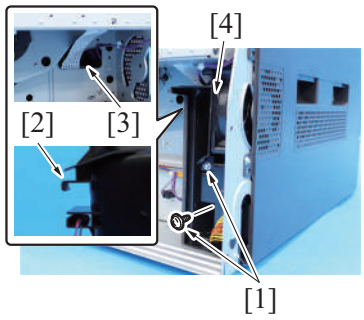
4.6 Fan motor

4.6.1 Machine cooling fan (FM1)

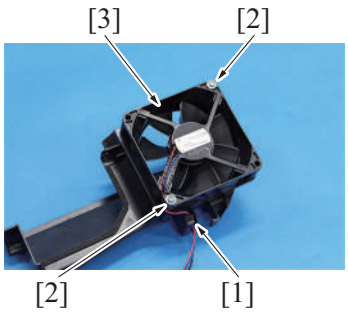
1. Remove the rear cover.
   F.4.1.3 Rear cover
2. Remove the DC power supply.
   F.4.3.4 DC power supply (DCPS)



3. Remove the harness from two wire saddles [1], and disconnect the connector [2].



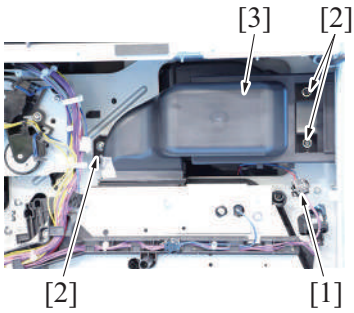
4. Remove two screws [1].
5. Remove the claw [2] from the hole [3] in the main body, and remove the machine cooling fan assy [4].



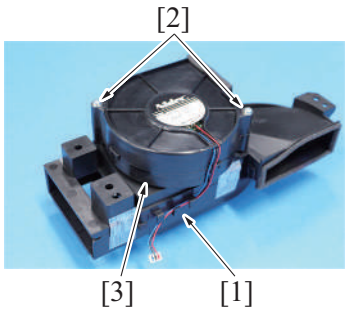
6. Remove the harness from the harness guide [1].
7. Remove two screws [2], and remove the machine cooling fan [3].
8. To reinstall, reverse the order of removal.

4.6.2 Toner suction fan (FM2)

1. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
2. Remove the rear cover.
   F.4.1.3 Rear cover
3. Remove the left cover.
   F.4.1.2 Left cover
4. Remove the PWB box.
   F.4.2.7 PWB box



5. Disconnect the connector [1].
6. Remove three screws [2], and remove the toner suction fan assy [3].



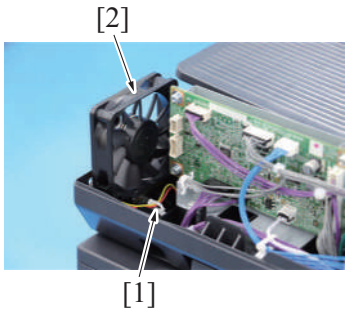
7. Remove the harness from the harness guide [1].
8. Remove two screws [2], and remove the toner suction fan [3].

9. To reinstall, reverse the order of removal.

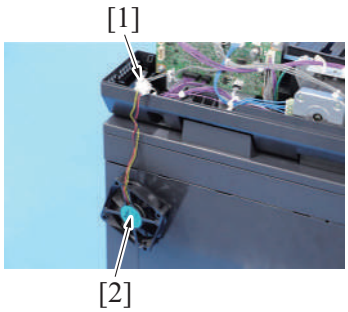
4.6.3 DF cooling fan motor (FM4)

<d-Color MF4003/MF3303>

1. Remove the rear cover (ADF).
F.4.1.10 Rear cover (ADF)



2. Remove the harness from the wire saddle [1], and slide out the DF cooling fan motor [2].



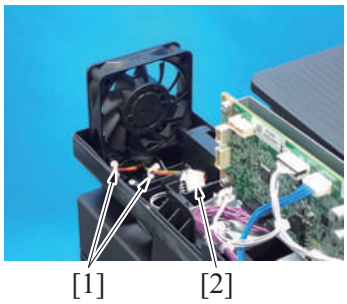
3. Disconnect the connector [1], and remove the Df cooling fan motor [2].

4. To reinstall, reverse the order of removal.

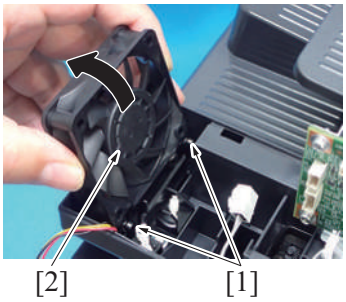
<d-Color MF4003en/MF3303en>

1. Remove the rear cover (ADF).
F.4.1.10 Rear cover (ADF)

2. Remove the harness from two wire saddles [1], and disconnect the connector [2].



3. Unhook two tabs [1], and remove the DF cooling fan motor [2].



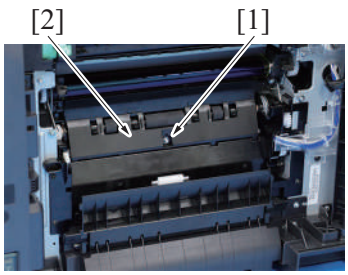
4. To reinstall, reverse the order of removal.

4.7 Others

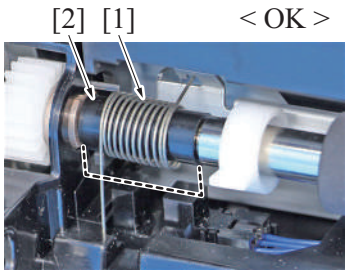
4.7.1 IDC sensor (IDCS1)

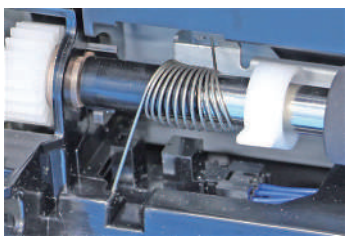
1. Open the right door.

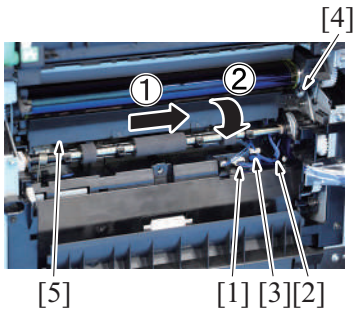
2. Remove the screw [1], and remove the cover [2].



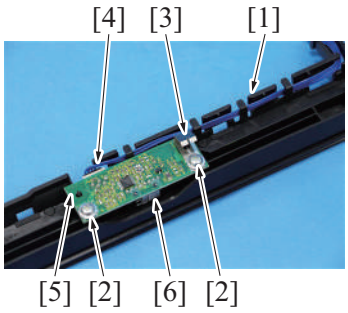
3. **NOTE**
   - **When mounting the cover, make sure the spring [1] locates within the spring supporting [2].**







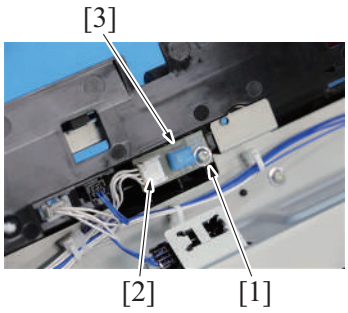
4. Disconnect connector [1], and remove the harness from the harness guide [2] and the wire saddle [3].
5. Remove the screw [4], and remove the IDC sensor assy [5].



6. Remove the harness from the harness guide [1].
7. Remove the two screws [2], and remove the earth plate [3].
8. Disconnect the connector [4], and remove the IDC sensor [5].
   NOTE
   - **Be careful not to break the sensor head [6] of the IDC sensor.**
9. To reinstall, reverse the order of removal.

4.7.2 Temperature/humidity sensor (TEM/HUMS1)

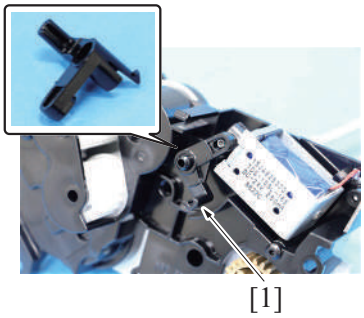
1. Remove the rear cover.
   F.4.1.3 Rear cover
2. Open the right door.
3. Remove the IDC sensor assy.
   F.4.7.1 IDC sensor (IDCS1)
4. Remove the paper feed unit.
   F.4.2.6 Paper feed unit



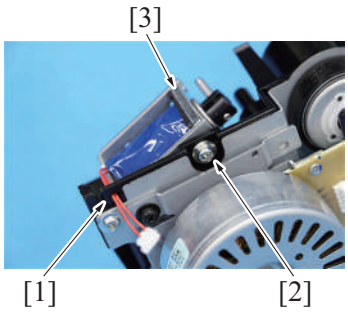
5. Remove the screw [1].
6. Disconnect the connector [2], and remove the temperature/humidity sensor [3].
7. To reinstall, reverse the order of removal.

4.7.3 Exit path switch solenoid (SD1)

1. Remove the fusing unit.
   E.3.1.12 Replacing the fusing unit
2. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
3. Remove the rear cover.
   F.4.1.3 Rear cover
4. Remove the left cover.
   F.4.1.2 Left cover
5. Remove the PWB box.
   F.4.2.7 PWB box
6. Remove the fusing drive unit.
   F.4.2.8 Fusing drive unit



7. Remove the Lever [1].

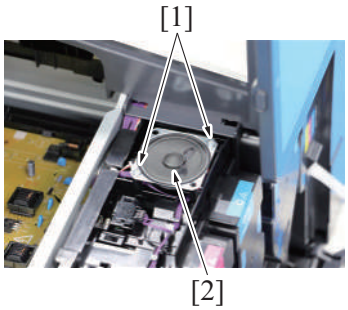


8. Remove the harness from the harness guide [1].
9. Remove the screw [2] and remove the exit path switch solenoid [3].

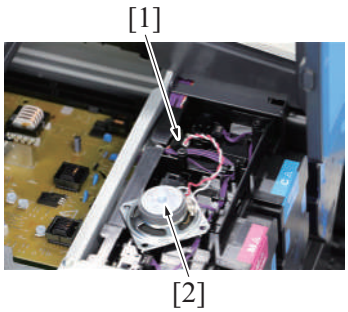
10. To reinstall, reverse the order of removal.

4.7.4 Fax speaker (SP1)

1. Remove the toner filter assy.
   E.3.1.8 Replacing the toner filter
2. Remove the rear cover.
   F.4.1.3 Rear cover
3. Remove the left cover.
   F.4.1.2 Left cover
4. Remove the exit cover.
   F.4.1.4 Exit cover



5. Remove two screws [1], and slide out the fax speaker [2].



6. Disconnect the connector [1], and remove the fax speaker [2].

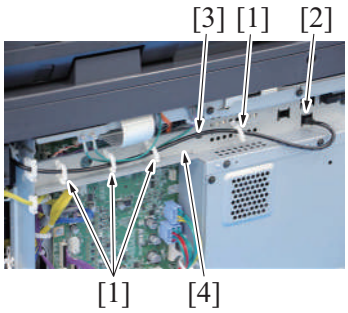
7. To reinstall, reverse the order of removal.

4.7.5 Coin battery

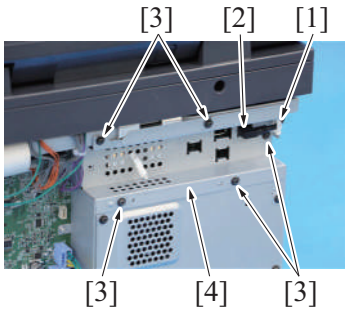
NOTE

- **When replacing the coin battery, be sure to use our specified coin battery (CR2032) (authorized with UL1642). Installing batteries other than the same type or equivalent may cause leakage of the battery fluid.**
- **Before replacing the coin battery, be sure to check " F.3.1 Removal/installing of boards."**

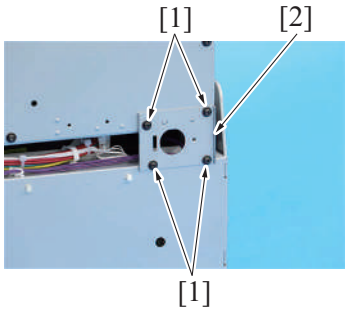
1. Remove the rear cover.
   F.4.1.3 Rear cover



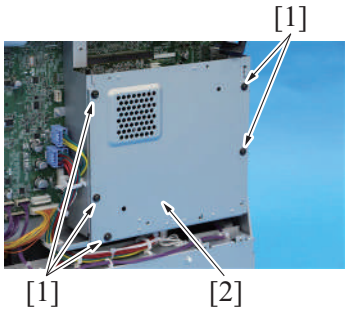
2. Remove the cable and ground wire from four wire saddles [1], and disconnect the connector [2].
3. Remove the screw [3], and remove the plate [4].



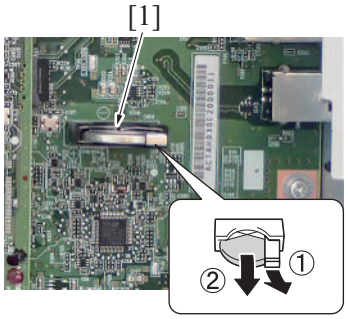
4. Remove the cable from the edge cover [1], and disconnect the connector [2].
5. Remove five screws [3], and remove the plate [4].



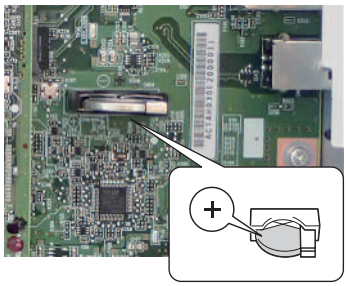
6. Remove four screws [1], and remove the plate [2].



7. Remove five screws [1], and remove the plate [2].



8. Remove the coin battery [1].



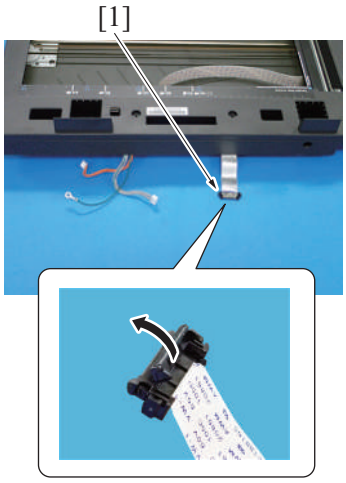
9. **NOTE**
   - **Install a new coin battery with the + side facing up.**

10. To reinstall, reverse the order of removal.

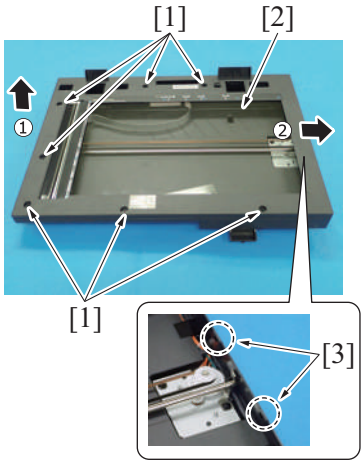
4.7.6 Scanner flat cable

(1) Removal procedure

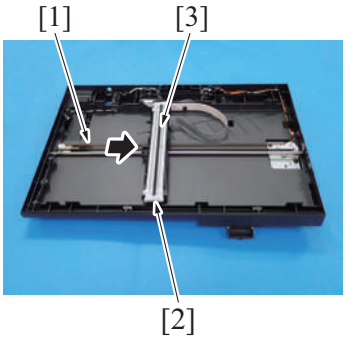
1. Remove the scanner unit.
   F.4.2.12 Scanner unit



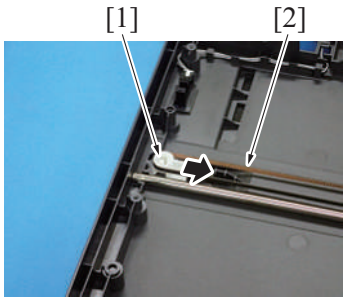
2. Disconnect the connector [1] of the scanner flat cable (base board side).
   NOTE
   - **Do not reuse the connector [1].**



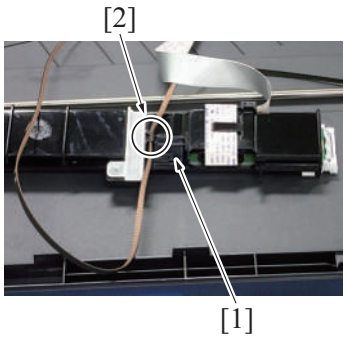
3. Remove seven screws [1], and remove the upper cover [2].
   NOTE
   - **Taking care of the hooks [3], hold up the upper cover [2] upward and slide it to the right side, then remove it.**



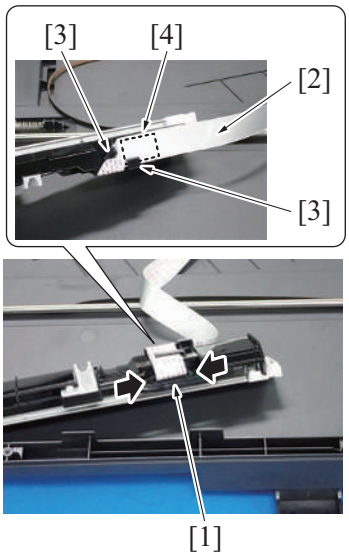
4. Move the belt [1], and move the CIS module [2] to the position shown in the illustration.
   NOTE
   - **Do not touch the glass part [3] of the CIS module.**



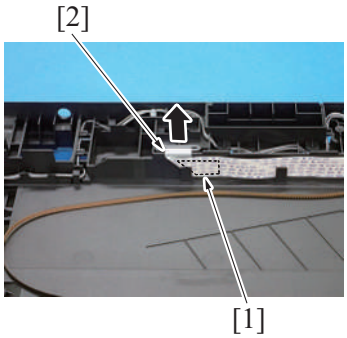
5. Move the pulley [1] in the direction of the arrow, and remove the belt [2].



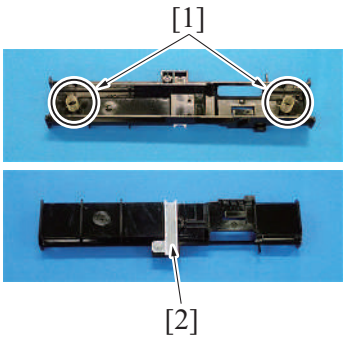
6. Remove the belt [2] from the CIS frame [1].



7. Disconnect the CIS connector [1].
8. Remove the scanner flat cable [2] from the CIS frame guide [3].
9. Remove the double-faced tape [4], and remove the scanner flat cable [2].
   NOTE
   - **Do not reuse the connector [1].**



10. Remove the double-faced tape [1], and pull the scanner flat cable [2] up in the direction of the arrow, then remove it.

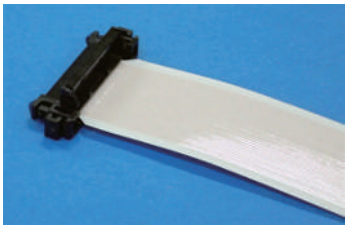
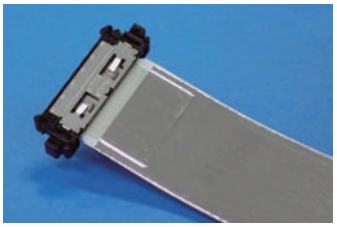


11. When replacing the CIS frame, be sure to replace the compression coil springs [1] and the guide [2] to the new CIS frame.

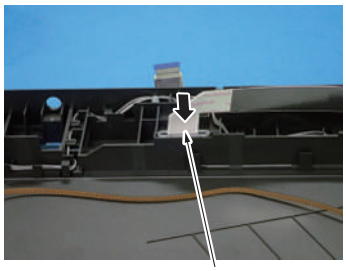
(2) Reinstall procedure

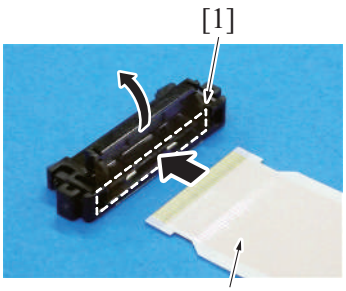
NOTE

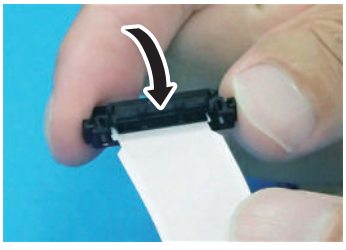
- **When installing the new connector, take care of the orientation of the connector and the scanner flat cable.**

Front side	Back side
	

1. Insert the scanner flat cable [1] into the ferrite core shown in the illustration.



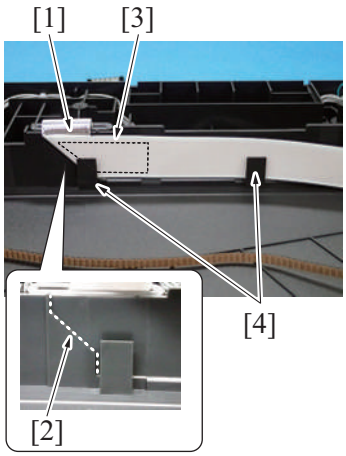




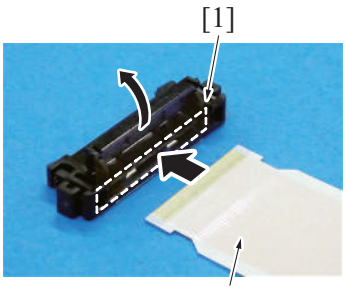
2. Attach the scanner flat cable [2] by inserting it into the slot in the bottom of the new connector [1].

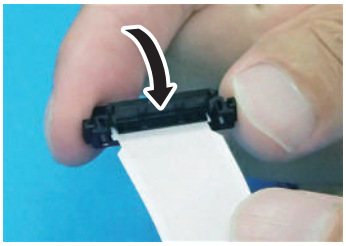
NOTE

- **Insert the scanner flat cable into the connector until the tip touches the end, and lock it.**
- **Be sure to use the new connector. Do not reuse the used connector you have removed.**

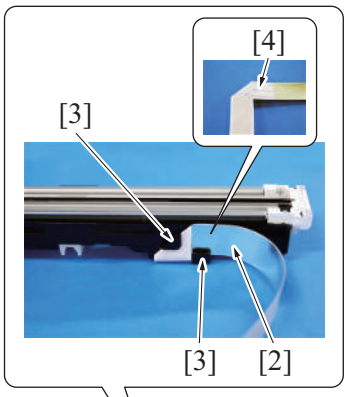


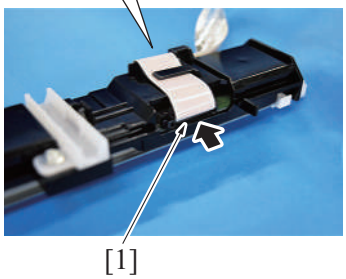
3. Fold back the scanner flat cable [1], remove the separating sheet from the double-faced tape [3] while aligning with the position [2], then attach the cable. Place the scanner flat cable [1] inside two guides [4].
   NOTE
   - **Wipe off the affixing area of the double-faced tape with alcohol, then attach the scanner flat cable.**



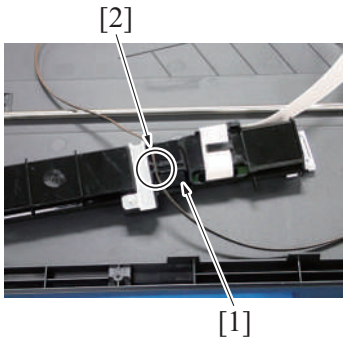


4. Attach the scanner flat cable [2] by inserting it into the slot in the bottom of the new connector [1].
   NOTE
   - **Insert the scanner flat cable into the connector until the tip touches the end, and lock it.**
   - **Be sure to use the new connector. Do not reuse the used connector you have removed.**

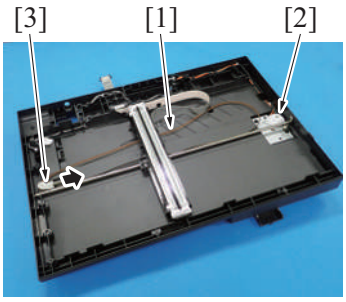




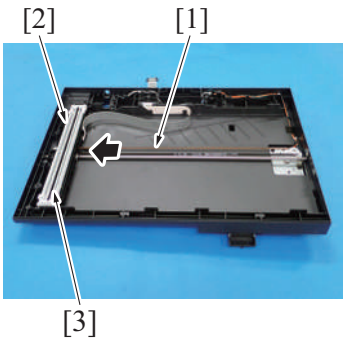
5. Insert the connector [1].
6. Place the scanner flat cable [2] inside the guide [3] of the CIS frame.
7. Remove the separating sheet [4] from the double-faced tape, and attach the scanner flat cable [2] to the CIS frame.
   NOTE
   - **Wipe off the affixing area of the double-faced tape with alcohol, then attach the scanner flat cable.**
   - **Be sure to use the new connector. Do not reuse the used connector you have removed.**



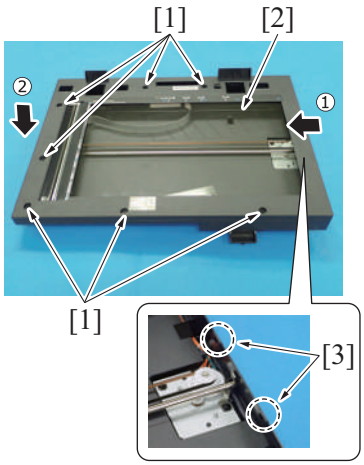
8. Install the belt [2] to the CIS frame [1].



9. Hang the belt [1] onto the gear [2], move the pulley [3] in the direction of the arrow, then install the belt [1] to the pulley [3].



10. Move the belt [1], and move the CIS module [2] to the position shown in the illustration.
NOTE
- **Do not touch the glass part [3] of the CIS module.**



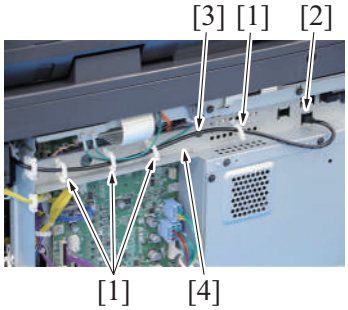
11. Install seven screws [1], and install the upper cover [2].
NOTE
- **Taking care of the hooks [3], install the upper cover [2] while fitting the right side.**

12. Install the scanner unit.
F.4.2.12 Scanner unit

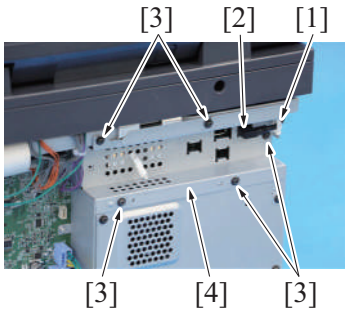
5. Fax Kit

5.1 Fax Kit

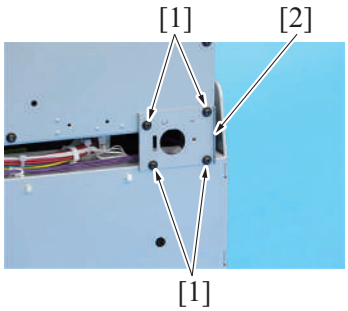
1. Remove the rear cover.
   F.4.1.3 Rear cover



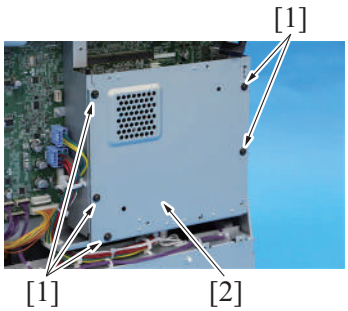
2. Remove the cable and ground wire from four wire saddles [1], and disconnect the connector [2].
3. Remove the screw [3], and remove the plate [4].



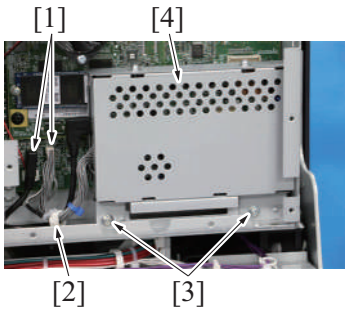
4. Remove the cable from the edge cover [1], and disconnect the connector [2].
5. Remove five screws [3], and remove the plate [4].



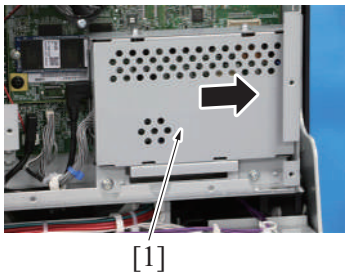
6. Remove four screws [1], and remove the plate [2].



7. Remove five screws [1], and remove the plate [2].



8. Disconnect two connectors [1], and remove the harness from the wire saddle [2].
9. Remove two screws [3], and remove the fax kit [4].

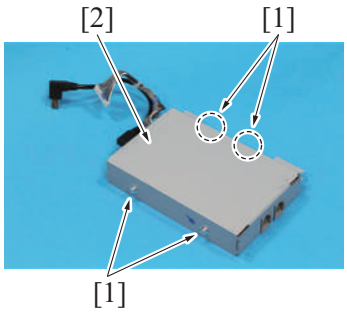


11. To reinstall, reverse the order of removal.

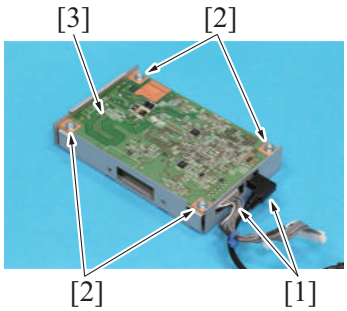
10. **NOTE**
- **When installing the fax kit [1], arrange it to the plate side, then tighten the screw.**

5.2 FAX board (FAXB)

1. Remove the rear cover.
F.4.1.3 Rear cover
2. Remove the fax kit.
F.5.1 Fax Kit



3. Remove four screws [1], and remove the cover [2].



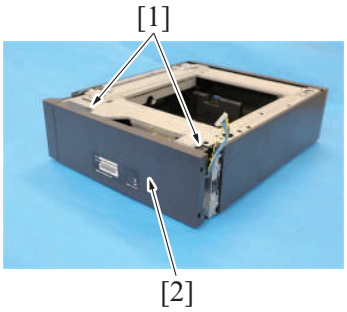
4. Disconnect two connectors [1].
5. Remove four screws [2], and remove the FAX board [3].

6. To reinstall, reverse the order of removal.

6. PF-P20/PF-P27

6.1 Rear cover (PF-P20/PF-P27)

1. Remove the paper feed unit from the main body.
   F.6.4 Paper Feed Unit (PF-P20/PF-P27)
2. Remove two screws [1], and remove the rear over [2].



3. To reinstall, reverse the order of removal.

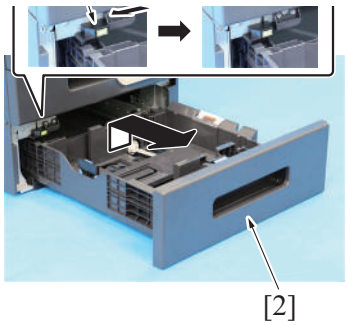
6.2 Not available

6.3 Tray 2, tray 3, tray 4 (PF-P20/PF-P27)

NOTE

- **The tray 2, tray 3 and the tray 4 have same mechanism. This procedure shows the steps taken for the tray 2.**

1. Slide out the tray 2 and unload paper from it.
2. Slide the stopper [1].
3. Hold up the tray 2 [2] to remove it.



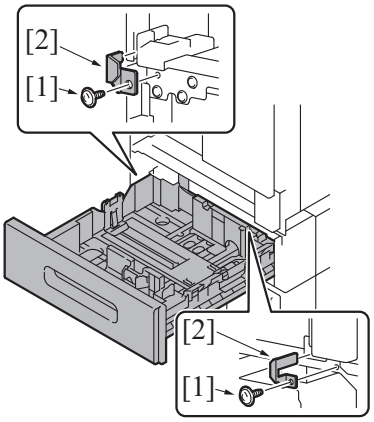
4. To reinstall, reverse the order of removal.

6.4 Paper Feed Unit (PF-P20/PF-P27)

NOTE

- **Assign an appropriate number of persons for moving the machine.**
- **Whenever removing or reinstalling the paper feed unit, be sure first to unplug the power cord of the printer from the power outlet.**

1. Remove the rear cover.
   F.4.1.3 Rear cover
2. Remove the tray 1.
   F.4.1.7 Tray1
3. Slide out the tray 2.

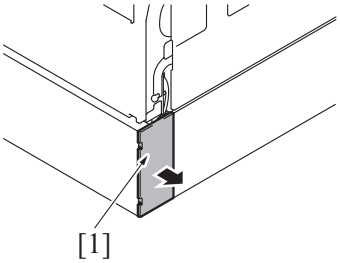


4. Remove two screws [1], and remove the two plates [2].

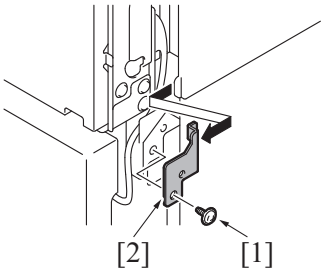
5. Slide the tray 2 back in.
6. Install the tray 1.

7. Remove two screws [1], and remove the plate [2].

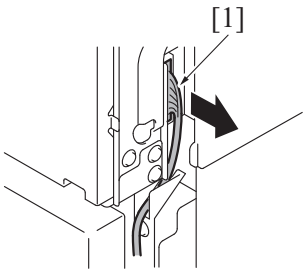
8. Remove the cover [1].

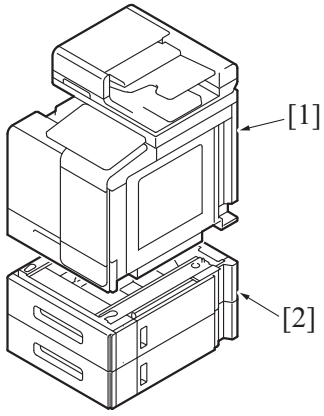


9. Remove the screw [1], and remove the plate [2].



10. Disconnect the connector [1].



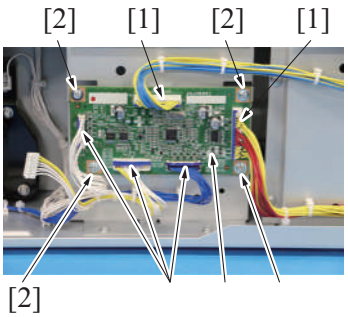


11. Lift the main body [1] and then remove the paper feed unit [2] from the main body.

6.5 Not available

6.6 PC control board (PCCB) (PF-P20/PF-P27)

1. Remove the rear cover.
F.6.1 Rear cover (PF-P20/PF-P27)

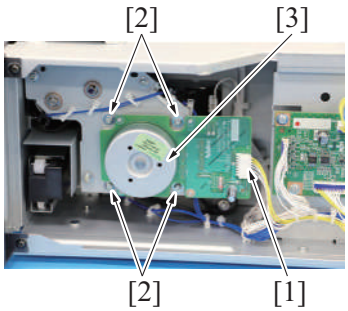


2. Disconnect five connectors [1] from the PC control board.
3. Remove four screws [2], and remove the PC control board [3].

4. To reinstall, reverse the order of removal.

6.7 Drive motor (M1) (PF-P20/PF-P27)

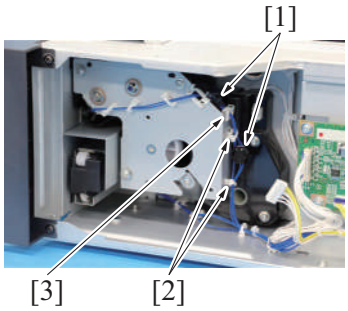
1. Remove the rear cover.
   F.6.1 Rear cover (PF-P20/PF-P27)



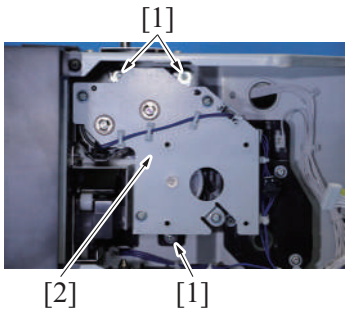
2. Disconnect the connector [1].
3. Remove four screws [2] and remove the drive motor [3].
   NOTE
   - **When removing or installing the motor, do not hold the rotor but hold the plate of the motor or the board.**
4. To reinstall, reverse the order of removal.

6.8 Drive assy (PF-P20/PF-P27)

1. Remove the rear cover.
   F.6.1 Rear cover (PF-P20/PF-P27)
2. Remove the drive motor.
   F.6.7 Drive motor (M1) (PF-P20/PF-P27)



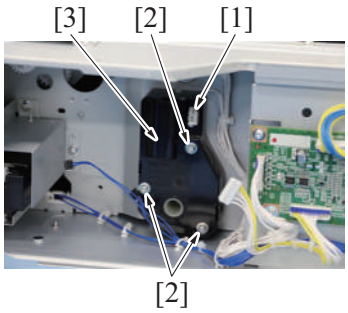
3. Disconnect two connectors [1], and remove the harness from two wire saddles [2] and the edge cover [3].



4. Remove three screws [1], and remove the drive assy [2].
5. To reinstall, reverse the order of removal.

6.9 Lift-up motor (M2) (PF-P20/PF-P27)

1. Remove the rear cover.
   F.6.1 Rear cover (PF-P20/PF-P27)
2. Remove the drive motor.
   F.6.7 Drive motor (M1) (PF-P20/PF-P27)
3. Remove the drive assy.
   F.6.8 Drive assy (PF-P20/PF-P27)

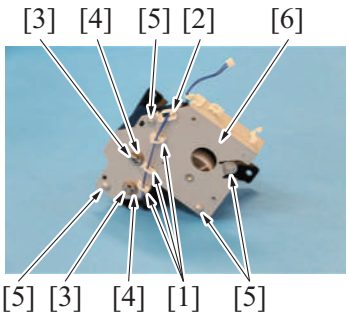


4. Disconnect the connector [1].
5. Remove three screws [2], and remove the lift-up motor [3].

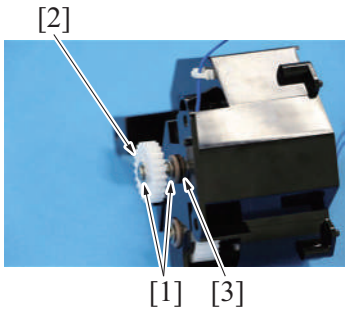
6. To reinstall, reverse the order of removal.

6.10 Paper feed clutch (CL1) (PF-P20/PF-P27)

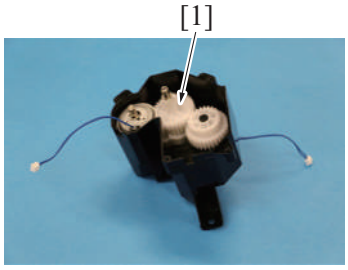
1. Remove the rear cover.
   F.6.1 Rear cover (PF-P20/PF-P27)
2. Remove the drive motor.
   F.6.7 Drive motor (M1) (PF-P20/PF-P27)
3. Remove the drive assy.
   F.6.8 Drive assy (PF-P20/PF-P27)



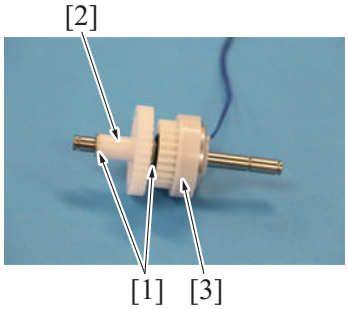
4. Remove the harness from three wire saddles [1] and the edge cover [2].
5. Remove two E-rings [3], two bushings [4] and four screws [5], and remove the drive plate [6].



6. Remove two E-rings [1], the gear [2] and the bushing [3].



7. Remove the paper feed clutch assy [1].



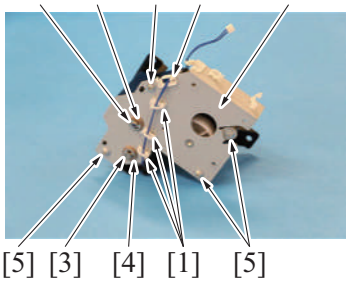
8. Remove two E-rings [1] and the gear [2], and remove the paper feed clutch [3].

9. To reinstall, reverse the order of removal.

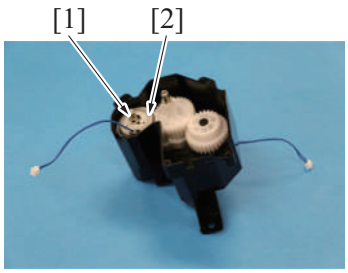
6.11 Transport clutch (CL2) (PF-P20/PF-P27)

1. Remove the rear cover.
   F.6.1 Rear cover (PF-P20/PF-P27)

2. Remove the drive motor.
   F.6.7 Drive motor (M1) (PF-P20/PF-P27)
3. Remove the drive assy.
   F.6.8 Drive assy (PF-P20/PF-P27)



4. Remove the harness from three wire saddles [1] and the edge cover [2].
5. Remove two E-rings [3], two bushings [4] and four screws [5], and remove the drive plate [6].



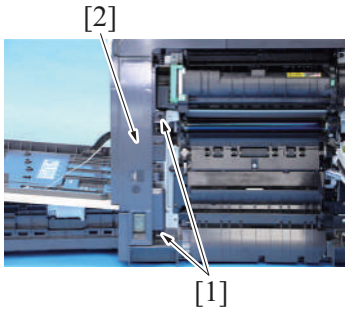
6. Remove the E-ring [1] and remove the transport clutch [2].

7. To reinstall, reverse the order of removal.

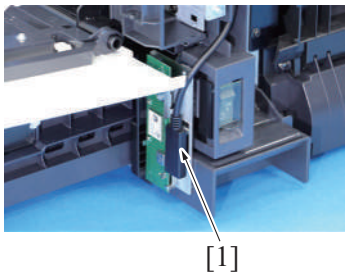
7. UK-221

7.1 Wireless LAN board (UK-221)

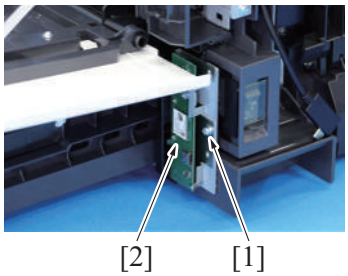
1. Slide out the tray 1.
2. Open the front door.
3. Open the right door.



4. Remove two screws [1], and remove the front right cover/1 [2].



5. Disconnect the USB cable [1].



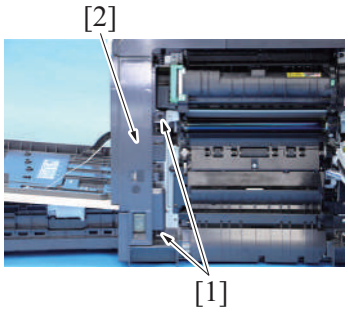
6. Remove the screw [1], and remove the wireless LAN board [2].

7. To reinstall, reverse the order of removal.

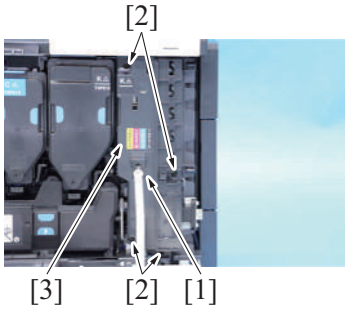
8. EK-P08/EK-P09

8.1 USB hub board (EK-P08/EK-P09)

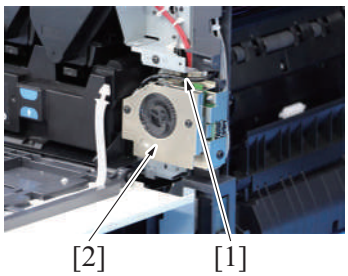
1. Slide out the tray 1.
2. Open the front door.
3. Open the right door.



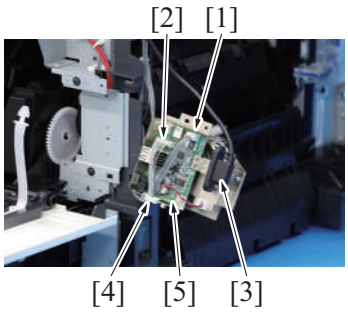
4. Remove two screws [1], and remove the front right cover/1 [2].



5. By twisting the ends of the stopper [1], remove it from the main body.
6. Remove four screws [2] and remove the right front cover/2 [3].



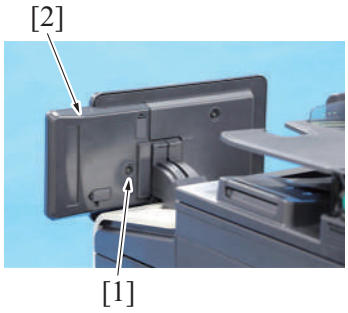
7. Remove the screw [1], and remove the USB hub board [2].



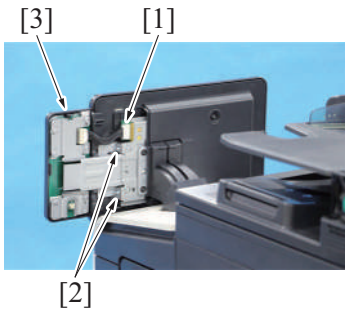
8. Disconnect the connector [1], the connector [2] (EK-P09 only) and the USB cable [3], and remove the harness from the edge cover [4].
9. Remove the USB hub board [5].
10. To reinstall, reverse the order of removal.

9. KP-102

9.1 Keypad (KP-102)



1. Remove the screw [1], and remove the cover [2].



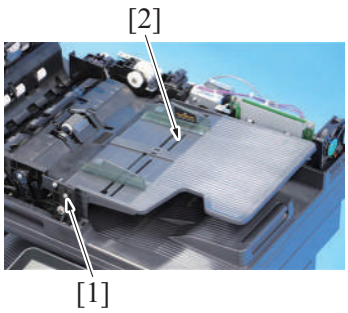
2. Disconnect the connector [1].
3. Remove two screws [2], and remove the keypad [3].

4. To reinstall, reverse the order of removal.

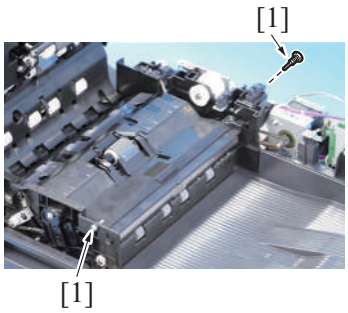
10. UK-P19

10.1 Multi feed detection board/TX (MFDB/TX)

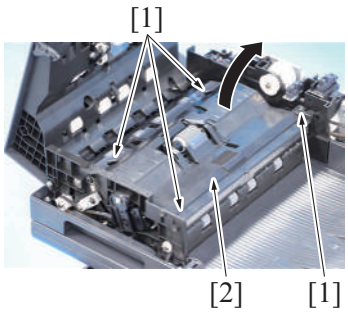
1. Remove the rear cover (ADF).
   F.4.1.10 Rear cover (ADF)
2. Remove the front cover (ADF).
   F.4.1.9 Front cover (ADF)



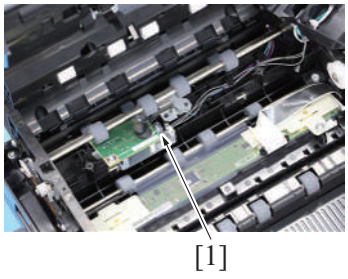
3. Remove the screw [1], and remove the document feed tray [2].



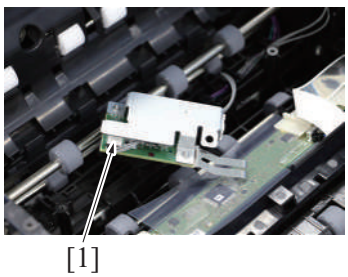
4. Remove two screws [1].



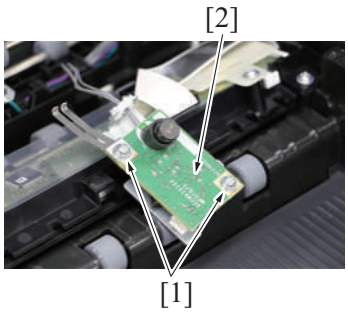
5. Remove four screws [1], and evacuate the DF lower guide assy [2].



6. Remove the screw [1], and pull out the multi feed detection board/TX assy [2].



7. Disconnect the connector [1].

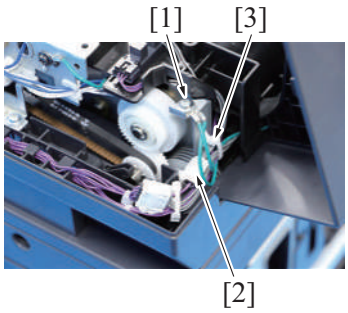


8. Remove two screws [1], and remove the multi feed detection board/TX [2].

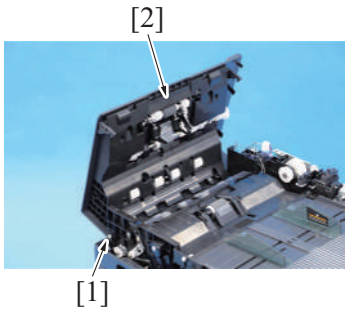
9. To reinstall, reverse the order of removal.

10.2 Multi feed detection board/RX (MFDB/RX)

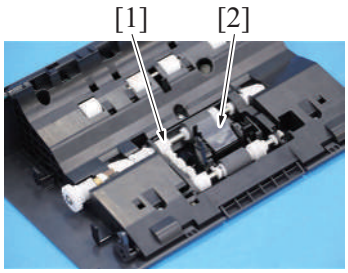
1. Remove the rear cover (ADF).
   F.4.1.10 Rear cover (ADF)
2. Remove the front cover (ADF).
   F.4.1.9 Front cover (ADF)



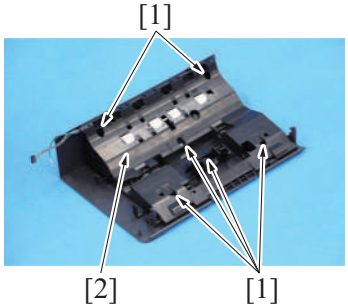
3. Remove the screw [1], disconnect the connector [2], and remove the the ground wire and the harness from the wire saddle [3].



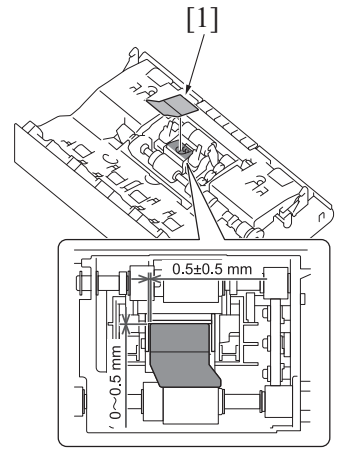
4. Remove the screw [1], and remove the the upper door [2].



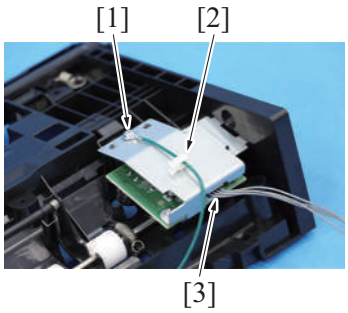
5. Remove the pick-up roller assy [1].
6. Peel off the film [2].



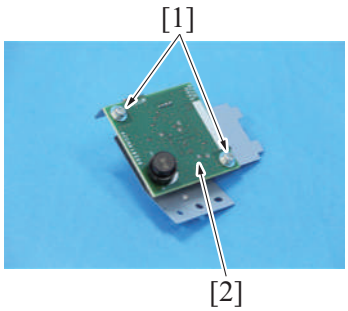
7. Remove six screws [1], and remove the cover [2].



8. **NOTE**
   - **When mounting the cover, place an order including the film (No code).**
   - **After mounting the cover, stick the film [1] on the position shown in the illustration.**



9. Remove the screw [1], and remove the ground wire from the wire saddle [2].
10. Disconnect the connector [3].

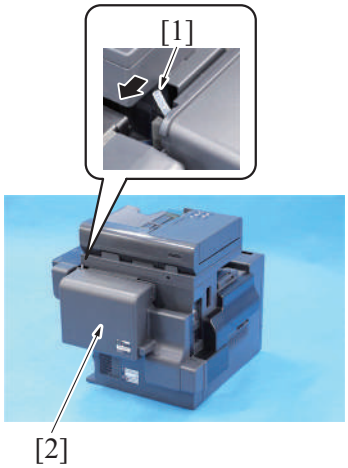


11. Remove two screws [1], and remove the multi feed detection board/RX [2].

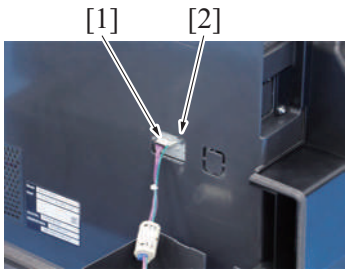
12. To reinstall, reverse the order of removal.

11. CU-202 (Only for Europe)

11.1 Clean unit (CU-202)



1. Push the lock shaft [1] to the left, and remove the clean unit [2].

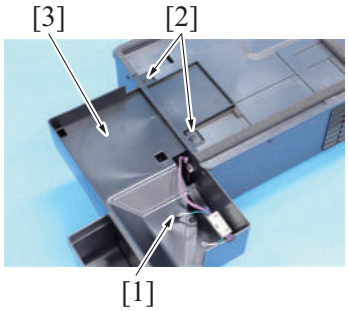


2. Disconnect the connector [1].
3. Remove the screw [2], and remove the earth cable.

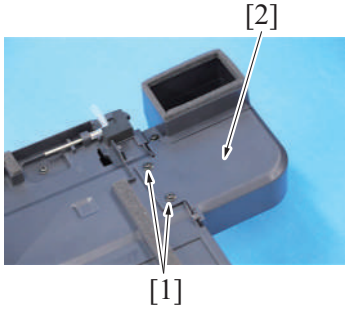
4. To reinstall, reverse the order of removal.

11.2 UFP filter

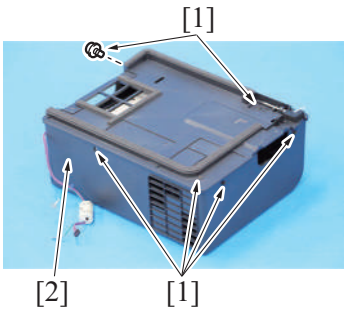
1. Remove the clean unit.
F.11.1 Clean unit (CU-202)



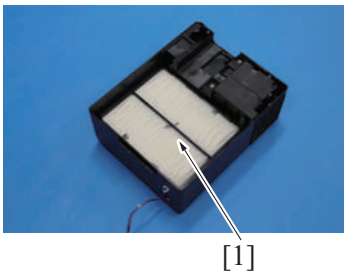
2. Remove the screw [1], and remove the earth cable.
3. Remove two screws [2], and remove the duct [3].



4. Remove two screws [1], and remove the duct [2].



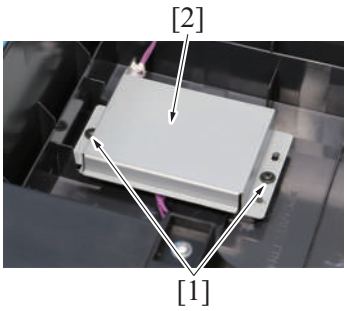
5. Remove six screws [1], remove the clean unit cover assy [2].



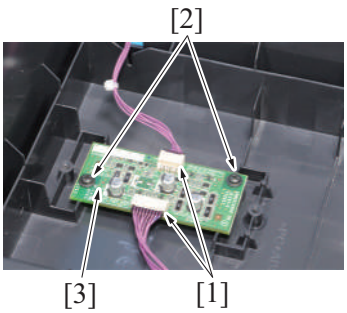
6. Remove the UFP filter [1].

11.3 Clean unit drive board (CUDB)

1. Remove the clean unit.
   F.11.1 Clean unit (CU-202)
2. Remove the UFP filter.
   F.11.2 UFP filter



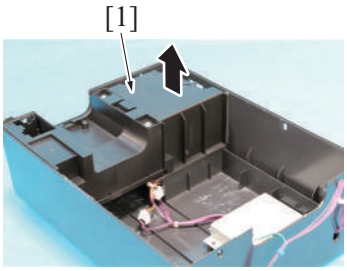
3. Remove two screws [1], and remove the cover [2].



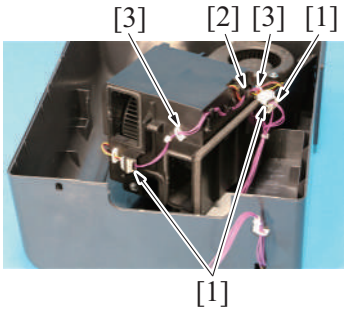
4. Disconnect two connectors [1], and remove two screws [2].
5. Remove the clean unit drive board [3].
6. To reinstall, reverse the order of removal.

11.4 Exhaust fan/1 (FM1)

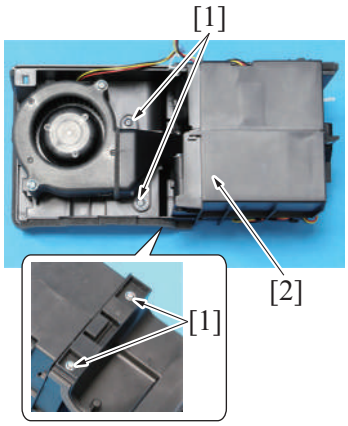
1. Remove the clean unit.
   F.11.1 Clean unit (CU-202)
2. Remove the UFP filter.
   F.11.2 UFP filter



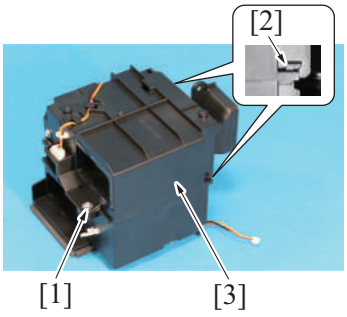
3. Remove the exhaust fan assy [1].



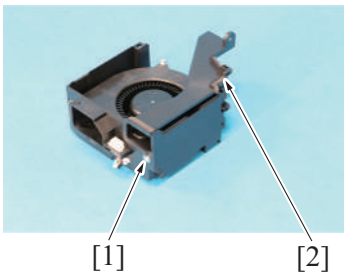
4. Disconnect three connectors [1], and remove the harness from the harness guide [2] and two wire saddles [3].



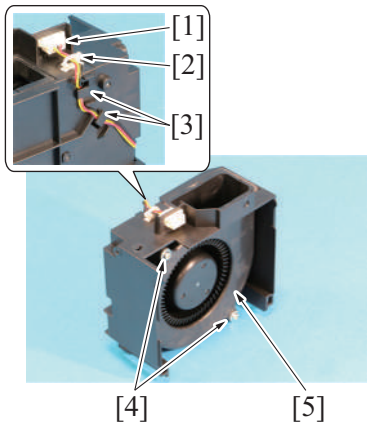
5. Remove four screws [1], and remove the exhaust fan/1/2 assy [2]



6. Remove the screw [1], and unlock two tabs [2].
7. Remove the exhaust fan/1 assy [3].



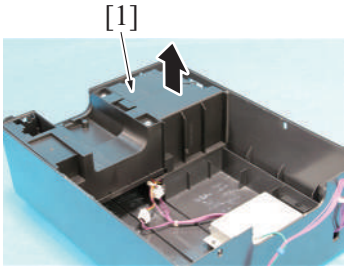
8. Remove the screw [1], remove the duct [2].



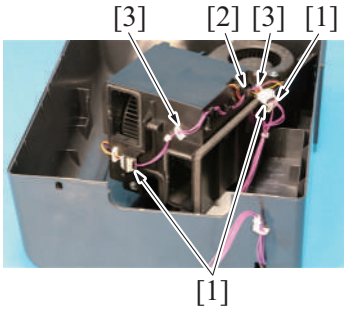
9. Disconnect the connector [1], and remove the harness from the wire saddle [2] and two harness guides [3].
10. Remove two screws [4], and remove the exhaust fan/1 [5].
11. To reinstall, reverse the order of removal.

11.5 Exhaust fan/2 (FM2)

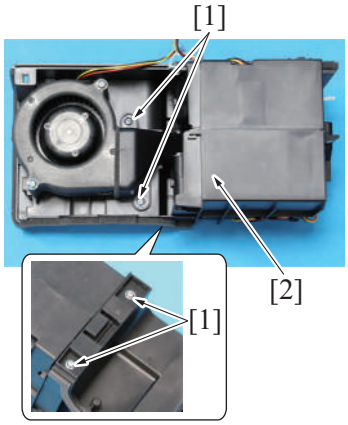
1. Remove the clean unit.
   F.11.1 Clean unit (CU-202)
2. Remove the UFP filter.
   F.11.2 UFP filter



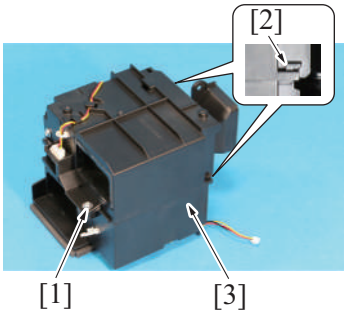
3. Remove the exhaust fan assy [1].



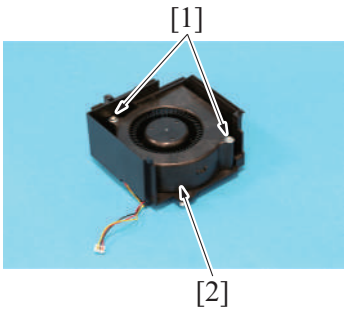
4. Disconnect three connectors [1], and remove the harness from the harness guide [2] and two wire saddles [3].



5. Remove four screws [1], and remove the exhaust fan/1/2 assy [2]



6. Remove the screw [1], and unlock two tabs [2].
7. Remove the exhaust fan/2 assy [3].

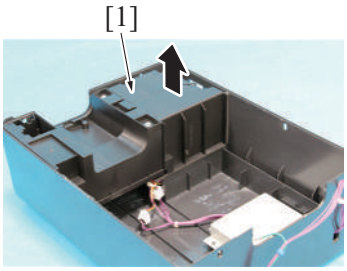


8. Remove two screws [1], and remove the exhaust fan/2 [2].

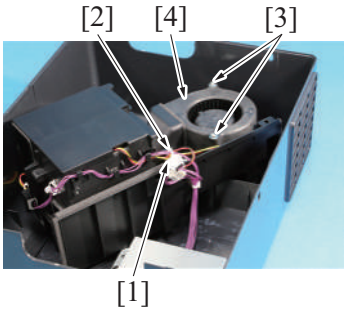
9. To reinstall, reverse the order of removal.

11.6 Exhaust fan/3 (FM3)

1. Remove the clean unit.
   F.11.1 Clean unit (CU-202)
2. Remove the UFP filter.
   F.11.2 UFP filter



3. Remove the exhaust fan assy [1].



4. Disconnect the connector [1], and remove the harness from the wire saddle [2].
5. Remove two screws [3], and remove the exhaust fan/3 [4].

6. To reinstall, reverse the order of removal.

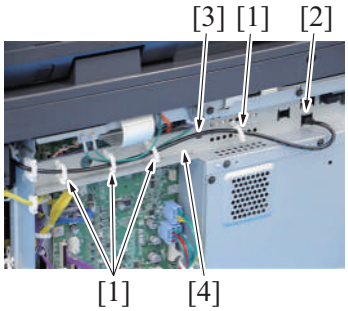
12. EM-908

12.1 Expanded memory unit (EM-908)

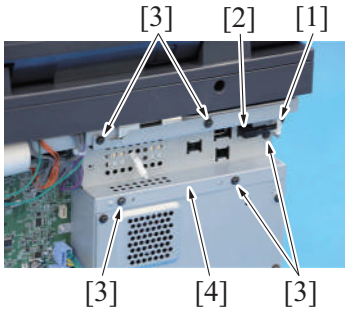
NOTE

- **Never use the combination of the used storage board removed from another machine and the CPU board. This combination causes corruption of stored data. Note that the combination of the original storage board and the used CPU board removed from another machine also causes the same problem.**
- **Never replace the storage board and CPU board with new one at the same time.**

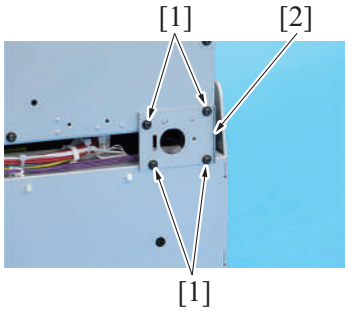
1. Remove the rear cover.
   F.4.1.3 Rear cover



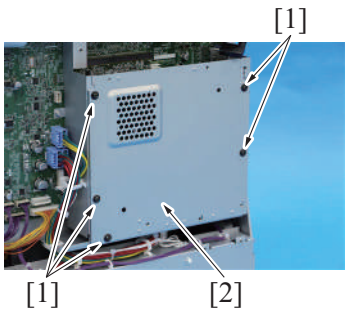
2. Remove the cable and ground wire from four wire saddles [1], and disconnect the connector [2].
3. Remove the screw [3], and remove the plate [4].



4. Remove the cable from the edge cover [1], and disconnect the connector [2].
5. Remove five screws [3], and remove the plate [4].

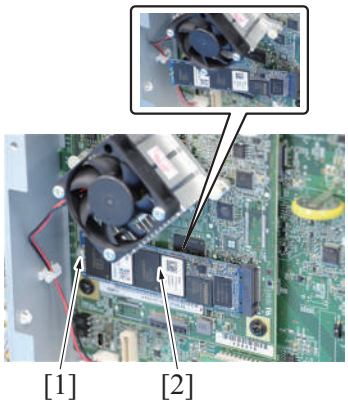


6. Remove four screws [1], and remove the plate [2].



7. Remove five screws [1], and remove the plate [2].

8. Remove the fax kit.
   F.5.1 Fax Kit

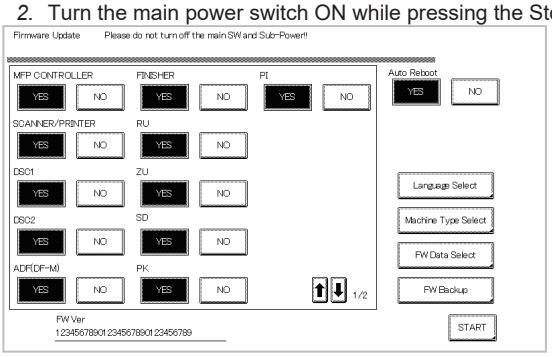


9. Remove the screw [1], and remove the storage board [2].
   NOTE
   - **When mounting the storage board, insert it obliquely.**

10. To reinstall, reverse the order of removal.

Actions after replacement of the board

1. Connect the USB memory containing the firmware into the USB port on the main body.
2. Turn the main power switch ON while pressing the Stop key.



3. A firmware update screen appears, touch [START] and start rewriting of the firmware.
4. After rewriting of the firmware is completed, the machine restarts automatically.



5. When the [Recover Data] appears on the screen, touch [Recover Data].
6. When the confirmation message appears, touch [Yes].

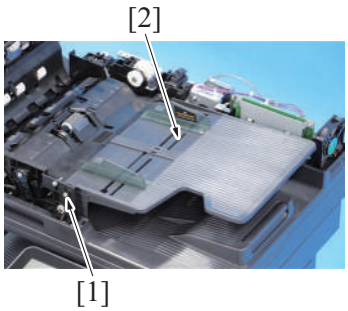
7. When the “Turn the main power switch OFF and ON” screen appears, turn OFF the main power switch and remover the USB memory.
8. Turn ON the main power switch.
9. After starting up the machine, check the firmware version in Service Mode.
10. If the firmware version is not the latest, upgrade the firmware.
11. If there is any data retrieved with backup utility, conduct the recovery of data.
12. Install movie data, voice data, font data and other data as necessary.

G MECHANICAL ADJUSTMENT

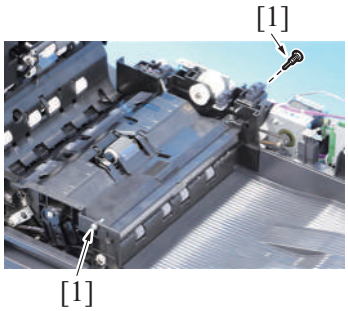
1. d-Color MF3303/MF3303en/MF4003/MF4003en

1.1 Adjusting CIS reading start position

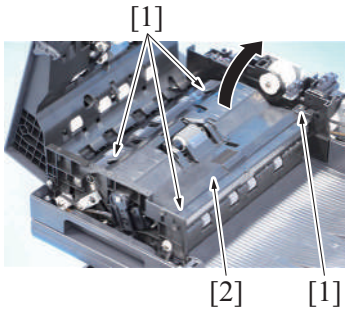
1. Remove the rear cover (ADF).
   F.4.1.10 Rear cover (ADF)
2. Remove the front cover (ADF).
   F.4.1.9 Front cover (ADF)



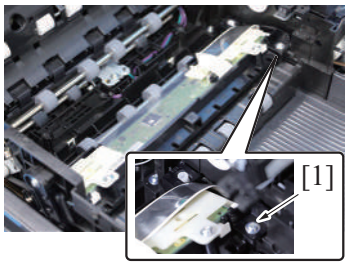
3. Remove the screw [1], and remove the document feed tray [2].



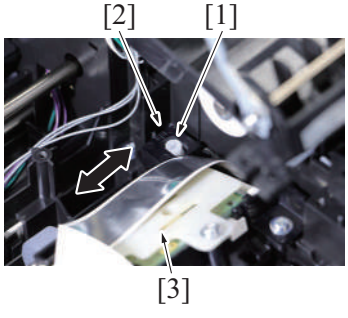
4. Remove two screws [1].



5. Remove four screws [1], and evacuate the DF lower guide assy [2].



6. Loosen the screw [1].

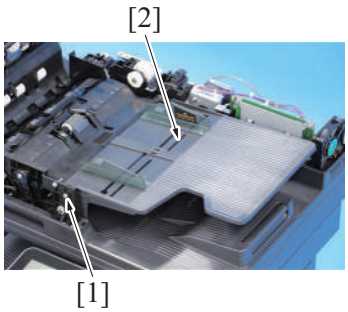


7. Rotate the adjustment screw [1], and slide the DF CIS module assy [3] while referring the graduation [2] to make adjustment.

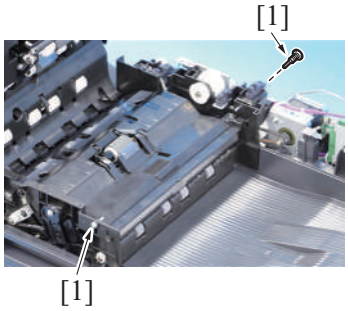
8. After completing the adjustment, tighten the screw loosened in step 6.

1.2 Skew Adj.

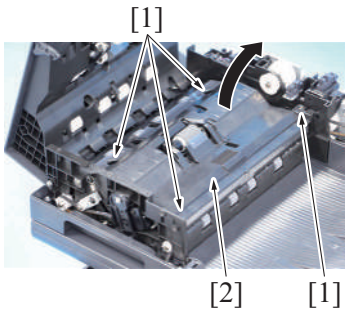
1. Remove the rear cover (ADF).
   F.4.1.10 Rear cover (ADF)
2. Remove the front cover (ADF).
   F.4.1.9 Front cover (ADF)



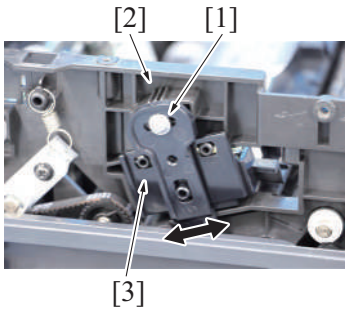
3. Remove the screw [1], and remove the document feed tray [2].



4. Remove two screws [1].



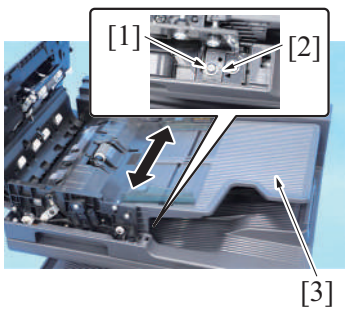
5. Remove four screws [1], and evacuate the DF lower guide assy [2].



6. Loosen the screw [1].
7. Slide the DF CIS module assy [3] while checking the graduation [2] to make adjustment.
8. After completing the adjustment, tighten the screw loosened in step 6.

1.3 Adjusting original reading start position

1. Remove the front cover (ADF).
   F.4.1.9 Front cover (ADF)



2. Loosen the screw [1].
3. Slide the document feed tray [3] while checking the graduation [2] to make adjustment.

4. After completing the adjustment, tighten the screw loosened in step 2.

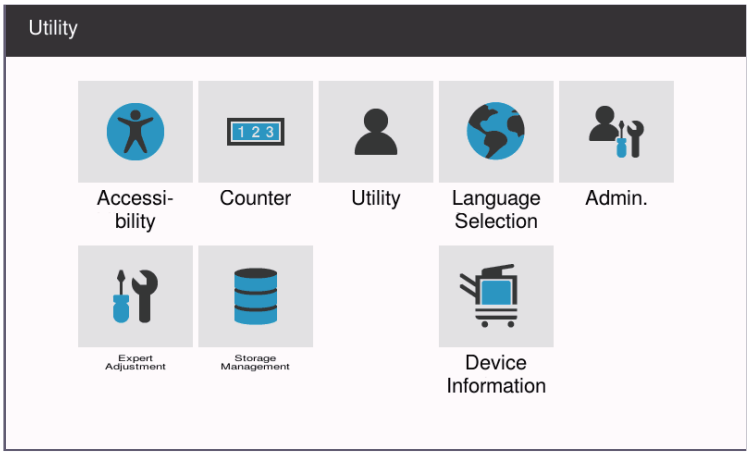
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H UTILITY MODE

1. Outline

NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**



Starting procedure

1. Touch [Utility] on the Home screen.
2. The Utility Mode screen will appear.

Exiting procedure

1. Touch the Home key.

2. Accessibility

Key name	Function/Precondition
Brightness Adjustment	-
Key Repeat Start/Interval Time	-
Default Enlarge Display Settings	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that “Key Counter IF vendor” or “Vendor 2” is mounted. It will be normally unselectable when [Administrator] -> [System Settings] -> [Reset Settings] -> [Job Reset] -> [Default Basic/Enlarge Display Common Setting] is set to “OFF.”
System Auto Reset Confirmation	-
Auto Reset Confirmation	-
Enlarge Display Mode Confirmation	-
Message Display Time	-
Color Reversal Screen Display Setting	-
Sound Setting	-
Voice Guidance Settings	It will be displayed when the voice data is installed, and [Administrator] -> [Voice Guidance Settings] is set to “ON.”
Double tap setting	-
Vibration setting	-

3. Counter

Key name	Function/Precondition
Copy	-
Print	-
Scan/Fax	-
Other	-
Eco Info	[Power Consumption] and [CO2 Emission] will not be displayed when [Service Mode] -> [System 2] -> [Display Eco Index] -> [Power Savings Display Level] is set to “OFF.”

4. Utility

4.1 Information

Key name	Function/Precondition	
Device Information	Consumables Information	-
	Virus scan information	To use this function, i-Option LK-116 is required.
Change User Password	• When conducting user authentication (MFP only), it will be displayed when the authentication is complete. • When conducting user authentication or account track input, it will be displayed when login is authenticated as user box administrator. • When [Password Rules] which can be displayed by [Administrator] -> [Security] -> [Security Details] is set to “Enable”, password using the single letter or the password same with the previous one, less than 8-digit will not be modified. • When [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON,” entering the incorrect password three times will cause access lock.	
Synchronize User Auth. and Account Track	• When conducting user authentication (ON (MFP), External Server Authentication, or Main + External Server), it will be displayed only when the authentication is complete. • It will be displayed when [Administrator] -> [User Authentication/Account Track] -> [Authentication Type] -> [Synchronize User Authentication / Account Track] is set to “Synchronize by User.”	
Function Permission Information	When conducting user authentication (ON (MFP), External Server Authentication, or Main + External Server), it will be displayed only when the authentication is complete.	
Network Setting Information	-	
Print Setting Information	Set as Default	-
	Font Information	-
	Macro List	-
	ICC Profile List	-
	PCL Setting	-
	PS Setting	-
	TIFF Setting	-
	Security Setting	-
	OOXML Print Settings	-
	Page Layout Settings	-
Print Information	-	
Change E-Mail Address	• When conducting user authentication (MFP only), it will be displayed when the authentication is complete. • It will be displayed when [Administrator] -> [Security] -> [Administrator Security Levels] is set to “Level 2.”	
Change PIN Code	It will be displayed when a user PIN code is set in [Administrator] -> [User Auth/Account Track] -> [User Authentication Setting] -> [User Registration].	
GPL Regulations	-	

4.2 System Settings

Key name	Function/Precondition	
Measurement Unit Setting	-	
Auto Tray Selection Settings	-	
Paper Tray Setting	Auto Tray Switch ON/OFF	-
	No Matching Paper in Tray Setting	-
Print Lists	• It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.” (It will be displayed when the key counter is mounted.)	
Auto Color Level Adjustment	-	
Power Settings	Low Power Mode Setting	• It will be displayed when setting other than “Restrict” is selected in [Administrator] -> [Security] -> [Administrator Security Levels]. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.” • The upper limit can be set up to 240 min. only when the switch number “157” is specified to “02” at HEX assignment by setting [Service Mode] -> [System 2] -> [Software Switch Setting].
	Sleep Mode Setting	
d-Color Remote Access Setting	This will be displayed when an Android tablet device is connected.	
AE Level Adjustment	• It will be displayed when [Administrator] -> [Security] -> [Administrator Security Levels] is set to “Level 2.”	

Key name	Function/Precondition	
	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.”	
Blank Page Print Settings	• It will be displayed when [Administrator] -> [Security] -> [Administrator Security Levels] is set to “Level 2.” • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.”	
Page Number Print Position	It will be displayed when [Administrator] -> [Security] -> [Administrator Security Levels] is set to “Level 2.”	
Select Keyboard	The type of keyboard to be displayed when [Local Keyboard] is selected depends on the language selected in [Utility] -> [Language Selection].	
Separate Scan from Platen	-	
Blank Sheet Detection Level	-	
Multi-Feed Detection Setting	It will be displayed when Double feed detection kit is mounted.	
Searchable PDF Setting	To use this function, i-Option LK-105 or i-Option LK-110 is required.	
Network TWAIN	TWAIN Lock Time	-
Left Panel Display Default	-	

4.3 Box

NOTE

- **In a machine where the user authentication function that uses an external server or MFP is set to ON, when you operate the machine without performing user authentication, this menu is not displayed.**
- **It will not be displayed is [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted.**

Key name	Function/Precondition		
User Box List	New Registration	Create User Box (Public/ Personal)	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.” (It will be displayed when the key counter is mounted.) • It will not be displayed due to functional restriction upon user authentication when [User Box] is set to “Restrict.” • It will not be displayed when [Administrator] -> [System Settings] -> [User Box Setting] -> [Allow/Restrict User Box] is set to “OFF.”
System User Box List	New Registration	Bulletin Board User Box	• It will be displayed when fax kit is mounted. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.” (It will be displayed when the key counter is mounted.) • It will not be displayed due to functional restriction upon user authentication when [User Box] is set to “Restrict.” • It will not be displayed when [Administrator] -> [System Settings] -> [User Box Setting] -> [Allow/Restrict User Box] is set to “OFF.” • It will not be displayed due to functional restriction upon user authentication when [Fax] is set to “Restrict.”
		Relay User Box	• It will be displayed when fax kit is mounted. • It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Relay] is set to “ON.” • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.” (It will be displayed when the key counter is mounted.) • It will not be displayed due to functional restriction upon user authentication when [User Box] is set to “Restrict.” • It will not be displayed when [Administrator] -> [System Settings] -> [User Box Setting] -> [Allow/Restrict User Box] is set to “OFF.”
		Annotation User Box	• It will be displayed when fax kit is mounted. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.” (It will be displayed when the key counter is mounted.) • It will not be displayed due to functional restriction upon user authentication when [User Box] is set to “Restrict.” • It will not be displayed when [Administrator] -> [System Settings] -> [User Box Setting] -> [Allow/Restrict User Box] is set to “OFF.” • When conducting user authentication, it will be displayed when the administrator authentication is complete.

4.4 Copier Settings

Key name	Function/Precondition	
Basic Setting	Auto Zoom for Combine/ Booklet	-
	Default Copy Settings	• It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted, and user authentication is not conducted. • This menu is not available when the key counter is set or when WARNING appears to inform that the vendor's main power switch needs to be checked or coins (a card) are not inserted under the condition where the "Vendor 2" is set in [Service Mode] -> [Billing Setting] -> [Management Function Choice].
	Default Enlarge Display Settings	-
	When AMS Direction is Incorrect	-
	Separate Scan Output Method	-
	Select Tray for Insert Sheet	-
	Booklet Shortcut Mode Setting	-
	Select Tray for Paper Insertion	-
	Auto Zoom (Platen)	It will be displayed when setting other than "Prohibit" is selected in [Administrator] -> [Security] -> [Administrator Security Levels].
	Auto Zoom (ADF)	It will be displayed when setting other than "Prohibit" is selected in [Administrator] -> [Security] -> [Administrator Security Levels].
	Specify Default Tray when APS Off	It will be displayed when setting other than "Prohibit" is selected in [Administrator] -> [Security] -> [Administrator Security Levels].
	Print Jobs During Copy Operation	It will be displayed when [Administrator] -> [Security] -> [Administrator Security Levels] is set to "Level 2."
Card Shot	Layout	-
	Zoom	-
	Store Original Size	-

4.5 Printer Settings

Key name	Function/Precondition	
Basic Setting	PDL Setting	-
	Image Quality Setting	-
	Edge Definition	-
	Paper Tray	-
	2-Sided Print	-
	Binding Position	-
	Number of Sets	-
	Paper Size	-
	Paper Type	-
	Original Direction	-
	Spool Print Jobs in HDD before RIP	-
	Banner Sheet Setting	-
	Banner Sheet Paper Tray	-
	A4/A3 <--> LTR/LGR Auto Switch	-
	Binding Direction Adjustment	-
	Line Width Adjustment (600 dpi)	-
	Line Width Adjustment (1200 dpi)	-
	Gray Background Text Correction	-
	Minimal Print	-
	OOXML Print Mode	-
	Gloss Mode	-
	Toner Save	-

Key name	Function/Precondition		
	Print/Fax Output	Print	• It will be displayed when setting other than “Restrict” is selected in [Administrator] -> [Security] -> [Administrator Security Levels]. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.”
		Fax	• It will be displayed when fax kit is mounted. • It will be displayed when setting other than “Restrict” is selected in [Administrator] -> [Security] -> [Administrator Security Levels]. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.”
PCL Setting	Select Color	-	
	Symbol Set	-	
	Font Settings	-	
	Font Size	-	
	Line/Page	Default setting value differs depending on the values set in [Utility] -> [Utility] -> [Printer Settings] -> [Basic Setting] -> [Original Direction] and [Paper Size].	
	CR/LF Mapping	-	
	Thin Line	-	
	Bar Code Font Settings	It is displayed when i-Option LK-106 is enabled.	
	Auto Trapping	-	
PS Setting	Select Color	-	
	PS Error Print	-	
	ICC Profile Settings	Photo - RGB Color	-
		Photo - Output Profile	-
		Text - RGB Color	-
		Text - Output Profile	-
		Figure/Table/Graph - RGB Color	-
		Figure/Table/Graph - Output Profile	-
		Simulation Profile	-
	Auto Trapping	-	
	Black Overprint	-	
TIFF Setting	Auto Paper Select	When “Auto” is selected and paper larger than the image size is not in the paper trays, paper size error occurs.	
Security Setting	Verify XPS/OOXML Digital Signature	-	
OOXML Print Settings	Sheet/Book Print	-	
	Paper Size	The paper size selected in [Service Mode] -> [System 1] -> [Foolscap Size Setting] is displayed.	
	Paper Type	-	
Page Layout Settings	-		

4.6 Store Address

NOTE

- **In a machine where the user authentication function that uses an external server or MFP is set to ON, when you operate the machine without performing user authentication, this menu is not displayed.**
- **It will not be displayed is [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted.**

Key name	Function/Precondition	
Address Book	E-mail Address	-
	FTP	-
	SMB	-
	WebDAV	-
	User Box	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the “Vendor 2” is mounted. (It will be displayed when the key counter is mounted.)
	Fax	-
	IP Address Fax	Setting will be available when [IP Address Fax Function Settings] in [Administrator] -> [Network] -> [Network Fax Setting] is set to “ON.”

Key name	Function/Precondition	
	Internet Fax	Setting will be available when [I-Fax Function Setting] in [Administrator] -> [Network Settings] -> [Network Fax Setting] is enabled.
Group	Destination Information	-
	Limiting Access to Destinations	-
Subject	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to "Management Device 2."	
Text		
Call Rejection Setting (Only for Japan)	Setting will be available when [Reject Calls] and [Number display] in [Service Mode] -> [FAX] -> [System] is set to "ON." It will be displayed when [Number Display Function] in [Administrator] -> [Fax Settings] -> [Function Setting] -> [Function ON/OFF Setting] is enabled.	

4.7 Scan/Fax Settings

Key name	Function/Precondition	
Basic Setting	JPEG Compression Method key	-
	Black Compression Level	-
	Compact PDF compression method	-
	Default Scan/Fax Settings	• It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted, and user authentication is not conducted. • This menu is not available when the key counter is set or when WARNING appears to inform that the vendor's main power switch needs to be checked or coins (a card) are not inserted under the condition where the "Vendor 2" is set in [Service Mode] -> [Billing Setting] -> [Management Function Choice].
	Color TIFF Type	-
	Auto Rename Function	-
	Distributed Scan PDF Settings	This displays when the following conditions are satisfied. • The authentication server type is set to Active Directory. • [Distributed Scan Settings] is set to [Use] in [Administrator] -> [Network]. • User allows scan operation.
	Distributed Scan XPS Settings	

4.8 Fax Settings

Key name	Function/Precondition
Fax Default Settings	• It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted, and user authentication is not conducted. • This menu is not available when the key counter is set or when WARNING appears to inform that the vendor's main power switch needs to be checked or coins (a card) are not inserted under the condition where the "Vendor 2" is set in [Service Mode] -> [Billing Setting] -> [Management Function Choice].

4.9 Customize

Key name	Function/Precondition	
Copier Settings	Basic Screen	-
	Quick Settings 1	When this setting is enabled, select the copy functions you wish to register.
	Quick Settings 2	
	Default Paper Type Display	This displays when a custom paper is registered.
Fax Settings	-	
Scan/Fax Settings	-	
Search Option Settings	-	
User Box Setting	Default Tab	-
	Shortcut Key 1	When this setting is set to ON, select auxiliary functions to get their shortcut keys displayed on the screen.
	Shortcut Key 2	
Active screen setting	Copy Operating Screen	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that "Key Counter Only" or "Vendor 2" is mounted. (However, this menu is available when the key counter is installed and [Service Mode] -> [Billing Setting] -> [Management Function Choice] -> [The next job reservation] is set to "License.")
	Fax Active Screen	• It will be displayed when fax kit is mounted. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that "Key Counter Only" or "Vendor 2" is mounted.

Key name	Function/Precondition	
	Animation Settings	-
	Accessibility Settings	-
	Paper jam release procedure display settings	-
Default Application Screen Type Setting	-	
Function Display Key	Copy/Print	This is not displayed when [Administrator] -> [System Settings] -> [Function Display Key Permission Setting] -> [Copy/Print] is turned OFF.
	Send/Save	This is not displayed when [Administrator] -> [System Settings] -> [Function Display Key Permission Setting] -> [Send/Save] is turned OFF.
	Fax Tx	

5. Language Selection

Key name	Function/Precondition
Language Selection Display	The language as a default depend on the marketing area set in [Marketing Area] available from [System 1] under Service Mode.
Panel Keyboard Language Selection	
External Keyboard Language Selection	

6. Administrator

6.1 Outline

NOTE

- **The Administrator Settings will be available by entering the administrator password (16 digits) set by the Administrator Settings or Service Mode. (The administrator password is initially set to "1234567812345678.")**
- **When [Administrator] -> [Security] -> [Enhanced Security Mode] is enabled, entering the incorrect administrator password three times will cause access lock. The access lock is released after the lapse of a predetermined period of time (Default setting: 5 min.) after the main power switch is turned OFF and then ON more than 10 seconds later. The access lock can be released by [Service Mode] -> [Enhanced Security] -> [Administrator unlocking].**

6.2 Maintenance

Key name	Function/Precondition		
Meter Count	-		
ROM Version	-		
Status Notification Setting	-		
Total Counter Notification Setting	-		
Date/Time Setting	Manual Setting	-	
	Time Adjustment Setting	When this setting is enabled, touch [Data Entry] and modify the time.	
Daylight Saving Time	When this setting is enabled, set the time difference to move up. • Default setting: 60 min. • Setting range: 1 to 150		
Timer Setting	Power Settings	Low Power Mode Setting	The upper limit can be set up to 240 min. only when the switch number "157" is specified to "02" at HEX assignment by setting [Service Mode] -> [System 2] -> [Software Switch Setting].
		Sleep Mode Setting	• When [Service Mode] -> [System 1] -> [Sleep ON/OFF Choice Setting] is set to "Permit", the setting to turn sleep on and off displays and becomes selectable. • The upper limit can be set up to 240 min. only when the switch number "157" is specified to "02" at HEX assignment by setting [Service Mode] -> [System 2] -> [Software Switch Setting].
		Power Consumption in Sleep Mode	It will not be displayed when image controller is mounted.
		Power Save Settings	-
		Enter Power Save Mode	-
		Power Key Setting	• It will not be displayed when image controller is mounted. • In ErP auto power OFF mode, this machine cannot receive data or faxes, and also it cannot scan or print an original.
		Power Saving Fax/Scan	This function is available when the option other than "Copy" is selected in [Administrator] -> [System Settings] -> [Reset Settings] -> [System auto reset] -> [Start-up display screen after reset].
		Awake from Power Save Mode by Touching Control Panel	-
	Weekly Timer Settings	Use Weekly Timer	-
		Use Power Save	When "Yes" is selected, using the 10-key pad, input the Power Save Start Time and Power Save End Time.
		Use Overtime Password	When the setting is enabled, enter the password (eight digits).
		Enable Tracking Function	-
		Work Time Setting	-
Network Error Code Display Setting	-		
License Settings	Get Request Code	-	

Key name	Function/Precondition	
	Install License	• By making settings in [Service Mode] -> [Billing Setting], CE can also activate functions provided by i-Option. • When activating i-Option, MFP accesses to OLI license server via WebDAV connection. Set the proxy server setting in [Administrator] -> [Network] -> [WebDAV Settings] -> [Proxy Setting for Remote Access] as occasion demands. • For accessing to OLI license server, it is necessary to select [Fixed Address] in [Service Mode] -> [Billing Setting] -> [WebDAV Server Setting]. • For details of the functions, refer to " H.12.1.1 License Settings."
	List of Enabled Functions	This appears if there are activated functions.
	Install license from USB flash drive	-
Authorization function Setting	Install License	-
	Install license from USB flash drive	-
	Authorization function list display	This appears if there are authorized functions.
Backup Setting Information	-	
User Box Document Backup	-	
PING TX Address	-	
USB flash drive backup	• It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.72 is set to [00000100] at Bit assignment/[04] at HEX assignment. • For details of the functions, refer to " H.12.1.2 USB flash drive backup."	
Call Remote Center	For details of the functions, refer to " I.8.1 Remote Care."	
Remote Access Setting	• This displays when using the CS Remote Care system. • For details of the functions, refer to " H.12.1.3 Remote Access Setting."	

6.3 System Settings

6.3.1 Machine Setting

Key name	Function/Precondition
Device Location	-
Administrator Registration	-
Input Machine Address	-

6.3.2 Register Support Information

Key name	Function/Precondition
Register Support Information	-

6.3.3 Def. operation mode set.

Key name	Function/Precondition
Def. operation mode set.	-

6.3.4 Reset Settings

Key name	Function/Precondition		
Job Reset	Default Basic/Enlarge Display Common Setting	-	
	When Account is changed	It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted.	
	When original is set on ADF	-	
	Next Job	Staple Setting	-
		Original Set/Bind Direction	-
		Reset Data After Job	-
System auto reset	• [System Auto Reset Time] will not be displayed when [Low Power Mode Setting] or [Sleep Mode Setting] is set to “1 Minute.” • The screen saver function displays when the screen saver application is registered.		
Auto Reset	-		

6.3.5 User Box Setting

Key name	Function/Precondition
Delete Unused User Box	-
Delete Secure Print File	-

Key name	Function/Precondition	
Delete Time Setting	Auto Delete Secure Document	-
	Encrypted PDF Delete Time Setting	-
Document Delete Time Setting	-	
Document in MFP Shared Folder Delete Time Setting	This is displayed when [Administrator] -> [Network] -> [SMB Setting] -> [SMB Server Settings] -> [Share SMB File Setting] is enabled.	
Delete all in SMB folder		
Document Hold Setting	-	
USB flash drive function settings	-	
User Box Operation	-	
ID & Print Delete Time	-	
Security Document Setting	-	
Delete PIN Print document	-	
PIN Print doc.Del.time set.	-	

6.3.6 URL Document Management Setting

Key name	Function/Precondition
URL Document Delete Time Setting	-
URL Delete Document	-

6.3.7 Standard Size Setting

Key name	Function/Precondition
Original Glass Original Size Detect	It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to “Level 2.”
Foolscap Size Setting	

6.3.8 Stamp Settings

Key name	Function/Precondition
Header/Footer Registration	-
Fax TX Settings	-

6.3.9 Blank Page Print Settings

Key name	Function/Precondition
Blank Page Print Settings	-

6.3.10 Job Priority Operation Settings

Key name	Function/Precondition
Fax RX Job Priority	-
Skip Job (Fax)	-
Skip Job (Copy, Print)	-

6.3.11 System Connection Setting

Key name	Function/Precondition		
System Connection Setting	-		
Mobile Connection Settings	Simple Connection Setting	QR Code Display Setting	-
		Enable NFC	This setting is synchronized with [Administrator] - [User Auth/Account Track] -> [Authentication Type] -> [Enable NFC].
		Enable Bluetooth LE	• It will be displayed when the optional local interface kit (voice guidance/Bluetooth LE enabled) is mounted. • This setting is synchronized with [Administrator] - [User Auth/Account Track] -> [Enable Bluetooth LE].
	Wireless Connection Setting	When [Administrator] -> [Network Settings] -> [Network I/F Configuration] is set to [Wireless Only], a pairing is established by applying the wireless settings of this machine; therefore, this setting is not displayed.	
	Touch Connection Link Application Settings	-	

6.3.12 Compact PDF Settings

Key name	Function/Precondition
Compact PDF Settings	-

6.3.13 Outline PDF Setting

Key name	Function/Precondition
Outline PDF Setting	-

6.3.14 Scan File Name Settings

Key name	Function/Precondition
Function Mode Initial	-
Supplementary File Name	-

6.3.15 Set Paper Name by User

Key name	Function/Precondition
Set Paper Name by User	-
Edit Paper Name	It will be displayed when Set Paper Name by User is enabled.

6.3.16 Enlarge Display Settings

Key name	Function/Precondition
Default Enlarge Display Setting	-
Enlarge Display Setting	-
Apply Basic Setting to Enlarge Display	-

6.3.17 Registered Key Settings

Key name	Function/Precondition
Registered Key 1	-
Registered Key 2	-
Registered Key 3	-
Registered Key 4	-
Registered Key 5	-

6.3.18 Main Menu Display Settings

Key name	Function/Precondition
Main Menu Display Settings	-

6.3.19 Preview Settings

Key name	Function/Precondition
Realtime Preview	-
Set key Initial display	-
Original direction Setting	-
Preview Display Conditions (Standard Application)	-
Preview Display Conditions (Registered Application)	-

6.3.20 List/Counter

Key name	Function/Precondition
Meter Count and Device Confirmation Tx Settings	• The counter information is collected via CS Remote Care. • Though this setting is enabled, the information is not sent if [Service Mode] -> [System 2] -> [Acquiring Settings] is set to “OFF.”
Management List	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to “Vendor 2.” (It will be displayed when the Key Counter is mounted when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.33 is set to [00000001] at Bit assignment/[01] at HEX assignment.)
Paper Size/Type Counter	-
Meter Counter List	Setting will be available when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that “Management device 2” or “Vendor 2” is mounted.
Check Consumables List	
TX Operation Log Output	This is displayed when [Administrator] -> [Security] -> [TX Operation Log Setting] is set to “On.”

6.3.21 Custom Function Pattern Selection

Key name	Function/Precondition
Custom Function Pattern Selection	When a custom function pattern is registered or imported in [Service Mode] -> [System 2] -> [Custom Pattern], the pattern ([Custom Pattern 1] to [Custom Pattern 3]) also can be selected.

6.3.22 Function Display Key Permission Setting

Key name	Function/Precondition	
Function Display Key Permission Setting	Copy/Print	When the setting is enabled, [Copy/Print] will be displayed in [Utility] -> [Customize] -> [Function Display Key] and you can configure the setting.
	Send/Save	• When the setting is enabled, [Send/Save] will be displayed in [Utility] -> [Customize] -> [Function Display Key] and you can configure the setting. • When the setting is enabled, [Fax Tx] will be displayed in [Utility] -> [Customize] -> [Function Display Key] and you can configure the setting.

6.3.23 Temporary Change Language

Key name	Function/Precondition
Temporary Change Language	The temporarily enabled language is returned to the language configured in [User Settings] after any of the following operations. • Main power switch OFF • Power key OFF • Sleep mode • Low power mode • System Auto Reset • Logout

6.3.24 Main Menu Default (Classic Style)

Key name	Function/Precondition
Main Menu Default (Classic Style)List	-

6.3.25 Main Menu Default (Basic Style)

Key name	Function/Precondition
Main Menu Default (Basic Style)List	-

6.3.26 Display 10 Keypad when entering Number of Sets

Key name	Function/Precondition
Display 10 Keypad when entering Number of Sets	-

6.3.27 Widget Function Settings

Key name	Function/Precondition
Widget Function Settings	-

6.3.28 Bypass Tray Overwrite Settings for Print PC

Key name	Function/Precondition
Bypass Tray Overwrite Settings for Print PC	-

6.3.29 Network Selection Settings

Key name	Function/Precondition	
Network Selection Settings	Default Network Settings	It will be displayed when [Administrator] -> [Network] -> [VLAN Settings] is enabled.
	Network Name Change	

6.3.30 Job History Display Setting

Key name	Function/Precondition
Communication history sort method	-

6.3.31 Default Bypass Paper Type Setting

Key name	Function/Precondition
Default Bypass Paper Type Setting	-

6.3.32 Page Number Print Position

Key name	Function/Precondition
Page Number Print Position	-

6.3.33 ADF original skew adj.setting

Key name	Function/Precondition
ADF original skew adj.setting	It will be displayed when the ADF is installed.

6.3.34 Paper Size/Type Settings Screen Display

Key name	Function/Precondition
Paper Size/Type Settings Screen Display	-

6.3.35 OpenAPI and IWS application display setting

Key name	Function/Precondition
OpenAPI and IWS application display setting	-

6.4 Security

Key name	Function/Precondition	
Certificate Verification Settings	-	
Limiting Access to Destinations	-	
Restrict User Access	Registering and Changing Addresses	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the “Vendor 2” is mounted. • If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON,” selecting [Allow] for [Registering and Changing Addresses] cancels enhanced security mode. • The [Biometric/IC Card Information Registration] key displays if [Authentication Device2] is mounted via [Service Mode] -> [Billing Setting], and [Administrator] -> [User Auth/Account Track] -> [Authentication Type] -> [User Authentication] is set to “ON (MFP).” • The [Synchronize User Authentication / Account Track By User] key displays when [Administrator] -> [User Auth/Account Track] -> [Authentication Type] -> [Synchronize User Authentication / Account Track] is set to “Synchronize by User.”
	Biometric/IC Card Information Registration	
	Changing the “From” Address	
	Using the Program Function	
	Synchronize User Authentication / Account Track By User	
	Restrict Program Function Setting	
	Multiple Addresses Restriction Setting	
	Add Dest. Button	
	Select All Groups	
	Changing Job Priority	
	Delete Other User Jobs	
	Changing Zoom Ratio	
	Change Registered Overlay	
Copy security	It will be displayed when the security kit is mounted.	
Administrator Password Setting	When [Administrator] -> [Security] -> [Security Details] -> [Password Rules] is enabled, the following passwords cannot be accepted: password of single repeated characters, password same as the one before being changed, and password where the number of characters is less than the minimum number specified in [Set Minimum Password Length].	
Copy Program Lock Settings	-	
Lock “My Settings” item (Copy)	-	
Delete Saved Copy Program	-	
Administrator Password Change Permission Setting	-	
User Box Administrator Setting	It will be displayed when carrying out the user authentication as well account track.	
Administrator Security Levels	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the “Vendor 2” is mounted.	
TX Operation Log Setting	To print the saved sending operation logs or save them in USB memory, select [Administrator] -> [System Settings] -> [List/Counter] -> [TX Operation Log Output].	
Security Details	Password Rules	• This setting cannot be enabled when [Service Mode] -> [Enhanced Security] -> [CE Authentication] is set to “OFF.” “OFF” cannot be set for [CE Authentication] when [Password Rules] is enabled.

Key name	Function/Precondition	
		• If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON,” disabling this setting cancels enhanced security mode. • When the password rule is enabled, the password cannot be changed or registered unless it follows the above conditions.
	Authentication attack detection	-
	ProhibitFunctions	• If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON,” selecting “Mode1” in this setting cancels enhanced security mode. Only the number of times for trials up to the access lock can be changed. • For details of the functions, refer to " H.12.3.1 ProhibitFunctions."
	Confidential Document Access Method	It cannot be changed at the operator’s option since it will automatically be set according to the [ProhibitFunctions] setting. • It will be set to “Mode 1” when [ProhibitFunctions] is set to “Mode1.” • It will be set to “Mode 2” when [ProhibitFunctions] is set to “Mode2.”
	Manual Destination Input	-
	Print Data Capture	• To be used when carrying out [Service Mode] -> [System 2] -> [Data Capture]. • If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON,” enabling this setting cancels enhanced security mode.
	Restrict Fax TX	-
	Address Selection Confirmation Display	It will be displayed when [Administrator] -> [Security] -> [Restrict User Access] -> [Multiple Addresses Restriction Setting] is set to “OFF.”
	Personal Data Security Settings	-
	Initialize	-
	Secure Print Only	-
	Web browser contents access	• It will be displayed when an extended function of the web browser via OpenAPI application is enabled. • When using the application where server authentication is carried out by web browser extensions, [Allow] is automatically selected.
	Export Debug Log	• This is displayed when Switch No. “155” is set to “01” in HEX Assignment in [Service Mode] -> [System 2] -> [Software Switch Setting]. • Use: To select whether or not allow CE to export debug information (logs) from the MFP to use the information to analyze problem in the MFP. • Default setting: Restrict
	Remote Service setting	When “Allow” is selected, [Administrator] -> [Network] -> [Machine Update Settings] -> [Machine Auto Update Settings] -> [Auto Update Settings for This Machine] will not be displayed.
	Web browser setting change	It will be displayed when “ON” is selected in [Administrator] -> [Network] -> [Web Browser Setting] -> [Web Browser Setting].
	Maintenance Mode Access	To “Allow” Maintenance Mode Access, set [Service Mode] -> [System 2] -> [Maintenance Mode] to “Effective.”
	Write the Configuration from USB	-
	Storage data backup	• To set whether to permit our service representative to back up or restore the storage on this machine. • For details of the functions, refer to [Service Mode] -> [Enhanced Security] -> [Storage Data Backup].
	Display Activity Log	-
Quick Security Setting	For details of the functions, refer to " H.12.3.5 Quick Security Setting."	
USB port connection permission setting	If “Restrict” is selected in [External Memory (Administrator)], [TPM Key Backup] is restricted in addition to the functions that can be set in [ON]. Also, USB memory is not available for the following functions. • [TX Operation Log Output], [Main Menu Display Settings], [License Settings], [Authorization function Setting], [USB flash drive backup - Export], [BootUp Screen]	
Enhanced Security Mode	For details of the functions, refer to " H.12.3.2 Enhanced Security Mode."	
Function Management Settings	Maximum Job Allowance	It will be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that “Vendor 2” is mounted.
	Network Function Settings	This setting is set to “OFF” when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that “Vendor 2” or “Management Device 2” is mounted. Exercise caution since it will stay in “OFF” setting even when “unset” is selected on “Vendor 2” or “Management Device 2” setting in Service Mode later.
Stamp Settings	-	
FW Update (USB) Permission Setting	-	
Image Log Transfer Settings	• This is displayed when Switch No. “63” is set to “01: Type 1” or “02: Type 2” in HEX Assignment in [Service Mode] -> [System 2] -> [Software Switch Setting]. • For details of the functions, refer to " H.12.3.3 Image Log Transfer Settings."	

Key name	Function/Precondition
Driver Password Encryption Setting	For details of the functions, refer to " H.12.3.4 Driver Password Encryption Setting."
FIPS Settings	-
TPM Setting	To use this function, i-Option LK-115 is required.
Job Log Settings	-
OpenAPI Certification Management Setting	These are communication settings for the application which is developed by the third vendor. Do not set or change these settings without vendor's instructions.
Virus scan settings	To use this function, i-Option LK-116 is required.
Delete Data Backup	-
FW Update (Network) Perm. Sett.	-
Secure Boot Function Set.	Not used
User box usage restriction	-

6.5 User Auth/Account Track

NOTE

- **It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that "Key Counter Only" or "Vendor 2" is mounted.**
- **Before registering a user, select an authentication method. If all management data is cleared after the authentication method was selected, the histories of the registered users, print, send, receive, and save jobs are deleted.**

Key name	Function/Precondition		
Authentication Type	User Authentication	If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to "ON," selecting "OFF" cancels enhanced security mode.	
	Update Billing Information	-	
	Default Authentication Method	• [ON (External Server)] cannot be selected when external servers are not registered in [Administrator] -> [User Auth/Account Track] -> [External Server Settings]. • [ON (External Server)] cannot be selected when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to "Management Device 2."	
	Public User Access	• This setting is not available without user authentication. • If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to "ON," selecting "ON" cancels enhanced security mode.	
	Ticket Hold Time Setting (Active Directory)	This setting takes effect only when the authentication server type is set to active directory.	
	Account Track	-	
	Account Track Input Method	• This setting is not available without the account track. • "Password Only" cannot be set when using both user authentication and account track.	
	Synchronize User Authentication / Account Track	The setting is available only when carrying out the user authentication and account track.	
	Number of Counters Assigned	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to "Management Device 2." • The setting is available only when carrying out the user authentication and account track.	
	When Number of Jobs Reach Maximum	-	
	Enable NFC	This setting is synchronized with [Administrator] -> [System Settings] -> [System Connection Setting] -> [Mobile Connection Settings] -> [Simple Connection Setting] -> [Enable NFC].	
	Enable Bluetooth LE	• It will be displayed when the optional local interface kit (voice guidance/ Bluetooth LE enabled) is mounted. • This setting is synchronized with [Administrator] -> [System Settings] -> [System Connection Setting] -> [Mobile Connection Settings] -> [Simple Connection Setting] -> [Enable Bluetooth LE].	
	External Server DN Cache	-	
	Extended User DB	-	
	External Authentication server setting	Temporarily Save Authentication Information	-
		Overwrite User Info	• When the external server authentication is used, authenticated user information is also managed on this machine. If the number of users who have executed the external server authentication reaches the maximum number of users this machine can manage, authentication

Key name	Function/Precondition		
			of any new users will not be permitted. If you select “Allow,” the oldest authenticated user information is erased and the new user is registered. • If [Enhanced Server Authentication] or [Main + Enhanced Server] is selected with [Authentication Method], “Allow” is specified forcibly.
User Authentication Setting	User Registration	• It cannot be entered when conducting authentication by external server. • [Register Auth. Info.] does not appear when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted. • [Custom Function Profile by User] does not appear when [Administrator] -> [System Settings] -> [Custom Function Profile User/Account] is set to “OFF.” • [Synchronize Account Track] does not appear when [Administrator] -> [User Auth/Account Track] -> [Authentication Type] -> [Synchronize User Authentication / Account Track] is unset to “Synchronize by User.”	
	Default Function Permission	This setting is not available without user authentication.	
	Public User	It will be displayed when Public User Access is set to “ON” in [Administrator] -> [User Auth/Account Track] -> [Authentication Type].	
	Administrative Setting	ID & Print Settings	This setting is not available without user authentication.
		Change to Basic Screen after ID & Print	• This setting is not available without user authentication. • It will be displayed when [Service Mode] -> [Billing Setting] shows [Authentication Device2] is mounted.
		Auth. Operation Setting when print Documents are Stored	-
		Login Allowed with Administrative Rights	-
		User Name List	• This setting is not available without user authentication. • If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON,” selecting “ON” cancels enhanced security mode.
		Default Browser Settings	-
	User Counter	-	
Account Track Settings	Account Track Registration	• When the “Password Only” is selected for [Account Track Input Method], [Account Name] does not appear. • When the “Account Name & Password” is selected for [Account Track Input Method], [Name] does not appear. • [Custom Function Profile by Account] does not appear when [Administrator] -> [System Settings] -> [Custom Function Profile User/Account] is unset to “ON.”	
	Account Track Counter	-	
Prohibited Function Login Setting	-		
Print without Authentication	If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON,” selecting “allow” cancels enhanced security mode.		
Simple Authentication setting	-		
LDAP-IC Card Authentication Setting	• It will be displayed when [Service Mode] -> [Billing Setting] shows that the authentication device 2 is mounted. • When [Administrator] -> [User Auth/Account Track] -> [Authentication Type] -> [User Authentication] is set to [ON (External Server)] or [ON (MFP + External Server)], this function is available.		
Print Counter List	• The setting is available only when carrying out the user authentication or account track. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that “Key Counter Only,” “Vendor 2” or “Management Device 2” is mounted.		
External Server Settings	• Neither [NTLM v1] nor [NTLM v2] appear when “OFF” is selected in [Administrator] -> [Network] -> [SMB Setting] -> [Client Setting] -> [User Authentication (NTLM)].		
Authentication Device Settings	• It will be displayed when [Service Mode] -> [Billing Setting] shows [Authentication Device2] is mounted. • It will be displayed when [Administrator] -> [Network] -> [IWS Settings] is set to “ON.” • For details of the functions, refer to “ H.12.4.1 Authentication Device Settings.”		
Public User Box Setting	Set the maximum number of User Boxes	• If the maximum number of user boxes is set to “0”, you cannot create new ones. • If the selected user has already created three user boxes, for example, you can set the number of user boxes within the range of 3 to 1000.	

Key name	Function/Precondition	
User/Account Common Setting	-	
Scan to Home Settings	-	
URL display enable setting	-	
Scan to Authorized Folder Settings	-	
Max. Allowance Setting when Enhanced Server down	It will be displayed when [Administrator] -> [User Auth/Account Track] -> [Authentication Type] -> [External Authentication server setting] -> [Temporarily Save Authentication Information] is set to “Enable.”	
Authentication Server Connection status	External Server Authentication	When [Administrator] -> [User Auth/Account Track] -> [Authentication Type] -> [User Authentication] is set to “ON (External Server)”, this function is available.
Self-Verification Setting in AD Authentication	If you change [Host Name] or [Domain Name] while Active Directory's single sign-on is enabled on this machine, [Administrator] -> [Network] -> [Single Sign-On Setting] -> [Domain Login Setting] is changed to “OFF.”	

6.6 Network

Key name		Function/Precondition	
VLAN Settings	VLAN ID Settings	-	
TCP/IP Setting	TCP/IP Setting1	Wired Setting (*1)	-
		Wireless Setting (*1)	-
	TCP/IP Setting2	-	
	Filtering Type	-	
	IP Address Filtering	Setting will be available when [Administrator] -> [Network] -> [TCP/IP Setting] -> [Filtering Type] is set to “IP Address Filtering.”	
	Quick IP Filtering	Setting will be available when [Administrator] -> [Network] -> [TCP/IP Setting] -> [Filtering Type] is set to “Quick IP Filtering.”	
	Packet Filtering	Setting will be available when [Administrator] -> [Network] -> [TCP/IP Setting] -> [Filtering Type] is set to “Packet Filtering.”	
	IPsec	-	
E-mail Setting		E-mail RX (POP)	• It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted.
		E-mail TX (SMTP)	• It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted. • When [SMTP Authentication] is set to “ON,” enter the [User ID], [Password], [Domain Name], [Authentication Setting], and [SMTP Authentication Method].
		S/MIME Communication Settings	It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted.
		E-mail RX Print	• It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted. • [E-Mail Body Print] displays only when Switch No. “152” is set to “01” in HEX Assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].
FTP Setting		FTP TX Setting	-
SNMP Setting		• It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted. • If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON,” enabling [SNMP v1/v2 Setting] cancels enhanced security mode. • If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON,” setting [Security Level] to “OFF” cancels enhanced security mode.	
SMB Setting		WINS/NetBIOS Settings	It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted.
		Client Setting	• It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted. • Select “ON” for [DFS Setting] when using SMB transmission under an environment that uses a distributed file system (DFS).
		SMB Server Settings	It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted.
		SMB Browsing setting	
DPWS Settings		-	
Distributed Scan Function Settings		• It will be displayed when [Administrator] -> [Network] -> [DPWS Settings] -> [Scanner Settings] is set to “ON.” • It will be displayed when [Administrator] -> [Network] -> [DPWS Settings] -> [Printer Settings] is set to “ON.”	
Bonjour Setting		-	
Network Fax Setting		SMTP TX Setting	-

Key name	Function/Precondition		
	SMTP RX Setting		-
	Network Fax Setting	IP Address Fax Function Settings	• This setting is available when [IP Address Fax] or [Internet Fax] is set to “ON” from [Service Mode] -> [System 2] -> [Network Fax Settings]. • For details of the functions, refer to " H.12.5.1 Network Fax Setting."
		I-Fax Function Setting	
		IP-FAX (T38) Detail Setting	• The main body is required to be provided with the i-Option LK-117. • The main body is required to be provided with the IP Fax (SIP) libraries. • For details of the functions, refer to " H.12.5.1 Network Fax Setting."
WebDAV Settings	WebDAV Client Settings		-
	WebDAV Server Settings		• If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON,” setting [SSL Setting] to “SSL Only” cancels enhanced security mode. • Press [Initial Password] under [Password Setting] to initialize the password. (Default password: sysadm)
	Proxy Setting for Remote Access		To configure the settings of the proxy server used when MFP accesses to OLI license server via WebDAV connection from [Administrator] -> [License Settings] -> [Install License] (WebDAV connection) or [Service Mode] -> [Billing Setting] to activate i-Option function.
OpenAPI Setting	[Specified Application Start Setting] will be displayed when [Service Mode] -> [System 2] -> [Application Change Setting] is set to “Permit.”		
TCP Socket Setting	-		
IEEE802.1X Authentication Setting	IEEE802.1X Authentication Setting		IEEE802.1X authentication settings are made with Web Connection.
	IEEE802.1X Setting		It will be displayed when [Administrator] -> [Network] -> [Network I/F Configuration] is set to “Wireless Only.”
	IEEE802.1X Authentication Trial		-
LLTD Setting	-		
BMLinkS Settings (Only for Japan)	-		
SSDP Settings	-		
Web Browser Setting	To enable the Web browser function, this machine is automatically connected to the License Management Server (LMS) on the Internet in order to register the license. Check that this machine can be connected to the Internet before beginning this procedure.		
Single Sign-On Setting	When [Administrator] -> [User Auth/Account Track] -> [Authentication Type] -> [User Authentication] is set to [ON (External Server)] or [ON (MFP + External Server)], this function is available.		
IWS Settings	For details of the functions, refer to “ H.12.5.2 IWS Settings.”		
Machine Update Settings	Internet ISW Settings	FTP Server Setting	• This is displayed when [Function Setting] is set to “ON” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • This is displayed when [FTP data acquisition setting] is set to “ON” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [FTP Setting]. • For details of the functions, refer to “ H.12.6.1 Internet ISW Settings.”
		Update Firmware at Specified Time	• This is displayed when [Function Setting] is set to “ON” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • This is displayed when [Open Mode Settings] is set to “Set” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • For details of the functions, refer to “ H.12.6.1 Internet ISW Settings.”
		Firmware Update Parameters	• This is displayed when [Function Setting] is set to “ON” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • This is displayed when [Open Mode Settings] is set to “Set” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • To download the firmware, in addition to the necessary proxy settings configured in [FTP Server Settings], you need to configure appropriate settings in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [HTTP Setting], [FTP Setting], and [Forwarding Access Setting]. • For details of the functions, refer to “ H.12.6.1 Internet ISW Settings.”
	Machine Auto Update Settings		• This is displayed when [Function Setting] is set to “ON” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • This function is same as that of the service mode, but it will not be used together with the function of the service mode. • For details of the functions, refer to “ H.12.6.2 Machine Auto Update Settings.”

Key name	Function/Precondition	
	HTTP Proxy Settings	For details of the functions, refer to " H.12.6.3 HTTP Proxy Settings."
Remote Panel Settings	• This is not displayed when [Service Mode] -> [Enhanced Security] -> [CE Authentication] is set to "OFF." • For details of the functions, refer to " H.12.5.3 Remote Panel Settings."	
d-Color Remote Access Setting	• To remote-control the Control Panel of this machine using an Android/iOS terminal, you need to install Remote Access on the Android/iOS terminal. Also, [TCP Socket] must be set to "ON" for [Administrator] -> [Network] -> [TCP Socket Setting]. • To connect the device to this machine through d-Color Remote Access using NFC, configure a setting to enable NFC on this machine in advance. • To connect the device to this machine through d-Color Remote Access using Bluetooth LE, configure a setting to enable Bluetooth LE on this machine in advance.	
Network I/F Configuration (*1)	For details of the functions, refer to " H.12.5.4 Network I/F Configuration."	
Wireless Network Setting (*1)	For details of the functions, refer to " H.12.5.5 Wireless Network Setting."	
Domain Send Operation Restriction Setting	-	
HTTP Server Settings	• It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted. • To use the Web Connection, enable "JavaScript" and "Cookie" of the Web browser. If this machine is connected to the internet via a proxy server, register the Proxy Settings of the Web browser as "Exceptions." When the Web Connection is not displayed properly even if the above settings have been conducted, delete the cache of the Web browser.	
MAC Address	-	
Network Settings List	-	
Awake from ErP	-	

- *1: It will be displayed when optional wireless LAN devices are mounted.

6.7 Box

Key name	Function/Precondition		
User Box List	New Registration	Create User Box (Public/ Personal)	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to "Vendor 2." (It will be displayed when the key counter is mounted.)
System User Box List	New Registration	Bulletin Board User Box	• It will be displayed when fax kit is mounted. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to "Vendor 2." (It will be displayed when the key counter is mounted.)
		Relay User Box	• It will be displayed when fax kit is mounted. • It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Relay] is set to "ON." • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to "Vendor 2." (It will be displayed when the key counter is mounted.)
		Annotation User Box	• It will be displayed when fax kit is mounted. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to "Vendor 2." (It will be displayed when the key counter is mounted.)

6.8 Printer Settings

Key name	Function/Precondition		
Basic Setting	Print/Fax Output	Print	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the "Vendor 2" is mounted.
		Fax	• It will be displayed when fax kit is mounted. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] is set to "Vendor 2."
PCL Setting	Brightness	-	
	Contrast	-	
	Saturation	-	
	Color Balance	-	
PS Setting	Brightness	-	
	Contrast	-	
	Saturation	-	
	Color Balance	-	
Security Setting	Print XPS/OOXML Errors	-	

Key name	Function/Precondition	
Interface Setting	Network Timeout	-
	USB Timeout	-
Assign Account to Acquire Device Info	-	
Direct Print Settings	PDF print settings	-

6.9 Fax Settings

NOTE

- **It will be displayed when fax kit is mounted.**

6.9.1 Header/Footer Position

Key name	Function/Precondition
Header Position	“OFF” cannot be used on the USA and Hong Kong models.
TTI Print Position and Character Size	-
Print Receiver’s Name	This setting is not available on the USA and Hong Kong models.
Footer Position	-

6.9.2 Line Parameter Setting

Key name	Function/Precondition
Dialing Method	-
Receive Mode	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that “Management Device 2” is mounted.
Number of RX Call Rings (Receive Time Interval Setting)	When [Service Mode] -> [FAX] -> [Network] -> [Network Setting 1] -> [Receive Signal Detection Mode] is set to “Time”, [Receive Time Interval Setting] will be displayed.
Number of Redials	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the “Vendor 2” is mounted.
Redial Interval	
Manual RX V34 Setting	-
TEL/FAX Auto Switch (Only for Japan)	-
External Phone Call Monitor Sound (Only for Japan)	It will be displayed when [Administrator] -> [Fax Settings] -> [Line Parameter Setting] -> [TEL/FAX Auto Switch] is set to “ON.”
External Phone Call Time (Only for Japan)	
Audio Recognition Setting (Only for Japan)	
External Phone Disconnection (Only for Japan)	-
Answering Machine Connection Settings (Only for Japan)	-
Line Monitor Sound	-
Line Monitor Sound Volume (Send)	-
Line Monitor Sound Volume (Receive)	-
Pause Time	-
Ring Detection Pattern	This setting is available only on the New Zealand model.

6.9.3 TX/RX Settings

Key name	Function/Precondition
Duplex Print (RX)	It will not be displayed when [Administrator] -> [Fax Settings] -> [TX/RX Settings] -> [Print Separate Fax Pages] is set to “ON.”
Letter/Ledger over A4/A3	-
Print Paper Selection	-
Print Paper Size	To make the setting of Print Paper Size enable, set [Administrator] -> [Fax Settings] -> [TX/RX Settings] -> [Paper Tray Setting] to “Auto.”
Incorrect User Box No. Entry	-
RX from Rejected Fax No. (Only for Japan)	• It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Reject Calls] is set to “ON.” • [Administrator] -> [Fax Settings] -> [Function Setting] -> [Function ON/OFF Setting] -> [Number Display Function] is set to “ON.”

Key name	Function/Precondition
Paper Tray Setting	-
Allow Paper Tray Setting	-
Min. Reduction for RX Print	-
Print Separate Fax Pages	It will not be displayed when [Administrator] -> [Fax Settings] -> [TX/RX Settings] -> [Duplex Print (RX)] is set to “ON.”
File After Polling TX	-
No. of Sets (RX)	-
Individual Receiving Line Setup	It will be displayed only when multiple lines are used and [Administrator] -> [Fax Settings] -> [Multi Line Settings] -> [Fax Line 2 to 4] -> [Multi Line Settings] -> [Line 2 to 4 Setting] is set to “TX and RX” or “RX Only”.
Individual Sender Line Setup	It will be displayed only when multiple lines are used and [Administrator] -> [Fax Settings] -> [Multi Line Settings] -> [Fax Line 2 to 4] -> [Multi Line Settings] -> [Line 2 to 4 Setting] is set to “TX and RX” or “RX Only”.
TX-Line Auto Switch Setting	-
Fax Rx Print Setting	-

6.9.4 Function Setting

Key name	Function/Precondition	
Function ON/OFF Setting	F-Code TX	-
	Relay RX	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Relay] is set to “ON.”
	Relay Printing	
	Destination Check Display Function	-
	Number Display Function (Only for Japan)	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Number display] is set to “ON.”
	Confirm Address (TX)	-
	Confirm Address (Register)	-
	PIN Code Display Mask Function	-
	Reset the setting value after using other functions	-
	Require the use of the use of the External Line key for outside calling	-
	Prohibit fax usage while using ext TEL line	-
Dial-In Settings (Only for Japan)	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Dial In] is set to “ON.”	
Closed Network RX	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Closed area RX] is set to “ON.”	
Remote RX Settings (Only for Japan)	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Remote Rx] is set to “ON.”	
Incomplete TX Hold	• It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Re-Transmission] is set to “ON.” • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that “Key Counter Only” or “Vendor 2” is mounted.	
RX Data Operation Settings	Memory RX Setting	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Compulsory Memory RX] is set to “ON.”
	Forward TX Setting	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the “Vendor 2” is mounted. • It will not be displayed when [Service Mode] -> [Billing Setting] shows that [Authentication Device2] is mounted. • A forwarding address except a case of the fax, specify [File Type] a fax can be converted into a file. The file types able to be specified are PDF, XPS, and TIFF. However, when a received job is an Internet Fax or IP Address Fax, you can specify other file types by changing the switch No.124 to [00000001] at Bit assignment/[01] at HEX assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].
	PC-Fax RX Setting	[Dail-In only] will be displayed when [Administrator] -> [Fax Settings] -> [Function Setting] -> [Dial-In Settings] is set to “ON.”
	TSI User Box Settings	-
	None	-
PC-Fax TX Setting	-	

Key name	Function/Precondition	
RX Data Deletion Restriction Settings	Password Deletion	• This setting is not available without user authentication. • This setting is not available without the account track. • This function cannot be set if the User Box Administrator has not been set.
	Administrator User Box Deletion	
PBX Connection Setting	-	
Recommended settings for IP line	-	

6.9.5 Report Settings

Key name	Function/Precondition	
TX Result Report	-	
Tx Result Report Print Confirmation Screen	-	
Sequential TX Report	-	
Broadcast Result Report	-	
Bulletin TX Report	-	
Relay TX Result Report	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Relay] is set to “ON.”	
TX Result Report Print Settings	Print	• This function can be set if “E-mail address” has been set in [Administrator] -> [System Settings] -> [Machine Setting]. • This function can be set if “ON” is set for [E-mail TX (SMTP)] and “ON” is set for [E-Mail Send] in [Administrator] -> [Network] -> [E-mail Setting].
	E-mail Notification	
Activity Report	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the “Vendor 2” is mounted.	
Relay Request Report	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Relay] is set to “ON.”	
PC-Fax TX Error Report	-	
Timer Reservation TX Report	-	
Confidential Rx Report	-	
Remark Column Print Setup	-	
Network Fax RX Error Report	Setting will be available when [IP Address Fax Function Settings] or [I-Fax Function Setting] is set to “ON” in [Administrator] -> [Network] -> [Network Fax Setting] -> [Network Fax Setting].	
Print Job Number	• It will not be displayed when [Report Addition Information] is set to “Diagnosis Code” or “Dial Number” by [Service Mode] -> [FAX] -> [List Output]. • It will not be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.77 is set to [00000100] at Bit assignment/[04] at HEX assignment.	
MDN Message	It will be displayed when [Administrator] -> [Network] -> [Network Fax Setting] -> [Network Fax Setting] -> [I-Fax Function Setting] is set to “ON.”	
DSN Message		
Print E-mail Message Body		
Legend display Settings	-	

6.9.6 Multi Line Settings

NOTE

- **It will be displayed each only when fax kit (line 2 or line 3 or line 4) is mounted.**

Key name	Function/Precondition		
PC-Fax TX Line Setting	• It will be not displayed when [PC-Fax Permission Setting] is set to “Restrict” in [Administrator] -> [Fax Settings] -> [Function Setting]. • Line 2 to 4 will be displayed when [Administrator] -> [Fax Settings] -> [Multi Line Settings] -> [Fax Line 2 to 4] -> [Multi Line Usage Setting] -> [Line 2 to 4 Setting] is set to “TX and RX” or “TX Only.”		
Fax Line 2 Fax Line 3 Fax Line 4	Line Parameter Setting	Dialing Method	-
		Number of RX Call Rings (Receive Time Interval Setting)	When [Service Mode] -> [FAX] -> [Line 2 to 4] -> [Network] -> [Network Setting 1] -> [Receive Signal Detection Mode] is set to “Time”, [Receive Time Interval Setting] will be displayed.
		Line Monitor Sound	-
		Pause Time	-
	Function Setting	Number Display Function (Only for Japan)	-
	Multi Line Usage Setting	Line Setting	-
		Sender Fax No.	-

6.9.7 Network Fax Setting

Key name	Function/Precondition
Black Compression Level	It will be displayed when either [IP Address Fax Function Settings] or [I-Fax Function Setting] is set to “ON” in [Administrator] -> [Network] -> [Network Fax Setting] -> [Network Fax Setting].

Key name	Function/Precondition
Color/Grayscale Multi-Value Compression Method	
Internet Fax RX Ability	It will be displayed when [Administrator] -> [Network] -> [Network Fax Setting] -> [Network Fax Setting] -> [I-Fax Function Setting] is set to “ON.”
I-Fax Advanced Setting	
IP Address Fax Operation Settings	It will be displayed when [Administrator] -> [Network] -> [Network Fax Setting] -> [Network Fax Setting] -> [IP Address Fax Function Settings] is set to “ON.”

6.9.8 Header Information

Key name	Function/Precondition
Header Information	-

6.9.9 Fax Print Quality Settings

Key name	Function/Precondition
Fax Print Quality Settings	-

6.9.10 Fax Setting List

Key name	Function/Precondition
Fax Setting List	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the “Vendor 2” is mounted. (It will be displayed when the Key Counter is mounted or [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.33 is set to [00000001] at Bit assignment/[01] at HEX assignment.)

6.10 Copier Settings

Key name	Function/Precondition	
Basic Setting	Auto Zoom (Platen)	-
	Auto Zoom (ADF)	-
	Specify Default Tray when APS Off	-
	Print Jobs During Copy Operation	-
Eco Copier Settings	Combine	-
	Duplex Settings	-
	Color Setting	-

7. Expert Adjustment

NOTE

- **It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the "Vendor 2" is mounted. (It will be displayed when the Key Counter is mounted or [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.33 is set to [00000001] at Bit assignment/[01] at HEX assignment.)**

Key name	Function/Precondition	
AE Level Adjustment	-	
Printer Adjustment	Leading Edge Adjustment	This menu is unavailable when the key counter is not inserted while "Key Counter Only" is set by [Service Mode] -> [Billing Setting] -> [Management Function Choice].
	Centering	
	Leading Edge Adjustment (Duplex Side 2)	
	Centering (Duplex 2nd Side)	
	Erase Leading Edge	It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to "Level 2." • The adjusted values from [Erase Leading Edge] are also updated to the service mode as the "Lead Edge Erase Adjustment" function in service mode is opened to administrators. • The adjusted values from [Vertical Adjustment] are also updated to the service mode as the "Paper Feed Direction Adj." function in service mode is opened to administrators.
	Vertical Adjustment	
	Media Adjustment	This function is provided to open "Transfer Voltage Fine Adj" of Service Mode up to administrator and the fine-adjusted value is reflected in the Service Mode setting.
Image Stabilization	-	
Paper Separation Adjustment	-	
Color Registration Adjust	This menu is unavailable when the key counter is not inserted while "Key Counter Only" is set by [Service Mode] -> [Billing Setting] -> [Management Function Choice].	
Gradation Adjustment	• This menu is unavailable when the key counter is not inserted while "Key Counter Only" is set by [Service Mode] -> [Billing Setting] -> [Management Function Choice]. • Before executing Gradation adjust, be sure to perform Image Stabilization.	
Scanner Area	• It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to "Level 2." • This menu is unavailable when the key counter is not inserted while "Key Counter Only" is set by [Service Mode] -> [Billing Setting] -> [Management Function Choice]. • The adjusted values from [Scanner Area] are also updated to the service mode as the "Scan Area" function in service mode is opened to administrators.	
ADF Adjustment	Centering	It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to "Level 2."
	Original Stop Position	
	Centering Auto Adjustment	• It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to "Level 2." • When the adjustment result is [Unable], confirm the orientation of the original document and manually adjust the [Original Stop Position].
	Auto Adj. of Stop Position	
User Paper Settings	• It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to "Level 2." • The feature available from [Service Mode] -> [System 2] -> [User Paper Settings] is extended to Administrator. However, the fusing temperature setting is not possible in Administrator Settings.	
Erase Adjustment	-	
PS Designer Settings	-	
Main Scanning Direction Zoom	-	
Trouble isolation	It will be displayed when the finisher is mounted.	

8. Storage Management

Function Name	Function/Precondition
Check Capacity	-
Overwrite All Data + Format	-
Overwrite All Data - Report Settings	-
Storage Lock Password	• Don't forget the lock password. • After setting a lock password, if you replace the MFP storage due to its breakage or other reasons and install a new MFP storage, an error message is displayed. In that case, clear the lock password and set a new password using this function.

Format	• It is subject to logical formatting here, therefore if starting with physical formatting, follow as [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format].
	• Make sure to configure the following settings after formatting the storage.
	  • Installing the firmware.
	  • Reinstall movie data, voice data, OCR dictionary data, and PDF/A fonts from [Service Mode] -> [System 2] -> [Install Data].
	• Make sure to install the firmware after the format. Otherwise a trouble code “C-D012 Mount error due to storage being unformatted” will appear.

Encryption Settings	• Use: To set a password used to encrypt data when storing it into the MFP storage. • Default setting: None • For details of the functions, refer to "Encryption Settings."
Debug Log Encryption Settings	• Use: To set a password used to encrypt debug data when storing it into the MFP storage. • This is displayed only when Switch No. “155” is set to [00000001] at Bit assignment/[01] in [Service Mode] -> [System 2] -> [Software Switch Setting]. • Default setting: 01234567890123456789 • For details of the functions, refer to “ H.12.7.2 Debug Log Encryption Settings.”

9. Device Information

Function Name	Function/Precondition
Function Version	-
IPv4 Address	-
IPv6 Address	-
Serial Number	-
Contact Telephone Number	-
Auth. function list display	-
QR Code Display	It will be displayed when [Administrator] -> [System Settings] -> [System Connection Setting] -> [Mobile Connection Settings] -> [QR Code Display Setting] is set to “ON.”
Contact Fax Number	-
Version Information	-

10. Remote Panel

Function Name	Function/Precondition
Remote Panel Operation	It will be displayed when [Administrator] -> [Network] -> [Remote Panel Settings] -> [Remote Panel Client Settings] is set to “ON.”

11. Card Authentication

Function Name	Function/Precondition
IC Card type setting	It will be displayed when [Service Mode] -> [Billing Setting] -> [Authentication Device2] is set to “Card.”
Operation Settings	
Authentication Card ID Number	

12. Supplementary explanation of utility mode

12.1 Maintenance

12.1.1 License Settings

Get Request Code

- To display and print a request code and serial number used to activate i-Option.

<Procedure>

1. Touch [Get Request Code], and [OK].
2. A serial number and request code are issued.
3. By touching [Print], the serial number and request code are printable.

Install License

- To allow administrator to activate functions provided by i-Option.
- The functions can be activated by entering Function/License Code or Token Code.
- By making settings in [Service Mode] -> [Billing Setting], CE can also activate functions provided by i-Option.

NOTE

- **When activating i-Option, MFP accesses to OLI license server via WebDAV connection. Set the proxy server setting in [Administrator] -> [Network] -> [WebDAV Settings] -> [Proxy Setting for Remote Access] as occasion demands.**
- **For accessing to OLI license server, it is necessary to select [Fixed Address] in [Service Mode] -> [Billing Setting] -> [WebDAV Server Setting].**
- **When the server connection error "MAE001" is displayed, check the network settings.**
- **If an internal error "MAI001" is displayed, repair repair license management information through [Service Mode] -> [Billing Setting].**

<Procedure (Function/License Code)>

1. Touch [Install License].
2. Touch [Function/License Code].
3. Touch [Function Code].
4. Enter the Function Code.
5. Touch [OK].
6. Touch [License Code].
7. Enter the license code that was issued in the license management server using the key board on the control panel, and touch [OK].
8. Touch [Install].
9. Confirm the message, select [Yes], and touch [OK].
10. Turn OFF and ON the main power switch.

<Procedure (Token Code)>

1. Touch [Token Code].
2. Touch one of the Token Codes 1 to 10.
3. Enter the Token Code.
4. Touch [OK].
5. Touch [Install].
6. Confirm the message, select [Yes], and touch [OK].
7. Turn OFF and ON the main power switch.

List of Enabled Functions

- To display currently activated functions.

12.1.2 USB flash drive backup

NOTE

- **It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.72 is set to [00000100] at Bit assignment/[04] at HEX assignment.**
- **In the following conditions, data export into the external memory is prohibited.**
  - **[Administrator] -> [Security] -> [USB Connection Permission setting] is set to "Restrict."**
  - **[Administrator] -> [Security] -> [USB Connection Permission setting] -> [Detail Setting] -> [External Memory(Service)] is set to "Restrict."**
  - **[Administrator] -> [Security] -> [Enhanced Security Mode] is set to "ON".**

Import

- To import various types of setting information from other machine via the USB memory.
- Types of data that can be imported:
  - Address Book, Authentication Data, Network Settings, Remote Access Setting, User Setting, Administrator Setting, Custom Display Settings, Cloud Connection Setting, External Certificate, Accessibility, Custom Auth. Setting, PKI Batch Setting

NOTE

- **The size of the importable file is 700 KByte or less. However, the size of a Custom Auth. Setting data is 1 MByte or less.**

<Procedure>

1. Connect the external memory to the machine.
2. Touch [Import].
3. Touch [Password], enter the password previously set for the import data, and touch [OK].
4. Touch [Start].
5. Import results appear.

NOTE

- **If an error occurs in importing an external certificate, the certificate is returned to the state before it is imported.**
- **Import errors of external certificates are determined in following cases:**
  - **Importing a certificate fails.**
  - **The number of imported certificates exceeds the limit.**

Export

- To export various types of setting information to an external memory (USB memory).

- Types of data that can be exported:
  - Address Book, Authentication Data, Network Settings, User Setting, Administrator Setting, Custom Display Settings, Cloud Connection Setting, External Certificate, Accessibility

<Procedure>

1. Connect the external memory to the machine.
2. Touch [Export].
3. Select the item to be exported.
4. Touch [Password], enter the password of the export data, and touch [OK].
5. Touch [Start].
6. Export results appear.

12.1.3 Remote Access Setting

Import/Export User Data

- To set whether to remotely rewrite (import or export) user data such as address information using the CS Remote Care.

Setting item	Default setting
Allow	
Restrict	○

12.2 System Settings

12.2.1 Not available

12.3 Security

12.3.1 ProhibitFunctions

- To set the function for prohibiting authentication operation in order to prevent the unauthorized access.
- To use when setting the system to prohibit authentication failure when conducting authentication by password, etc.
- Authentications which are subjected to this function:
  - CE authentication, administrator authentication, user+accounts authentication, secure print authentication, user box authentication, SNMP authentication, WebDAV Server authentication, Remote Panel authentication

Setting item	Contents	Default setting
Mode 1	When failed to authenticate, authentication operation (entering the password) will be prohibited for a certain period of time.	○
Mode 2	When failed to authenticate, authentication operation (entering the password) will be prohibited for a certain period of time. The number of times failure occurred will be counted, and when the number reaches to the specified time, authentication will be prohibited and the access will be locked.	

NOTE

- **If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to "ON", selecting "Mode 1" in this setting cancels enhanced security mode.**

<Procedure>

1. Select a mode.
2. Touch [Release Time Settings] and set a period of time that elapses before access lock is released.
3. When [Mode 2] is selected, set the number of times where checks are made before access is locked.

Procedure for releasing an access lock

Authentication item	How to release
User+Accounts authentication	Touch keys in the following order. [Administrator] -> [Security] -> [Security Details] -> [ProhibitFunctions]. Then touch [Release].
SNMP authentication	
Security print authentication	
User Box authentication	
WebDAV Server authentication	
Remote Panel authentication	
Administrator authentication	After the main power switch is turned OFF and ON, the access lock is released automatically after the lapse of a predetermined period of time.
	[Service Mode] -> [Enhanced Security] -> [Administrator unlocking]
CE authentication	1. Main power switch is turned OFF and ON. 2. Touch Menu -> [Counter] -> [Print List]. 3. Touch [Display Keypad], displaying 10-key pad. 4. The lock release timer starts to operate by input the Stop -> 0 -> 9 -> 3 -> 1 -> 7

Authentication item	How to release
	5. When the timer reaches the time specified in this setting, the access lock is released.

12.3.2 Enhanced Security Mode

- To set whether or not to enhance security.
- To use when enhancing the Security function at user's option.
- The following settings are necessary for setting the security enhancement "ON".
  - Administrator Password: Change it with the one which meets password rules.
  - User Authentication: Set to [ON (MFP)], [ON (External Server)], or [ON (MFP + External Server)].
  - SSL Certificate: Register self-certificate for SSL communication from the Web Connection.
  - CE Password: Change it with the one which meets password rules.
  - CE Authentication: Set to [ON].
  - Management Function Choice: Set to "Unset."

Setting item	Default setting
OFF	○
ON	

NOTE

- **Note that setting Enhanced Security Mode to "ON" disables the following functions.**
  - **Print Data Capture (forcibly prohibited when Enhanced Security Mode is set to "ON")**
  - **Rewriting instructions of firmware from CS Remote Care, communication of the account track counter information, the setting renewal of the machine.**
  - **Firmware upgrading through Internet ISW (When the Enhanced Security Mode is set to ON, the setting of this function cannot be changed from "OFF.")**
- **Setting the Enhanced Security Mode "ON" will change the setting values for the following functions. In addition, the indicator of "not be changed" below indicates that the settings cannot be changed while Enhanced Security Mode is maintained "ON".**

Function Name	Contents	Default setting	When Enhanced Security mode is set to "ON"
Password Rules	To apply the password rule to enhance Security.	Disable	Enable (not to be changed)
ProhibitFunctions	To set the function for prohibiting Authentication operation in order to prevent the unauthorized access.	Mode 1	Mode 2 (not to be changed): Three times is set. * The number of times can be changed to once, twice, or three times. (It is twice, four or six times for WebDAV server password.)
Confidential Document Access Method	To display the status of the Authentication system on the control panel for the Security document access.	Mode 1	Mode 2 (not to be changed) * In association with ProhibitFunctions, the method is changed from "Security using Secure Document ID and password (Mode 1)" to that using the password with the "Secure Document first narrowed down by Security Document ID (Mode 2)."
Public User Access	To permit use by a public user having no user registration if user authentication setting has been made.	Restrict	Restrict (not to be changed)
User Name List	To display the list key for User names on User Authentication screen.	OFF	OFF (not to be changed)
Print without Authentication	To allow or restrict printing which user and account are not specified.	Restrict	Restrict (not to be changed)
Counter Remote Control	To select whether or not to allow the Center to acquire counter information managed by the machine when CS Remote Care is used.	Restrict	Restrict (not to be changed)
URL display enable setting	To set whether or not to enable the Scan to URL function.	ON	OFF (not to be changed)
Print Simple Auth. (Authentication Setting)	You can print from the printer driver using authentication that requires only your user name (without password).	Restrict	Restrict (not to be changed)
User Box Administrator Setting	To set whether to allow or restrict the Box Administrator to use the system.	Restrict	Restrict (not to be changed)
SSL	To set whether to encrypt access by SSL.	OFF	ON (not to be changed)
SSL Encryption Strength	To set the SSL encryption strength for the SSL encryption communication.	AES-256, 3DES-168, RC4-128	AES/3DES (not to be changed to one containing strength lower than AES/3DES)
Automatically Obtain Certificates of S/MIME	-	No	No (not to be changed)
S/MIME Encryption Method	-	3DES	3DES (not to be changed to DES or RC-2)
FTP Server	To set whether to use FTP server or not.	ON	OFF (not to be changed)

Function Name	Contents	Default setting	When Enhanced Security mode is set to "ON"
Server load reduction transmission method	Select the sending method to reduce the load of the E-mail server (SMTP).	OFF	When [Stop URL when max. limit is exceeded] or [Always Send via URL] is selected, this option is set to [OFF].
SNMPv1/v2c	To use when changing Write setting.	Read/Write enable	Only Read is enabled (not to be changed)
SNMP v3 Security Level and auth/priv-password	To set the Security level for the Reading/Writing Authority User which is used for SNMP v3.	auth/priv-password	• The security level can be selected from among [auth-password] and [auth/priv-password]. • An 8-digit-or-more auth-password and priv-password can both be set.
Print Data Capture	To set whether to allow or restrict capturing the Print Job Data.	Allow	Restrict (not to be changed)
Network Setting Clear	To clear the network setting through Web Connection.	Enabled	Restrict
Release Time Settings	To set the period of time to be elapsed before the access lock state is released.	5 min.	The setting value should be 5 min. or more (no value less than 5 can be set)
Destination Registration Change by User (Address Book and Program destination)	-	Allow	Restrict (not to be changed)
Security Print User Box Preview	-	Thumbnail View, Detail View, and Document Details are enabled	Only Detail View is enabled before password authentication (Mode 2)
Initialize (Network Settings)	To clear the network-related settings.	Enabled	Restrict (not to be changed)
Image Log Transfer Settings	Specifies whether to transfer the input or output image data to the server using whenever machine inputs or outputs image data.	OFF	OFF (not to be changed)
Machine Update Settings	To set firmware upgrading by Internet ISW, and enable or disable various settings.	OFF	OFF (not to be changed)
operation Ban release time (CE Authentication)	To set the period of time to be elapsed before the access lock state is released in CE password authentication.	5 min.	The setting value should be 5 min. or more (no value less than 5 can be set)
E-mail RX Print	To print an E-mail attachment, send an E-mail to the E-mail address of this machine.	OFF	OFF (not to be changed)
IWS Settings	Set the operating environment of IWS (Internal Web Server) function.	OFF	OFF (not to be changed)
Report File Attachment	Report File Attachment	With Attachment	Without Attachment (not to be changed)
Storage data backup	To set whether to permit our service representative to back up or restore the storage on this machine.	Restrict	Restrict (not to be changed)
CS Remote Care	CS Remote Care enables the machine and the computer at CS Remote Care center to exchange data through telephone/fax line, network or E-mail in order to control the machine.	Usable	Remote device setting disabled
Maintenance Mode Access	To set whether to permit your service representative to change [Administrator Settings] of a device without authentication.	Restrict	Restrict (not to be changed)
Simple Connection Setting	To set the pairing method to connect to an Android/iOS terminal.	QR Code Display Setting: OFF	OFF (not to be changed)
		Enable NFC: OFF	OFF (not to be changed)
		Enable Bluetooth LE: OFF	OFF (not to be changed)
SSL Settings (WebDAV Server Settings)	Specify whether to use the SSL for communication or not.	Non-SSL Only	SSL Only (not to be changed)
SSL Setting (OpenAPI Settings)	Specify whether to use the SSL for communication or not.	Non-SSL Only	SSL Only (not to be changed)
Web Browser Setting	Select whether to enable a Web Browser.	OFF	OFF
Remote Panel Settings	Configure settings for remotely controlling the Control Panel of this machine from another computer.	Client Settings: OFF	OFF
		Server Setting: OFF	OFF

Function Name	Contents	Default setting	When Enhanced Security mode is set to "ON"
Hide Personal Information (MIB)	Specify whether or not to display the file name, destination, and User Box name and number of the MIB information.	ON	ON
Import/Export User Data	Specify whether to allow importing/exporting of the destinations registered on this machine (one-touch destinations, groups, and programs), authentication information from the remote diagnosis system.	Restrict	Restrict
Administrator Password Change Permission Setting	Specify whether to allow the administrator password to be changed via the IWS application.	Restrict	Restrict (not to be changed)
USB Connection Permission setting	Specify whether to permit a function that requires the USB Port.	Detail Setting	Restrict (not to be changed)
External Memory Function Settings	Specify whether to allow users to print and read files from a USB memory device and to save files to a USB memory device.	Save Document: Restrict	Restrict (not to be changed)
		Print Document: Allow	Restrict (not to be changed)
		External Memory Document Scan: Restrict	Restrict (not to be changed)

12.3.3 Image Log Transfer Settings

- This is displayed only when Switch No. "63" is set to [00000001] at Bit assignment/[01] at HEX assignment (Type 1) or [00000010] at Bit assignment/[02] at HEX assignment (Type 2) in [Service Mode] -> [System 2] -> [Software Switch Setting].
- Perform the following settings according to Software Switch Setting.

Image Log Transfer Settings (Type1)

- Specifies whether to transfer the input or output image data to the server using whenever machine inputs or outputs image data. Makes the settings of the WebDAV Server, the FTP Server, or the SMB Server where image data are transferred.
- Use this settings to keep logs of input and output image data for Security purpose.

Setting item	Default setting
ON	
OFF	○

<Procedure>

- When selecting [ON], configure the following settings.
- Select Forwarding Destination and configure the sever settings.

Forwarding destination	Server setting item
WebDAV Server setting	Host Name, File Path, User Name, Password, Port Number, Proxy, SSL Settings
FTP Server setting	Host Name, File Path, User Name, Password, Port Number, PASV, and Proxy
SMB Server setting	Host Name, File Path, User Name, Password

- Specify Audit Item.

Audit item	Contents
All Items	Applied to Fax TX, Fax RX, Scan, and Others.
Individual Item	Can be selected from Fax, Fax RX, and Scan.

Image Log Transfer Settings (Type2)

- To select whether or not to transfer only input/output images in Fax TX/RX to the server when image data is input or output to or from the machine.

Setting item	Default setting
ON	
OFF	○

<Procedure>

- When selecting [ON], configure the following settings.

1. Configure the file type and scan setting.
2. Select Forward or Do Not Forward for Fax TX/RX.
3. To transfer data, select [Forwarding Dest.] and configure the server settings.

Forwarding destination	Server setting item
FTP Server setting	Host Name, File Path, User Name, Password, Port Number, PASV, and Proxy
SMB Server setting	Host Name, File Path, User Name, Password
WebDAV Server setting	Host Name, File Path, User Name, Password, Port Number, Proxy, SSL Settings

12.3.4 Driver Password Encryption Setting

- To set whether to use the factory default encryption word or user-defined one as a common key that encrypts a password used for a print job.

Setting item	Contents	Default setting
User-Defined	To set the encrypting passphrase. Enter an encryption word of 20 letters.	
Use Factory default settings	Uses the factory default encryption word (undisclosed predefined encryption key).	○

NOTE
- **When selecting [User-Defined], set an encryption key being consisted of the same letters in the printer driver. If the encryption word set in the machine differs from the encryption key set in the printer driver, different encrypted passwords are created and printing cannot be made.**
- **The use of OpenAPI allows an encryption key to be obtained from the machine.**

12.3.5 Quick Security Setting

Administrator Password
- To set and change the administrator password.

NOTE
- **When [Password Rules] which can be displayed by [Administrator] -> [Security] -> [Security Details] is set to "Enable", the password cannot be changed or registered unless it follows the conditions.**

<Procedure>
1. Enter the current administrator password
2. Password: Enter the new administrator password to be used
3. Password Confirmation: Re-enter the new administrator password

USB Enable Settings
- Specify whether to permit a function that requires the USB Port.

Setting item	Contents	Setting	Default setting
Save Document (*1)	Select whether to allow users to save files into a USB memory.	Allow	
		Restrict	○
Print Document (*1)	Select whether to allow users to print files from a USB memory.	Allow	○
		Restrict	
External Memory Document Scan (*1)	Select whether to allow users to save files from a USB memory into a User Box.	Allow	
		Restrict	○
PC Print (*2)	Select whether to allow users print files from a USB-connected computer.	Allow	○
		Restrict	

- *1: This function is available when [ON] is selected in [Administrator] -> [Security] -> [USB Connection Permission setting] -> [Detail Setting] -> [External Memory (User)].
- *2: This function is available when [ON] is selected in [Administrator] -> [Security] -> [USB Connection Permission setting] -> [Detail Setting] -> [PC Connect].

Password Rules
- To apply the password rule to enhance Security.
- Passwords to be covered:
  - CE password, administrator password, user password, account track password, user box password, user box administrator password, Security for confidential documents, WebDAV server password, SNMP password, remote panel server password, Encryption Passphrase

NOTE
- **When the password rule is enabled, the password cannot be changed or registered unless it follows the above conditions.**

Setting item	Contents	Default setting
Complexity 1	Apply the following rules • Minimum number of characters specified in [Set Minimum Password Length]. • Upper- and lower-case letters are distinguished in alphabetical letters. • Only one-byte symbols can be used. • Password with only the same letter is prohibited. • Password same with the one prior to change is prohibited.	
Complexity 2	Apply the following rules • Rules of [Complexity 1] • Be sure to mix any three of the following: uppercase letters, lowercase letters, numbers, and symbols. • Password that contains easily associative words such as Admin and Public is prohibited. • Password that contains the words registered in the [Prohibited words] is prohibited. • Password that is the same as the current one and the previous one is prohibited.	
Disable	Do not apply the password rules. When [Enable] is selected, it is possible to determine the minimum number of characters that a password can contain. (8 to 64 characters, Default: 12 characters)	○

NOTE
- **If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to "ON," selecting "Disable" in this setting cancels enhanced security mode.**
- **"Enable" cannot be selected when [Service Mode] -> [Enhanced Security] -> [CE Authentication] is set to "OFF." [CE Authentication] cannot be set to "OFF" when [Password Rules] is set to "Enable."**

Quick IP Filtering

- A function that only allows the MFP to receive the access from devices within the same IP group via the network.
- Determine the receiving IP for the decided IP when setting the address to the MFP by DHCP or manually.

Setting item	Default setting
Synchronize IP Address	○ (Except for North America)
Synchronize Subnet Musk	
No Filtering	○ (North America)

NOTE

- **Quick IP Filtering activates automatically.**

<Synchronize IP Address>

- IPv4 address: Only reception by an IP address with the upper 3 bites same as that of the IP address set in the MFP is allowed.
  NOTICE
  - If the MFP IP address is set to [192.168.0.134], the filtering range is as follows.
    192.168.0.0 to 192.168.0.255
- IPv6 address: Only Global Unicast Address (2000::/3) is available. Only reception by an IP address with the upper 64 bits same as that of the IP address set in the MFP is allowed.
  NOTICE
  - If the MFP IP address is set to [2345:1:2:3:4:5:6:7], the filtering range is as follows.
    2345:1:2:3::0 to 2345:1:2:3:FFFF:FFFF:FFFF:FFFF

<Synchronize Subnet Musk>

- IPv4 address: Use the IP address set in the MFP and the Subnet Mask to allow receptions by IP address within the range belongs to the same network.
  NOTICE
  - If the MFP IP address is set to [150.16.17.134] and the Subnet Mask is set to [255.255.252.0], the filtering range is as follows.
    150.16.16.*** to 150.16.19.****
  - If the Subnet Mask has not been set, or it has been set to [0.0.0.0], only access from the IP address with the end differs from that of the IP address set in the MFP are restricted. As a result, filtering runs in the same way as that it has been set in [Synchronize IP Address].
- IPv6 address: Only Global Unicast Address (2000::/3) is available. And use the Global IP address and Prefix to perform filtering.
  NOTICE
  - If the MFP IP address is set to [2345:1:2:3:4:5:6:7], and the Prefix is set to [/64], the filtering range is as follows.
    2345:1:2:3::0 to 2345:1:2:3:FFFF:FFFF:FFFF:FFFF
  - If the Prefix has not been set, filtering runs in the same way as that the Prefix is set to 64 bit.

<No Filtering>

- For both IPv4 address and IPv6 address, no filtering is performed.

Web Conn.setting

- To set whether to use the Web Connection.

NOTE

- **To use the Web Connection, enable “JavaScript” and “Cookie” of the Web browser.**
- **If the MFP is connected to the internet via a proxy server, register the Proxy Settings of the Web browser as “Exceptions.”**
- **When the Web Connection is not displayed properly even if the above settings have been conducted, delete the cache of the Web browser.**

Setting item	Default setting
ON	○
OFF	

Security Warning Display Setting

- To select whether or not to display the Security warning screen if an administrator password is still remained as default setting or does not meet the password rules.

Setting item	Default setting
ON	○ (Except for North America)
OFF	○ (North America)

12.4 User Authentication/Account Track

12.4.1 Authentication Device Settings

- It will be displayed when [Service Mode] -> [Billing Setting] shows that the authentication device 2 is mounted.
- It will be displayed when [Administrator] -> [Network] -> [IWS Settings] is set to “ON.”

Authentication Type

- Specifies a device used for user authentication.

Card Authentication	IC Card type setting	Select the type of the required IC card. • To use the FeliCa card, select [FeliCa], [SSFC], [FCF], [FCF (Campus)] or [FeliCa (Proprietary Card)]. When [SSFC] is selected, detailed information such as the company code or company identification code is registered. • To use the Type A card, select [Type A]. • To use the FeliCa and Type A cards together, select [FeliCa+TypeA], [SSFC+TypeA], [FCF+Type A], [FCF(Campus)+Type A], or [FeliCa(Proprietary Card)+Type A]. When [SSFC+TypeA] is selected, detailed information such as the company code or company identification code is registered. • To use NFC, select [NFC(HCE)].

		• To use the Type A card with NFC, select [TypeA+NFC(HCE)]. • To use the FeliCa card with NFC, select [FeliCa+NFC(HCE)], [SSFC+NFC(HCE)], [FCF+NFC(HCE)], [FCF(Campus)+NFC(HCE)], or [FeliCa(Proprietary Card)+NFC(HCE)]. When [SSFC+NFC(HCE)] is selected, detailed information such as the company code or company identification code is registered.	
		Card Detail Settings	The settings information of for the registered IC card loadable driver can be changed via the Web browser on the machine. This does not display if any of the following conditions are satisfied. • A driver other than the AU-201S loadable driver is installed.
	IC Card Type	The type of the IC card which has been set will be displayed. • This is displayed when the loadable driver used for the YSoft card reader has been installed.	
	Operation Settings	Set how to log in to this machine. • “Card Authentication”: Pass the IC card or NFC-compatible Android device over the authentication unit to log in. • “Card Authentication + Password”: Pass the IC card or NFC-compatible Android device over the authentication unit, and enter the password to log in. • “Card Authentication” is specified by default.	
	Authentication Card ID Number	• Specify whether to notify the counter, which collects the use status of this machine, of the authentication card ID. • “Ignore” is specified by default.	
Bio Authentication	Beep Sound	• Set whether to give a "blip" sound when the finger vein pattern is scanned successfully. • “ON” is specified by default.	
	Operation Settings	Set how to log in to this machine. • “1-to-many authentication”: A user simply needs to place his or her finger to log in. • “1-to-1 authentication”: A user needs to enter the user name and place his or her finger to log in. • “1-to-many authentication” is specified by default.	

<Procedure>
- Select either one of the authentication devices and press the corresponding key to go to the individual operation setting screen.
- The screen displays the authentication device that is selected in [Service Mode] -> [Billing Setting] -> [Authentication Device 2].
- When using SSFC (Shared Security Formats Cooperation) for IC card authentication, acquire the following information from the administrator and convert the value to input using the control panel.

Information to be obtained from the administrator		
Items	Sample-data (decimal number)	Setting value (hexadecimal number)
Room number	37	00 25
Floor number	15	00 0F
Building number	50	00 32
Area number	85	00 55
Security level	2	00 02
Company identification code (CL code) (*1)	06BGLQVX17 (ASCII code)	30 36 42 47 4C 51 56 58 31 37
Company code (*2)	CompanyA (ASCII code)	CompanyA

*1: The character length of the company code is 10 bytes.
*2: Use alphabetical upper case/lower case characters and numeric characters for Company code. When the company code is not set, this space will be left blank.

Logoff Settings
- Select whether or not the user is logged off after a scan or fax is sent or after the copy document is scanned.

Setting item	Default setting
Do not log off	○
Log off	

12.5 Network

12.5.1 Network Fax Setting
- It will not be displayed on the screen when all items are set to “OFF” in [Service Mode] -> [System 2] -> [Network Fax Settings].

SMTP TX Setting
- To set SMTP TX when network fax function is being used.
- To set SMTP TX port number and connecting time out period when network fax function is being used.

Setting item	Contents	Setting value	Default setting
Port No.	To set SMTP TX port number.	1 to 65535	25
Connection Timeout	To set the connection timeout time.	30 to 300 sec.	60 sec.

<Procedure>
1. Touch [Input].
2. Enter the setting value using the 10-key pad, and touch [OK].

SMTP RX Setting

- To set SMTP RX when network fax function is being used.
- To set SMTP RX port number and connecting time out period when network fax function is being used.

Setting item	Contents	Setting value	Default setting
SMTP RX	To set whether or not to use SMTP RX Settings.	ON	
		OFF	○
Port No.	To set SMTP RX port number.	1 to 65535	25
Connection Timeout	To set the connection timeout time.	5 to 1000 sec.	300

<Procedure>

1. To set SMTP Setting to [ON] or [OFF]. When [ON] is selected, configure the following Procedure.
2. Touch [Input] for the target item.
3. Enter the setting value using the 10-key pad, and touch [OK].

Network Fax Setting

- Carry out Network Fax settings.

Setting item	Contents	Setting value	Default setting
IP Address Fax Function Settings	• To set whether or not to use IP address fax function. • Setting will be available when [IP Address Fax] is set to “ON” in [Service Mode] -> [System 2] -> [Network Fax Settings].	ON	
		OFF	○
I-Fax Function Setting	• To set whether or not to use Internet fax function. • Setting will be available when [Internet Fax] is set to “ON” in [Service Mode] -> [System 2] -> [Network Fax Settings].	ON	
		OFF	○
IP-FAX (T38) Function Setting	• To set whether or not to use IP Fax (SIP) function. • The main body is required to be provided with the i-Option LK-117. • Setting will be available when install IP Fax (SIP) data to the main body in [Service Mode] -> [System 2] -> [Install Data].	ON	
		OFF	○

12.5.2 IWS Settings

- To configure the settings of the WebDAV server which is used to transfer data in the IWS (Internal Web Server) function.

NOTE

- **It will be displayed when [Administrator] -> [Security] -> [FIPS Settings] is set to “Disable.”**

Setting item	Default setting
ON	
OFF	○

<Procedure>

- When selecting [ON], configure the following settings.

1. Set the port number in [Port Number] (Web Server/Application Installation) using the 10-key pad.
2. Set Allow/Restrict for the connection of application in [Connect IWS Apps to Network].
3. Select whether to allow an external application to operate the IWS application on this machine in [Permit Access for Communication between Applications].
4. Select whether to notify you of the user name and password of the user who is using this machine, when the IWS application on this machine operates that of a different device in [Login Information Notification Settings].
5. The following settings are available when the IWS application has been registered.
   - Print Data Conversion Setting: Select a print data conversion application.
   - Authentication Screen Setting: Select an authentication screen application.
   - Background Application Setting: Select a background application.
   - Application List: Display the list of the registered applications (up to 50 applications)
   - Administrator Password Change Setting: It will be displayed when [Administrator] -> [Security] -> [Administrator Password Change Permission Setting] -> [IWS Application] is set to “Allow.” Specify whether to allow the administrator password to be changed via the IWS application.

12.5.3 Remote Panel Settings

Outline

- This is not displayed when [Service Mode] -> [Enhanced Security] -> [CE Authentication] is set to “OFF.”
- Issue and install the self-signed certificate from Device Certificate Setting under Security Setting of Web Connection.
- Enable CE Password.
- The control panel of this machine can be operated remotely from a computer on the network.
- During remote operations, display on the control panel can be masked to thereby lock the operation on the machine side (the machine control panel is forced into the locked state when the machine is set into the service mode through remote operation).
- The control panel can also be unlocked through remote operation. The machine control panel is enabled when unlocked remotely.
- Operations performed through the machine control panel while it is in the unlocked state can be reflected in the remote panel side.
- The remote operations are disabled under the following conditions:
  - Service mode operations are being performed on the machine.
  - Remote operations are already performed from another PC.

Methods of the Remote panel

Operating method	Contents
Using the dedicated software	• This method uses the dedicated software that collects screen information of the control panel of this machine periodically, and operates the control panel from a computer on the network. • You must prepare a dedicated remote control software program and server. Despite the burden, this method enables you to control the machine remotely even from a computer located outside the router network.
Accessing the machine directly	• This method accesses this machine directly from another computer on the network, and operates the control panel of the machine using a Web browser. • A dedicated remote control software program is not required, but the computer used for the remote control must be able to access this machine.

Server Settings

- To access this machine directly and control the control panel of the machine remotely, select [ON].

Setting item	Default setting
ON	
OFF	○

<Procedure>

- If [ON] is selected, configure the following settings.

Setting item	Contents
Password Authentication	Select whether to request password entry for connecting with this machine. To request for a password entry, select [Yes], and enter the password (using up to 64 characters).
IP Filtering (Permit Access)	Select [Enable] to specify IP addresses allowed to access. Also enter the range of IP addresses allowed to access.
Port No.	To set the port number.
Connection Timeout	To set the time-out time.

NOTE

- **Starting the remote operations**
  - **Access the machine web server (URL: https://IP_address_of_MFP:Port_Number/panel/top.html) through the web browser.**
  - **If Password Authentication is set, enter the set password.**
  - **If IP Filtering is enabled, connection can be established only through the authorized address.**

Client Settings

- To control the control panel of this machine remotely using the dedicated software, select [ON].

Setting item	Default setting
ON	
OFF	○

<Procedure>

- If [ON] is selected, configure the following settings.

Setting item	Contents	
Port No.	To set the port number.	
Connection Timeout	To set the time-out time.	
Server Address	Enter the address of the server where the dedicated software was installed.	
Certificate Verification Level Settings	Expiration Date	Select whether to check that the server certificate is within the validity period.
	Key Usage	Select whether to check that the server certificate is used according to the purpose approved by the issuer.
	Chain	Select whether to check that the server certificate chain (certification path) is correct.
	Expiration Date Confirmation	Select whether to check that the server certificate is within the validity period. The OCSP service and CRL (Certificate Revocation List) are checked in this order when the expiration date of the certificate is checked.
	CN	Select whether to check that the CN of the server certificate matches the server address.
Synchronize WebDAV Client Setting	Synchronize WebDAV Client Setting: Select whether to use the proxy server for WebDAV transmission as a proxy server for the server where the dedicated software was installed. To use a different proxy server, select [Individual Settings] and enter the proxy server information.	
Launch Remote Panel from vCare	To set whether or not to allow the remote panel to be started from the remote diagnosis system.	

12.5.4 Network I/F Configuration

- It will be displayed when optional wireless LAN devices are mounted.
- To add a network interface to this machine, set a network interface configuration.

Setting item	Contents	Default setting
Wired Only	Select this option to use this machine only in the wired LAN environment.	○
Wireless Only	Select this option to use this machine only in the wireless LAN environment. This machine runs as a wireless LAN adapter in the wireless LAN environment.	

Setting item	Contents	Default setting
Wired+Wireless (Secondary Mode)	Select this option to use this machine in both the wired LAN environment and wireless LAN environment. This machine runs as a wireless LAN adapter in the wireless LAN environment.	
Wired+Wireless (Primary Mode)	Select this option to use this machine in both the wired LAN environment and wireless LAN environment. This machine runs as a wireless LAN access point in the wireless LAN environment.	
Wired+Wireless (Wi-Fi Direct)	Select this option to use this machine in both the wired LAN environment and wireless LAN environment. This machine runs as a wireless LAN access point in the wireless LAN environment. Configuration when this machine is used as a Wi-Fi Direct group owner (*).	

*: Group owners are devices that play almost the same role as a wireless LAN access point. Because it looks like a normal AP from other client devices, the normal wireless LAN client devices that do not support Wi-Fi Direct can also be connected to group owners.

12.5.5 Wireless Network Setting

- Configure settings to use this machine as a wireless LAN access point or wireless LAN adapter.
- It will be displayed when optional wireless LAN devices are mounted.

Wireless Only or Wired+Wireless (Secondary Mode)

- “Wireless Only” or “Wired + Wireless (Secondary Mode)” is selected in [Administrator] -> [Network] -> [Network I/F Configuration]

Awake from ErP	Select the method to return the machine from the ErP Auto Power Off mode. • “OFF”: The machine is not returned from the ErP Auto Power Off mode. • “Awake with Magic Packet”: The machine returns from the ErP Auto Power Off mode when receiving a magic packet. • “Awake with ARP + Unicast Communication”: The machine returns from the ErP Auto Power Off mode when receiving a unicast communication packet. “Awake with Magic Packet” is specified by default.
Easy Setting (WPS)	Configure a setting to automatically obtain connection information from an access point. The access point must support the WPS function. • [Push Button Method]: Select [Push Button Method], and touch [Start Operation] to try a connection with an access point. If you press the WPS setting button at the access point, settings such as SSID and Security required for a connection are configured automatically. • [PIN Method]: Select [PIN Method], and tap [Start Operation] to display the PIN code. If you enter the displayed PIN code at the access point, settings such as SSID and Security required for a connection are configured automatically. This function requires a computer that contains Windows 7 or later as the operating system.

Manual Setting	Manually configure settings items such as SSID and the encryption scheme that are required for a connection.
	• [SSID]: Enter the SSID of the wireless LAN access point connected to the machine (using up to 32 characters).
	• [Authentication/Encryption Algorithm]: Select the algorithm used for authentication or encryption.
	  • If [WEP] is selected, specify [Key Input Method] and [WEP Key]. To specify multiple WEP keys, select the required WEP keys in [Use key settings].
	  • If an algorithm other than WEP is selected, specify [Key Input Method] and [Passphrase].

Connection Status	Allows you to check the access point connected to this machine, the radio field intensity of the access point, and the current communication speed.
Device Setting	Allows you to check the MAC address of the wireless network adapter.

Wired + Wireless (Simple AP Mode)

- “Wired + Wireless (Primary Mode)” is selected in [Administrator] -> [Network] -> [Network I/F Configuration]

Awake from ErP	Select the method to return the machine from the ErP Auto Power Off mode. • “OFF”: The machine is not returned from the ErP Auto Power Off mode. • “Awake with Magic Packet”: The machine returns from the ErP Auto Power Off mode when receiving a magic packet. • “Awake with ARP + Unicast Communication”: The machine returns from the ErP Auto Power Off mode when receiving a unicast communication packet. “Awake with Magic Packet” is specified by default.
Simple AP Mode Setting	Manually configure settings to use this machine as a wireless LAN access point. • [SSID]: Enter the SSID to use this machine as a wireless LAN access point (using up to 32 bytes). • [Authentication/Encryption Algorithm]: The algorithm for authentication or encryption is fixed to [WPA2-PSK(AES)].
Wireless Channel Setting	Specify the frequency band and channel required for wireless LAN connection. • [Frequency Band]: Select the frequency band required for wireless LAN connection. • [2.4GHz]: Select the channel to be used for wireless LAN connection of the 2.4GHz band. Selecting “Auto” searches for a channel that is not being used for other access points, and automatically assigns it to the access point. “Auto” is specified by default. • [5GHz]: Select the channel to be used for wireless LAN connection of the 5GHz band. Selecting “Auto” searches for a channel that is not being used for other access points, and automatically assigns it to the access point. “Auto” is specified by default.
DHCP Server Settings	Configure a setting to use the DHCP server function. • [Enable Settings]: Select whether to enable the DHCP server function. “Disabled” is specified by default. • [IPv4 lease address]: Specify the range of IPv4 addresses to be leased from the DHCP server when enabling the DHCP server function. • [Subnet Mask]: Specify the subnet mask of the IPv4 address to be leased from the DHCP server when enabling the DHCP server function.

	• [Lease Period]: Specify the lease period of the IPv4 address to be leased from the DHCP server when enabling the DHCP server function.
No. of Concurrent Devices Allowed	Enter the number of devices that can be connected simultaneously to the access point. “4” devices is specified by default.
Device Setting	Allows you to check the MAC address of the wireless network adapter.
Display Connected Devices	Displays a list of names and MAC addresses of wireless LAN adapters that are connected to the access point.
Passphrase	Specify the passphrase. • [Key Input Method]: Select the method to enter the passphrase. • [Passphrase]: Enter the passphrase.

12.6 Machine Update Settings

12.6.1 Internet ISW Settings

- This is displayed when [Function Setting] is set to “ON” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set].

FTP Server Settings

- To set whether to connect via a proxy server to access the FTP server.
- To configure the settings of the server related to connection via a proxy server.
- This is displayed when [FTP data acquisition setting] is set to “ON” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [FTP Setting].

Setting item	Default setting
ON	
OFF	○

<Procedure>

- If [ON] is selected, configure the following settings.

1. Touch [Host Address] in [Proxy Server Address] to set the host address of the proxy server.
2. Set the port number used to access the proxy server in [Proxy Server Port Number].

Update Firmware at Specified Time

- To update the downloaded firmware at the specified time.
- This is displayed when [Open Mode Settings] is set to “Set” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set].

Setting item	Default setting
Yes	
No	○

<Procedure>

- If [Yes] is selected, set the time to update the firmware.

Firmware Update Parameters

- To download and update the firmware.
- When you wish to update the firmware at the specified time, after downloading it in the way described here, you can specify the time in [Update Firmware at Specified Time].
- This is displayed when [Open Mode Settings] is set to “Set” in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set].

<Procedure>

1. Touch [Firmware Download] in [Administrator] -> [Network] -> [Machine Update Settings] -> [Internet ISW Settings] -> [Firmware Update Parameters].
2. Select [Yes] in the confirmation screen and touch [OK].
3. The firmware download starts.
4. The message to show the status will be displayed on the screen while connecting and transferring data.
5. Select [Firmware Upgrade] or [Firmware Delete].
   - Touching [Upgrade] starts updating using the downloaded firmware data. Select [Yes] in the confirmation screen and touch [OK].
   - Touching [Firmware Delete] will delete the downloaded firmware data. Select [Yes] in the confirmation screen and touch [OK].
6. When the firmware is normally upgraded, the main body will automatically be restarted to complete the Internet ISW.

NOTE

- **To download the firmware, in addition to the proxy settings configured in [FTP Server Settings], you need to configure appropriate settings in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [HTTP Setting], [FTP Setting], and [Forwarding Access Setting].**

12.6.2 Machine Auto Update Settings

- Obtain the update file for the machine from the file storage server, and update the firmware or settings of the machine.
- This function is same as that of the service mode, but it will not be used together with the function of the service mode.
- Refer to I.18.2.1 Auto Update setting for how to create an update file.

(1) Auto Update Settings for This Machine

- To obtain the update file from the specified location, and configure settings to update the machine at the specified time.

Setting item	Default setting
ON	
OFF	○

<Procedure>
- If [ON] is selected, configure the following settings.

NOTE
- **If the machine relay server is used as a server on the data providing side, the SMB protocol will not be used.**

When configuring the settings for SMB with the download protocol

Setting item	Contents
Host Name	Set the host name for the SMB server.
File Path	Set the file path used in the SMB server communication. • Specify the folder in which C_UpdateList.ini is stored. For details, see " I.18.2.1 Auto Update setting."
User Name	Set the user name used to access the SMB server.
Password	Set the password used to access the SMB server.
Number of Retries	Set the number of times to retry when failed to obtain.
Update Time	Touch Clear to set the time to update the machine.
Polling Settings	Set the polling period for obtaining the update list.
Retry Interval	Set the period for retrying when failed to obtain.

When configuring the settings for HTTP with the download protocol

Setting item	Contents
URL	Set the address of the http server. • Specify the folder in which C_UpdateList.ini is stored. For details, see " I.18.2.1 Auto Update setting."
User Name	Set the user name used to access the relay server by http protocol.
Password	Set a password used to access the http server.
Proxy	Select whether to use the proxy server. • If [ON] is selected, set the proxy with [Administrator] -> [Network] -> [Machine Update Settings] -> [HTTP Proxy Settings].
Connection Timeout	Set the timeout period for connecting to the server.
Update Time	Touch Clear to set the time to update the machine.
Polling Settings	Set the polling period for obtaining the update list.
Retry Interval	Set the period for retrying when failed to obtain.

(2) Relay Server Function Settings

- Obtain an update relay data, and configure settings for the relay server function which enables the file to be shared with the other machine.

Update File Download Settings

- Set a relay server to obtain the update relay data from file storage server.

Setting item	Default setting
ON	
OFF	○

<Procedure>
- If [Confirm] is selected, configure the following settings.

Setting item	Contents
URL	Set the address of the file storage server. • Specify the folder in which S_UpdateList.csv is stored. For details, see " I.18.2.2 Relay server setting."
User Name	Set the user name used to access the file storage server.
Password	Set the password used to access the file storage server.
Proxy	Select whether to use the proxy server. • If [ON] is selected, set the proxy with [Administrator] -> [Network] -> [Machine Update Settings] -> [HTTP Proxy Settings].
Polling Settings	Set the polling period for obtaining the update list.
Retry Interval	Set the period for retrying when failed to obtain.
Connection Timeout	Set the timeout period for connecting to the server.

Authentication Setting

- Configure the authentication settings of access management works as an update relay data sharing server.

Setting item	Default setting
ON	
OFF	○

<Procedure>
- If [ON] is selected, configure the following settings.
- DO NOT use the SMB setting

For HTTP Setting

Setting item	Contents
User Name	Set the user name used to access the relay server by http protocol.

Setting item	Contents
Password	Set the password used to access the relay server.

NOTE
- **Once a password is set, be sure not to forget it. It is required for reset.**
- **Please refer to " I.18.2.2 (6) Auto update by relay server" for the file path of relayed data.**

(3) Log TX settings

Update File Download/Update Log
- Save the update file download log for auto update of the machine, and send it to the specified location.

Setting item	Default setting
ON	
OFF	○

<Procedure>
- When [ON] is selected, configure the settings for transmission protocol.

For SMB

Setting item	Contents
Host Name	Set the host name for the SMB server.
File Path	Set the file path used in the SMB server communication.
User Name	Set the user name used to access the SMB server.
Password	Set the password used to access the SMB server.

For WebDAV

Setting item	Contents
URL	Set the address of the WebDAV server.
User Name	Set the user name used to access the WebDAV server.
Password	Set the password used to access the WebDAV server.
Proxy	Select whether to use the proxy server. • If [ON] is selected, set the proxy with [Administrator] -> [Network] -> [Machine Update Settings] -> [HTTP Proxy Settings].

Relay Update File Download Log
- Save the log related to update relay data download for the relay server, and send it to the specified location.

Setting item	Default setting
ON	
OFF	○

<Procedure>
- When [ON] is selected, configure the settings for transmission protocol.

For SMB

Setting item	Contents
Host Name	Set the host name for the SMB server.
File Path	Set the file path used in the SMB server communication.
User Name	Set the user name used to access the SMB server.
Password	Set the password used to access the SMB server.

For WebDAV

Setting item	Contents
URL	Set the address of the WebDAV server.
User Name	Set the user name used to access the WebDAV server.
Password	Set the password used to access the WebDAV server.
Proxy	Select whether to use the proxy server. • If [ON] is selected, set the proxy with [Administrator] -> [Network] -> [Machine Update Settings] -> [HTTP Proxy Settings].

(4) Log Confirmation
- Check the log related to update file download for auto update of the machine or update relay data download for relay server.
- The latest five logs can be checked.

(5) Immediate Update
- To conduct Machine Auto Update manually.
- It will be displayed if all of the following settings are met.
  - [Administrator] -> [Network] -> [Machine Update Settings] -> [Machine Auto Update setting] -> [Auto Update Settings for This Machine] is set to "ON."
  - This is displayed when the update file for auto update settings has been downloaded in MFP storage.

<Procedure>

1. Touch [Immediate Update] to start update.
2. Touch [Yes] on the confirmation screen, and touch [OK].

NOTE

- **Do not set the power to OFF under the following state.**
  - **It takes about 45 seconds from touching [Immediate Update] -> [Start] to the next operation of the MFP (Auto Power OFF).**
  - **About one minute after the download completed screen being displayed, the MFP will restart.**
  - **When rewriting configuration files followed by the firmware, the MFP will restart again.**

(6) Machine Update Password

- To set a password used to decrypt the configuration file(s) of the machine.

<Procedure>

- Enter the decryption password using the on-screen keyboard.

Setting item	Contents
Current Password	Enter the currently used decryption password (only when the decryption password has been set).
New Machine Update Password	Enter the new decryption password.
Confirm Machine Update Password	Enter the new decryption password again.

NOTE

- **Once a password is set, be sure not to forget it. It is required for reset.**
- **Please refer to " I.18.2.1 Auto Update setting" for how to make the configuration file(s).**

12.6.3 HTTP Proxy Settings

- To select whether to connect via a proxy server to access the http server.
- To configure the settings of the server related to connection via a proxy server.

Setting item	Default setting
ON	
OFF	○

<Procedure>

- If [ON] is selected, configure the following settings.

1. Touch [Host Address] in [Proxy Server Address] to set the host address of the proxy server.
2. Set the port number used to access the proxy server in [Proxy Server Port Number].
3. Select whether to perform an authentication to access a proxy server. If [ON] is set, enter the user name and password.

12.7 Storage Management

12.7.1 Encryption Settings

- To set a password used to encrypt data when storing it into the MFP storage.
  - Default setting value: None

NOTE

- **Formatting the storage causes data in the storage to be deleted. We recommend you to back up important data.**
- **This function is not available when the password is specified in Storage Lock Password.**

<Procedure>

1. Tap [Main Storage].
2. Select [Yes], and tap [OK].
3. Enter the encryption passphrase using 20 or 64 characters (case-sensitive).
4. Check that a message is displayed to prompt you to turn the Main Power Switch off and on, and turn the Main Power Switch off and on.
5. After the machine restarted, encryption starts.
   When encryption is completed, this machine restarts automatically, and a message is displayed to prompt you to reformat the storage.
   NOTE
   - **Do not turn the Main Power Switch off and on during the encryption process.**
6. Tap [Utility] –> [Storage Management] –> [Format].
7. Select [Yes], and tap [OK].
   Formatting starts.
8. Check that a message is displayed to prompt you to turn the Main Power Switch off and on, and turn the Main Power Switch off and on.

12.7.2 Debug Log Encryption Settings

- To set a password used to encrypt debug data when storing it into the HDD.
  - Default setting: 01234567890123456789

NOTE

- **This is displayed only when Switch No. "155" is set to [00000001] at Bit assignment/[01] in [Service Mode] -> [System 2] -> [Software Switch Setting].**

<Procedure>

1. Enter the encryption passphrase currently in use.
2. Encryption Passphrase: Enter a new encryption passphrase.
3. Encryption Passphrase Confirmation: Re-enter the new encryption passphrase.

I SERVICE MODE

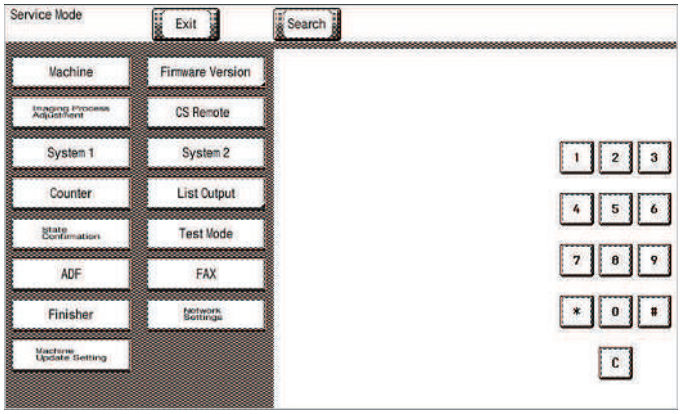
1. Outline

NOTE

- **Ensure appropriate security for Service Mode function setting procedures. They should NEVER be shown to any unauthorized person not involved with service jobs.**

Starting procedure

1. Touch [Utility] on the Home screen.
2. Touch [Counter].
3. Touch [Display Keypad].
4. Press the following keys in this order.
   - Stop -> 0 -> 0 -> Stop -> 0 -> 1
5. Enter the CE password and touch [END]. (The CE password is initially set to "9272927292729272.")
   NOTE
   - **When [Administrator] -> [Security] -> [Enhanced Security Mode] is set to "ON", CE password authentication is necessary.**
   - **If a wrong CE password is entered, re-enter the right password.**
     The machine will not enter Service Mode unless the CE password is entered correctly. To return to the basic screen, turn OFF the main power switch and turn it ON again.
   - **When [Administrator] -> [Security] -> [Security Details] -> [ProhibitFunctions] is set to "Mode 2", operation will be prohibited since it indicates authentication failure by failing to enter the correct CE password within the specified number of times.**
     If the access lock is activated, the lock release timer starts to operate by input the Stop -> 0 -> 9 -> 3 -> 1 -> 7 in [Utility] -> [Counter] -> [Print List] -> [Display Keypad] after the main power switch is turned OFF and On.
     When the timer reaches the time specified in this setting, the access lock is released.
   - **The service code entered is displayed as " * "**
6. The Service Mode menu will appear.



NOTE

- **Be sure to change the CE password from its default value.**
- **For the procedure to change the CE password, see [Enhanced Security] -> [CE Password].**
- **NEVER forget the CE password.**

Setting procedure

1. Press the key corresponding to the function you would like to change the setting for. Keys or setting screens will appear for each function.
2. Press the key for the item that you would like to change the setting for. Setting screens will appear for each item.
3. Press the key for the setting you would like to change. You can also input the numerical value using the 10-key pad. (the [+]/[-] keys can also be used for settings. Follow the directions on the screen to input numerical values.)
   NOTE
   - **For more details, see the description pages for each setting item.**
4. Touch [END]. This closes the setting screen and returns to the Service Mode screen. (If deep within the hierarchy of the setting screen, it may be necessary to touch [END] several times)
5. Touch [Exit]. This will close the Service Mode screen and exit the Service Mode.
6. Turn OFF the main power switch. Wait 10 seconds or longer, then turn ON the main power switch again.
   NOTE
   - **Simply exiting the Service Mode will not make the changed settings take effect. You must turn the main power switch OFF and then ON again.**

Exiting procedure

1. Call the initial screen of Service Mode.
2. Touch [Exit] on the Service Mode screen.
3. Turn OFF the main power switch. Wait 10 seconds or longer, then turn ON the main power switch again.

2. SETUP WIZARD

- Use of the Setup Wizard function allows those items that need to be set during the setup procedure to be extracted from the Service Mode and set.
- This enables efficient selection and setting of Service Mode functions during the setup procedure.

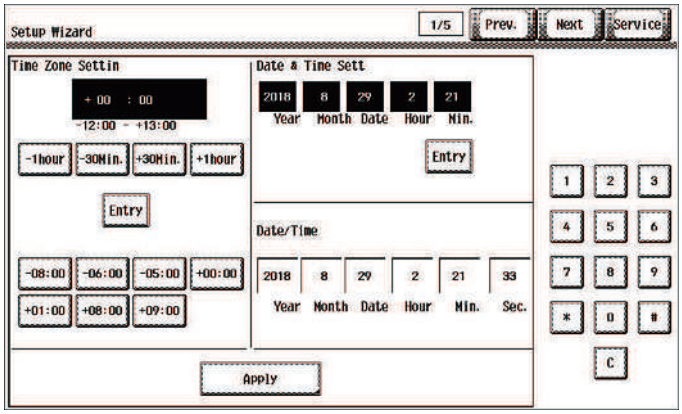
NOTE

- **The specific function may be set either via the "Service Mode" or the "Setup Wizard". The setting made last is the valid setting.**

Starting procedure

1. Call the initial screen of Service Mode.
2. Press the following keys in this order.
   - Stop -> 3
3. Touch the [Prev.] key or [Next] key to select the mode.

e.g.



Exiting procedure

1. Touch [Service]. The home Service Mode screen reappears.
2. Touch [Exit].
3. Turn OFF the main power switch. Wait 10 seconds, then turn ON the main power switch again.

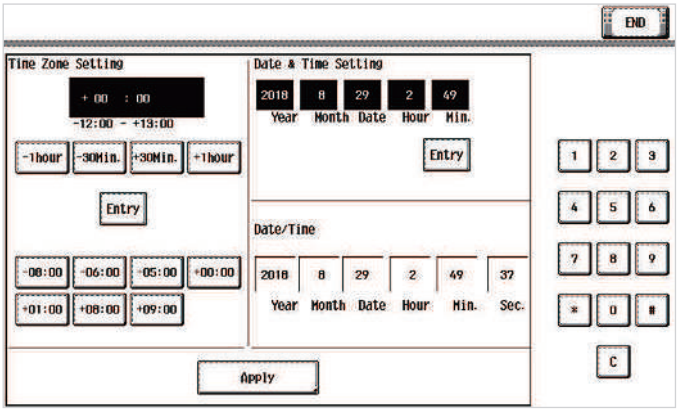
3. Time Zone/Date & Time Input mode

- This mode is used to set time-of-day and date.
- The set time zone/date & time are automatically reflected in the date and time setting of Administrator Settings.

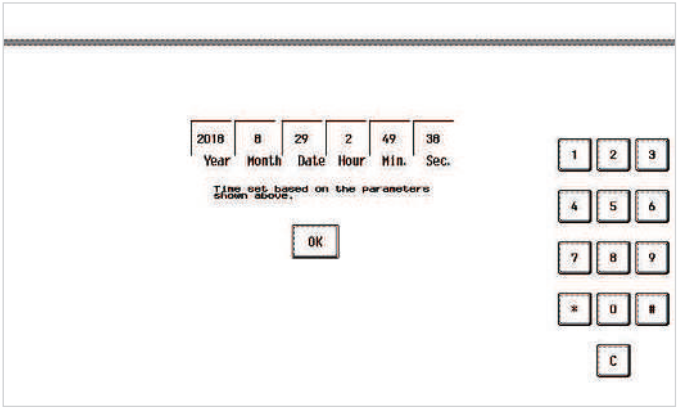
Time Zone Setting	Set the time zone applicable to the area. After the setting, touch [Entry] and then [Apply] to validate the time. The following lists settings of time zones of different areas. -08:00: U.S.: Pacific Standard Time -06:00: U.S.: Central Standard Time -05:00: U.S.: Eastern Standard Time -00:00: England: Greenwich mean time +01:00: Western European countries +08:00: China, Taiwan, western part of Australia +09:00: Japan, Korea
Date & Time Setting	Enter the time from the 10-key pad to set the time-of-day. Before making any entry, first press Clear. After the time has been set, touch [Entry] and then [Apply].

<Procedure>

1. Call the initial screen of Service Mode.
2. Press the following keys in this order.
   - Stop -> 1 -> 1 -> 4 -> 4 -> Clear
3. Enter time zone year, month, day, hour, and minute, in that order, from 10-key pad.
   NOTE
   - **Before entering date and time, touch Clear to delete the present time from the place where data and time is entered.**
   - **When setting the month, day, hour, or minute, enter "0" first if the data one digit.**
4. Make sure that the correct value has been entered, then touch [Entry] and then [Apply].



5. After the confirmation screen appears, touch [OK].

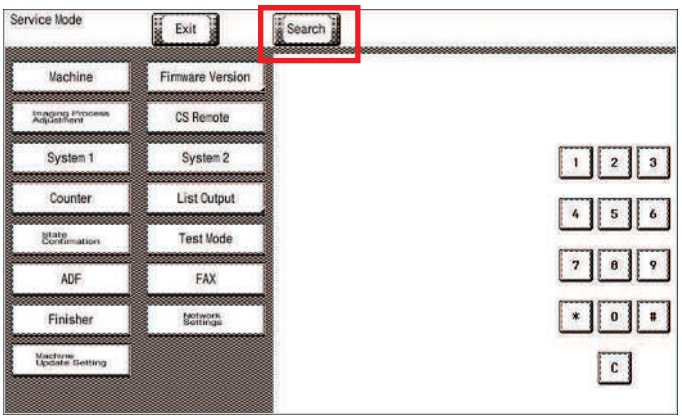


4. Search

- Searches parameters that include the entered keyword.
- You can display the function screen from the search results.

<Procedure>

1. Touch [Search] at the initial screen of Service Mode.



2. Enter the desired search keyword.
3. Touch [END].
4. Select the desired function from the displayed search results and touch [Start].
5. The screen for the selected function displays.

5. Machine

5.1 Fusing Temperature

- To adjust individually the temperature of the heating roller for each type of paper, thereby coping with varying fusing performance under changing environmental conditions.
- When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change.
- Use when the curling of the paper due to the paper type or environmental change occurred, or when the paper jam, as well as stapling or folding position error occurred due to the curling of the paper.
- By setting the temperature higher (+), gloss of print can be improved.
- By setting the temperature lower (-), exit roller mark can be reduced.

Setting item	Setting range	Default setting
Plain paper	- 20 °C to +10 °C (step: 5 °C)	0 °C
Plain paper+		
Thick paper		
Thick 1		
Thick 1+		
Thick 2		
Post.		
Enve.		
Recycled		
Glossy Paper 1		
Glossy Paper 1+		
Glossy Paper 2		
Labels		
Letterhead		

<Procedure>

1. Select a setting item.
2. Enter the new setting from the [+] / [-] key.
   - If fusing performance is poor, increase the setting.
   - If wax streaks occur, decrease the setting.
   - If offset is poor, increase the setting.
   - If curling of the paper occurs, decrease the setting.
3. Touch [END].
4. Return to the basic screen.
5. Output two or three test patterns and check to see whether the image has any problem.
6. Make the adjustment for each type of paper.

5.2 Fusing Transport Speed

- To adjust the speed of the fusing motor so as to match the fusing speed with transport speed.
- Brush effect or blurred image is evident as a result of changes in environmental conditions or degraded durability.

Setting item	Supported paper	Setting range	Default setting
Full speed paper type	Plain paper, Plain paper+, Recycled paper, Letterhead	-20 to +20 (Step: 1)	0
Half speed paper type	Thick 1, Thick 1+, Thick 2, Postcard, Envelope, Glossy Paper 1, Glossy Paper 1+, Glossy Paper 2, Labels		

<Procedure>

1. Select a processing speed for the mode where a brush effect or a blurred image occurred.
2. Enter the new setting from the 10-key pad.
   - If brush effect is evident, vary the setting value and check for image.
   - If a blurred image occurs, decrease the setting.
3. Touch [END].
4. Return to the basic screen.
5. Check the print image for any image problem.

5.3 Printer Area

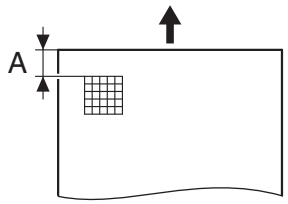
5.3.1 Leading Edge Adjustment

- To vary the print start position in the sub scan direction for each of different paper types. (to adjust the timing starting from the roller connection up to start of transfer output).
- Although the adjustment is made on the manual bypass tray, the adjusted values are reflected to each paper tray.
- The PH unit has been replaced.
- The print image deviates in the sub scan direction.
- A faint image occurs on the leading edge of the image.
- This setting can be made independently for each paper type.

Target	Setting range	Supported paper	Default setting
4.2 ± 2.0 mm	-3.0 mm to +3.0 mm (in 0.2 mm increments)	Other than Enve.	0.0 mm
	-3.0 mm to +6.0 mm (in 0.2 mm increments)	Enve.	

<Procedure>

1. Load manual bypass tray with A4 or 8 1/2 x 11 plain paper.
2. Select a test pattern.
3. Select a paper type.
4. Press the Start key to let the machine produce a test pattern.
5. Check the dimension of width A on the test pattern.



6. If width A falls outside the target, change the setting using the [+] / [-] key.
   - If width A is longer than the target, make the setting value smaller than the current one.
   - If width A is shorter than the target, make the setting value greater than the current one.
7. Press the Start key to let the machine produce a test pattern.
8. Check the dimension of width A on the test pattern.
9. If width A is outside the target, change the setting again and make a check again.
10. If width A falls within the target, touch [END].

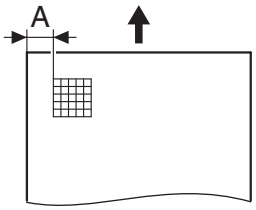
5.3.2 Printer Image Centering Side 1

- To vary the print start position in the main scan direction for each paper source.
- The PH unit has been replaced.
- A paper feed unit has been added.
- The print image deviates in the main scan direction.

Target	Setting range	Default setting
4.2 ± 2.0 mm	-5.0 mm to +5.0 mm (in 0.2 mm increments)	0.0 mm

<Procedure>

1. Load paper to the paper source to be adjusted.
   NOTE
   - **Use A4 or 8 1/2 x 11 plain paper for the manual bypass tray.**
2. Select a test pattern.
3. Select a paper source.
4. Press the Start key to let the machine produce a test pattern.
5. Check the dimension of width A on the test pattern.



6. If width A falls outside the target, change the setting using the [+] / [-] key.
   - If width A is longer than the target, make the setting value smaller than the current one.
   - If width A is shorter than the target, make the setting value greater than the current one.
7. Press the Start key to let the machine produce a test pattern.
8. Check the dimension of width A on the test pattern.
9. If width A is outside the target, change the setting again and make a check again.
10. If width A falls within the target, touch [END].

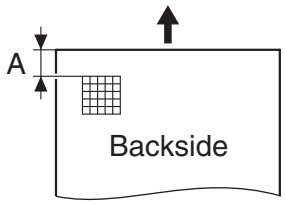
5.3.3 Leading Edge Adj. Side 2 (Duplex)

- For individual types of paper, this function allows the adjustment of the image write start position in the sub scan direction on the 2nd side of duplex printing. (to adjust the timing starting from the roller connection up to start of transfer output).
- Although the adjustment is made on the manual bypass tray, the adjusted values are reflected to each paper tray.
- This adjustment is made when the image on the 2nd side of paper deviates from the original position in the sub scan direction.
- This setting can be made independently for each paper type.

Target	Setting range	Default setting
4.2 ± 2.0 mm	-3.0 mm to +3.0 mm (in 0.2 mm increments)	0.0 mm

<Procedure>

1. Load manual bypass tray with A4 or 8 1/2 x 11 plain paper.
2. Select a test pattern.
3. Select a paper type.
4. Press the Start key to let the machine produce a test pattern.
5. Check the dimension of width A on the test pattern. For measurement, use the image produced on the backside of the test pattern.



6. If width A falls outside the target, change the setting using the [+] / [-] key.
   - If width A is longer than the target, make the setting value smaller than the current one.
   - If width A is shorter than the target, make the setting value greater than the current one.
7. Press the Start key to let the machine produce a test pattern.
8. Check the dimension of width A on the test pattern.
9. If width A is outside the target, change the setting again and make a check again.
10. If width A falls within the target, touch [END].

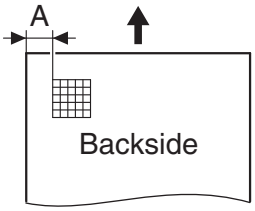
5.3.4 Prt. Image Center. Side 2 (Dup)

- To vary the print start position in the main scan direction for each paper source in the 2-Sided mode.
- The image on the backside of the 2-sided copy deviates in the main scan direction.

Target	Setting range	Default setting
4.2 ± 2.0 mm	-3.0 mm to +3.0 mm (in 0.2 mm increments)	0.0 mm

<Procedure>

1. Load paper to the paper source to be adjusted.
   NOTE
   - **Use A4 or 8 1/2 x 11 plain paper for the manual bypass tray.**
2. Select a test pattern.
3. Select a paper source.
4. Press the Start key to let the machine produce a test pattern.
5. Check the dimension of width A on the test pattern. For measurement, use the image produced on the backside of the test pattern.



6. If width A falls outside the target, change the setting using the [+] / [-] key.
   - If width A is longer than the target, make the setting value smaller than the current one.
   - If width A is shorter than the target, make the setting value greater than the current one.
7. Press the Start key to let the machine produce a test pattern.
8. Check the dimension of width A on the test pattern.
9. If width A is outside the target, change the setting again and make a check again.
10. If width A falls within the target, touch [END].

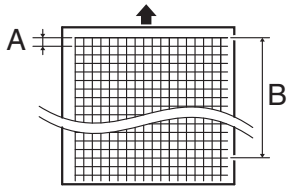
5.3.5 Paper Feed Direction Adj.

- To synchronize the paper transport speed with the image writing speed.
- [Sub Scan Zoom Adj.] becomes necessary.
- The print image on the copy distorts (stretched, shrunk).
- When the print image on the copy is stretched in the sub scan direction.
- This setting can be made independently for each paper type.

Check Item	Target	Setting range	Default setting
Width A: equivalent to one grid	5.4 ± 0.2 mm	-7 to +7	0
Width B: equivalent to 48 grids	270.9 ± 2.0 mm	-7 to +7	0

<Procedure>

1. Load manual bypass tray with A4 or 8 1/2 x 11 plain paper.
2. Select a test pattern.
3. Select a paper type.
4. Press the Start key to let the machine produce a test pattern.
5. Check width A (equivalent to one grid) and width B (equivalent to 48 grids) on the test pattern.



6. If width of A or B falls outside the target, change the setting using the [+] / [-] keys.

- If width A or B is longer than the target, make the setting value smaller than the current one.
- If width A or B is shorter than the target, make the setting value greater than the current one.

7. Press the Start key to let the machine produce a test pattern.
8. Check width A and width B on the test pattern.
9. If width A or width B is outside the target, change the setting again and make a check again.
10. If width A and width B fall within the target, touch [END].

5.3.6 Tray Printing Position: Tip

- To change and adjust image printing position at vertical scanning direction by each feed. (to adjust the timing starting from the roller connection up to start of transfer output). It is not applicable in case the job is fed at re-feed.
- To be used when [Printer Area-Leading Edge Adjustment] is not enough for full adjustment (as such case that image printing position gets deviated due to pattern of each feed.)
- Adjustment is made for plain paper.

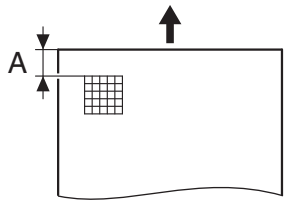
NOTE

- **[Printer Area-Leading Edge Adjustment] should be made within target.**
- **Image printing position at vertical scanning direction is adjusted based on the combination value of this setting figure and [Printer Area-Leading Edge Adjustment] figure. In case the value does not fall in the setting range, the figure should be rounded to the minimum or maximum value.**

Target	Setting range	Default setting
4.2 ± 2.0 mm	-3.0 mm to +3.0 mm (in 0.2 mm increments)	0.0 mm

<Procedure>

1. Set the targeted tray with plain paper, and select the feed tray.
2. Press the Start key to let the machine produce a test pattern.
3. Check the dimension of width A on the test pattern.

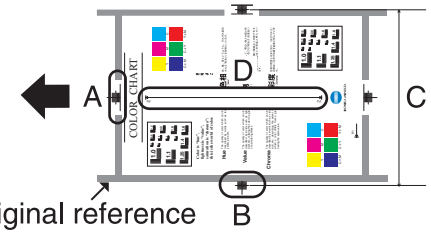


4. If width A falls outside the target, change the setting using the [+] / [-] key.
   - If width A is longer than the target, make the setting value smaller than the current one.
   - If width A is shorter than the target, make the setting value greater than the current one.
5. Press the Start key to let the machine produce a test pattern.
6. Check the dimension of width A on the test pattern.
7. If width A is outside the target, change the setting again and make a check again.
8. If width A falls within the target, touch [END].

5.4 Scan Area

5.4.1 Test chart

- Use the following test chart for the adjustment of the scanner section.
- If the test chart is not available, a scale may be used instead.



Measurement position	Adjustment item
A	Image Position: Leading Edge
B	Scanner Image Side Edge
C	Main Scan Zoom Adj.
D	Sub Scan Zoom Adj.

5.4.2 Image Position: Leading Edge

- To adjust variations in mounting accuracy and sensitivity of the scanner home sensor and in mounting accuracy of the original width scale by varying the scan start position in the sub scan direction.
- When the original glass is replaced.
- The CCD board has been replaced.
- The scanner home sensor has been replaced.

NOTE

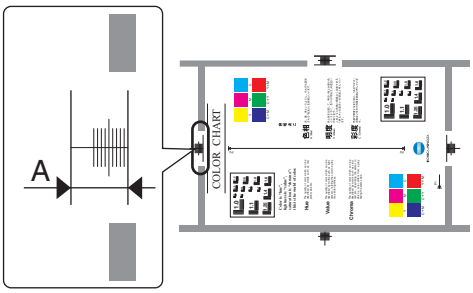
- **Width A on the test chart and one on the test pattern are measured and adjusted so that the difference of width A satisfies the the following target shown below.**
- **An adjustment must have been completed correctly of [Leading Edge Adjustment] of the [Printer Area].**

Target	Setting range	Default
Width A: ± 1.0 mm	-3.0 mm to +3.0 mm (in 0.1 mm increments)	0.0 mm

<Procedure>

1. Position the test chart correctly so that the original reference point is aligned with the scale.
2. Press the Start key to make a copy.
3. Check point A on the test pattern.

Enlarged view of the test chart



4. If the test pattern falls outside the target, change the setting using the [+] / [-] key.
   - If the copy image is less than the target, increase the setting value.
   - If the copy image exceeds the target, decrease the setting value.
5. Press the Start key to make another test pattern.
6. Check the image on the test pattern to see if the specifications are met.
7. Make adjustments until the targets are met.

5.4.3 Scanner Image Side Edge

- To adjust part-to-part variations in accuracy of scanner parts and their mounting accuracy by varying the scan start position in the main scan direction.
- When the original glass is replaced.
- The CCD board has been replaced.

NOTE

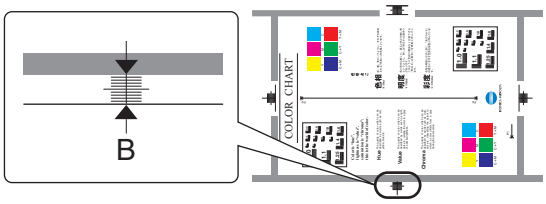
- **Width B on the test chart and one on the test pattern are measured and adjusted so that the difference of width B satisfies the the following target shown below.**
- **An adjustment must have been completed correctly of [Printer Image Centering Side 1] of [Printer Area].**

Target	Setting range	Default
Width B: ± 1.0 mm	-1.7 to +1.7 mm (1 step: 0.1 mm)	0.0 mm

<Procedure>

1. Position the test chart correctly so that the original reference point is aligned with the scale.
2. Press the Start key to make a copy.
3. Check point B on the test pattern.

Enlarged view of the test chart



4. If the test pattern falls outside the target, change the setting using the [+] / [-] key.
   - If the copy image is less than the target, increase the setting value.
   - If the copy image exceeds the target, decrease the setting value.
5. Press the Start key to make another test pattern.
6. Check the image on the test pattern to see if the specifications are met.
7. Make adjustments until the targets are met.

5.4.4 Main Scan Zoom Adj.

- To adjust the zoom ratio in the main scan direction for the scanner section.
- The CCD board has been replaced.

NOTE

- **Width C on the test chart and one on the test pattern are measured and adjusted so that the difference of width C satisfies the the following target shown below.**
- **An adjustment must have been completed correctly of [Printer Area].**

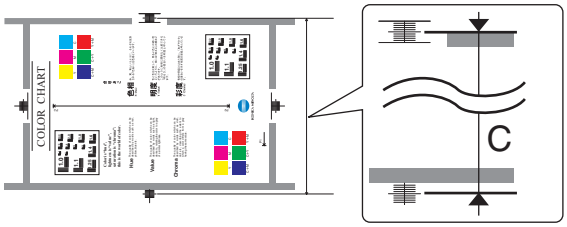
Target	Setting range	Default
Width C: ± 1.0 mm	0.990 to 1.015 (Step: 0.001)	1.000

* Standard size when using a scale: 200.0 mm

<Procedure>

1. Position the test chart correctly so that the original reference point is aligned with the scale.
2. Press the Start key to make a copy.
3. Check point C on the test pattern.

Enlarged view of the test chart



4. If the test pattern falls outside the target, change the setting using the [+] / [-] key.
   - If the C width on the copy sample is less than one on test chart, increase the setting.
   - If the C width on the copy sample exceeds one on test chart, decrease the setting.
5. Press the Start key to make another test pattern.
6. Check the image on the test pattern to see if the specifications are met.
7. Make adjustments until the targets are met.

5.4.5 Sub Scan Zoom Adj.

- To adjust the zoom ratio in the sub scan direction for the scanner section.
- The LED exposure unit or the scanner motor has been replaced.

NOTE

- **Width D on the test chart and one on the test pattern are measured and adjusted so that the difference of width D satisfies the the following target shown below.**
- **An adjustment must have been completed correctly of [Printer Area].**

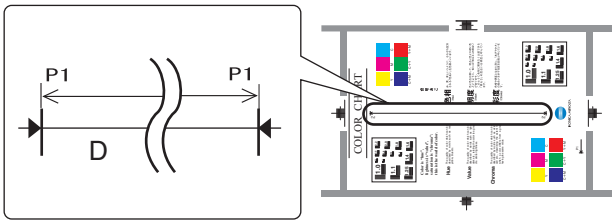
Target	Setting range	Default
Width D: ± 1.0 mm	0.990 to 1.015 (Step: 0.001)	1.000

* Standard size when using a scale: 300.0 mm

<Procedure>

1. Position the test chart correctly so that the original reference point is aligned with the scale.
2. Press the Start key to make a copy.
3. Check point D on the output test pattern.

Enlarged view of the test chart



4. If the test pattern falls outside the target, change the setting using the [+] / [-] key.
   - If the D width on the copy sample is less than one on test chart, increase the setting.
   - If the D width on the copy sample exceeds one on test chart, decrease the setting.
5. Press the Start key to make another test pattern.
6. Check point D on the output test pattern again.
7. Make adjustments until the targets are met.

5.5 Color Registration Adjustment

- To adjust color shift if there is any when comparing the original with copy of the plain or thick paper.
- To correct any color shift.
- This setting can be made independently for each paper type.

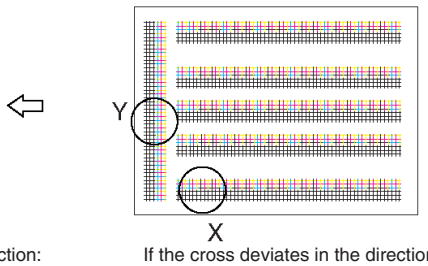
Setting item		Setting range	
Paper type	Color selection		
Plain Paper/Plain Paper+, Thick Paper	Cyan, Magenta, Yellow	X	-6 to +6 dot (step: 1 dot)
		Y	-6 to +6 dot (step: 1 dot)

<Procedure>

1. Load manual bypass tray with A4.
2. Press the Start key.
3. On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y.
4. Select the paper type and color to be adjusted.
5. Using the [+] / [-] key, change the setting value as necessary. (At this time, only the line of the selected color moves.)
   - If the cross deviates in the direction of A, decrease the setting.
   - If the cross deviates in the direction of B, increase the setting.
6. Produce another test pattern and make sure that there is no deviation.

Check Procedure

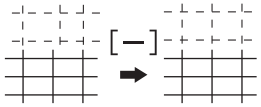
Check point X, Y



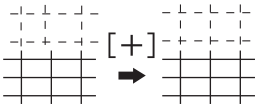
Adjustment for X direction:
Check point X

If the cross deviates in the direction of A, decrease the setting.
If the cross deviates in the direction of B, increase the setting.

Direction of A



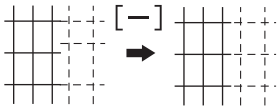
Direction of B



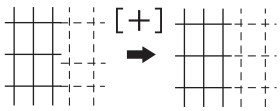
Adjustment for Y direction:
Check point Y

If the cross deviates in the direction of A, decrease the setting.
If the cross deviates in the direction of B, increase the setting.

Direction of A



Direction of B



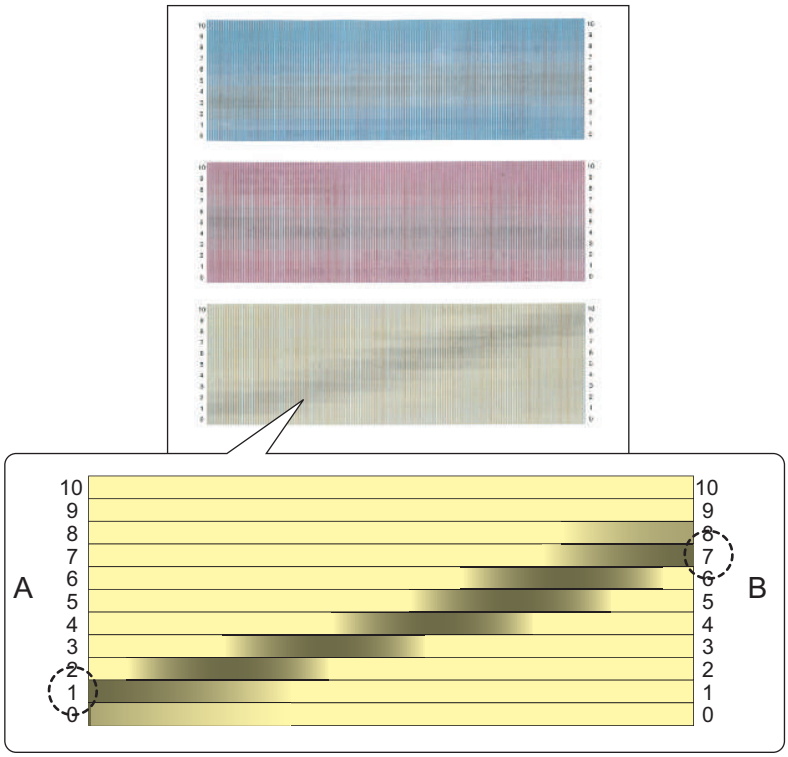
5.6 Main Scanning Direction Zoom

- To make the zoom adjustment in the main scanning direction.
- Use the function when the PH unit has been replaced with a new one.
- This adjustment is necessary when the adjustment value is cleared, such as when the backup board is replaced with a new one.
- Turn OFF and ON the main power switch after press the [Reset to default] button and return to values adjusted at the factory.

Target	Setting range	Default setting
Yellow	-42 to 42 (step: 1)	0
Magenta		
Cyan		

<Procedure>

1. Load manual bypass tray with A4 or 8 1/2 x 11 plain paper.
2. Touch [Start] key to let the machine produce a test pattern.



3. Using the produced test pattern, adjust so that the gray line on each color pattern extends in parallel with the main scanning direction.
   Follow the steps given below to calculate the setting value of each of cyan, magenta, and yellow:
   1. On the ends on side A and side B on each color pattern, identify the numeral at which the darkest gray line is located. (For the sample yellow pattern, the numerals are "1" on side A and "7" on side B.)
   2. The setting value is the numeral on side B subtracted from the numeral on side A. (For the sample yellow pattern, 1 - 7 = 6 and the setting value is "-6".)
4. Touch the key of the color to be adjusted.
5. Enter the setting value calculated in step 4 and touch [END].
6. Touch [Start] key, produce a test pattern again and check the result of the adjustment.

- Specifications: The positions at which the darkest gray lines are located on the ends on side A and side B should fall within two steps.

5.7 LD adjustment

5.7.1 LD Light Width Adjustment

- To fine-adjust the light-emitting time of the laser that is scanned by the polygon motor.
- Use when the reproducibility of thin line is reduced.

NOTE

- **Adjustment value of this setting will be reflected by the image stabilization control.**

Setting range	Default setting
0 to +6 (Step: 1)	+6

<Procedure>

1. Enter the new setting from the [+] / [-] keys.
   - Increase the adjust value: Light-emitting time will be lengthened.
   - Decrease the value: Light-emitting time will be shortened.

5.8 Lead Edge Erase Adjustment

- To set the leading edge erase amount of the paper.
- Upon user requests, it is possible to specify the void area where image is not printed along the leading edge.
- This adjustment can be made individually for First Side and Second Side.

Setting item	Setting value	Default setting
First Side/Second Side (*1)	4 mm	○
	5 mm	
	7 mm	

*1: When “4 mm” is selected, 4.2 mm is the actual amount to be erased in print based on the control system of the machine.

5.9 Non-Image Area Erase Check

- The non-image area erase function may not work properly under bright light source. Incoming light quantity is checked to verify that the non-image area erase function can work properly under the environment.
- Verification results are shown as follows:
- Use this feature when installing a new machine or reinstalling a machine in a new place.

- Use this feature when the non-image area erase function fails to work properly due to the changes of the surrounding environment at the installation site.

<Procedure>

1. Press the Start key to start a check.
   NOTE
   - **Before the check, make sure that the DF or original cover is completely opened. In addition, make sure that no scratch or stain exists on the original glass.**
2. Check the verification results.

Verification results	Contents
OK	Works properly.
NG1	Works properly. However, data that may interfere with the non-image area erase function was found. (This function may not work well with dark original.)
NG2	Data that may interfere with the non-image area erase function was found.

NOTE

- **If the check result is "NG1" or "NG2," reinstall the machine in another place or adjust the orientation of the machine to reduce light incidence on the machine. Then, perform the check again.**

6. Firmware Version

- To check the firmware version.
- Use when the firmware is upgraded.

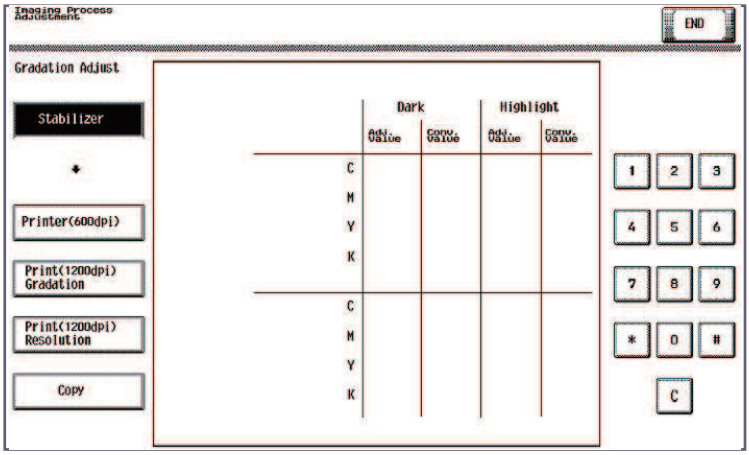
<Procedure>

1. Touch [Firmware Version].
2. Touch the [↑] / [↓] key to check the firmware version.

7. Imaging Process Adjustment

7.1 Gradation Adjust

- To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the scanner.
- Gradation or density reproduction performance becomes poor.
- The drum unit, developing unit, or transfer belt unit has been replaced.
- The Adj. Values of “Dark” and “Highlight” shown on the gradation adjust screen represent how much corrections are made to produce an ideal image output. Conv. Value shows the difference from the ideal image density.
- The closer the Conv. Value to 0, the more ideal the image.



Mode key	Function
Stabilizer	The image stabilization is performed. The controller reflects the image stabilization result in the gradation adjustment table to update the table. After the image stabilization is performed, [Printer] / [Copy] key will become selectable.
Printer(600dpi)	Detect the gradation reproducibility of the gradation reproduction method (gradation screen, resolution screen) for 600 dpi print mode, and correct the gradation adjustment table.
Print(1200dpi) Gradation	Detect the gradation reproducibility of the gradation reproduction method (gradation screen) for 1200 dpi print mode, and correct the gradation adjustment table.
Print(1200dpi) Resolution	Detect the gradation reproducibility of the gradation reproduction method (resolution screen) for 1200 dpi print mode, and correct the gradation adjustment table.
Copy	Detect the gradation reproducibility of the following gradation reproduction methods, and correct the gradation adjustment table. • Compression screen (reduce the data volume by 1bit from 8bit while maintaining above a certain quality of characters/images) • FFET (reproduce the character edges smoothly without using the screen)

<Procedure>

NOTE

- **When executing the gradation adjustment, make sure to use the white paper for color copy.**

1. Touch [Stabilizer] and the Start key to perform image stabilization.
   NOTE
   - **Before executing Gradation adjust, be sure to perform Stabilizer.**
2. Select a gradation adjustment item.
3. Press the Start key to let the machine produce a test pattern.
   NOTE
   - **When the image stabilization performed in step 3 is NG, the Start key stops functioning.**
   - **When one of the alert codes, P-5, P-6, P-7, P-8, P-9, and P-28 is on the screen and [Printer] is selected, the Start key stops functioning.**
4. Place the test pattern produced on the original glass.
   NOTE
   - **Set the test pattern according to the instructions displayed on the control panel.**
5. Place ten blank sheets of paper on the test pattern and lower the original cover.
6. Press the Start key. (The machine will then start scanning the test pattern.)
7. Touch [OK] and repeat steps from 4 through 8 twice. (a total of three times)
8. Touch [Gradation Adjust] to display the Adj. Values and Conv. Values of each color (C, M, Y and K) for Dark and Highlight.
9. Use the following procedures to check the Conv. Value.
   - Dark: 0 ± 100 and Highlight: 0 ± 60: It completes the adjustment procedure.
   - If neither Dark nor Highlight falls outside the ranges specified above: Perform steps from 4 to 8.
   - If the convergence falls within the specified range after the second Gradation Adjustment, further adjustment may not be necessary.

NOTE

- **If a fault is detected, “0” is displayed for all values. In that case, after turning off the main power switch, turn it on again more than 10 seconds after and then make the gradation adjustment again.**
- **If either dark or highlight still remains outside the specified ranges perform [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj].**
- **If a total of four sequences of gradation adjust do not bring the values into the specified range, check the image.**
- **If the image is faulty, perform the troubleshooting procedures for image problems.**

7.2 Stabilizer

- Use if an image problem persists even after gradation adjustment has been executed.

Mode	Item
Initialize+Image Stabilization	To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized. Use if tone reproduction and maximum density are faulty even after image stabilization has been executed. When color shift correction is needed again after the machine maintenance.
Stabilization Only	The image stabilization sequence is carried out without clearing the historical data of image stabilization control. When [Max Image Density Adj] and [Image Background Adj] of Service Mode are changed.

<Procedure>

1. Select an execution mode.
2. Touch the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence.
3. Stabilizer is completed when the Start key turns blue.

7.3 Max Image Density Adj

- To adjust gradation, color, and image density to target reproduction levels by varying the maximum amount of toner sticking to paper through auxiliary manual fine-adjustment of gamma of each color after gradation adjust.
- An image quality problem is not corrected even after gradation adjust has been run.

Setting item		Setting value	Default setting
Copy, Printer	Cyan, Magenta, Yellow, Black	-10 to +10 (Step: 1) • 1 step corresponds to 0.03 in density difference.	0

<Procedure>

1. Select a setting item.
2. Enter the new setting from the 10-Key pad and [+/-] key.
   - To increase the maximum amount of toner sticking, increase the setting value.
   - To decrease the maximum amount of toner sticking, decrease the setting value.
3. Touch [END].

NOTE

- **If the setting value has been changed, be sure to perform [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only].**

7.4 Image Background Adj

- To adjust the highlight portion (fog level) to the target reproduction level by making an auxiliary manual fine-adjustment of γ of each color after gradation adjust.
- Use when a foggy background occurs due to a printer problem.

Setting item	Setting value	Default setting
Cyan, Magenta, Yellow, Black	-5 to +5 (step: 1) • 1 step corresponds to 10V.	0

<Procedure>

1. Select a setting item.
2. Enter the new setting from the 10-Key pad and [+/-] key.
   - To make the background level foggier, decrease the setting value.
   - To make the background level less foggy, increase the setting value.
3. Touch [END].

NOTE

- **If the setting value has been changed, be sure to perform [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only].**

7.5 Paper Separation Adjustment

- By changing the period between the activation of the registration roller and the 2nd image transfer output, the paper separation position can be adjusted for the 1st and 2nd sides of paper.
- To ensure proper balance between paper separating and image transferring performances by varying the paper separation position applied for duplex printing in hot and humid conditions.

Setting item	Setting value	Default setting
First Side/Second Side	-10 mm to +10 mm (step: 0.1 mm)	0.0 mm

<Procedure>

1. Select a setting item.
2. Enter the new setting from the [+] / [-] keys.
   - Priority on paper separation performance: Increase the setting value
   - Priority on image transfer performance: Decrease the setting value
3. Touch [END] to validate the setting value.
4. Check the print image for any image problem.

7.6 TCR Level Setting

- To adjust the T/C control level when an abnormal image density occurs as a result of a change in the amount of charge of toner and carrier due to an environmental change.
- Use when T/C changes due to changes in environmental conditions of the user site.

Setting item	Setting value	Default setting
Cyan, Magenta, Yellow, Black	-3 to +3 (Step: 1) • 1 step is equivalent to 0.5%. • Center value 0 corresponds to T/C ratio: 6.5%	0

<Procedure>
1. Select a setting item.
2. Enter the new setting from the 10-Key pad and [+/-] key.
   - To increase T/C, increase the setting value.
   - To decrease T/C, decrease the setting value.
3. Touch [END] to validate the adjustment value.
4. Open and close the front door.
5. Check the print image for any image problem.

7.7 Transfer Voltage Fine Adj

7.7.1 Primary transfer adj.

- Adjust the output value for the 1st image transfer voltage.
- To use when white spots appeared.

Setting range	Default setting
-8 to +7 (Step: 1) • 1 step is equivalent to 1µA.	0

<Procedure>
1. Select [Service Mode] -> [Test Mode] -> [Halftone Pattern] to output the red or green test pattern.
2. When the test pattern image has white spots, adjust with the following procedure.
3. Select [Service Mode] -> [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj] -> [Primary transfer adj.].
4. Enter the new setting from the [+] / [-] keys.
   - Increase the output value for the 1st image transfer voltage: Increase the setting value. (white spots will decrease)
   - Decrease the output value for the 1st image transfer voltage: Decrease the setting value.
5. Touch [END] to validate the setting value.
   - Gradually increase the setting value to the acceptable white spots level while checking the test pattern.

NOTE
- **Photoconductor memory may occur by taking measure to white spots occurred by increasing the 1st image transfer voltage to adjust it.**
- **Check the image on the test pattern or the color chart when adjusting.**

7.7.2 2nd Transfer Adj.

- Adjust the 2nd image transfer output (ATVC) on the 1st page and the 2nd page for each paper type.
- To use when the transfer failure occurs.
- Setting current control to [ON] activates the 2nd image transfer amperage upper and lower limit control. In this case, the machine uses the voltage determined by the auto transfer voltage control and the 2nd image transfer voltage fine adj value does not take effect.

Image side	Setting item	Setting value		Default setting
First Side	Current control	ON		○
		OFF		
	Paper Type	Plain - Color, Normal Paper - Black, Plain paper+ - color, Plain paper+ - black, Thick1 - Color, Thick Paper1 - Black, Thick1+ - Color, Thick1+ - Black, Thick2 - Color, Thick2 - Black, Glossy Paper1 - Color, Glossy Paper1 - Black, Glossy Paper1+ - Color, Glossy Paper1+ - Black, Glossy Paper2 - Color, Glossy Paper2 - Black, Postcard - Color, Postcard - Black, Envelope - Color, Envelope - Black, Labels - Color, Labels - Black, Recycled Paper - Color, Recycled Paper - Black, Special Paper - Color, Special Paper - Black, Colored Paper - Color, Colored Paper - Black, Single Side Only - Color, Single Side Only - Black, Letterhead - Color, Letterhead - Black	-8 to +7 (Step: 1) 1 step is equivalent to 100 V.	0
Second Side	Current control	ON		○
		OFF		
	Paper Type	Plain - Color, Normal Paper - Black, Plain paper+ - color, Plain paper+ - black, Thick1 - Color, Thick1 - Black, Thick1+ - Color, Thick1+ - Black, Thick2 - Color, Thick2 - Black, Recycled Paper - Color, Recycled Paper - Black, Special Paper - Color, Special Paper - Black, Colored Paper - Color, Colored Paper - Black	-8 to +7 (Step: 1) 1 step is equivalent to 100 V.	0

<Procedure>
1. Select [2nd Transfer Adj].
2. Select the Image side paper type with the transfer failure.
3. Enter the new setting from the [+] / [-] keys.
   - To increase the ATVC value (in the direction of a foggier image), increase the setting value.

- To decrease the ATVC value (in the direction of a less foggy image), decrease the setting value.

4. Touch [END] to validate the setting value.
5. Check the print image for any image problem.

7.8 Charging voltage adjustment

- The heat dissipating effect inside the unit is reduced due to the effects of low atmospheric pressure in locations of high altitude. For this reason, since the temperature of parts and units is increased, make a charging voltage adjustment to lower the ambient temperature.
- Change the setting in accordance with your altitude.

Setting	Altitude	Default setting
0	0	0
1	500	
2	1000	
3	1500	
4	2000	
5	2500	
6	3000	
7	3500	
8	4000	
9	4500	
10	5000	

7.9 Thick Paper Density Adjustment

- To fine-adjust density of printed images for thick paper.
- To change the density of the printed image for each color with thick paper.

Setting item		Setting value	Default setting
Paper Type	Setting color		
Thick Paper/Glossy Mode/1200dpi	Cyan, Magenta, Yellow, Black	-5 to +5 (Step: 1)	0

<Procedure>

1. Select a setting item.
2. Touch the Lighter or Darker key to correct the image density.
   - Light color: Touch the Darker key.
   - Dark color: Touch the Lighter key.
3. Touch [END] to validate the setting value.

7.10 Grad/Dev AC Bias V Selection

- Changes the developing AC voltage, charging AC voltage and 1st. image transfer current settings.
- Turn ON to lower the above-mentioned voltages and prevent white spots caused by leakage.
- Used when fine white spots occur on the entire image in the environment of low atmospheric pressure, such as a highland.
- Also used when void areas occur on a yellow halftone pattern image or a solid pattern image.

Setting value	Default setting
ON	
OFF	○

7.11 Manual Toner Add

Manual Toner Add

- To adjust the set T/C level by replenishing an auxiliary supply of toner when a low ID occurs due to a lowered T/C after large numbers of prints have been made of originals having a high image density.
- When there is a drop in T/C ratio.

<Procedure>

1. Touch [Manual Toner Add].
2. Select the color, for which supply of toner is to be replenished.
3. Pressing the Start key will let the machine detect the current toner density and; if the density is lower than a reference value, a toner replenishing sequence and then a developer agitation sequence are run. Then a developer agitation sequence are run.
4. Operation above is repeated maximum of ten sets of times with one set consisting of three sequences until it reaches to the reference value. When it is higher than the reference value, only the agitation is conducted.

8. CS Remote

8.1 Remote Care

8.1.1 Outline

- CS Remote Care enables the machine and the computer at CS Remote Care center to exchange data through telephone/fax line, network or E-mail in order to control the machine.
- CS Remote Care enables the machine to call the computer at the center when trouble occurs. It also enables the computer at the center to contact the machine for the necessary data.
- Data which CS Remote Care handles can be divided into the following groups.
  - Data which show the status of use of the machine such as total count, PM count.
  - Data which show the abnormal situation on the machine such as where and how often errors occur.
  - Data on adjustment
  - Data on setting

8.1.2 Setting up

- Setup procedures for using CS Remote Care are shown below.
- Settings differ by each type of system used on CS Remote Care, and should be made according to the procedures.
  - System type: Telephone line, Fax line, E-mail (Bilateral communication), E-mail (Unilateral communication), http (Bilateral communication), http (Unilateral communication)

NOTE

- **For resetting up the machine which CS Remote Care has already been set up, clear the RAM for CS Remote Care before resetting.**
- **When using a telephone line modem for connection, use the data modem which is based on the ITU-T recommendations V.34/ V.32 bis/V.32 and AT command.**
- **When MFP is connected to the Internet via a proxy, the proxy server related settings are necessary in advance. The proxy settings used in the http communication for CS Remote Care is configured in [Administrator] -> [Network] -> [WebDAV Settings] -> [Proxy Setting for Remote Access].**

NOTICE

- CS Remote Care can be set also from Web Connection.
- Enter the following address, then enter the CE password and touch [OK].
  - http://(IP address)/csrc_index.html

Setting procedure

1. Register the device ID to the application at CS Remote Care center.
   NOTE
   - **The initial connection is not available unless the device ID is registered.**
2. Connect or disconnect the telephone line modem depending on which system is to be used.
   - For telephone line: Turn the power for the modem OFF. Connect the machine and the modem with a modem cable. Connect the modem and the modular jack with a modular cable. For connecting the modular cable, see the manual for the modem.
   - For fax line, E-mail (Bilateral/Unilateral communication), http (Bilateral/Unilateral communication): Disconnect the telephone line modem.
3. Touch [Maintenance /Default Settings] -> [ID Code] to input the seven digits ID of the service person. If the ID of the service person is already registered, it will be displayed.
4. Touch [Maintenance/Default Settings] -> [System Setting] to select the system to be used on CS Remote Care.
   - For telephone line: Select [Modem].
   - For fax line: Select [Fax].
   - For E-mail (Bilateral communication): Select [E-Mail1].
   - For E-mail (Unilateral communication): Select [E-Mail2].
   - For http (Bilateral communication): Select [http1].
   - For http (Unilateral communication): Select [http2].
5. Touch [Maintenance/Default Settings] -> [Detail Setting].
6. Touch [Date & Time Setting] to set the date and time for CS Remote Care.
7. Set the center ID, and confirm the Device ID.
   - For telephone line, fax line, http (Bilateral/Unilateral communication): Select [Basic Setting] -> [Center/Device ID].
   - For E-mail (Bilateral/Unilateral communication): Select [Basic Setting] -> [Center Setting].

   NOTE
   - **[Device ID] displays the serial number that is entered in [Service Mode] -> [System 1] -> [Serial Number].**
8. Set the center telephone number and device telephone number.
   - For telephone line, fax line: Select [Basic Setting].
9. Input the AT command for initializing the modem.
   - For telephone line: Select [AT Command].

   NOTE
   - **Change this command only when it is necessary. (They do not need to be changed in normal condition.)**
   - **For details on AT command, see the manual for the modem.**
10. Set the center E-mail address.
    - For E-mail (Bilateral/Unilateral communication): Select [Basic Setting] -> [Center Setting] -> [E-Mail Address].
11. Make encryption setting (select either Yes or No).
    - For E-mail (Bilateral/Unilateral communication): Select [Basic Setting] -> [Center Setting] -> [Encryption].
    - For http (Bilateral/Unilateral communication): Select [Basic Setting] -> [Client Settings] -> [Encryption].
12. Set the schedule and items of notification to the center.
    - For E-mail (Unilateral communication): Select [Basic Setting] -> [Schedule] / [Center Notifi. Item].
    - For http (Unilateral communication): Select [Notification Setting] -> [Schedule] / [Center Notifi. Item].
13. Set the timeout until the response arrives from the center during e-mail communication.
    - For E-mail (Bilateral/Unilateral communication): Select [Response Time Out].

    NOTE
    - **Under normal conditions, there is no need to change the default setting.**
14. To make Heart Beat related settings.
    - For http (Bilateral communication): Select [Basic Setting] -> [Heart Beat].

NOTE
- **Heart Beat is a feature that uploads a Heart Beat file to the registered web server at a specified interval to report that the device is operating. Heart Beat files include total counter and status information.**

15. To set the polling time in http communication.
    - For http (Bilateral communication): Select [Basic Setting] -> [Polling Interval].
16. Touch [Software Switch Setting] to make software SW setting for CS Remote Care.

NOTE
- **This setting is not normally necessary. Take this step only when necessary in a specific connecting condition.**

17. Touch [END].
18. Touch [Maintenance/Default Settings] -> [Server Setting] to make server settings.
    - For E-mail (Bilateral/Unilateral communication): Select [Server for RX] / [Receive] / [Send].
    - For http (Bilateral/Unilateral communication): Select [HTTP Server Settings] / [SSL Settings].
19. Touch [Maintenance/Default Settings] -> [Detail Setting] -> [Basic Setting] -> [Initial Transmission].
20. Touch [Initial Transmission] key on the right bottom of the screen to start initial transmission.

NOTE
- **The [Initial Transmission] key at the right bottom of the screen will be displayed only when all of the following items have been input.**
  - For telephone line, fax line: Center ID, Device ID, Center Telephone Number, Device Telephone Number
  - For E-mail (Bilateral/Unilateral communication): Center ID, Device ID, E-Mail Address
  - For http (Bilateral/Unilateral communication): Center ID, Device ID, URL Address
- **However, if an invalid value is input as the device ID, the initial transmission key is not displayed.**

21. When the machine is properly connected with the center, CS Remote Care setting screen will be displayed.
    - If communication error between the machine and Center occurs, check the error code that appears.
22. For E-mail (Bilateral/Unilateral communication): Sending the initial connection E-mail message from the center to the address of the copier.

NOTE
- **When receiving the initial connection E-mail message from the center while CS Remote Care-related screen is being displayed, the current setting information will be deleted, and CS Remote Care setting will be displayed.**
- **For sending the initial connection E-mail, see the manual for CS Remote Care center.**
- **Messages can be exchanged only between the center with initial connection and the copier.**
- **The initial connection from the center will be carried out, and the E-mail address of the center will be stored in the copier.**
- **When the initial registration is complete, the E-mail address of the center will be displayed by selecting [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings] -> [Detail Setting] -> [Basic Setting] -> [E-Mail address].**

8.1.3 Setup confirmation

- Follow the steps below to make sure that CS Remote Care has been properly set up.

<Procedure>

1. Touch [CS Remote Care].
2. Check to make sure that only selected item is displayed.

8.1.4 Calling the maintenance

- When CE starts maintenance, inputting the ID code of CE (seven digits: numbers which CE can identify. They are controlled by the distributor.) will transmit the information to the Center side and tells that the maintenance has started. When the maintenance is finished, touching [Maintenance Complete] key will transmit the information to the center and tells that it is finished.

NOTE
- **The MFP sends the maintenance start information to the Center. While the MFP is in maintenance mode, the communication between the MFP and the Center is unavailable. Therefore, CE must touch [Maintenance Complete] immediately after the completion of maintenance to end maintenance mode.**

When starting the maintenance

1. Touch [CS Remote Care].
2. Touch [Maintenance Start].
3. Input the ID code using the 10-key pad.
4. Select estimated hours that elapse before the completion of the maintenance from the options of [2 hours], [4 hours], [6 hours], [8 hours], [10 hours], or [12 hours].
5. Touch [OK].

NOTE
- **The Start key blinks while maintenance mode is being carried out.**
- **You cannot extend the estimated hours while the maintenance is in progress.**
- **If you forget to touch [Maintenance Complete] after the completion of the maintenance, the maintenance completion information is automatically sent after the lapse of the selected estimated hours and the normal communication becomes available.**

When finishing the maintenance

1. Touch [CS Remote Care].
2. Touch [Maintenance Complete].

8.1.5 Calling the center from the administrator

- When the CS Remote Care setup is complete, the administrator can call the CS Remote Care center.

NOTE
- **When the setup is not complete or another transmission is being carried out, the [Admin. transmission] key will not be displayed, and the transmission is not available.**

<Procedure>

1. Touch [Settings] -> [System Connection]
2. Touch [Admin. transmission].
3. Press the Start key.

NOTE
- **For transmitting data of the machine by calling the center on the specified date and time, refer to the manual for CS Remote Care center.**

8.1.6 Checking the transmission log

- The transmission log list will be output to be checked.

<Procedure>

1. Touch [CS Remove Care] -> [Maintenance/Default Settings] -> [Detail Setting].
2. Touch [Communication Log Print].
3. Load tray 1 or bypass tray with A4S paper.
4. Press the Start key to output transmission log.

8.1.7 Maintenance/Default Settings

(1) System Selection

- To select the system type for remote diagnosis.
- Use to newly build or change the system.

Setting value	Contents	Default setting
E-Mail1	Use E-mail Bilateral communication.	○
E-Mail2	Use E-mail Unilateral communication.	
http1	Use http Bilateral communication.	
http2	Use http Unilateral communication.	
Modem	Use modem communication	
Fax	Use fax communication Fax is available only when the optional fax kit is being installed.	

(2) ID Code

To register the service ID.

<Procedure>

1. Touch [ID code] and enter the service ID.
   - Enter a 7-digit code from the 10-key pad. (0000001 to 9999999)
2. Touch [ID code] to register the ID.
3. The [Detail Setting] will appear when the ID has been registered.

(3) Detail Setting

(a) Basic Settings

- Execute the primary setting.
- Use to register the machine to the CS Remote Care center.

Center Setting

- It will be displayed when “E-Mail1” or “E-Mail2” is selected in System Setting.

Setting item	Contents	Setting value	Default setting
Center ID	Set the center ID. When all setup procedures are completed, the center ID is displayed.	5-digit alphanumeric characters	00000
Device ID	Display the device ID. It can only be displayed but not be changed.	13-digit alphanumeric characters	-
E-mail Address	Set the center E-mail address. When all setup procedures are completed, the center E-mail address is displayed.	Alphanumeric characters and symbols (up to 129 characters)	-
Encryption	Set whether or not to encrypt E-mail. When all setup procedures are completed, the details of setting is displayed.	Yes	
		No	○

Schedule

- It will be displayed when or “E-Mail2” is selected in System Setting.
- To set the schedule of notification to the center.
- Up to three different notification schedules can be registered.

<Procedure>

1. Select the key of the registration number, and then touch [Enable].
2. Select the notification cycle from [Day], [Week], or [Month].
   - When selecting [Day] for the notification cycle, set the Day Frequency.
   - When selecting [Week] for the notification cycle, set the Week Frequency and day of the week.
   - When selecting [Month], set the Month Frequency and the date of the month.
3. Touch [SET] to register the schedule.

Center Notifi. Item

- It will be displayed when or “E-Mail2” is selected in System Setting.
- To set whether or not to report to the Center.
- To report to the center, select the notification item to the center.

Setting item	Contents
No Notification	Select it to disable the report to the center.
[1]	Sales count data

Setting item	Contents
[2]	Error count data
[3]	Service count data
[4]	Life count data, Life cycle data
[5]	CSRC-System data, Device config data
[6]	History data
[7]	EKC data
[8]	Adjustment data
[9]	Coverage data
[10]	Not used
[11]	Not used
[12]	Not used

NOTE

- **Multiple items of data can be selected and sent at one time. However, be sure that only EKC data cannot be sent together with other items of data.**

Center/Device ID

- It will be displayed when or “http1,” “http2,” “Modem” or “Fax” is selected in System Setting.

Setting item	Contents	Setting value	Default setting
Center ID	Set the center ID. When all setup procedures are completed, the center ID is displayed.	5-digit alphanumeric characters	00000
Device ID	Display the device ID. It can only be displayed but not be changed.	13-digit alphanumeric characters	-

Client Settings

- It will be displayed when “http1” or “http2” is selected in System Setting.
- To set whether or not to encrypt communication.
- When all setup procedures are completed, the details of setting is displayed.

Setting value	Default setting
Yes	○
No	

Heart Beat

- It will be displayed when “http1” is selected in System Setting.
- To make Heart Beat related settings.
- Heart Beat is a feature that uploads a Heart Beat file to the registered web server at a specified interval to report that the device is operating. Heart Beat files include total counter and status information.

Setting item	Contents	Setting value	Default setting
Communication	To set whether or not to enable Heart Beat communication.	Yes	○
		No	
Comm. Interval	Set the communication interval to enable Heart Beat communication.	1 to 256 (minutes)	30 (minutes)
Specified Transmission	To set whether or not to enable Heart Beat transmission at a specified interval.	Yes	○
		No	

Polling Interval

- It will be displayed when “http1” is selected in System Setting.
- To set the polling time in http communication.

Setting range	Default setting
1 to 256 (minutes)	5 (minutes)

Center Telephone Number, Device Telephone Number

- It will be displayed when “Modem” or “Fax” is selected in System Setting.
- Set the telephone number of the Center.
- Set the telephone number of the Device.

NOTE

- **When entering the telephone number, 10-key and keys on the screen have following meanings.**

Keys	Contents
[-] Pose	Waits to start transmitting after dialing
[W] Wait	Detects the dial tone of the other end
[T] Tone dial	Carry out tone dialing
[P] Pulse dial	Carry out pulse dialing
[*], [#]	To be used as necessary

Initial Transmission
- Touching the Initial Transmission key will sent the information to the CS Remote Care center to register the machine.

(b) Date & Time Setting
- To set the data and time-of-day.

<Procedure>
1. Touch [Date & Time Setting].
2. Enter the date (month, day and year), time-of-day, and the time zone from the 10-key pad.
3. Touch [SET] to start the clock.

(c) RAM Clear
- To clear the following data at the center.
  - Service ID, Basic setting, Date & time setting (time zone), Software SW setting, AT command
- To be used for setting CS Remote Care.
- To be used for reset the every data of the center to default.

NOTE
- **If RAM clear is selected during transmission, RAM clear processing will be implemented at the time the transmission is completed regardless of whether it is done properly or not.**

Setting value	Default setting
Set	
Unset	○

(d) Communication Log Print
- To print out the communication log.
- It will be displayed when “Fax” is selected in System Setting.

<Procedure>
1. Touch [Communication Log Print].
2. Load a paper tray with A4S/A4 or 81/2 x 11S/81/2 x 11 paper.
3. Select [1-Sided] or [2-Sided].
4. Press Start key to print out the communication log.

(e) Software Switch Setting
- To change the CS Remote Care settings.

NOTE
- **Software SW bits data are written into the MFP storage every time a change is made. In case you changed bit data by accident, be sure to restore the previous state.**
- **Do not change any bit not described on this table.**

<Procedure>
1. Touch [Software Switch Setting].
2. Touch [Switch No.], and input the software switch number (two digits) using the 10-key pad.
3. Touch [Bit Assignment], and select software switch bit number using the arrow keys, and input 0 or 1 using the 10-key pad. (For setting by hexadecimal numbers, touch [HEX Assignment] key, and input using the 10-key pad or A to F keys.)
   - Refer to “ I.8.2 Software SW setting for Remote Care” for the setting items.
4. Touch [Fix].

(f) Response Time Out
- Set the timeout until the response arrives from the center during e-mail communication.
- This setting is available only when “E-Mail1” or “E-Mail2” is selected in [System Setting].

Setting range	Default setting
10 to 1440	60 minutes

(g) AT Command
- To set the command to be issued at the time of modem initialization.
  - Enter the command and touch [SET] to register.
- This setting is available only when [Modem] is selected in [System Setting].

(h) Notification Setting
- To make the settings of notification to the center that is performed under unilateral communication via http.
- This setting is available only when [http2] is selected in [System Setting].

Schedule
- Set the schedule of notification to the center.
- Up to three different notification schedules can be registered.

<Procedure>
1. Select the key of the registration number, and then touch [Enable].
2. Select the notification cycle from [Day], [Week], or [Month].
   - When selecting [Day] for the notification cycle, set the Day Frequency.
   - When selecting [Week] for the notification cycle, set the Week Frequency and day of the week.
   - When selecting [Month], set the Month Frequency and the date of the month.
3. Touch [SET] to register the schedule.

Center Notifi. Item
- To set whether or not to notify the Center.

- To notify the Center, select the notification item to the Center.

Setting item	Contents
No Notification	Select it to disable the report to the center.
[1]	Sales count data
[2]	Error count data
[3]	Service count data
[4]	Life count data, Life cycle data
[5]	CSRC-System data, Device config data
[6]	History data
[7]	EKC data
[8]	Adjustment data
[9]	Coverage data
[10]	Not used
[11]	Not used
[12]	Not used

NOTE

- **Multiple items of data can be selected and sent at one time. However, be sure that only EKC data cannot be sent together with other items of data.**

8.1.8 Server Setting

(1) E-Mail1 or E-mail2 is selected

Server for RX

Setting item	Contents	Setting value	Default setting
POP3 Server	To set the POP3 server address used for the CS Remote Care. It can be set by the IP address or the domain name. • Input IP Address: Input in version 4 format. • FQDN input: Enter the domain name.	Input IP Address [0 to 255].[0 to 255]. [0 to 255].[0 to 255]	-
		FQDN input Alphanumeric characters and symbols (up to 63 characters)	-
POP3 Login Name	To set the login name for the POP3 server used for the CS Remote Care.	Alphanumeric characters and symbols (up to 64 characters)	-
POP3 password	To set the logon password for the POP3 server used for the CS Remote Care.	Alphanumeric characters and symbols (up to 15 characters)	-
POP3 Port Number	To set the POP3 port number used for the CS Remote Care.	1 to 65535	110

Receive

Setting item	Contents	Setting value	Default setting
E-Mail Address	To set the e-mail address used for the CS Remote Care.	Alphanumeric characters and symbols (up to 129 characters)	-
Mail Check	To set whether or not to use mail check and the time interval for the POP server used for the CS Remote Care.	No	○
		1 to 120 min	
Connection Time-out	To set the timeout period for connection during reception.	30 to 300 Sec	60 Sec
APOP Authentication	To set whether or not to authenticate the APOP during reception.	Yes	
		No	○

Send

Setting item	Contents	Setting value	Default setting
SMTP Server	To set the SMTP sever address for transmission used for the CS Remote Care. It can be set by the IP address or the domain name. • Input IP Address: Input in version 4 format. • FQDN input: Enter the domain name.	Input IP Address [0 to 255].[0 to 255]. [0 to 255].[0 to 255]	-
		FQDN input Alphanumeric characters and symbols (up to 63 characters)	-
SMTP port Number	To set the SMTP port number for transmission used for the CS Remote Care.	1 to 65535	25

Setting item	Contents	Setting value	Default setting
Connection Time-out	To set the timeout period for transmission.	30 to 300 Sec	60 Sec
Authentication Setting	To set whether or not to authenticate during transmission via SMTP server. To use when authenticating during transmission.	OFF	○
		POP Before SMTP	
		SMTP Authentication	

<Making Authentication Setting>

- If “POP Before SMTP” is set in “Authentication Setting”, set the time for POP Before SMTP.

Setting range	Default setting
0 to “60 Sec”	60 Sec

- If “SMTP Authentication” is set in “Authentication Setting”, touch the “Setting Check” key for authentication.

Setting item	Contents	Setting value
User ID	Enter the user ID for SMTP authentication.	Alphanumeric characters and symbols (up to 255 characters)
Password	Enter the password for SMTP authentication.	Alphanumeric characters and symbols (up to 128 characters)
Domain Name	Enter the domain name for SMTP authentication.	Alphanumeric characters and symbols (up to 253 characters)

TX/RX Test

- To determine the correct transmission and reception using CS Remote Care.

<Procedure>

1. Press the Start key to let the machine start the transmission and reception test.
2. The test procedure and result will be displayed on the screen.

Data Initialization

- To initialize the contents for the sever setting.

Setting value	Default setting
Yes	
No	○

(2) http1 or http2 is selected

HTTP Server Settings

Setting item	Contents	Setting value	Default setting
URL	To set an address of the http server that is used in CS Remote Care. It can be set by the IP address or the domain name. • Input IP Address: Input in version 4 format. • FQDN input: Enter the domain name.	Input IP Address [0 to 255].[0 to 255].[0 to 255].[0 to 255]	-
		FQDN input Alphanumeric characters and symbols (up to 253 characters)	-
account	To set an account that is used to access the http server used in CS Remote Care.	Alphanumeric characters and symbols (up to 63 characters)	-
Password	To set a password that is used to access the http server used in CS Remote Care.	Alphanumeric characters and symbols (up to 63 characters)	-
Port Number	To set a port number that is used to access the http server used in CS Remote Care.	1 to 65535	80

SSL Settings

- To make SSL settings of the http server at the other end that is used in CS Remote Care.

Setting value	Contents	Default setting
Yes	To set to use SSL communication.	
No	To set not to use SSL communication.	○

Data Initialization

- To initialize the contents for the sever setting.

Setting value	Default setting
Yes	
No	○

8.1.9 Product Auth. Settings

Product Authentication

- To set whether or not to enable product authentication.

NOTE

- **When changing this setting under the condition where http is used for CS Remote Care communication, you need to perform RAM Clear and then initial transmission again.**

Setting value	Default setting
Yes	
No	○

WebDAV

- To set a WebDAV server for the product authentication.

Setting item	Contents
URL	Set the address of the WebDAV server.
account	To set an account that is used to access the WebDAV server.
Password	Set the password that is used to access the WebDAV server.
Port Number	Set the port number that is used to access the WebDAV server.

Register Manually

- To install the certificate to be used in product authentication.

<Procedure (LMS)>

1. Touch [Register Manually] -> [LMS].
2. Touch [Start] to communicate with LMS (License Management System) and install the certificate.
3. Check that the "Install OK" message appears.

<Procedure (USB)>

NOTE

- **In the following conditions, installation of the certificate from a USB memory is prohibited.**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] is set to [Restrict].**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] is set to [Restrict].**
  - **[Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON”.**

1. Connect the USB flash drive where the certificate obtained from LMS (License Management System) is stored to the USB port of MFP.
2. Touch [Register Manually] -> [USB].
3. Touch [Start] to install the certificate.
4. Check that the "Install OK" message appears.

8.1.10 Import/Export Settings

WebDAV Setting

- To configure WebDAV server settings used to remotely export or import MFP data (address book data, authentication setting data).

Setting item	Contents
URL	To set the address of the WebDAV server.
Folder Name	To set a folder name of the WebDAV server that is used to transfer data.
Account	To set an account that is used to access the WebDAV server.
Password	Set the password that is used to access the WebDAV server.

Port Number

- To set a port number that is used to access the WebDAV server.
  - Enter the port number using the 10-key pad.

SSL Settings

- To configure the WebDAV server's SSL settings.

Setting value	Default setting
Yes	
No	○

Data Initialization

- To initialize the settings on the server.

Setting value	Default setting
Yes	
No	○

8.1.11 Auto Initial Dial Setting

- To set whether to configure the Auto Initial Dial Setting for each CSRC communication method.
- Execute the CSRC Auto Initial Dial automatically at the first time of startup after importing [Remote Access Settings] from [Machine Import Setting].

NOTE

- **This function is enabled only when “Set” is selected and the following conditions are satisfied.**
  - **No registrations to the CSRC server have been made.**

- **At the first time that the main power is turned ON (reboot) after importing the CSRC server information under [Service Mode] -> [Machine Update Settings] -> [Machine Auto Update Setting] -> [Machine Import Setting].**

Setting value	Default setting
Set	
Unset	○

8.2 Software SW setting for Remote Care

8.2.1 List of software SW for CS Remote Care

SW No.	Functions	Ref. page
01	• Dial Mode, Line for send only, Baud rate	" I.8.2.2 SW No. 01"
02	• Emergency transmission, Date specified transmission, Call parts replace date, Call drum replace date, Call regular service date (PM), Auto call on the IC Life, Auto call of the IR shortage, Auto call on the zero reset of the fixed parts replacement	" I.8.2.3 SW No. 02"
03	• Trouble display setting, Auto call on the toner empty, Auto call on the waste toner bottle full	" I.8.2.4 SW No. 03"
04	• CS Remote Care communication mode	" I.8.2.5 SW No. 04"
05	• Modem redial interval	" I.8.2.6 SW No. 05"
06	• Modem redial times	" I.8.2.7 SW No. 06"
07	• Redial for response time out	" I.8.2.8 SW No. 07"
08	• Retransmission interval on E-Mail/http delivery error	" I.8.2.9 SW No. 08"
09	• Retransmission times on E-Mail/http delivery error	" I.8.2.10 SW No. 09"
10	• Time zone settings	" I.8.2.11 SW No. 10"
11	• Timer 1 RING reception -> CONNECT reception	" I.8.2.12 SW No. 11"
12	• Timer 2 Dial request completed -> CONNECT reception	" I.8.2.13 SW No. 12"
13	• Reservation	-
14	• Timer 4 Line connection -> Start request telegram delivery	" I.8.2.14 SW No. 14"
15	• Timer 5 Wait time for other side's response	" I.8.2.15 SW No. 15"
16	• Reservation	-
17	• Reservation	-
18	• Attention display To set whether to give the alarm display when using the modem but the power for the modem is OFF.	" I.8.2.16 SW No. 18"
19	• Reservation	-
20	• Reservation	-
21	• Transmission of paper-based misfeed frequent occurrence warning, Transmission of original-based misfeed frequent occurrence warning, Automatic transmission of chronological misfeed data at the time of transmission of misfeed frequent occurrence warning	" I.8.2.17 SW No. 21"
22	• Paper-based misfeed frequent occurrence threshold value	" I.8.2.18 SW No. 22"
23	• Original-based misfeed frequent occurrence threshold value	" I.8.2.19 SW No. 23"
24	• Monthly reboot date of MFP	" I.8.2.20 SW No. 24"
24 : 40	• Reservation	-

8.2.2 SW No. 01

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	1	0	0	0	0	0	0	1
HEX Assignment	81							

Functions

Bit	Setting item	Setting		Description
		0	1	
7	Baud rate	0110		9600 bps
6		0111		19.2 bps
5		1000		38.4 bps
4		Others		Not available

Bit	Setting item	Setting		Description
		0	1	
3	Reservation			
2				
1	Line for send only	Disable	Enable	
0	Dial Mode	Pulse	Tone	

8.2.3 SW No. 02

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	1	1	1	1	1	1	1	1
HEX Assignment	FF							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Auto call on the zero reset of the fixed parts replacement	Disable	Enable	
6	Auto call of the IR shortage	Disable	Enable	
5	Auto call on the IC Life	Disable	Enable	
4	Call regular service date (PM)	Disable	Enable	
3	Call drum replace date	Disable	Enable	
2	Call parts replace date	Disable	Enable	
1	Date specified transmission	Disable	Enable	
0	Emergency transmission	Disable	Enable	

8.2.4 SW No. 03

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	1	0	1	0
HEX Assignment	0A							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Reservation			
6				
5				
4				
3	Auto call on the waste toner bottle full	Disable	Enable	
2	Reservation			
1	Auto call on the toner empty	Disable	Enable	
0	Trouble Display setting	When the CSRC is not connected	When the CSRC is connected	Select the type of message to be displayed at the time of automatic trouble notification made when the CSRC is connected, either the message when the CSRC is connected or that when the CSRC is not connected. If "When the CSRC is not connected" is selected when the CSRC is connected, an automatic notification is made to the center when a trouble occurred. Only the display

Bit	Functions	Setting value		Description
		0	1	
				on the control panel shifts to the massage when the CSRC is not connected.

8.2.5 SW No. 04

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	0	0	0	1
HEX Assignment	02							

Functions

Bit	Functions	Setting value	Description
7	Reservation		
6			
5			
4			
3			
2			
1	CS Remote Care communication mode	00	DATA
0		01	FAX
		10	E-mail
		11	Not available

8.2.6 SW No. 05

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	0	0	1	1
HEX Assignment	03							

Functions

Bit	Functions	Setting	Description
7	Reservation		
6			
5			
4	Modem redial interval	00001	1 minute
3		00010	2 minutes
2		00011	3 minutes
1		00100	4 minutes
0		00101	5 minutes
		00110	6 minutes
		00111	7 minutes
		01000	8 minutes
		01001	9 minutes
		01010	10 minutes
		Others	Not available

8.2.7 SW No. 06

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	1	0	1	0

Setting value	Bit							
	7	6	5	4	3	2	1	0
HEX Assignment	0A							

Functions

Bit	Functions	Setting		Description
		0	1	
7	Modem redial times	0000 0000		0 times
6		0000 0001		1 time
5		:		:
4		0000 1010		10 times
3		:		:
2		0110 0010		98 times
1		0110 0011		99 times
0		Others		Not available

8.2.8 SW No. 07

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	0	0	0	1
HEX Assignment	01							

Functions

Bit	Functions	Setting		Description
		0	1	
7	Redial for response time out	0000 0000		0 times
6		0000 0001		1 time
5		Others		Not available
4				
3				
2				
1				
0				

8.2.9 SW No. 08

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	0	1	1	0
HEX Assignment	06							

Functions

Bit	Functions	Setting		Description
		0	1	
7	Retransmission interval on E-Mail/http delivery error	0000 0000		0 minutes
6		0000 0001		10 minutes
5		:		:
4		0000 0110		60 minutes
3		:		:
2		0000 1011		110 minutes
1		0000 1100		120 minutes
0		Others		Not available

8.2.10 SW No. 09

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	1	0	1	0
HEX Assignment	0A							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Retransmission times on E-Mail/http delivery error	0000 0000		0 times
6		0000 0001		1 time
5		:		:
4		0000 1010		10 times
3		:		:
2		0110 0010		98 times
1		0110 0011		99 times
0		Others		Not available

8.2.11 SW No. 10

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	0	0	0	0
HEX Assignment	00							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Time zone settings	0000 0000		0
6		0000 0001		+1
5		:		:
4		0000 1100		+12
3		1111 0100		-12
2		:		:
1		1111 1111		-1
0		Others		Not available

8.2.12 SW No. 11

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	1	0	0	0	0	0
HEX Assignment	20							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Timer 1 RING reception -> CONNECT reception	0000 0000		0 sec
6		0000 0001		1 sec
5		:		:
4		0010 0000		32 sec
3		:		:
2		1111 1110		254 sec
1		1111 1111		255 sec
0				

8.2.13 SW No. 12

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	1	0	0	0	0	0	0
HEX Assignment	40							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Timer 2 Dial request completed -> CONNECT reception	0000 0000		0 sec
6		0000 0001		1 sec
5		:		:
4		0100 0000		64 sec
3		:		:
2		1111 1110		254 sec
1		1111 1111		255 sec
0				

8.2.14 SW No. 14

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	1	0	0	0	0	0
HEX Assignment	20							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Timer 4 Line connection -> Start request telegram delivery	0000 0000		0 msec
6		0000 0001		100 msec
5		:		:
4		0010 0000		3,200 msec
3		:		:
2		1111 1110		25,400 msec
1		1111 1111		25,500 msec
0				

8.2.15 SW No. 15

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	1	1	1	1	0
HEX Assignment	1E							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Timer 5 Wait time for other side's response	0000 0000		0 sec
6		0000 0001		1 sec
5		:		:
4		0001 1110		30 sec
3		:		:
2		1111 1110		254 sec
1		1111 1111		255 sec
0				

8.2.16 SW No. 18

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	0	0	0	1
HEX Assignment	01							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Reservation			
6				
5				
4				
3				
2				
1				
0	Attention display To set whether to give the alarm display when using the modem but the power for the modem is OFF.	OFF	ON	

8.2.17 SW No. 21

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	0	1	1	1
HEX Assignment	07							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Reservation			
6				
5				
4				
3				
2	Automatic transmission of chronological misfeed data at the time of transmission of misfeed frequent occurrence warning	OFF	ON	
1	Transmission of original-based misfeed frequent occurrence warning	OFF	ON	If the number of jams exceeds the threshold specified per day (0:00 to 23:59). Jam Frequent Occurrence Warning is sent. At 12 a.m. of the next day, the counter is reset.
0	Transmission of paper-based misfeed frequent occurrence warning	OFF	ON	

8.2.18 SW No. 22

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	0	1	0	1
HEX Assignment	05							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Paper-based misfeed frequent occurrence threshold value	0000 0001		1

Bit	Functions	Setting value		Description
		0	1	
6		0000 0010		2
5		:		:
4		0000 0101		5
3		:		:
2		0000 1110		14
1		0000 1111		15
0		Others		Not available

8.2.19 SW No. 23

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	0	1	0	1
HEX Assignment	05							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Original-based misfeed frequent occurrence threshold value	0000 0001		1
6		0000 0010		2
5		:		:
4		0000 0101		5
3		:		:
2		0000 1110		14
1		0000 1111		15
0		Others		Not available

8.2.20 SW No. 24

Default

Setting value	Bit							
	7	6	5	4	3	2	1	0
Bit Assignment	0	0	0	0	0	0	0	0
HEX Assignment	00							

Functions

Bit	Functions	Setting value		Description
		0	1	
7	Reservation			
6				
5	Monthly reboot date of MFP If multiple selections are made, only once (minimum date) per month.	0010 0000		25th of every month
4		0001 0000		20th of every month
3		0000 1000		15th of every month
2		0000 0100		10th of every month
1		0000 0010		5th of every month
0		0000 0001		1st of every month

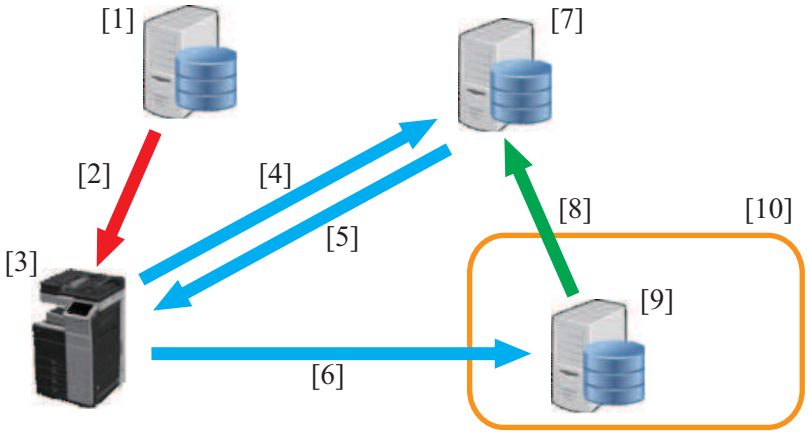
8.3 Remote Analysis

8.3.1 Outline

- CSRA (CS Remote Analysis) is a system which analyzes the data retrieved from the MFP for parts replacement prediction, and trouble diagnosis/prediction.
- Make settings to have the MFP send CSRA analysis data.
- CSRA connection functions are enabled and each setting is available when Function Setting is set to “ON (Bidirectional)” or “ON (One-way)”.
- “ON (One-way: US)” can be used only for North America.
- “ON (One-way: CN)” can be used only for China.

Setting value	Description	Default setting
ON (Bidirectional)	Following the set schedule, the MFP confirms the timing of sending data to the pre-check server. The pre-check server confirms the status of the data destination, notifies the MFP, and sends the data to the data destination server. Normally, select this one.	
ON (One-way: US)	Following the set schedule, sends the data to the data destination server. Select this one only when it is not possible to receive instructions from the pre-check server for security reasons. Only available for North America.	
ON (One-way: CN)	Following the set schedule, sends the data to the data destination server. Select this one only when it is not possible to receive instructions from the pre-check server for security reasons. Only available for China.	
Disable	To disable CSRA connection functions.	○

8.3.2 Bidirectional Communication

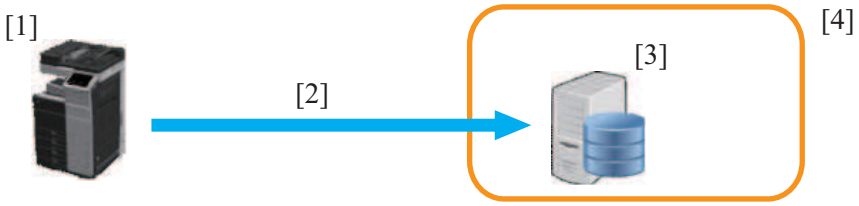


[1]	Command server	[2]	Conducting CSRA settings/setting change remotely
[3]	MFP	[4]	Request for notification of data destination information
[5]	Notification of data destination information	[6]	Sending analysis data
[7]	Pre-check server	[8]	Sending load condition of data destination server
[9]	Data destination server	[10]	CSRA

<Conducting CSRA settings>
1. The command server notifies the MFP of information related to pre-check server settings and schedule, and conducts CSRA settings remotely. Alternately, inputs setting details through the control panel.
2. Connection with the pre-check server is checked from [Function Setting] -> [Check Connection].

<Communication flow of analysis data>
1. Following the set schedule, the MFP request the notification of the data destination server information from the pre-check server.
2. The pre-check server checks the data destination server condition, then notifies the MFP of the data destination server, storage location and data sending timing.
3. According to the information notified from the pre-check server, the MFP sends the analysis data to the data destination server.

8.3.3 One-way Communication



[1]	MFP	[2]	Sending analysis data
[3]	Data destination server	[4]	CSRA

<Conducting CSRA settings>
- Inputs setting details through the control panel.

<Communication flow of analysis data>
- Following the set schedule in CSRC, the MFP sends the analysis data to the data destination server.

8.3.4 CS Remote Analysis Error Code List

Error code	Contents	Solution
0000	Communication finished normally (both TX and RX)	-
0###	Transmission error ###: http responding code (hexadecimal) For http responding code, see RFC issued by IETF after converting hexadecimal number into decimal one.	Check the user's http server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password
1030	Machine ID mismatching • Received file which tells that machine ID mismatches.	• Check the machine ID setting. • Check the machine ID setting on host side.
1050	Grammar error • Received file did not define the CS Remote Care command (2 digits). • The Type of Subject and the command of file are not consistent.	Check file content.
1061	Modifying not allowed • The host sent a command file that asked modifying data of item where setting change is not allowed.	Ask the host to send another instruction file for modifying.
1062	Modifying not available due to the copy job currently performing • When informing the host that it cannot be modified due to the copy job currently performing.	Ask the host to send another instruction file for modifying.
1080	Data length problem • LEN value of TEXT data and actual data length are not consistent.	Ask the host to send another instruction file for modifying.
1081	Frame No. error • The last frame has not been received. • There are missing frame No.	Check the status of the machine registration on host side.
1082	Subject Type problem • Received code did not define the Type of Subject.	Ask the host to send another instruction file for modifying.
1084	Date expired • Expiration date for data modification command has passed.	Ask the host to send another instruction file for modifying.
1091	Oversized command • Received file exceeds the machine’s receive buffer size.	Ask the host to send another instruction file for modifying.
1099	Illegal request • Status not predicted in design is detected.	Contact OLI and inform the error code.
2001	http request result problem • Internal status error	Check the user's http server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password
2002	http request result problem • File list acquisition result problem	
2003	http request result problem • Request header transmission failure	
2004	http request result problem • Request body transmission failure	
2005	http request result problem • Response header receive response failure	
2006	http request result problem • Response body receive response failure	
2007	http request result problem • Session ID inconsistent	
3002	http request result problem • Unopened client ID was specified	Check the user's http server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password
3003	http request result problem • Receive time out occurred	
3004	http request result problem • Receive error occurred. Or wrong request URL was specified.	
3005	http request result problem • Content-Length or receive size exceeded the specified max. transfer size. Message body size was too large.	

Error code	Contents	Solution
3006	http request result problem • Due to reset, process was stopped. Or message body size exceeded the specified max. transfer size.	
3007	http request result problem • Internal error occurred. Or due to internal reset, process was stopped.	
3008	http request result problem • Connection to WebDAV server failed.	
3009	http request result problem • Error occurred during transmission to the WebDAV server.	
3010	http request result problem • Time out occurred during transmission to the WebDAV server.	
3011	http request result problem • Connection to the proxy server failed.	
3012	http request result problem • The proxy server refused CONNECT request.	
3013	http request result problem • The proxy server was set to enabled, but the proxy server host was not set.	
3014	http request result problem • Proxy server authentication failed.	
3015	http request result problem • Other error was returned from the proxy server.	
3016	http request result problem • Internal error occurred.	
3017	http request result problem • As the device application specified MIO_REQBODY_ERROR, process was stopped.	
4103	After the main power switch is switched ON, HTTP communication is attempted under the condition where HTTP communication is not ready.	Wait for a while and try transmitting again.
5###	MIO detects error when sending an attached file.	Check the SMTP server and POP3 server on user side.
6###	MIO detects error during a sending sequence.	Check the SMTP server and POP3 server on user side.
7000	Failure occurs when a certificate for product authentication is acquired from a USB device.	Acquire a new certificate (within 6 days after the issue).

9. System 1

9.1 Marketing Area

- To make the various settings (language, paper size, fixed zoom ratios, etc.) according to the applicable marketing area.
- Upon setup.

Marketing Area

- Set the applicable marketing area.

Setting item
Japan, US, Europe, Others1, Others2, Others3, Others4, Others5

<Procedure>

1. Select the applicable marketing area.
2. Touch [END].

Wireless LAN Destination

- Set the wireless LAN destination.

NOTE

- **This setting is available only when optional wireless LAN devices are mounted.**

Setting item
OT, US, CA, JP, AU, NZ, DE, GB, FR, CH, NL, BE, AT, NO, SE, FI, IE, DK, IT, ES, PT, PL, ZA, TW, SA, CN, MY, SG, KR, HK, AR, BR, VN, PH, RU, MX, IN, TH, ID, AE, KW, GR, TR, HU, SK, CZ, UA, CL

<Procedure>

1. Touch the [Wireless LAN Destination].
2. Select the applicable marketing area using [+] / [-] key.
3. Touch [decision].

Fax Target

- Set the applicable fax destination.

Setting item
JP, AU, NZ, EU, DE, GB, FR, CH, NL, BE, AT, NO, SE, FI, IE, DK, IT, ES, PT, PL, ZA, TW, SA, CN, MY, SG, KR, HK, AR, BR, VN, PH, RU, OT, US, CA

<Procedure>

1. Touch the [Fax Target].
2. Select the applicable marketing area using [+] / [-] key.
3. Touch [END].

9.1.1 List of functions affected by marketing area setting

- The listed are the functions of which setting is automatically changed depending on the selected marketing area.

Marketing Area / Setting item	Japan	US	Europe	Others1	Others2	Others3	Others4	Others5
Language Selection (Default)	Japanese	English	English	English	English	Simplified Chinese	Traditional Chinese	English
Language Selection (Selectable language)	Japanese English French Italian German Spanish Simplified Chinese Traditional Chinese Hangul	English French Italian German Spanish Japanese Simplified Chinese Traditional Chinese Hangul	English French Italian German Spanish Japanese Simplified Chinese Traditional Chinese Hangul	English French Italian German Spanish Japanese Simplified Chinese Traditional Chinese Hangul	English French Italian German Spanish Japanese Simplified Chinese Traditional Chinese Hangul	Simplified Chinese English French Italian German Spanish Japanese Traditional Chinese Hangul	Traditional Chinese English French Italian German Spanish Japanese Simplified Chinese Hangul	English French Italian German Spanish Japanese Simplified Chinese Traditional Chinese Hangul
Foolscap Size Setting	8 x 13	8 x 13	8 x 13	8 x 13	8 x 13	8 x 13	8 x 13	8 x 13
LCT(Built-in) size	A4 LEF	Letter LEF	A4 LEF	A4 LEF	A4 LEF	A4 LEF	A4 LEF	A4 LEF
Unit	Metric	Inch	Metric	Metric	Metric	Metric	Metric	Metric
Total counter mode	Mode1	Mode2	Mode2	Mode2	Mode2	Mode2	Mode2	Mode2
Size counter	No count	8 1/2 x 14	8 1/2 x 14	8 1/2 x 14	8 1/2 x 14	8 1/2 x 14	8 1/2 x 14	8 1/2 x 14
Unit Change	Japan	US	Europe	Europe	Europe	Europe	Europe	Europe

NOTE

- **The language used in the service mode depends on the language selected from [Utility] -> [Language Selection], and changes to the language as following table.**

Setting item in Language Selection	Language used in the service mode
Japanese	Japanese
Simplified Chinese	Simplified Chinese
Traditional Chinese	Traditional Chinese
Hangul	Hangul
Other than the above	English

9.2 Tel/Fax Number

- To enter the tel/fax number of the service contact that will appear on the control panel when a malfunction occurs in the machine.
  - Enter the tel/fax number from the 10-key pad. (19 digits)
- Upon setup.

9.3 Serial Number

- To register the serial numbers of the machine and options.
- The numbers will be printed on the list output.
- To use the serial number as device ID during CS Remote Care communication.
- Upon setup.

NOTE

- **When main power switch was turned ON while the serial number was not entered, the message to require entering the serial number will be displayed.**
- **Do not change the serial number registered in the machine. If memory data is lost and entering the serial number is required, enter the original correct serial number.**
  Be careful to enter the correct serial number since characters other than alphanumeric can be also entered. CSRC communication is not available if a wrong serial number is entered.
- **The serial number of "Printer" can be checked through the following: [Utility] -> [Counter].**

9.4 Sleep ON/OFF Choice Setting

- To display the option of "No" for the [Sleep Mode Setting] screen available from [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Settings].

Setting item	Contents	Default setting
Permit	To display "OFF" in the sleep mode setting screen.	
Prohibit	No to display "OFF" in the sleep mode setting screen.	○

9.5 Foolscap Size Setting

- To set the size for foolscap paper.
- Upon setup.

Setting item	Default setting
$8^1/_2$ x $13^1/_2$	
$8^1/_2$ x 13	
$8^1/_4$ x 13	
$8^1/_8$ x $13^1/_4$	
8 x 13	○

NOTE

- **"$8^1/_8$ x $13^1/_4$" and "$8^1/_2$ x $13^1/_2$" setting is corresponding to paper fed from the manual bypass tray only.**

9.6 Install Date

- To register the date the main body was installed.
- Upon setup.

NOTE

- **When using without setting the install date, the date/month/year at which the total counter reaches more than 100 sheets of paper will be set as an install date automatically.**

<Procedure>

1. Touch Clear.
2. Enter the date from the 10-key pad. (Year 4 digit -> Month 2 digit -> date 2 digit)
3. Touch [Entry] to set the date of installation.

9.7 Initialization

Clear All Data

- To initialize the setting data.
- For details on items to be cleared, see "List of Clear Item."

<Procedure>

1. Touch [Clear All Data].
2. Press the Start key.
3. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

Clear Individual Data

- Select the data, then start clearing data.

Function for clearing	Contents
Copy Program Data	To clear data registered as copy program.
Address Registration Data	To clear address registration data. The following are address registration data: • Group address data, Program key data, One-touch destination data, Mail body data, Subject data, Prefix/suffix data
Fax Setting Data	To clear fax-related settings and parameters. However, address-related data is not cleared.

Function for clearing	Contents
All History Data	To clear history data. The following are history data: • Job history, Journal history, Receive reject history, Destination history, Job secure counter (Internal data for history management)
Network Setting Data	To clear the network-related settings. Use this feature to initialize and set network-related settings again when the machine does not work properly upon change of network-related settings.
Server Cache Data	To clear user information cached from the external authentication server. When [Administrator] -> [User Auth/Account Track] -> [Authentication Type] -> [External Authentication server setting] -> [Temporarily Save Authentication Information] is set to "Enable," the corresponding user information is cached each time when authentication by the external server is successful. The information is used when MFP cannot be connected to the external server.

<Procedure>
1. Select items to be cleared.
   NOTE
   - **This setting enables you to select and clear multiple items at a time.**
2. Press the Start key.
3. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

System Error Clear

- To reset the trouble data.
- Use to clear the [Jam], [Trouble], [Error] displays, and other improper displays.
- For details on items to be cleared, see “List of Contents to be cleared.”

<Procedure>
1. Touch [System Error Clear].
2. Press the Start key.
3. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

9.7.1 List of Clear Item

Contents to be cleared		Clear All Data	Clear Individual Data						System Error Clear
			Copy Program Data	Address Registration Data	Fax Setting Data	All History Data	Network Setting Data	Server Cache Data	
JAM display		○	-	-	-	-	-	-	○
Malfunction display	Rank A	○	-	-	-	-	-	-	○
	Rank B	○	-	-	-	-	-	-	○
	Rank C	○	-	-	-	-	-	-	○
Erratic operation / display		○	-	-	-	-	-	-	○
Utility (Except items on engine adjustment)		○	-	-	-	-	-	-	-
Copy Program Data		○	○	-	-	-	-	-	-
Address registration data		○	-	○	-	-	-	-	-
Fax setting data (Excluding destination related data)		○	-	-	○	-	-	-	-
History data		○	-	-	-	○	-	-	-
Network setting data (Excluding destination related data)		○	-	-	-	-	○	-	-
Cache data of external authentication server		○	-	-	-	-	-	○	-
Service Mode (System 1/2)		△*1	-	-	-	-	-	-	-
Billing Setting	Management Function Choice	○	-	-	-	-	-	-	-
Adjustment of the touch panel position		○	-	-	-	-	-	-	-
Trouble auto release retry count		○	-	-	-	-	-	-	○

○: Will be cleared (initialized)
- : Will not be cleared

△ *1: Items to be cleared	
System 1	Marketing Area (Fax Target only)
System 2	Storage type setting

9.8 Problem Unit Isolation Set.

- When a problem occurs, this function enables the use of the units or options that are not affected by separately controlling them and isolating other units or options that have a problem.
  NOTE
  - **The malfunction detection mechanism is not applied to units and options that are being isolated.**

Setting item	Setting value	Contents	Default setting
Tray 1 Tray 2 Tray 3 Tray 4 manual Scanner ADF Expansion Fun. (Storage)	Set	To normally isolate the units. • This status will continue even after turning OFF and ON the main power switch.	
	Unset	No to isolate the units. • When corresponding troubles occur, pressing the [Continue] key on the warning screen, the user can isolate the problem units temporarily. (*) • This status will not continue after turning OFF and ON the power switch.	○

- * For corresponding troubles, see “TROUBLE CODE.”

<Procedure>

1. Select the units or options to be set.
2. Specify [Set] or [Unset].
   NOTE
   - **“Set” and “Unset” can be specified separately for each unit or option.**
3. Touch [Apply].
4. The new setting becomes effective by turning the main power switch OFF and ON again.

9.9 Warm-up

9.9.1 Change Warm Up Time

- To change warm up completion time.
- Mode is changed to Mode 2 in case the paper gets curled significantly when black printing is conducted immediately after warm up at Mode 1.
- Mode is changed to Mode 3 or 4 in case the paper gets curled immediately after normal warm up or the curled paper causes paper jam, paper exit failure, punch/staple/fold position failure or etc.

Setting item	Contents	Default setting
Mode 1	It makes the warm-up time for black print shortest.	○
Mode 2	The warm-up time for both black and color will be as specified value.	
Mode 3	To prevent curling of the paper immediately after the warm-up, printing productivity is decreased by PPM control. The warm-up time for both black and color will be as specified value.	
Mode 4	By having a longer warm-up time and warming up the fusing unit, curling of the paper immediately after the warm-up can be prevented.	

Fusing operation mode

- Warm-up related control can be changed by using [Warm Up] setting and [Choice of high humidity circumstance] setting in Engine FW DipSW.
  When the main power switch is turned on, the mode is defined according to each choice setting.
- The following table shows the features of each operation mode.

Operation mode	Service Mode		Target user	Advantages	Disadvantages
	Warm-up	Choice of high humidity circumstance			
1 (Default setting)	Mode 1	OFF	Want to print quickly Black usage rate is high	Makes warm-up time for black shortest	Curling may occur in high humidity
2		ON	Want to prevent curling Black usage rate is high	Warm-up time for black is made shortest except when in high humidity Decreases possibility curling occurs in high humidity	Warm-up time is long in high humidity (65 seconds or less)
3	Mode 2	OFF	Want to print quickly Color usage rate is high	Warm-up time is as specified value or later High productivity even in high humidity	Curling may occur in high humidity
4		ON	Want to prevent curling Color usage rate is high	Warm-up time is as specified value or later except in high humidity Decreases possibility curling occurs in high humidity	Warm-up time is long in high humidity (65 seconds or less)
5	Mode 3	OFF	Want to print quickly Want to prevent curling immediately after warm-up	Warm-up time is as specified value or later Decreases the curling in normal circumstance	Productivity immediately after warm-up decreases Curling may occur in high humidity

Operation mode	Service Mode		Target user	Advantages	Disadvantages
	Warm-up	Choice of high humidity circumstance			
6		ON	Want to prevent curling immediately after warm-up Want to print quickly Want to prevent curling when humidity is high	Warm-up time is as specified value or later Decreases possibility curling occurs	Productivity immediately after warm-up decreases Warm-up time long in high humidity (65 seconds or less)
7	Mode 4	OFF	Want to prevent curling immediately after warm-up	Decreases possibility curling occurs	Long warm-up time (65 seconds or less)
		ON			

9.10 Machine State LED Setting

- Configure the display method used when displaying the main body status with state display LEDs.

Setting item	Setting value	Default setting
Warning Status	Type 1	
	Type 2	○

<LED display forms for each type>

Machine State LED Setting		Type 1	Type 2
Warning Status	Attention • Toner supply door open • Toner cartridge install failure • Toner Empty	Blinking	Blinking
	• Near life • Toner Near Empty	Blinking	Blinking
	Malfunction code	Blinking	Blinking
	Problem Unit Isolation	Blinking	Blinking
	Fatal error • Trouble code • Jam • Door opened • Life stop • Toner Empty Stop	Lit	Lit
Paper Remainder	Not used		

9.11 TP Level

- To adjust the selectivity of the touch panel.

Setting range	Default setting
-2 to +2 (step: 1*)	0

<Procedure>

1. Enter the new setting from the [+] / [-] key.
   - To increase sensitivity of the touch panel, increase the setting value.
   - To decrease sensitivity of the touch panel, decrease the setting value.
2. Touch [END].

NOTE

- **When the setting has been changed, turn off the main power switch and turn it on again more than 10 seconds after.**

9.12 Burn Prevention Settings

- To prompt to prevent a burn injury by displaying a message indicating that the fusing unit is at a high temperature when the right door has to be opened in order to get rid of a paper jam.

Setting item	Default setting
Enable	○
Disable	

10. System 2

10.1 Set storage type

- To set the installation status of the MFP storage.

Setting value	Default setting
Storage (It will be displayed when 256GB of storage is mounted.)	
Extended Storage (It will be displayed when 1TB of storage is mounted.)	
microSD	○

10.2 Option Board Status

- To be used for setup of the optional fax kit.

Setting item	Setting value	Default setting
FAX (circuit 1)	Set	
	Unset	○

10.3 Consumable Life Reminder

- To select whether or not to give the display of PM parts lifetime
  NOTICE
  - PM parts lifetime display: An entire screen warning is given when the service life of a specific unit has been reached, prompting the user to replace the part.
- Applicable units:
  - Imaging Unit, Fusing Unit, Transfer Roller Unit, Image Transfer Belt Unit, Toner Filter

Setting value	Contents	Default setting
Yes	When the service life has been reached, a malfunction code and an entire screen warning appear on the control panel.	
No	When the service life has been reached, a malfunction code and a message appear in one line on the upper side of the screen.	○

10.4 Unit Change

10.4.1 Unit Change

- To select who is to replace a unit.
- When the unit life arrives, the warning display is intended for the specific person who is going to replace the unit.
  - When "User" is selected: Printing is inhibited.
  - When "Service" is selected: Life warning.

Setting item	Setting Value	Default setting		
		Japan	US	Europe
Toner Cartridge	User	○	○	○
	Service			
Imaging Unit	User			
	Service	○	○	○
Waste Toner Box	User	○	○	○
	Service			

10.4.2 Warning display

Toner Near Empty

- To set whether to display a toner near empty warning.

Setting value	Default setting
Yes	○
No	

Near Empty Display Time

- To change the timing of toner cartridge near empty detection in order to optimize the timing of the toner cartridge replacement depending on individual use (PV).
- To specify the timing for displaying toner near empty warning at a percentage against 100% of a full toner cartridge state.

NOTE

- **The Near Empty Display Time will be displayed when “Bit Assignment 00000010 / HEX Assignment 02” is set for the Switch No. “151” through the following settings. [Service Mode] -> [System 2] -> [Software Switch Setting].**
- **The toner cartridge is not provided with a mechanism that detects the amount of residual toner in the cartridge. So note that when the toner cartridge is replaced in the midway, the display timing that was set as a reference and the amount of the residual toner inside the toner cartridge may get mismatched.**
- **When [0] is specified, and the toner near empty warning display is specified to [No], no toner near empty warning will be displayed but a toner empty stop warning will appear.**

Setting item	Setting Value	Default setting	
CMY	0 to +25 (step: 1)		
		d-Color MF4003/MF4003en	3
		d-Color MF3303/MF3303en	2
K	0 to +25 (step: 1)		
		d-Color MF4003/MF4003en	5
		d-Color MF3303/MF3303en	3

Near Life Display Settings

- To set whether or not to display the life warning of individual consumables.
- When [Do Not Display] is selected, a warning is not displayed at the time of life detection.
  However, in CS Remote Care, life warning is normally sent to the center regardless of this setting.

NOTE

- **The settings of software Dip switch No.227 (bit7) and switch No. 230 (bit3) have priority.**

Setting item	Setting value	Default setting
Individual consumables	Display	○
	Do Not Display	

10.5 Software Switch Setting

- To set the operating characteristic of each function from software switch depending on what types of printing are normally made.

<Procedure>

1. Touch [Switch No.] and enter the intended switch number with the 10-key pad.
2. Touch [Bit Assignment].
3. Use [<-] or [->] to select a bit. To set the bit, enter 0 or 1 with the 10-key pad.
4. To set the bit in hex, touch [HEX Assignment] and use the 16key pad and [A] to [F] keys to enter numbers and characters.
5. Touch [Fix].

Software Switch Setting list

The list of the setting values of Software Switch Setting can be print from [Service Mode] -> [List Output] -> [Machine Management List].

NOTE

- **For switches not mentioned in the list below, use them in the default value unless indicated otherwise.**

Switch No.	Function	
012	Addition of the authentication device	
025	FW function version setting	
033	Renders some functions, which were available when both administrator authentication and key counter were provided with when using the vendor, available only with administer authentication.	
049	HEX 00 - HEX0A	The upper limit of copies that can be input through the control panel of this machine is set.
	HTML 80	Scan setting only when Sort is selected for a copy cycle to be run with originals placed on the original glass.
051	Settings for the life warning/replace display of the units	
069	When printing using the manual bypass tray in a custom size, allows for printing only with a printer driver settings.	
070	Setting for alarm sound and screen display for communication errors occurring due to CSRC causes.	
072	Import/export function of the address book through the USB memory	
121	When using the ADF, and an original multi-feed trouble is detected, select whether or not to apply Problem Unit Isolation	
124	Function to restrict the file type of TX Fax	
135	Setting for ID length of the HID Prox card	
143	Expansion setting of the touch panel sensitive area when the web browser function is used	
145	HEX 01	Switching to Auto detection for paper size in manual bypass tray
	HEX 02	Switching paper feed mode if the size of paper fed from the manual bypass tray is mismatched
	HEX 04	Displaying message when the paper size in manual bypass tray is mismatched with the paper size specified on the control panel
	HEX 08	When running a copy cycle with originals placed on the original glass, and [Auto] is displayed in "Group/Sort" of the finishing function, [Auto] will be set as default. ("Sort" and "Offset" will be executed when [Auto] is selected.)
	HEX 10	Switch-over settings of Duplex printing and Billing permission Setting for allowing/prohibiting billing on exited paper when a paper size error occurred at the time of duplex printing
146	HEX 04	Setting for enabling use of Non-Image Area Erase, Centering, and Original Size when the book original is used in the fax/scanner mode
	HEX 10	Setting for allowing/prohibiting billing on exited paper when a paper size error occurred at the time of duplex printing
147	Setting for allowing/prohibiting use of Archive Paper	

Switch No.	Function	
151	Setting for displaying/hiding the Near Empty Display Time	
152	The E-mail body print settings of E-Mail RX Print	
155	Validation/invalidation of the debug setting of the log.	
157	Change the upper limit of the time for switching to power save mode.	
163	Setting for the auto execution of Self-diag.(Full)	
164	Setting for allowing/prohibiting use of SHA-1, SSL3.0/TLS1.0/1.1.	
172	Setting to automatically install MarketPlace Client App	
176	Setting for displaying/hiding the Setup Wizard	
187	This setting switches the color converting parameter if the Image Quality Setting set to “Document/Photo (default)” when printing from a PC.	
189	Setting to switch CPU cooling fan operation in Sleep Mode and Low Power Mode	
203	Setting to automatically change log-in authorization to a second user when the second user attempts card authentication after a first user has been authenticated through card authentication.	
206	Setting whether to enable Coverage Counter	
226	HEX 10	Setting for allowing/prohibiting use of fax mis-sending prevention function when line is used by TEL terminal connection devices
	HEX 80	Setting for allowing/prohibiting use of functions to allow administrator to change PBX function settings when an external line button is added for direct input of an address with the PBX function enabled
227	Setting for the display of consumable level and warning. (Control panel, PSWC)	
230	HEX 08	Setting for the display of consumable level and warning. (PSES, MIB, Printfleet, SiteAudit)
	HEX 40	Setting for allowing/prohibiting use of functions for preventing a unintentional sending to a wrong destination
237	HEX 20	Setting for displaying/hiding the Recommended settings for IP line.

10.5.1 Software Switch Confirmation Tool

- The software switch confirmation tool is used to compare the settings with other MFPs or to confirm the software switch which has been changed from the default setting.

<Procedure>

1. Print the list of the setting values of Software Switch Setting (CSV file) from [Service Mode] -> [List Output] -> [Machine Management List].
2. Load the CSV file printed by the software switch confirmation tool.
3. Check or compare with the default value.

<Item can be checked>

- Default setting
- Value of default setting
- SW setting not specified by default
- Comparison of software switch setting

NOTE

- **For details of the software switch confirmation tool, refer to Knova.**
  ID-No. RFCSES_1800015JP (Japanese), ID-No. RFCSES_1800015EN (English)

10.5.2 SW No.012

- Addition of the authentication device

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Standard	00000000 / 00
00000010	02	PKI (NIPRNet) [Card3] choice is added in Service Mode.	
00000100	04	PKI (SIPRNet) [Card3] choice is added in Service Mode.	

Reference

- [Service Mode] -> [Billing Settings] -> [Authentication Device 2]

10.5.3 SW No.025

- FW function version setting

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	FW compatible with version 1.0	01000000 / 40
00010000	10	FW compatible with version 2.0	
00100000	20	FW compatible with version 2.1	
00110000	30	FW compatible with version 2.2	
01000000	40	FW compatible with version 2.3	

Reference

- [Utility] -> [Device Information List]

10.5.4 SW No.033

- Renders some functions, which were available when both administrator authentication and key counter were provided with when using the vendor, available only with administer authentication.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Available with the combination of administer authentication and key counter.	00000000 / 00
00000001	01	Available only with administrator authentication.	

Reference
- [Utility] -> [Expert Adjustment]
- [Administrator] -> [System Settings] -> [List/Counter]

10.5.5 SW No.049

HEX 00 - HEX0A
- The upper limit of copies that can be input through the control panel of this machine is set.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Unlimited	00000000 / 00
00000001	01	1 copy	
00000010	02	3 copies	
00000011	03	5 copies	
00000100	04	9 copies	
00000101	05	10 copies	
00000110	06	20 copies	
00000111	07	30 copies	
00001000	08	50 copies	
00001001	09	99 copies	
00001010	0A	250 copies	

HEX 80
- Scan setting only when Sort is selected for a copy cycle to be run with originals placed on the original glass.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	“Change Setting” and “Finish” keys become available after the document has been scanned.	00000000 / 00
10000000	80	Keys unavailable (copy cycle is started)	

10.5.6 SW No.051

HEX 00 - HEX80
- Settings for the life warning/replace display of the units

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Normal display	11110000 / F0 (Japan/North America/ Europe) 00000000 / 00 (Others)
00010000	10	Does not show the life warning/replace display of the imaging unit/Y,M,C. Does not show the life warning/replace display of the drum unit/K.	
00100000	20	Does not show the life warning/replace display of the developing unit.	
01000000	40	Does not show the life warning/replace display of the transfer belt unit.	
10000000	80	Does not show the life warning/replace display of the fusing unit.	

Reference
- [Service Mode] -> [Counter] -> [Life]

10.5.7 SW No.069

- When printing using the manual bypass tray in a custom size, allows for printing only with a printer driver settings.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	After setting a paper in the manual bypass tray, touch [complete] key to start printing.	00000001 / 01
00000001	01	Start printing with the paper settings specified by the printer driver as the manual bypass tray paper settings without giving a warning.	

10.5.8 SW No.070

- Setting for alarm sound and screen display for communication errors occurring due to CSRC causes.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Communication error sound/screen display enabled.	00000000 / 00
00010000	10	Communication error sound/screen display disabled.	

10.5.9 SW No.072

- Import/export function of the address book through the USB memory

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Import/export function is disabled.	00000000 / 00
00000100	04	Import/export function is enabled.	

Reference
- [Administrator] -> [Maintenance] -> [USB flash drive backup] - [Import]
- [Administrator] -> [Maintenance] -> [USB flash drive backup] - [Export]

10.5.10 SW No.121

- Operation when an original multi-feed trouble is detected during using the ADF

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Apply Problem Unit Isolation	00000000 / 00
00000100	04	Not to apply Problem Unit Isolation	

10.5.11 SW No.124

- Function to restrict the file type of TX Fax

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Restrict the file type.	00000000 / 00
00000001	01	Do not restrict the file type.	

Reference
- [Administrator] -> [Fax Settings] -> [Function Setting] -> [RX Data Operation Settings] -> [Forward TX Setting]

10.5.12 SW No.135

- Setting for ID length of the HID Prox card

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Reports that the 1st byte shows the ID length of the card, the 2nd byte and after shows the card ID.	00000000 / 00
00000001	01	Reports the card ID with the ID length including the 1st byte.	

10.5.13 SW No.143

- Expansion setting of the touch panel sensitive area when the web browser function is used

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	26 dots: 26 dots from the perimeter of the touch panel is a nonsensitive area.	00000000 / 00
00000001	01	16 dots: 16 dots from the perimeter of the touch panel is a nonsensitive area.	
00000010	02	9 dots: 9 dots from the perimeter of the touch panel is a nonsensitive area.	

NOTE
- **The sensitive area of the control panel can be expanded by selecting “16 dots” or “9 dots” on the software switch No.143. Note that the control panel’s sensitive area expanded in this manner may not detect touches properly.**

10.5.14 SW No.145

HEX 01
- Switching to Auto detection for paper size in manual bypass tray

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Enable	00000000 / 00
00000001	01	Disable	

HEX 02
- Switching paper feed mode if the size of paper fed from the manual bypass tray is mismatched

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Stop immediately	00000010 / 02
00000010	02	Stop accordingly Stop immediately in the following cases as an exception. • "1" is set at bit4 for the Switch No.145 • For jobs where center stapling, half-folding, tri-folding and Z-folding are set with a finisher equipped	

HEX 04

- Displaying message when the paper size in manual bypass tray is mismatched with the paper size specified on the control panel

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Enable	00000000 / 00
00000100	04	Disable	

HEX 08

- When running a copy cycle with originals placed on the original glass, and [Auto] is displayed in "Group/Sort" of the finishing function, [Auto] will be set as default. ("Sort" and "Offset" will be executed when [Auto] is selected.)

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Enable	00000000 / 00
00001000	08	Disable	

HEX 10

- Switch-over settings of Duplex printing and Billing permission
- Setting for allowing/prohibiting billing on exited paper when a paper size error occurred at the time of duplex printing

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Allow (billing on one side of the paper)	00000000 / 00
00010000	10	Prohibit	

10.5.15 SW No.146

HEX 04

- Setting for enabling use of Non-Image Area Erase, Centering, and Original Size when the book original is used in the fax/scanner mode

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Prohibits use of Non-Image Area Erase, Centering, and Original Size.	00000000 / 00
00000100	04	Enables use of Non-Image Area Erase, Centering, and Original Size.	

HEX 10

- Setting for allowing/prohibiting billing on exited paper when a paper size error occurred at the time of duplex printing

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Stops	00010000 / 10
00010000	10	Outputs paper.	

10.5.16 SW No.147

- Set whether allow or prohibit use of Archive Paper Enable.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Not to use Archive Paper.	00000000 / 00
00001000	08	Use Archive Paper.	

10.5.17 SW No.151

- Setting for displaying/hiding the Near Empty Display Time

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Hide	00000010 / 02
00000010	02	Display	

Reference

- [Service Mode] -> [System 2] -> [Unit Change]

10.5.18 SW No.152

- The E-mail body print settings of E-Mail RX Print

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Disables the E-mail body print settings.	00000000 / 00
00000001	01	Allows the E-mail body print settings.	

- This function supports the following languages.
  - Japanese, English, French, Italian, Germany, Spanish

10.5.19 SW No.155

- Validation/invalidation of the debug setting of the log.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Debug setting is disabled.	00000000 / 00
00000001	01	Debug setting is enabled.	

Reference
- [Service Mode] -> [Debug Settings] -> [Basic mode]

10.5.20 SW No.157

- Change the upper limit of the time for switching to power save mode.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Do not change the upper limit.	00000000 / 00
00000010	02	Change the upper limit to 240 minutes.	

Reference
- [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Settings] -> [Low Power Mode Setting]

10.5.21 SW No.163

- Setting for the auto execution of Self-diag.(Full)

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Disable	00000010 / 02
00000010	02	Enable The Self-diag. (Full) will be executed automatically only when the rank B/C trouble codes are detected.	

10.5.22 SW No.164

- Setting for allowing/prohibiting use of SHA-1, SSL3.0/TLS1.0/1.1

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Enables setting of SHA-1, SSL3.0/TLS1.0/1.1	00010000 / 10
00010000	10	Disables setting of SHA-1, SSL3.0/TLS1.0/1.1	

NOTE
In the following cases, the registered certificate will be deleted and a connection to PSWC will be required via HTTP. To enable the connection via HTTPS, it requires to connect PSWC with HTTP and re-register the deleted certificate.
- When DipSW is once set to "00" and then set back to "10" again for products with version 2.3-compatible FW or later
- When set DipSW to “10” after applying the version 2.3-compatible FW

10.5.23 SW No.172

- Setting to automatically install MarketPlace Client App

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000101	05	At the time of installation, the MarketPlace Client App is installed automatically.	00000101 / 05 (Except for Japan) 00000001 / 01 (Japan)
00000001	01	At the time of installation, the MarketPlace Client App is not installed automatically.	

NOTE
- **The installed MarketPlace Client App is not uninstalled even if it is changed to 0x01.**

10.5.24 SW No.176

- Setting for displaying/hiding the Setup Wizard

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Hide	00011000 / 18
00011000	18	Display	

10.5.25 SW No.187

- This setting switches the color converting parameter if the Image Quality Setting set to “Document/Photo (default)” when printing from a PC.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Mode 0: Normal tint	00000000 / 00
00001000	08	Mode 1: The entire tint is more subdued than in mode 0. For individual colors, red is reproduced close to vermilion, blue is close to purple, and green is bright and vivid.	
00010000	10	Mode 2: The entire tint is more subdued (close to yellow) than in mode 0. For individual colors, red is reproduced closer to vermilion, and green is brighter and more vivid than in mode 1.	
00011000	18	Mode 3: The entire tint is brighter than in mode 0. For individual colors, red is reproduced darker, blue is close to purple, and green is bright and vivid.	

10.5.26 SW No.189

- Setting to switch CPU cooling fan operation in Sleep Mode and Low Power Mode.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	CPU cooling fan starts running	00000000 / 00
00001000	08	CPU cooling fan stops running	

10.5.27 SW No.203

- Setting to automatically change log-in authorization to a second user when the second user attempts card authentication after a first user has been authenticated through card authentication.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Log-in not authorized.	00000000 / 00
00000100	04	Log-in authorized.	

10.5.28 SW No.206

- Setting whether to enable Coverage Counter

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Disable	00000000 / 00
00000001	01	Enable	

Reference

- [Service Mode] -> [Billing Setting] -> [Coverage Rate Clear], [Print Counter Clear], [Coverage Counter Detail]

10.5.29 SW No.226

HEX 10

- Setting for allowing/prohibiting use of fax mis-sending prevention function when line is used by TEL terminal connection devices

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Do not use functions for preventing fax mis-sending.	00010000 / 10
00010000	10	Use functions to prevent fax mis-sending.	

HEX 80

- Setting for allowing/prohibiting use of functions to allow administrator to change PBX function settings when an external line button is added for direct input of an address with the PBX function enabled

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Do not use the functions.	10000000 / 80
10000000	80	Use the functions.	

10.5.30 SW No.227

- Setting for the display of consumable level and warning. (Control panel, Web Connection)
- Toner level is displayed regardless of this setting at all time.

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Display	10000000 / 80 (Japan/North America/ Europe) 00000000 / 00 (Others)
10000000	80	Do not display	

10.5.31 SW No.230

HEX 08

- Setting for the display of consumable level and warning. (PSES, MIB, Printfleet, SiteAudit)

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Display	00001000 / 08 (Japan/North America/ Europe) 00000000 / 00 (Others)
00001000	08	Do not display	

HEX 40

- Setting for allowing/prohibiting use of functions for preventing a unintentional sending to a wrong destination

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Do not use the functions.	01000000 / 40
01000000	40	Use the functions.	

10.5.32 SW No.237

HEX 20

- Setting for displaying/hiding the recommended settings for IP line in [Administrator] -> [Fax Settings] -> [Function Setting].

Bit Assignment	HEX Assignment	Details	Default value (Bit/HEX)
00000000	00	Does not show the recommended settings for IP line	00000000 / 00 (IT-6_2.0 or earlier) 00100000 / 20 (IT-6_2.1 or later)
00100000	20	Shows the recommended settings for IP line	

Reference
- [Administrator] -> [Fax Settings] -> [Function Setting] -> [Recommended settings for IP line]

10.6 CCD Calibration

Front side/back side
- To set whether to use the calibration adjustment value set prior to the shipping. To display the current calibration adjustment value.
- When CCD board (front side)/CIS (back side: only when dual scan document feeder is mounted) has been replaced, set to “OFF.”
  NOTICE
  - After replacing the CCD board or CIS, the default generic value needs to be set since the calibration value set for each unit changes to control the differences in reading performance on each scanner (CCD).
- The original calibration adjustment value can be disabled to address image failure and other problems caused by individual CCD or CIS performance difference.

Setting item	Setting value	Default setting
Front side/back side	ON	○
	OFF	

NOTE
- **The [Front Side] and [Back Side] keys are displayed when dual scan document feeder is mounted.**

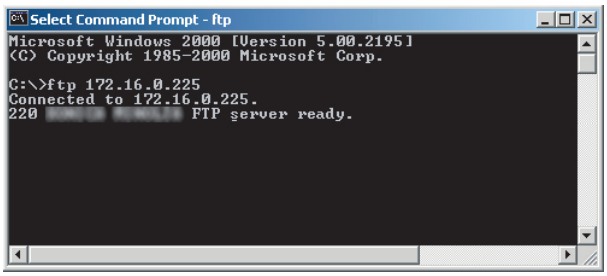
10.7 Data Capture

- When an error occurs, it acquires the print job data in order to analyze the cause of the error.
- When an error occurs, this will be used to analyze the cause of the error according to the print job data.

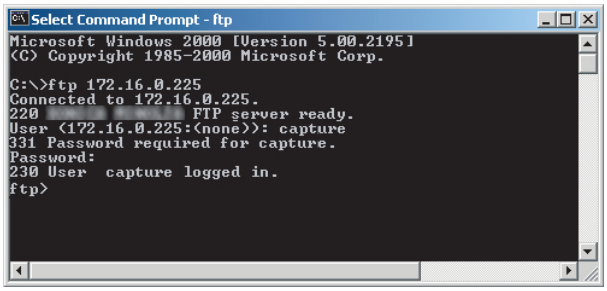
NOTE
- **The following conditions are necessary for this function.**
  - **“Allow” must be set when selecting [Administrator] -> [Security] -> [Security Details] -> [Print Data Capture].**
  - **The MFP storage must be installed.**
  - **“ON” must be set when selecting [Administrator] -> [Network] -> [FTP Setting] -> [FTP Server Setting].**
  - **This function also allows print job data stored in the MFP storage to be obtained from [Debug Settings] -> [Debug Log Output]. For more details, see “Debug Log Output.”**

<Procedure>

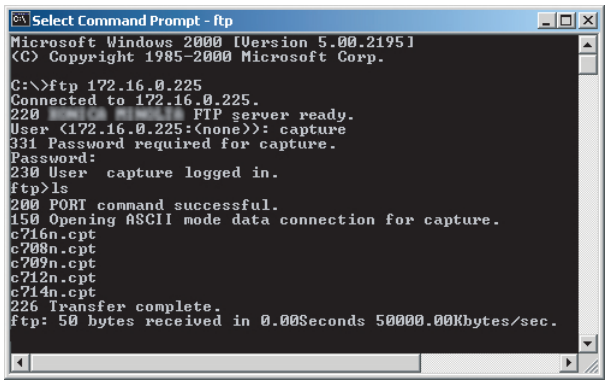
1. Select [Service Mode] -> [System 2], and touch [Data Capture]. Select “ON.” (While the Data Capture setting is [ON], the print job data from the PC will be stored in the Main body storage disk.)
   NOTE
   - **Maximum 5 print job data can be stored. The data will be overwritten beginning with the chronologically oldest one.**
2. Check the IP address of the machine.
3. Connect the PC (Windows) and the machine with ethernet cable.
4. Start the DOS command prompt of the PC, and specify the IP address of the machine to start FTP.



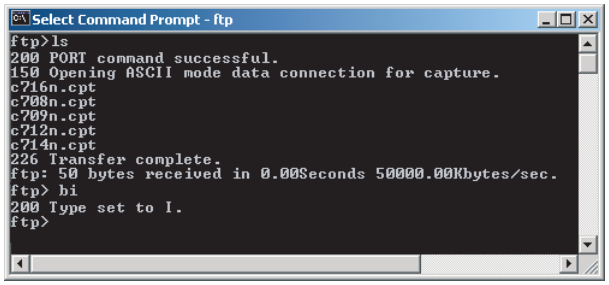
5. Input the user name and the password.
   - User name: capture
   - Password: sysadm



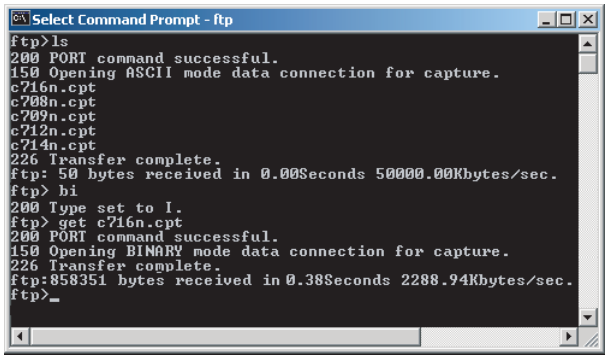
6. Using the “ls” command, display the list of the file available for capture.



7. Using the “binary” command, set the File transfer mode to the binary transfer.



8. Using the “get” command, transfer the data for capture to PC.



9. Finish the command prompt.

NOTE

- **After receiving capture data, select [Administrator] -> [Security] -> [Security Details] -> [Print Data Capture], and select [Restrict] for the print data capture setting in order to delete the job data stored in the MFP storage.**
- **When Storage Format or Overwrite Temporary Data is performed, job data is deleted.**

10.8 Network Fax Settings

- To set whether or not to use network fax function.
- To set when using network fax function.
- Selection will be available when each network fax function is set to "ON" in [Administrator] -> [Network] -> [Network Fax Setting] -> [Network Fax Setting].

Setting item	Setting value	Default setting
IP Address Fax	ON	
	OFF	○
Internet Fax	ON	
	OFF	○

10.9 RX File Change Page Name

- To set whether to change the document file name to forward TX or take out a file from the Memory RX Box.

Setting value	Default setting
Change	

Setting value	Default setting
Do Not Change	○

10.10 ADF Settings

- To configure ADF installation settings.

Setting value	Default setting
Unset	
Dual Scan Document Feeder	○

10.11 Image Stabilization Setting

- To change the type and timing of image stabilization.
- To provide the desirable image stabilization control that depends on customer's machine usage pattern, i.e. the ratio of color to black print.

Setting value	Target user	Contents	Default setting
Standard	This mode is suitable for low-volume users and reduces the number of times image stabilization is carried out when the main power switch is turned ON.	If the change of absolute humidity is detected during warm-up, normal stabilization is performed during warm-up.	○
Color priority	This mode is suitable for high-volume and high ratio of color print users.	Color stabilization sequence is performed unconditionally when the main power switch is turned ON.	
Black priority	This mode is suitable for users who use mainly black print and use less color print. It provides monochrome stabilization and reduces the number of times image stabilization is carried out when the main power switch is turned ON.	If the change of absolute humidity is detected during warm-up, monochrome stabilization is performed during the warm-up and color stabilization is performed before color printing.	

10.12 Multifeed Sensor Status

- To set the mounting status of the Double feed detection Kit.
- To use when setting up the Double feed detection Kit.

Setting value	Default setting
Set	
Unset	○

10.13 User Paper Settings

- To set and register individual user paper that includes a different basic weight, fusing temperature, 2nd image transfer fine adjustment value.
- [User Paper Settings] is also available from [Utility] -> [Expert Adjustment].
- To register a paper type that is suitable for individual customer's intended use and use environment.

Registered Key	Paper Type	Basic weight	Fusing Temperature		2nd Transfer Adj.	
		Setting range	Setting item	Setting range	Setting item	Setting range
User Paper 1	Plain paper	60 to 90 g/m^2 (Step: 1)	600 dpi	- 20 °C to +10 °C (step: 5 °C)	Front - Color Front - Black Back - Color Back - Black	-8 to +7 (Step: 1)
User Paper 2	Plain paper+	91 to 105 g/m^2 (Step: 1)				
User Paper 3	Thick 1	106 to 120 g/m^2 (Step: 1)				
User Paper 4	Thick 1+	121 to 157 g/m^2 (Step: 1)				
User Paper 5	Thick 2	158 to 210 g/m^2 (Step: 1)				

<Procedure>

1. Select the desired key from [User Paper 1] to [User Paper 5] to register user paper.
2. Select [Basic Weight] and enter a value with the [+] / [-] key.
3. Select a target item of Fusing Temperature and enter a fusing temperature with the [+] / [-] key.
4. Select a target item of 2nd Transfer Adj., and enter a 2nd image transfer fine adjustment value with the [+] / [-] key.
5. Load the manual bypass tray with paper.
   - Paper Size: A4S, 81/2 x 11S
6. Select [1Side] (only front side) or [Front Side] (only back side) and press the Start key.
7. Check the image of the output test pattern.
   - If the image is not acceptable, adjust the settings and output the test pattern again.

Test Pattern in User Paper Settings

- The printable test pattern for user paper settings is provided to ease determining the most appropriate 2nd image transfer output value when customizing user paper.
- The test pattern outputs a pattern for Standard value A (2nd image transfer output control) according to the 2nd image transfer fine adjustment setting range. (Every two steps)
- Refer to the printed pattern, and select the 2nd image transfer fine adjustment setting.

10.14 Coverage Rate Screen

- To set whether or not to display a coverage rate on the sales counter screen and sales counter list.
- Coverage Counter instead of Coverage Rate is displayed when Switch No. 206 is set to [00000001] at Bit assignment/[01] at HEX assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].

Setting value	Default setting
Display	
Do Not Display	○

10.15 JAM Code Display Setting

- To set whether or not to add a jam code to a jam warning display on the control panel when a jam occurs.

Setting value	Default setting
Display	
Do Not Display	○

10.16 Import Config. Data

10.16.1 BootUp Screen

- To customize the BootUp Screen displayed upon machine start-up.
- Use this feature when changing the Olivetti logo displayed on the control panel upon start-up for client's intended use of the machine.

NOTE

- **In the following conditions, import of BootUp Screen data is prohibited.**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] is set to [Restrict].**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] is set to [Restrict].**
  - **[Administrator] -> [Security] -> [Enhanced Security Mode] is set to "ON".**

Preparation of registrable image data

Specifications of registrable image data

Items	Contents
Image format	PNG format
File extension	".bin" or ".zip"
FileName	BootUpScreen*.bin or BootUpScreen*.zip (* represents user-defined text)
Image size	1024 x 600 dots (When the size of the control panel is 10.1-inch) 800 x 480 dots (When the size of the control panel is 7-inch)
Color	256 colors (Palette that the machine specifies is used.)

<Procedure>

1. Using the dedicated image creation tool to create the image data satisfying the specifications mentioned above.
2. To create a data as a zip format file, compress the bin file of the same name (image data) and the Version.txt file (version information) in one zip file.
   NOTE
   - **Character type usable in version information is limited to ASCII (7-bit ASCII). Text strings of up to 21 characters can be used.**
3. Save the created data in the root directory of the USB memory.
   NOTE
   - **Be careful that the machine is unable to recognize data saved in any directories other than the root directory.**

Procedure of data import

1. Connect the USB memory to the USB port of the machine.
2. Touch [Import Config. Data] -> [BootUp Screen].
3. Touch [Set].
   NOTE
   - **If a USB memory is not connected or a nonconforming USB memory is connected, "USB NG" is displayed and logo data cannot be registered.**
   - **If the file name of registrable image data does not conform to the above specifications, "File NG" message is displayed and the data cannot be registered.**
4. Check result "OK" is displayed and touch [END].
   NOTE
   - **If logo data is already registered, new logo data overwrites the existing logo data.**
   - **The color of logo data may look different between the machine control panel and some PC screens. After registering logo data, restart the machine and check the color of the logo data on the BootUp screen.**
   - **To delete registered data, touch [Delete] and make sure that "OK" appears.**

10.16.2 Machine Image

- To customize the exterior view of the machine displayed on the control panel.
- Use this function to change the exterior view of the machine displayed on the control panel to the exterior view of the customer business office according to the user's need.
- Check the version of the installed exterior view data. (When the USB memory is not connected)

NOTE

- **In the following conditions, import of BootUp Screen data is prohibited.**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] is set to [Restrict].**

- **[Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] is set to [Restrict].**
- **[Administrator] -> [Security] -> [Enhanced Security Mode] is set to "ON".**

<Procedure>

1. Save the exterior view data in the root directory of the USB memory.
   NOTE
   - **Be careful that the machine is unable to recognize data saved in any directories other than the root directory.**
2. Connect the USB memory to the USB port of the machine.
3. Touch [Import Config. Data] -> [Machine Image].
4. Touch [Set].
5. Check result "OK" is displayed.
6. Turn OFF and ON the main power switch.
   NOTE
   - **Any exterior view data that has previously been registered will be overwritten by subsequent new data as it is registered.**
   - **To delete registered data, touch [Delete] and make sure that "OK" appears.**

10.16.3 Custom Auth. Setting

- To install the authentication customize data used to customize the authentication process.

NOTE

- **Only when one of the following conditions is met, the authentication customize data can be imported.**
  - **A USB memory is inserted in the USB port.**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] -> [Storage data backup] is set to [ON].**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] -> [Firmware Update Parameters] is set to [Allow].**
  - **[Administrator] -> [Security] -> [Enhanced Security Mode] is set to "OFF."**

<Procedure>

1. Save the authentication customization data in the root directory of a USB memory.
   NOTE
   - **Be careful that the MFP is unable to recognize data saved in any directories other than the root directory.**
2. Connect the USB memory to the USB port of the machine.
3. Touch [Import Config. Data] -> [Custom Auth. Setting].
4. Touch [Set].
5. Check result "OK" is displayed.
6. Turn OFF and ON the main power switch.
   NOTE
   - **The new data will overwrite any existing authentication customization data.**
   - **To delete registered data, touch [Delete] and make sure that "OK" appears.**

10.17 Install Data

- To install voice data, movie data, OCR dictionary data, PDF/A font, or IPFAX(SIP) data into the main body.
- Selection of [OEM] makes customization of driver name, etc. possible by writing the OEM extended character string in the firmware package and downloading it.

NOTE

- **In the following conditions, import of data is prohibited.**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] is set to [Restrict].**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] is set to [Restrict].**
  - **[Administrator] -> [Security] -> [Enhanced Security Mode] is set to "ON."**
- **To create PDF/A-compliant PDF files where voice guidance function, OCR function and PDF/A font is used, supportable i-Option must be enabled.**
- **To install the voice guidance, check if [Administrator] -> [System Settings] -> [Voice Guidance Settings] -> [Voice Guidance] is set to "Yes".**
- **To use IPFAX(SIP), supportable i-Option must be enabled.**
- **[Content Data] should not be used.**

<Procedure>

1. Save installation data (*.tar) into the root directory of a USB memory device.
2. Connect the USB memory device to the machine USB port.
3. Touch [Install Data].
4. Select the type of the data to be installed.
   - You can select multiple types of data at a time and install them.
5. Touch [Set].
6. Press the Start key to install the data.
7. Check result "OK" is displayed and touch [END].

NOTE

- **If data is already installed, it is necessary to delete old data before installing new one.**
- *** To delete registered data, select the data to be deleted, and touch [Delete] -> [Fix]. Check result "OK" is displayed.**

10.18 Local Interface Kit Setting

- To set whether to enable or disable the Bluetooth function.
- Use this setting upon set-up of the optional local interface kit.

Setting value	Default setting
Set	
Unset	○

10.19 Display Eco Index

- To set whether or not to display [Power Consumption] and [CO2 Emission] in [Utility] -> [Counter] -> [Eco Info].
  NOTE
  - **The amount of power consumption displayed on the machine is an estimated value calculated from the average amount of power consumption and the operating hours of the machine, so that is not an exact power consumption value. Therefore, explain this to users before selecting the option of displaying these items.**
- To set an emission coefficient used to calculate the amount of CO2 emission.
  NOTE
  - **As the CO2 emission coefficient is different depending on the electric power provider with whom the user contracts and the user's machine use environment, the coefficient needs to be set individually.**

Setting item	Setting	Default setting
Power Savings Display Level	ON	
	OFF	○
Output Coefficient Settings	0.0001 - 0.9999	0.4166

<Procedure>
1. Explain to users that [Power Consumption] and [CO2 Emission] displayed on the machine are estimated values, and obtain their consent.
2. Select [ON] in [Power Savings Display Level].
3. Depending on the user's MFP use environment, configure [Output Coefficient Settings] using the 10-key pad.
4. Touch [END].

10.20 Internal Error. Auto Cancel

- To set whether or not to automatically reset trouble when a trouble code classified as rank B or C occurs.

Setting item	Setting value	Default setting
Rank B	Yes	○
	No	
Rank C	Yes	○
	No	

<Operation when set to “Yes”>
1. When specified trouble occurs, the trouble warning screen displays for about 10 seconds the message that the trouble is automatically reset. Then automatic trouble reset is performed.
2. If the trouble reset is successful, MFP can be used.
   - If the trouble reset fails, retry is performed. (The number of retries is up to 2 times.)

10.21 Acquiring Settings

- To count frequency of use by each function and collect machine configuration information.
- This setting allows us to understand the trend in the market and the usage of MFP by collecting and counting frequency of use by each function.
- The collected information can be obtained only via CSRC and cannot be displayed on the control panel or printed.
- To send the collected information, [Administrator] -> [System Settings] -> [List/Counter] -> [Meter Count and Device Confirmation Tx Settings] must be set to “Allow.”

Setting value	Default setting
ON	○
OFF	

10.22 Driver Install

- To install/uninstall the loadable device driver.
- Used when the authentication device that needs the loadable device driver is attached.

NOTE
- **Only when one of the following conditions is met, the driver can be installed/uninstalled.**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] -> [Storage data backup] is set to [ON].**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] -> [Firmware Update Parameters] is set to [Allow].**
  - **[Administrator] -> [Security] -> [Enhanced Security Mode] is set to “OFF.”**

<Installation procedure>
1. Prepare a USB memory where only the loadable device driver directory is stored in the root directory.
   - Only one loadable device driver must be stored in the USB memory, and please do not save any other data in the USB memory. Please do not save any other data in the USB memory.
2. Connect the USB memory to the USB port of the MFP.
3. Touch [Driver Install] -> [Install].
4. Touch [Loadable Driver] and touch [Start] to install the data.
5. Check that data is normally installed from the message that appears on the control panel.
6. Touch [Reboot].
7. Remove the USB memory.

<Uninstallation procedure>
1. Touch [Driver Install] -> [Uninstall].
2. Select a driver to be uninstalled.
3. Touch [Start] to uninstall the data.

4. Check that data is normally uninstalled from the message that appears on the control panel.
5. Touch [Reboot].

10.23 Application Change Setting

- To set whether to allow a change of the settings for the specified application start.
- If “Permit” is set, [Specified Application Start Setting] of [Administrator] -> [Network] -> [OpenAPI Setting] can be configured.

Setting value	Default setting
Permit	○
Prohibit	

10.24 Custom Pattern

- To register or delete custom patterns.
- To customize the panel display by allowing the machine to read the setting file (CPD file) that defines whether or not to display the various setting keys that appear on the control panel.

NOTE

- **In the following conditions, installation of the custom pattern is prohibited.**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] is set to [Restrict].**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] is set to [Restrict].**
  - **[Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON.”**

Preparing setting file (CPD file)

- When making the setting file (CPD file), use the “Panel Customization Tool.”

Operation Environment of Panel Customization Tool

Items	Contents
PC	PC-AT compatible machine
CPU	Conforms to the specifications of the operating system
Memory (RAM)	Conforms to the specifications of the operating system
HDD	100 MB or more free space is required
Display	1280 x 800 pixels or more, 24bit full color
OS	• Windows 7 Professional (SP1 or later) • 32-bit (x86) and 64-bit (x64) editions of Windows are supported.

<Create a new setting file>

1. Start up the Panel Customization Tool.
2. Set a name for your customization in [Name]. (1 to 24 characters consisting of one-byte alphanumerics and symbols. Comma cannot be used.)
3. Select a model in [Model].
4. Select a preset pattern or marketing area in [Preset]. (The number of functions displayed in the Function list below decreases in the order of Full > Standard > Basic.)
5. Select whether items should be displayed (ticked) or hidden (unticked) in [Function]. (Make this setting both in the Copy tab and the Scan/Fax tab.)
6. Save the setting file (CPD file) with one-byte alphanumerics and symbols in [Save as…].

<Edit an existing setting file>

1. Start up the Panel Customization Tool.
2. Select a model in [Model].
3. Select an existing setting file (CPD file) in [File] -> [Open].
4. Select whether items should be displayed (ticked) or hidden (unticked) in [Function].
5. Save the setting file (CPD file) with one-byte alphanumerics and symbols in [Save as…].

Importing setting file (CPD file)

1. Copy the setting file (CPD file) to the root directory of a USB memory.
2. Connect the USB memory to the USB port of the machine.
3. Touch [Custom Pattern].
4. Select [Custom Pattern 1], [Custom Pattern 2] or [Custom Pattern 3].
5. Touch [Import] to select the data to be imported.
6. Press Start Key to import the data.
7. Select the registered custom pattern in [Administrator] -> [System Settings] -> [Custom Function Pattern Selection].

NOTE

- **To delete registered data, select the target Custom Display Pattern from the [Administrator] -> [System Settings] -> [Custom Function Pattern Selection], touch [Delete] -> [Fix] and check that the result “OK” appears.**

10.25 Maintenance Mode

- The authentication procedure to log on to Administrator Settings or Service Mode is canceled during setup or setup change to thereby achieve a shorter operating time.
- The following functions are enabled.
  - The Administrator password is skipped (there is no need to enter the password)
  - The CE password is skipped. (there is no need to enter the CE password)
  - Import/export setting can be displayed even without the setting made for switch number "72" of the Software Switch Setting.
- A bar appears in the upper row of the control panel in the Maintenance Mode.

NOTE

- **To enable the maintenance mode, set [Administrator] -> [Security] -> [Security Details] -> [Maintenance Mode Access] -> to [Allow].**

Setting item	Contents	Setting value	Default setting
Maintenance Mode	Set whether to enable or disable the Maintenance Mode.	Invalid	○
		Effective	
Display language	Select the language to be displayed in the Maintenance Mode. When [Not Set] is selected, the displayed language is that valid before the machine enter the Maintenance Mode.	Not Set	○
		Display language	
Job History Clear Upon Job Completion	Set whether to erase the past job history and the job history during the Maintenance Mode.	Set	○
		Unset	

<Exiting the Maintenance Mode>

- To exit the Maintenance Mode, select [Service Mode] -> [System 2] -> [Maintenance Mode] and touch [Invalid], or touch the arrow key on the control panel and select [Yes] from the confirmation screen.

10.26 Smart Fusing Control

- Specifies whether or not to apply low power fusing control.

Setting value	Contents	Default setting
Permit	Applies low power fusing control by lowering the target temperature as much as possible in response to the single sheet data. In this way, the power consumption (TEC value) is controlled.	○
Prohibit	Controls the adjustment of the specified fusing temperature.	

10.27 Cleaning Unit Setting

- Use this feature upon the optional clean unit set-up.

Setting value	Default setting
Installed	
Not Installed	○

10.28 Fuser roll deform

- Rotates the fusing belt to prevent the same fusing belt surface from being left alone for long periods of time in order to prevent deformation.
- Prevents unevenness in gloss caused by fusing belt deformation.

Setting value	Detail	Default setting
OFF	-	○
Mode 1 *	• Rotates the fusing roller for a certain distance when the machine has been in standby mode for over 6 hours. • Rotates the fusing roller for a certain distance when the machine has been in energy save mode for over 13 days. • (Energy save mode in this case does not include sub power OFF mode and ErP Auto Power OFF mode.)	
Mode 2 *	• Rotates the fusing roller for a certain distance when the machine has been in standby mode for over 6 hours. • Rotates the fusing roller for a certain distance when the machine has been in energy save mode for over 13 days. • (Energy save mode in this case does not include sub power OFF mode and ErP Auto Power OFF mode.) • Rotates the belt for 30 seconds while warming the fusing unit up to a certain temperature during the warmup process or when starting to print in order to prevent belt deformation.	

*: Perform the following steps when selecting this setting to an option other than [OFF].

- When setting the [Weekly Timer ON/OFF Settings] found under [Administrator Settings] -> [System Settings] -> [Weekly Timer Settings] to [ON], select the energy save mode when the weekly timer is turned off to [Sleep].
- Select [Power Save] in the [Power Key Setting] found under [Administrator Settings] -> [System Settings] -> [Power Supply/Power Save Settings].
- Do not turn off the main power switch.
- Do not turn off the sub power switch. (Do not long-press the power key.)

10.29 Auth. Function Enable

Activation

- Use to activate the advanced function after certification.

<Procedure of entering function codes manually>

1. Touch [Activation].
2. Confirm that [Function Code] is selected, and the press the [Function Code].
3. Enter the function code and touch [END].
4. Confirm the instructions on-screen and touch [Apply].

<Procedure of importing function codes via a USB device>

1. Connect the USB device that contains the functions codes to be activated.
2. Touch [Activation].
3. Confirm that [USB] is selected.
   NOTE
   - **[USB] is only displayed when a USB device that contains functions codes to be activated is connected.**
4. Confirm the instructions on-screen and touch [Apply].

List

- To display a list of currently activated functions.

11. Counter

11.1 Outline

- The counter displays the counts of various counters to allow the technical representative to check or set as necessary.

<Common procedure>

1. Call the Service Mode to the screen.
2. Touch [Counter] to show the counter menu.
3. Select the specific counter to be displayed.
4. To clear the counts of two or more counters within a group or across different groups at once, touch [Counter Reset], select the specific counters to be cleared, and touch [END]. Two or more counters can be selected. (However, the [service call], [Service Total], [Jam], and [Detail code history] counters cannot be selected.)

11.2 Life

- To check the number of hours or times each of the different maintenance parts has been used.
- To clear the count of each counter.
- To perform New Release in fusing unit and transfer belt unit.
- To check how many times maintenance parts have been used.
- When each of the maintenance parts is replaced.

<Count method of each life counter>

Counter item	Counting method
Fusing unit press times (Total)	Counts the number of press time .
Fusing unit drive time (Press)	Counts the total driving distance when pressuring.
Fusing unit drive mileage (Light press)	Counts the total driving distance when lightly pressuring.
Fusing unit drive time (Press)	Counts the total driving time when pressuring.
Fusing unit drive time (Light press)	Count the total driving time when lightly pressuring.
Fusing unit edge predetermined tmp.	Counts the total printing time when the fusing unit edge reaches the predetermined temperature.
Fusing unit edge predetermined tmp. accumul. time(In standby)	Counts the total stand-by time when the fusing unit edge reaches the predetermined temperature.
Fusing unit center predetermined tmp. accumul. time(In printing)	Counts the total printing time when the fusing unit center reaches the predetermined temperature.
Fusing unit center predetermined tmp. accumul. time(In standby)	Counts the total stand-by time when the fusing unit center reaches the predetermined temperature.
Fusing unit CD width of max. mileage	Counts the total paper feeding distance by each paper width, and shows paper width with the longest total paper feeding distance.
Fusing unit max. mileage from each CD width.	Counts the total paper feeding distance by each paper width, and shows the longest total paper feeding distance.
Fusing Unit Rotation Time	Counts how many hours the Fusing unit has turned.
Fusing Unit Page Count	Counts how many sheets have been ejected. The counter of paper length increases by 1 per every 216 mm and shows the total count. For the paper with the paper length less than 216 mm, the counter uses 216 mm as the paper length.
Transfer Belt Unit Rotation Time	Counts how many hours the transfer belt unit has turned.
Transfer Belt Unit Page Count	Counts how many sheets have been ejected. The counter of paper length increases by 1 per every 216 mm and shows the total count. For the paper with the paper length less than 216 mm, the counter uses 216 mm as the paper length.
Transfer Roller Unit	Counts how many sheets have been printed. The counter of paper length increases by 1 per every 216 mm and shows the total count. For the paper with the paper length less than 216 mm, the counter uses 216 mm as the paper length.
Transfer Roller Unit Rotation Time	Counts how many hours the transfer roller unit has turned.
Toner Filter	Counts how many sheets have been printed.
Imaging Unit (C) Rotation Time	Counts how many hours PC drum has turned.
Imaging Unit (M) Rotation Time	
Imaging Unit (Y) Rotation Time	
Imaging Unit (K) Rotation Time	
Imaging Unit (C) Page Count	Counts how many sheets have been printed. The counter of paper length increases by 1 per every 216 mm and shows the total count. For the paper with the paper length less than 216 mm, the counter uses 216 mm as the paper length.
Imaging Unit (M) Page Count	
Imaging Unit (Y) Page Count	
Imaging Unit (K) Page Count	
TCR new article detection(C)	Count the number of the replacement of the toner cartridge.
TCR new article detection(M)	
TCR new article detection(Y)	
TCR new article detection(K)	
1st Feed Count	Number of sheets of paper fed from tray 1
2nd Feed Count	Number of sheets of paper fed from tray 2
3rd Feed Count	Number of sheets of paper fed from tray 3

Counter item	Counting method
4th Feed Count	Number of sheets of paper fed from tray 4
Manual Tray Feed Count	Number of sheets of paper fed from the manual bypass tray
1st warning count	Threshold value of tray 1 paper feed roller replacement timing. The service engineer inputs based on the counter information of JAM count, Number of retries, Slip rate, and Max slip rate.
2nd warning count	Threshold value of tray 2 paper feed roller replacement timing. The service engineer inputs based on the counter information of JAM count, Number of retries, Slip rate, and Max slip rate.
3rd warning count	Threshold value of tray 3 paper feed roller replacement timing. The service engineer inputs based on the counter information of JAM count, Number of retries, Slip rate, and Max slip rate.
4th warning count	Threshold value of tray 4 paper feed roller replacement timing. The service engineer inputs based on the counter information of JAM count, Number of retries, Slip rate, and Max slip rate.
Manual tray warning count	Threshold value of manual bypass tray paper feed roller replacement timing. The service engineer inputs based on the counter information of JAM count, Number of retries, Slip rate, and Max slip rate.
1st Feed Retry Count	Count the frequency of paper feed retry of tray 1.
2nd Feed Retry Count	Count the frequency of paper feed retry of tray 2.
3rd Feed Retry Count	Count the frequency of paper feed retry of tray 3.
4th Feed Retry Count	Count the frequency of paper feed retry of tray 4.
Manual Tray Feed retry Count	Count the frequency of paper feed retry of manual bypass tray.
1st JAM count	Count the frequency of paper feed jam of tray 1.
2nd JAM count	Count the frequency of paper feed jam of tray 2.
3rd JAM count	Count the frequency of paper feed jam of tray 3.
4th JAM count	Count the frequency of paper feed jam of tray 4.
Manual tray JAM count	Count the frequency of paper feed jam of manual bypass tray.
1st Slip rate	Count the slip rate of the latest n sheets of tray 1.
2nd Slip rate	Count the slip rate of the latest n sheets of tray 2.
3rd Slip rate	Count the slip rate of the latest n sheets of tray 3.
4th Slip rate	Count the slip rate of the latest n sheets of tray 4.
Manual tray Slip rate	Count the slip rate of the latest n sheets of manual bypass tray.
1st Max Slip rate	Count the maximum value of slip rate of tray 1.
2nd Max Slip rate	Count the maximum value of slip rate of tray 2.
3rd Max Slip rate	Count the maximum value of slip rate of tray 3.
4th Max Slip rate	Count the maximum value of slip rate of tray 4.
Manual tray Max Slip rate	Count the maximum value of slip rate of manual bypass tray.
ADF (Feed)	Count number of sheets of original fed through the take-up section of the DF.
Scan Count (Original Glass)	Count the frequency of scanning through the original glass.
Slip rate	Displays the average slip rate of the last 50 sheets of the paper feed roller. Measures the transport time from the paper feed sensor to the next sensor of each tray, and calculate the difference from the target value. Reference roller replacement time: 90% or more
Max slip rate	Displays the average slip rate of the last 50 sheets of the paper feed roller and the standard deviation. Reference roller replacement time: 100% or more

Counter clear

- To clear the count of a counter, select the specific part and touch Clear.
- It is not possible to clear the count of the counters for the fusing unit, transfer belt unit, drum unit, developing unit, and TCR new article detection.

New Release

- After replacing a fusing unit, transfer belt unit, or transfer roller unit perform New Release to clear its life counter.

<Procedure>

1. Touch [New Release].
2. Select a unit where New Release is made.
3. Press the Start key and perform New Release.

New Release

- After replacing a fusing unit or transfer belt unit, perform New Release to clear its life counter.

<Procedure>

1. Touch [New Release].
2. Open the front door or the lower front door.
3. Select a unit where New Release is made.
4. Press the Start key and perform New Release.

New Release Disable mode

- To enable a unit that is used temporarily for troubleshooting to be used again as a new unit in another machine, the New Release Disable mode is provided.
- Applicable units are the following units that have the new unit detection feature.

  - Drum unit, developing unit
- See the “Notes when using the New Release Disable mode” for the method of enabling the New Release Disable mode.

11.3 Service Call

- To count and display how many times trouble has been detected on a trouble type basis.
- Use this feature to check how many times trouble has occurred.

NOTE

- **In the service call counter list, “Reboot” shows how many times abort code (C-FXXX) has occurred.**

11.4 Section Service Call

- To count and display how many times trouble has been detected during a certain period, i.e. an interval between service visits, on a trouble type basis.
- Use this feature to check how many times trouble has occurred in a certain period, i.e. an interval between service visits.
- By clearing the counter at the time of visit to your customer, i.e. service visit, you can check how many times trouble has occurred since the previous visit. To reset the counter, use [Counter Reset].

NOTE

- **In the zone service call list, “Reboot” shows how many times abort code (C-FXXX) has occurred.**

11.5 Warning

- To count and display how many times malfunction code has been detected on a malfunction code type basis.
- To clear of count value.
- To check the number of warning conditions detected according to the warming type.

<Procedure>

1. To clear the count of a counter, select the specific part and touch Clear.
2. If a counter is cleared mistakenly, touch Interrupt which will undo the clearing operation.

11.6 Maintenance

- To set a count value for maintenance of any given part.
- When any given part is replaced.

<Procedure (Maint.-Set)>

1. Touch [Maint.-set] and enter the maintenance counter value from the 10-key pad.

<Procedure (Maint.-Count)>

1. Touch [Maint.-Count]. And touch Clear will clear the count and set the Count Start Day to the current date.
2. The number of sheets that have been ejected is counted up. (1 sided: 1 count, 2 sided: 2 count)
3. Touch Clear will clear the count.

11.7 Service Total

- Use to check the total number of printed pages including the ones printed by the Service Mode.
  - Total number of printed pages: No. of pages printed by user mode and Service Mode.
- To display the count value for the service total counter.
- To display the count value for service total counter of each paper size.

Display item	
Total	Service Total, Service Total(Duplex)
Paper Size 1	A4, A5, A6, B5, B6, Postcard, $8^1/_2$×14, $8^1/_2$×11, $7^1/_4$×$10^1/_2$, $5^1/_2$×$8^1/_2$, 4×6, Foolscap
Paper Size 2	16K, Others

11.8 Service Call History (Data)

- To display the trouble history in chronological order.
- Display the latest 50 trouble codes.

11.9 ADF Paper Pages

- To display the number of sheets and mixed originals fed to the automatic document feeder.

11.10 Paper Jam History

- To display the jam history in chronological order.

NOTE

- **[Code] displayed on the screen of JAM history indicates JAM code. For details of JAM code, see “List of the JAM code.”**

11.11 Fax Connection Error

- To display the number of fax transmission errors occurred.

11.12 Jam

- To count and display how many times jam has been detected on a jam location basis.

11.13 Section JAM

- To count and display how many times jam has been detected in a certain period, i.e. an interval between service visits, on a jam location basis.

- Use this feature to check how many times jam has occurred in a certain period, i.e. an interval between service visits.
- By clearing the jam counter at the time of visit to your customer site, i.e. service visit, you can check how many times jam has occurred since the previous visit.
  To reset the counter, use [Counter Reset].

11.14 Instantaneous Power Failure

- To display the latest 10 power shutdown events during operation of this machine in time axis.
- To reset the counter, use [Counter Reset].

11.15 Detail code history

- To display up to 250 detailed codes of the trouble code FA14 (thread soft error) and E301 by “Time series order”, “Monthly occurrence” or “Detailed Code Differentiator”.

12. List Output

12.1 Individual list print output

- Output the selected list data on the paper.
- You can select multiple lists. However, only items displayed on the same screen can be selected at a time.
- To be used at the end of setup or when a trouble occurs.
- The output time, day and date will also be printed.

List item		Contents
Machine Management List		To produce an output of a list of setting values, adjustment values, total counter values, and others. To produce an output of a list of Software Switch Setting.
Adjustments List		To output the adjustment list for machine adjustment, process adjustment, etc. in Service Mode.
Parameter List		Output a nonvolatile parameter list.
Service Parameter		Output a FAX Service Mode set value list.
Protocol Trace	Last	The facsimile protocol of the communication which was executed previously is output.
	Error	Output the facsimile procedure for the last error communication.
Fax Setting List		Output a FAX user set value list. (Items vary depending on models.)
Fax Analysis List		Following list is output. • Parameter List • Machine Management List • Protocol Trace List (Error) • Fax Setting List • Activity Report • Service Parameter List

NOTICE
- When performing Machine Management List output, a detail code history list will be output. This [Detail code] is set to analyze the cause of the C-FA14 error or the C-E301 error. The refer, to send inquiries to OLI, also send the “detail code history list”.

<Procedure>
1. Load the A4S/A4 or 8 1/2 x 11S/8 1/2 x 11 plain paper to a paper source.
2. Select the List item to be output.
3. Select [1-Sided] or [2-Sided].
4. Press the Start key, which will let the machine produce the list.
   NOTE
   - **If no item is selected, the Start key has no response.**

12.2 Batch list CSV output

- This setting only appears when the following conditions are satisfied.
  - [Detail Settings] is selected under [Administrator] -> [Security] -> [USB port connection permission setting].
  - [ON] is selected under [Administrator] -> [Security] -> [USB port connection permission setting] -> [External Memory (Service)].
  - [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “OFF.”
- To save various lists data into a USB memory device all together with the CSV format.
- Various list data has its file name in accordance with the following file name rule.
  - [2-digit data symbol that corresponds to each list (see the following table) + [_(underscore)] + [13-digit serial number] + [6-digit date (year, month, and day)] + [2-digit hour] + [2-digit minute].csv
- Compared to output to paper, outputting various lists data to the USB memory device can save time, paper, and toner. With the output data, analyzing the machine statistically becomes easier.

List of all lists data

Target list	Data symbol
Machine Management List	S1
Adjustments List	S2
Parameter List	S3
Service Parameter	S4
Protocol Trace List	S5
Fax Setting List	S6
Network Error Counter List	S7
FAX Activity Report	S8
Management List	A1
Paper Size/Type Counter	A2
Network Settings List	A3
Configuration Page	U1
PCL Font List	U2
PS Font List	U3
Meter Count	C1

<Procedure>
1. Insert the USB memory device to the USB port (for user).
2. Touch [USB save] displayed in the Batch List CSV Output.
3. Press the Start key, the list data are transferred to the USB memory device.

4. Confirm that “OK” is displayed as the result of data saving.

13. State Confirmation

13.1 Sensor Check

- To display the states of the input ports of sensors and switches when the machine remains stationary.
- Used for troubleshooting when a malfunction or a misfeed occurs.
- The operation of each of the switches and sensors can be checked on a real-time basis.
- It can be checked as long as the 5-V power line remains intact even when a door is open.

NOTE

- **Depending on options mounted in the MFP, the sensor check screens to be displayed may vary.**

<Procedure>

1. Select the sensor check screen contains target electrical parts.
2. Change the state of the electrical parts.
3. Check the sensor check screen display.

13.1.1 d-Color MF3303/MF3303en/MF4003/MF4003en

Sensor Monitor 1

Panel display		Part/signal name	Symbol	Operation characteristics/panel display	
				1	0
Paper feed tray 1	Tray 1 Set Sensor	-	-	Set	Out of position
	Paper empty	Tray 1 paper empty sensor	PS1	Paper not present	Paper present
	Paper feed	Tray 1 paper feed sensor	PS3	Paper present	Paper not present
	Upper Limit of Lift-up	Tray 1 upper limit sensor	PS2	Upper position	Other than upper position
Paper feed tray 2	Tray 2 Set Sensor	-	-	Set	Out of position
	Paper empty	Tray 2 paper empty sensor	PS1/2	Paper not present	Paper present
	Vertical transport	Tray 2 transport sensor	PS6/2	Paper present	Paper not present
	Paper feed	Tray 2 paper feed sensor	PS3/2	Paper present	Paper not present
	Upper Limit of Lift-up	Tray 2 upper limit sensor	PS2/2	Upper position	Other than upper position
Paper feed tray 3	Tray 3 Set Sensor	-	-	Set	Out of position
	Paper empty	Tray 3 paper empty sensor	PS1/3	Paper not present	Paper present
	Vertical transport	Tray 3 transport sensor	PS6/3	Paper present	Paper not present
	Paper feed	Tray 3 paper feed sensor	PS3/3	Paper present	Paper not present
	Upper Limit of Lift-up	Tray 3 upper limit sensor	PS2/3	Upper position	Other than upper position
Paper feed tray 4	Tray 4 Set Sensor	-	-	Set	Out of position
	Paper empty	Tray 4 paper empty sensor	PS1/4	Paper not present	Paper present
	Vertical transport	Tray 4 transport sensor	PS6/4	Paper present	Paper not present
	Paper feed	Tray 4 paper feed sensor	PS3/4	Paper present	Paper not present
	Upper Limit of Lift-up	Tray 4 upper limit sensor	PS2/4	Upper position	Other than upper position
Manual	Paper empty	Bypass tray paper empty sensor	PS4	Paper not present	Paper present
Paper passage transportation	Registration sensor	Registration sensor	PS9	Paper present	Paper not present
	Paper Sensor	Fusing loop sensor	PS10	Paper present	Paper not present
	Duplex Sensor	ADU transport sensor	PS11	Loop present	Loop not present
	Exit Sensor	Paper exit sensor	PS13	Paper present	Paper not present

Sensor Monitor 2

Panel display		Part/signal name	Symbol	Operation characteristics/panel display	
				1	0
Transfer belt	Retraction	1st transfer pressure switch	SW4	Not released	Released
Waste Toner	Waste Toner Box Set	Waste toner bottle set sensor	PS6	Set	Out of position
	Waste Toner full	Waste toner near full sensor	PS15	Blocked	Unblocked
Fusing	Roller Retraction	-	-	-	-

Sensor Monitor 3

Panel display		Part/signal name	Symbol	Operation characteristics/panel display	
				1	0
Org. Detecting Sensor	Original Cover	Angle sensor	PS22	Closed	Open

13.2 Table Number

Vdc/Vg

- When IDC is detected, for each print condition (Plain Paper, Thick, Black) the machine independently displays the Vg or Vdc output value that is calculated based on the density (toner amount stuck on the belt) of the test pattern created on the transfer belt.
- Used for troubleshooting of image problems.
  - If the value is high: In IDC detection, the image density is judged as low, thus the Vdc/ Vg value is to be adjusted higher.
  - If the value is low: In IDC detection, the image density is judged as high, thus the Vdc/ Vg value is to be adjusted lower.

Display item	Reference value
Vdc	Around -800V to 0V
Vg	Around -1,600V to 0V

LD Light Value

- Shows the LD light value of toner during print image formation.

Charging DC Output Value

- Shows the DC current value applied to the charging roller of toner during print image formation.

Charging AC Output Value 1

- Shows the AC voltage value applied to the charging roller of toner during print image formation.

Charging AC Output Value 2

- Shows the current value applied to the charging roller of toner during print image formation.

13.3 Level History 1

- To display TCR (T/C ratio), IDC/registration sensor output values, and fusing temperature.
- Used for troubleshooting of image problems.

Display item	Contents
TCR-C/-M/-Y/-K	Shows the T/C output reading taken last. (*)
IDC	Shows the latest IDC data.
Middle heat temperature	Displays the latest detected temperature of the heating temperature sensor.
Medium Heating Temperature	Displays the latest detected temperature of the heating roller thermistor/Ctr.
Heat edge temperature	Displays the latest detected temperature of the heating roller thermistor/Edg.

- *: “Reading taken last” means
  - Density of toner of the latest image.
  - When a test pattern is produced by pressing the Start key while level history 1 is being displayed.

13.4 Level History 2

- IDC Sensor (Transfer belt bare surface level) as adjusted through the image stabilization sequence and ATVC value.
- Used for troubleshooting of image problems.

Display item	Contents
IDC Sensor Adjust 1	Shows the intensity adjustment value of the IDC sensor. (The proper range is 100 to 500)
1st Transfer Output Value	Shows the first image transfer nearest output value. (The proper range is 800 to 2,600)
2nd Transfer Output Value	Shows the second image transfer nearest output value. (The proper range is 330 to 4,500)

13.5 Temp. & Humidity

- Displays the temperature, humidity and PH temperature in the machine.
- Used as reference information when a malfunction occurs.

Display item	Contents
Temp-Inside	0 to 80 °C in 1 °C increments
Humidity	10 to 90 % in 1 % increments
PH temperature	0 to 100 °C in 1 °C increments

13.6 CCD Check

- To display the D/A value of CCD clamp/gain for R, G, and B.
- Used for troubleshooting for the CCD sensor/CIS.

CCD Check

- CLAMP: 0 (remain static)
- GAIN: The maximum value and the minimum value of the output value should be within the range shown below.

Acceptable gain range	Minimum value	Maximum value
R	20	238
G	10	222
B	70	247

13.7 Memory/Storage Adjustment

13.7.1 Memory Check

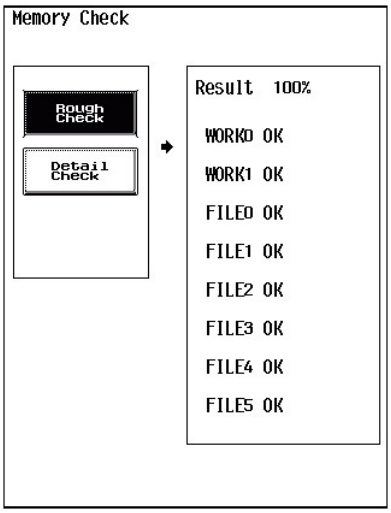
- If the copy image is faulty.
- To check correspondence of data written to and that read from memory through write/read check.
- The following shows the memory names that correspond to each memory where check is made.

Memory area	Corresponding memory
WORK0 (main memory ch.A)	CPU board (CPUB) LPDDR4 main memory ChA/B
WORK0 (main memory ch.B)	CPU board (CPUB) LPDDR4 main memory ChA/B

Rough Check

- A check is made for each memory to see if the image data reading and writing are correctly made in a very limited area.
- This sequence is performed for all memories.

Typical rough check result display: Exemplary display when all memories have been checked okay



<Rough check procedure>

1. Touch [Memory Check] -> [Rough Check].
2. Press the Start key to start the check procedure.
   NOTE
   - **The rough check procedure can be interrupted by pressing the Stop key.**
3. The progress of the check sequence is displayed in percentage. (calculated based on all checks)
4. When the rough checks of all memories are completed, the diagnosis is finished automatically, and results are shown on the screen. (OK/NG)

Detail Check

- A write check and a read check are repeated in all areas for each memory.
  NOTE
  - **For a write check, a specific write value is set and the specific value is written in all areas of the memory and the written data is thereafter read. This sequence is performed for all memories. (which forms one cycle of the check sequence)**
  - **When one cycle of the check sequence is completed, the write value is changed automatically and a new check cycle is performed. This sequence is repeated with the write value changed for each sequence.**
  - **Unlike the rough check, the detail check is not automatically terminated. The check cycle is repeated until the Stop key is pressed.**
- The press of the Stop key will terminate the detail check.

<Detail check procedure>

1. Touch [Memory Check] -> [Detail check].
2. Press the Start key to start the detail check procedure.
3. The progress of the check sequence is displayed in percentage. (calculated based on all checks)
   NOTE
   - **The check progress status display is 100% when one cycle of the check sequence is completed.**
   - **The check progress status display is automatically reset to 0% and restarted as soon as a new check sequence is started.**
4. When the check progress status display is 100%, the first check cycle is completed.
   - The results are displayed on the screen. (The sequence has been checked okay, if NG does not appear.)

   NOTE
   - **If a write/read error is detected, NG appears beside the memory display and the check sequence is automatically terminated.**
5. Press the Stop key at any timing to terminate the detail check procedure.

If the results are NG:

NG memory area	Solution
WORK0 (main memory ch.A)	Check the CPU board for connection or replace it with new one.
WORK0 (main memory ch.B)	Check the CPU board for connection or replace it with new one.

13.7.2 Compress / Decompression Check

- To check whether compression and decompression are carried out properly.
- If the copy image is faulty.

<Procedure>

1. Touch [Compress/Decompression Check].
2. Press the Start key to start the check procedure.
3. The check result will be displayed.

13.7.3 JPEG check

- Not used

13.7.4 Memory Bus Check

- To check to see if image data is correctly transferred from scanner to memory, and from memory to printer.
- Bus check between scanner and memory has two steps; the scanner internal check step as internal processing and the check step between scanner and memory. If either of the two steps is NG, NG1 or NG2 is displayed respectively.
- If the copy image is faulty.

<Procedure>

1. Press [Memory Bus Check].
2. Select either [Scanner -> Memory], [Memory -> PRT], or both.
3. Press the Start key to start the check procedure.
4. The check result will be displayed.

13.7.5 DSC Bus Check

- To check the connection between the DSC board and the scanner section when the optional security kit installed.
- When an error is detected after checking, NG1 or NG2 is displayed depending on the location of the board where the defect is found.

<Procedure>

1. Touch [DSC Bus Check].
2. Select “Front side”, “Back side”, or both, and touch [Scanner -> DSC].
   NOTE
   - **The DSC bus check for the back side can be performed only when dual scan document feeder is mounted.**
3. Press the Start key to start the check procedure.
4. The check result will be displayed.

13.7.6 Storage R/W Check

- To check to see if the MFP storage is connected properly, and if read/write operation of the storage is correctly performed.

<Procedure>

1. Touch [Storage R/W Check].
2. Press the Start key to start the check procedure.
3. The check result will be displayed.

13.7.7 Format

- Clear the data from the MFP storage.

NOTE

- **Data stored in the firmware space and backup space are not cleared.**
- **And after setting the HDD encryption key, the movie data, voice data, OCR dictionary data, PDF/A font, OCR font, and Unicode font need to be reinstalled as necessary since these data will be deleted by HDD format.**

Physical format

1. Touch [Format] -> [Physical Format].
2. Press the Start key to start the formatting sequence.
3. The sequence will be automatically terminated as it is completed.
4. Turn off the main power switch and turn it on again more than 10 seconds after.

NOTE

- **After termination of physical formatting, start the sequence of logical formatting.**

Logical format

1. Touch [Format] -> [Logical Format].
2. Press the Start key to start the formatting sequence.
3. The sequence will be automatically terminated as it is completed.
4. Turn off the main power switch and turn it on again more than 10 seconds after.

13.8 Memory/Storage Status

- To display the condition and amount of the memory and MFP storage.

13.9 Color Regist

- To check when there is a color shift.
- For each of C, M, and Y, the color shift amount (in X and Y directions) at two locations (one at the front and the other in the rear) is displayed.
- Individual color shifts of C, M, and Y are based on K and their amounts are displayed. (Display unit: dots)
- The data is updated after a color shift correction has been made or color shift adjustment has been completed.

13.10 Load Check

- To check each device (electric component) for proper condition by individually activating the load associated with the device.

- To identify faults at the time of troubleshooting.

NOTE

Take note of the following during the load check mode.

- **No malfunction is detected and no count is taken of consumables life and related items.**
- **Two or more devices (motors, clutches, solenoids, and fans) cannot be checked simultaneously.**
- **Detection of proper installation of various types of units and waste toner box does not function. During the check procedure, therefore, make sure that the unit in question is installed correctly or yet to be installed.**

<Procedure>

1. Open the front door, lower front door or the right door.
2. Touch [Start Load Check].
3. Close the door opened on step 1.
4. Referring to the load check list, enter a check code.
5. Referring to the load check list, enter a multi code.
6. Press the Start key.
   - When pressing the Start key, the specified load is activated. The Start key blinks in orange.
7. Check the load operation and output of signals.
8. Press the Stop key to stop the check operation and check the result.
   NOTE
   - **Depending on the type of load being activated, after the lapse of the specified time or after the transition to the specified state, the corresponding device automatically stops working.**
   - **When 'NG' is displayed, check the wiring and connectors.**
9. To check another load or signal output, repeat steps 4 to 8.
10. Turn OFF the main power switch and turn it ON again more than 10 seconds after.

NOTE

- **To exit from the load check mode, be sure to turn off and on the main power switch.**
  At the point when you display [Service Mode] -> [State Confirmation] -> [Load Check], the machine enters into load check mode. Regardless of whether load check is actually performed or not, the main power switch must be turned off and on to exit from load check mode.

13.10.1 Load check list

Check code	Multi code	Symbol	Load name	Operation outline	Note
20	1	CL3	Tray 1 paper feed clutch	Drives the specified clutch.	-
	2	CL3/2	Tray 2 paper feed clutch		
	3	CL3/3	Tray 3 paper feed clutch		
	4	CL2	Bypass tray paper feed clutch		
	5	CL3/4	Tray 4 paper feed clutch		
21	1	CL2/2	Tray 2 transport clutch	Drives the specified clutch.	-
	2	CL2/3	Tray 3 transport clutch		
	3	CL4	Registration clutch		
	4	CL2/4	Tray 4 transport clutch		
23	4	M6	Tray 1 lift-up motor	Starts the lift-up operation.	The motor stops when the upper limit sensor or lower limit is detected.
	5	M2/2	Tray 2 lift-up motor		
	6	M2/3	Tray 3 lift-up motor		
	7	M2/4	Tray 4 lift-up motor		
24	1	CL1	1st transfer pressure clutch	Starts the pressure/release operation of the 1st transfer belt. **NOTE** **Be sure to perform the release operation whenever the pressure/release operation has been performed. *1**	-
28	1	M1/2	Tray 2 drive motor high speed	Drives the motor at the specified speed.	
	2		Tray 2 drive motor low speed		
	3	M1/3	Tray 3 drive motor high speed		
	4		Tray 3 drive motor low speed		
	5	M1/4	Tray 4 drive motor high speed		
	6		Tray 4 drive motor low speed		
29	1	-	Tray 1 paper feed roller high speed	Drives the specified roller. **NOTE** **For paper feed related check, perform after removing the paper from the tray.**	
	2		Tray 1 paper feed roller low speed		
	3		Tray 2 paper feed roller high speed		
	4		Tray 2 paper feed roller low speed		
	5		Tray 2 vertical transport roller high speed		

	6		Tray 2 vertical transport roller low speed		
	7		Tray 3 paper feed roller high speed		
	8		Tray 3 paper feed roller low speed		
	9		Tray 3 vertical transport roller high speed		
	10		Tray 3 vertical transport roller low speed		
	11		Manual bypass paper feed roller high speed		
	12		Manual bypass paper feed roller low speed		
	13		Timing roller high speed		
	14		Timing roller low speed		
	15		Paper exit/reverse roller high speed normal rotation		
	16		Paper exit/reverse roller low speed normal rotation		
	17		Paper exit/reverse roller high speed reverse rotation		
	18		Paper exit/reverse roller low speed reverse rotation		
	19		ADU transport roller high speed		
	20		ADU transport roller low speed		
	21		Tray 4 paper feed roller high speed		
	22		Tray 4 paper feed roller low speed		
	23		Tray 4 vertical transport roller high speed		
	24		Tray 4 vertical transport roller low speed		
32	1	M7	Polygon motor high speed	Drives the motor at the specified speed.	-
	3		Polygon motor low speed		
40	1	M1	Main motor high speed	Drives the motor at the specified speed. **NOTE** **Perform with the transfer belt removed.**	-
	2		Main motor low speed		
41	1	M2	Color motor high speed	Drives the motor at the specified speed. **NOTE** **Perform with the transfer belt removed.**	-
	2		Color motor low speed		
42	1	FM1	Power supply cooling fan full speed	Drives the specified fan.	-
	2		Power supply cooling fan half speed		
	3	FM2	Machine cooling fan full speed		
	9	FM4	Clean ventilation fan full speed		
	10		Clean ventilation fan half speed		
45	1	M3	Fusing motor high speed	Drives the motor at the specified speed.	-
	2		Fusing motor low speed		
	3		Fusing motor minimum speed		
55	1	M5	Toner supply motor/K	Drives the motor at the specified speed.	
	2		Toner supply motor/C		
	3	M4	Toner supply motor/M		
	4		Toner supply motor/Y		
60	1	M8	Document main motor	Drives the motor at the specified speed. Stop rotating when pressing the Stop key.	Only for d-Color MF4003/MF3303/ MF4003en/ MF3303en
	5				
	113	FM4	DF cooling fan motor	Drives the specified fan.	
	145	CL8	Document paper feed clutch	Drives the specified clutch. Stop rotating when pressing the Stop key.	
	146	CL9	Document registration clutch		
80	1	CL6	ADU forward rotation clutch	Drives the specified clutch.	-
	2	CL7	ADU reverse rotation clutch		

81	1	CL5	ADU transport clutch	Drives the specified clutch.	-
83	0	SD1	Exit path switch solenoid	Turns ON the solenoid.	The solenoid will stop after a lapse of predetermined time.

NOTE

- ***1: If the PC motor is energized with the 1st transfer roller in its pressed position, the transfer belt and the photoconductor drum may be damaged.**

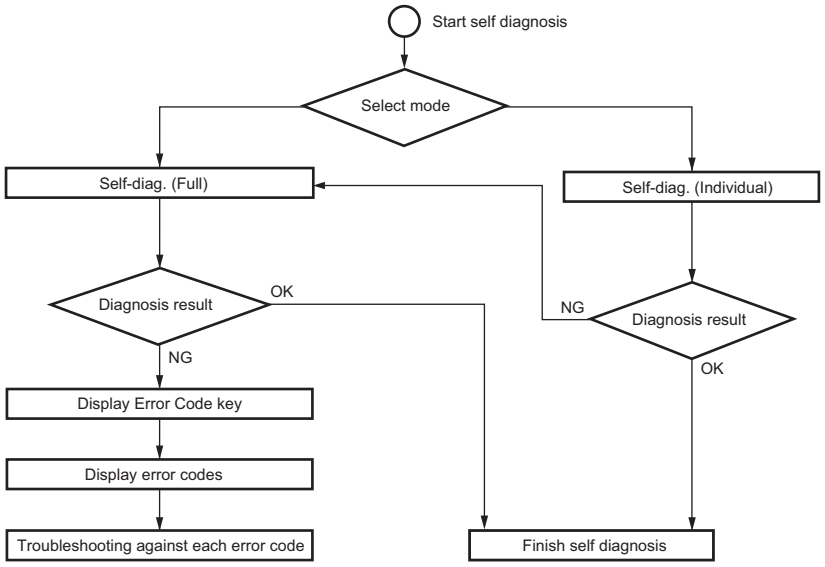
13.11 Adjustment Data List

- To display the adjustment and setting value set in the main body.

13.12 Self-diag. (Full/Individual)

13.12.1 Overview of self-diagnostic function

- Conducts diagnosis for the defective and replaced areas of memory and various boards in main body when a trouble code is output or a trouble such as main body activation failure occurs, and identifies the parts need to be replaced.
- The self-diagnostic function is divided into two functions, the “Self-diag. (Full)” function and the “Self-diag. (Individual)” function.
- “Self-diag. (Full)” diagnoses all items together, those are diagnosed individually with “Self-diag. (Individual)”, and identifies the area where trouble occurred and the parts need to be replaced. The diagnosis result is displayed as [OK] or [NG], and if [NG] is detected, the [Error Code] key will be displayed on the [Full Self Diagnostic] screen. Touch the [Error Code] key to display the [Error Code] screen.
- “Self-diag. (Individual)” diagnoses each item individually, and identifies the area where trouble occurred. The diagnosis result is displayed as [OK] or [NG].



Self-diagnostic item

Check item	
NVMe Storage Check	Device recognition
	R/W Check
	S.M.A.R.T diag.
	MFP FW checksum
	Partition check
I2C Check	TPM
	AUDIO (Control)
	PS-CPU
I2S Check (*)	AUDIO (Voice)
Sys/Image mem check	WORK0 (Main Memory ch.A)
	WORK0 (Main Memory ch.B)
Various USB Check	USB Device
	Keyboard (*)
	USB Memory (*)
CIS Board Check (Front Side)	I/P Image Bus Check (Front Side)
	Line RAM Comparison (Front Side)
CIS Board Check (Back Side)	I/P Image Bus Check (Back Side)
	Line RAM Comparison (Back Side)
ADF Board Check	MINET communication check
FAX Board Check (*)	Line 1
CPU Board Check	S800 Compress/Decompression

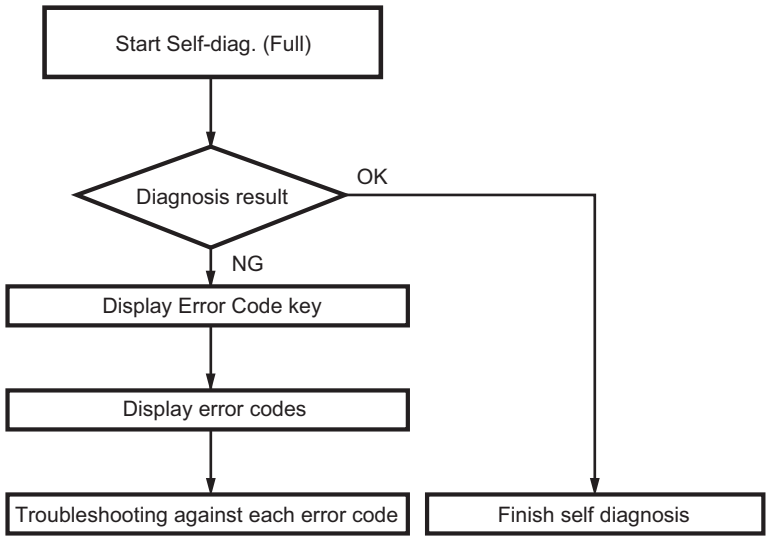
Check item	
	S800 Output image path
	LAN-IF Ping Test (*)
PCIe Check	PCIe device check

- *: The item can be diagnosed with Self-diag. (Individual) only.

13.12.2 Self-diag. (Full)

- To diagnose all items together, those are diagnosed individually with “Self-diag. (Individual)”, and identify the area where trouble occurred and the parts need to be replaced.
- When a trouble code is displayed, by performing “Self-diag. (Full)”, troubles on the hardware device can be diagnosed.
- The diagnosis result is displayed as [OK] or [NG], and if [NG] is detected, the [Error Code] key will be displayed on the [Full Self Diagnostic] screen. Touch the [Error Code] key to display the [Error Code List] screen.

Self-diag. (Full) Flow



NOTE
- **Only displays the detected error codes.**

Diagnosis procedure

1. Display the [Self-diag. (Full)] screen.
   - Display by selecting [Service Mode] -> [State Confirmation] -> [Self-diag. (Full)].
   - Turn the main power switch on while pressing the power key. After a short beep sound is made once, release the power key and wait to display the Self-diag. (Full) screen.
2. Press the Start key to start the check procedure.
3. The result of the diagnosis is displayed for every item. (OK/NG)
   NOTE
   - **If a trouble code is detected during executing the Self-diag. (Full), the trouble screen will be displayed, and the Self-diag. (Full) will be interrupted. When the trouble screen is displayed, turn OFF the main power switch to finish the Self-diag. (Full). Then, turn ON the main power switch while pressing the power key to restart the Self-diag. (Full).**
4. After completing the Self-diag. (Full), load A4/A4S paper in the manual bypass tray, the [Printing] key will appear in the top area of the screen. If the self-diagnosis result report is required, touch the [Printing] key to print out the “Self-diagnosis result report.”
   NOTE
   - **If there is no paper loaded on the manual bypass tray, the [Printing] key will not appear. Also, if any paper with a size other than A4/A4S is loaded, the [Printing] key will not appear.**
   - **The “Self-diagnosis result report.” can be printed out after completing the Self-diag. (Full). (Printable even if NG is displayed)**
5. If [OK] is displayed for all diagnosis items, finish the Self-diag. (Full).
   - If starts from the Service Mode, touch [END].
   - If starts by turning ON the main power switch, turn OFF the main power switch.
6. If [NG] is displayed, carry out procedure “Troubleshooting when NG is detected.”

NOTE
- **It takes approx. 200 seconds for check if all items are OK.**
- **When the trouble code (C6###, C91##, CE301, CE304) is displayed, the self-diag. (Full) may not complete. In that case, finish the Self-diag. (Full), and perform the troubleshooting against each trouble code.**
- **When operation is disabled (screen frozen) during displaying the diagnosis result confirmation screen, turn OFF the main power switch to finish the diagnosis. Wait for 10 sec. or more, and turn ON the main power switch.**
- **If Self-diag. (Full) is started by turning ON the main power switch, it cannot move to Normal Mode or Service Mode. To change the mode, turn OFF the main power switch, and turn it ON again after 10 seconds.**

Auto Execution of Self-diag. (Full)

- Set the [Switch NO.163] to [00000010] at [Bit assignment] and [02] at [HEX assignment] in [Service Mode] -> [System 2] -> [Software Switch Setting], so that the “Self-diag. (Full)” can be executed automatically when a “trouble code” occurred.

NOTE

- **If this function is set on a client MFP, make sure to reset the settings after completing an operation check and troubleshooting.**

Sequence of Auto Execution of Self-diag. (Full)

1. Errors are detected. (Trouble codes are displayed, and the machine stops.)
2. The MFP reboots automatically. (The machine reboots automatically up to three times.)
3. The Self-diag. (Full) is executed automatically.
4. After completing the Self-diag. (Full), the machine stops with the self diagnosis screen being displayed.
5. If [OK] is displayed for all diagnosis items, turn OFF the main power switch to finish the Self-diag. (Full).
6. If [NG] is displayed, carry out “Procedure (when NG is detected).”

When NG is detected

1. If [NG] is displayed, the [Error Code] key appears to the self diagnosis screen.
2. Touch the [Error Code] key to display the [Error Code] screen.
3. Check the displayed “Error Code”, and turn OFF the main power switch.
4. Refer to [TROUBLESHOOTING/Error code list], and preform the troubleshooting against each error code.

13.12.3 Self-diag. (Individual)

(1) I2C Check

- To check each item of the I2C individually.

Diagnosis item	Relevant electrical parts
TPM	TPM board (TPMB), CPU board (CPUB), Base board (BASEB)
AUDIO (Control)	CPU board (CPUB), Base board (BASEB)
PS-CPU	CPU board (CPUB), Base board (BASEB)

<Procedure>

1. Select the desired diagnosis key. (Two or more keys can be selected.)
2. Press the Start key to start the check procedure.
3. The check result will be displayed. (OK/NG)
4. If [OK] is displayed, touch [END].
5. If [NG] is displayed, execute the Self-diag. (Full).

(2) Sys/Image mem check

- To check each item of system memory and image memory.

<Procedure>

1. Press the Start key to start the check procedure.
2. The check result will be displayed. (OK/NG)

   NOTE

   - **If a trouble occurs on the memory, the self diagnosis may not complete. In that case, finish the Self-diag. (Full) forcibly, and perform the troubleshooting against each trouble code.**
   - **Turning OFF the main power switch will finish the Self-diag. (Full) forcibly.**
3. If [OK] is displayed, touch [END].
4. If [NG] is displayed, execute the Self-diag. (Full).

   NOTE

   - **NG will also be displayed if no DIMM is mounted. If an additional DIMM is not used, no error occurs even if NG is displayed, and no troubleshooting is required.**

(3) Various USB Check

- To check each item of the USB Device individually.

<Procedure>

1. Select the desired diagnosis key. (Two or more keys can be selected.)
2. Press the Start key to start the check procedure.
3. The check result will be displayed. (OK/NG)

   NOTE

   - **When checking [USB Device], [NG] will be displayed if the fax board is mounted and the mounting settings are not enabled.**
   - **When checking [Keyboard] or [USB Memory], [NG] will be displayed if no device is connected.**

1. If [OK] is displayed, touch [END].
2. If [NG] is displayed, perform the following procedures.

- If [NG] is displayed for [USB Device], execute the Self-diag. (Full).
- If [NG] is displayed for [Keyboard], perform “TROUBLESHOOTING/ Troubleshooting when NG is detected on keyboard.”
- If [NG] is displayed for [USB Memory], perform the “TROUBLESHOOTING/ when NG is detected on USB memory.”

(4) CPU Board Check

- To check each item of the CPU board individually.

Diagnosis item	Relevant electrical parts
S800 Compress/ Decompression	CPU board (CPUB)
S800 Output image path	CPU board (CPUB)
LAN-IF Ping Test	CPU board (CPUB), Base board (BASEB)

<Procedure (S800 Compress/ Decompression / S800 Output image path)>

1. Select the desired diagnosis key. (Two or more keys can be selected.)
2. Press the Start key to start the check procedure.
3. The check result will be displayed. (OK/NG)

4. If [OK] is displayed, touch [END].
5. If [NG] is displayed, execute the Self-diag. (Full).

<Procedure (LAN-IF Ping Test)>

1. Touch he [LAN-IF Ping Test] key.
2. Select the input method according to the IP address of the destination.
3. [Input IPv4 Address] / [Input IPv6 Address]
4. Input IP address of destination with the numeric keypad or the alphabet key.
5. Press the Start key to start the check procedure.
6. When the self diagnosis procedure is completed, the result will be displayed. (OK/NG)
7. If [OK] is displayed, touch [END].
8. If [NG] is displayed, execute “TROUBLESHOOTING/ Troubleshooting when NG is displayed for Ping Test.”

(5) PCIe Check

- To check each item of the PCIe Device individually.

Diagnosis item	Relevant electrical parts
PCIe device check	CPU board (CPUB)

<Procedure>

1. Select the desired diagnosis key.
2. Press the Start key to start the check procedure.
3. The check result will be displayed. (OK/NG)
4. If [OK] is displayed, touch [END].
5. If [NG] is displayed, execute the Self-diag. (Full).

14. Test Mode

14.1 Test Pattern

- Output the test pattern to check the image on the printer side.
- The machine searches through the paper sources in the order of tray 2, tray 3, tray 4, and tray 1 for paper of the maximum size for printing.

<Input procedure>

1. Touch [Test Mode] to display the test mode menu.
2. Touch the desired test pattern key.
3. Set up the desired functions and press the Start key.

14.1.1 Gradation Pattern

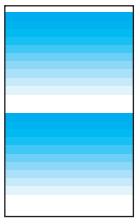
- To produce a gradation pattern.
- Used for checking gradation reproducibility.

Setting item	Setting value	
Output operation mode	SINGLE	Copies (1 to 999)
	MULTI	
Screen pattern setting	FEET	
	HYPER	Gradation, Resolution, Error diffusion
1-Sided/2-sided print mode	1-Sided, 2-sided1 (print on both front and back sides), 2-sided2 (print on back side only)	
Resolution	600dpi, 1200dpi	
Single color gradation setting	12 gradations, 24 gradations, 256 gradations	
Printable area	Full Bleed, Front Half	
Color mode	Black(1PC), Cyan, Magenta, Yellow, Black(4PC), CMYK, 8 Color, 4 Color	

NOTE

- **[Front Half] is selectable only for 8-color/one-side printing.**
- **When 24 Gradations or 256 Gradations is selected, [8 Color] or [4 Color] is not selectable in color mode.**

Sample



- SINGLE
- HYPER
- Gradation
- Full Bleed
- Cyan

14.1.2 Halftone Pattern

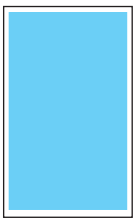
- To produce a solid halftone pattern.
- Used for checking uneven density and pitch noise.

Setting item	Setting value	
Output operation mode	SINGLE	Copies (1 to 999)
	MULTI	
Screen pattern setting	FEET	
	HYPER	Gradation, Resolution, Error diffusion
1-Sided/2-sided print mode	1-Sided, 2-sided1 (print on both front and back sides), 2-sided2 (print on back side only)	
Printable area	Full Bleed, Front Half	
Color mode	Black(1PC), Cyan, Magenta, Yellow, Black(4PC), Red, Green, Blue, CMYK, 3 Color, 4 Color, MIX	
Density	0 to 255	

NOTE

- **[Front Half] is selectable only for one-side printing.**

Sample



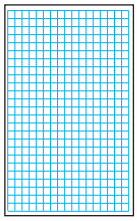
- SINGLE
- HYPER
- Gradation
- Full Bleed
- Cyan
- Density: 128

14.1.3 Lattice Pattern

- To produce a lattice pattern.
- Used for checking fine line reproducibility and uneven density.
- A reverse pattern is also used to check for fine line reproducibility of white letters on a solid background.

Setting item	Setting value	
Output operation mode	SINGLE	Copies (1 to 999)
	MULTI	
Screen pattern setting	FEET	
	HYPER	Gradation, Resolution, Error diffusion
1-Sided/2-sided print mode	1-Sided, 2-sided1 (print on both front and back sides), 2-sided2 (print on back side only)	
Resolution	600dpi, 1200dpi	
Color mode	Black(1PC), Cyan, Magenta, Yellow, Black(4PC), Red, Green, Blue, CMYK, 3 Color, 4 Color	
CD Width	0 to 191 dots	
FD Width	0 to 191 dots	
Density	0 to 255	
Output pattern	Normal, Reverse	

Sample



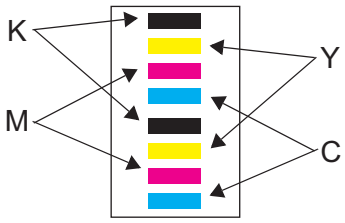
- SINGLE
- FEET
- Cyan
- CD Width: 5
- FD Width: 5
- Density: 255
- Normal

14.1.4 Solid Pattern

- To produce a solid pattern.
- Used for checking reproducibility of image density.

Setting item	Setting value	
Output operation mode	SINGLE	Copies (1 to 999)
	MULTI	
Screen pattern setting	FEET	
	HYPER	Gradation, Resolution, Error diffusion
1-Sided/2-sided print mode	1-sided	
Density	0 - 255	

Sample



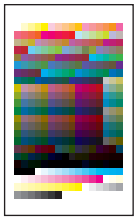
- SINGLE
- HYPER
- Gradation
- Density: 255

14.1.5 Color Sample

- To produce a color sample.
- Produce 12-gradation-level patches of C, M, Y, K, R, G, and B, and a patch of each of the 12 reference colors in the hue circle with lightness and saturation corrected.
- Used for checking reproducibility of each of the different colors.

Setting item	Setting value	
Output operation mode	SINGLE	Copies (1 to 999)
	MULTI	
Screen pattern setting	FEET	
	HYPER	Gradation, Resolution, Error diffusion
1-Sided/2-sided print mode	1-sided	

Sample



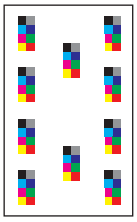
- SINGLE
- HYPER
- Gradation

14.1.6 8 Color Solid Pattern

- To produce an 8-color solid pattern.
- Used for checking color reproducibility and uneven density of each color.

Setting item	Setting value	
Output operation mode	SINGLE	Copies (1 to 999)
	MULTI	
Screen pattern setting	FEET	
	HYPER	Gradation, Resolution, Error diffusion
1-Sided/2-sided print mode	1-sided	
Density	0 to 255	

Sample



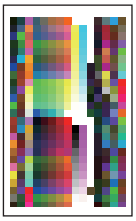
- SINGLE
- HYPER
- Gradation
- Density: 255

14.1.7 CMM pattern

- To produce a CMM (Color Management Module) pattern.
- Used to check color difference depending on the places where output is made.

Setting item	Setting value
Copies	1 (always)
Screen pattern setting	Error diffusion, Gradation, Resolution
Angle	0 degrees, 90 degrees, 180 degrees, 270 degrees

Sample



- Error diffusion
- Angle: 270 degrees

14.2 Paper Passage Test

- To test the printing operation in paper passage test.
- Use to check the printing operation in paper passage test from each paper source.

Setting item	Setting value
Pattern Printing	Yes, No
Select Tray (*)	Tray 1, Tray 2, Tray 3, Tray 4, Manual
Paper Size	A4, $8^1/_2$ x 11, Post, A6 card, 4 x 6
Paper Type	Plain Paper, Plain Paper+, Thick1, Thick 1+, Thick 2, Enve.

- *: Tray 4 is only for d-Color MF4003en/MF3303en.

NOTE

- **[Paper Size] is selectable only when [Manual] is selected in Select Tray.**
- **The paper type is only [Plain paper] when [Tray 2], [Tray 3], or [Tray 4] is selected.**

<Procedure>

1. Select a setting item.
2. Press the Start key to start the paper passage test.
3. Pressing the Stop key will stop operation.

14.3 Fax Test

- It will be displayed only when the optional fax kit is mounted.
- Specifiable for each line when there are multiple fax lines

Signal Send Test

- Image information signals, control signals and DTMF can be individually output.
- Signal sounds are monitored by the monitor speaker.

Setting item	Setting value	Default setting
V34 Main CH	2400 to 33600 (step: 2400)	33600
V8	-	CM
V17	14400 bps	○
	12000 bps	
	9600 bps	
	7200 bps	
V29	9600 bps	○
	7200 bps	
V27ter	4800 bps	○
	2400 bps	
V21	-	-
PB	0 to 9, *, #, A, B, C, D	0
DP	0 to 9	0
Special Tone	1100 Hz	○
	1300 Hz	
	1650 Hz	
	2100 Hz	
Optional Tone	200 to 4000 Hz (step: 100 Hz)	200 Hz
PB Tone (High)	1209 Hz	○
	1336 Hz	
	1477 Hz	
	1633 Hz	
PB Tone (Low)	697 Hz	○
	770 Hz	
	852 Hz	
	941 Hz	
Pseudo Ring	-	-

<Procedure>

1. Touch [Fax Line Test].
2. Select the Line, and touch the [Signal Send Test].
3. Select a test item.
4. Select the parameter you would like to test.
5. Press the Start key. (In order to move to another test, select the next test item after pressing the [Stop] key.)

NOTICE

- Signal is output from pressing [Start] to pressing [Stop].
- To check Line 1, [Administrator] -> [Fax Settings] -> [Line Parameter Setting] -> [Line Monitor Sound] should be set to “ON.”
- To check Line 2 to 4, [Administrator] -> [Fax Settings] -> [Multi Line Settings] -> [Fax Line 2 to 4] -> [Line Parameter Setting] -> [Line Monitor Sound] should be set to “ON.”

Signal Receive Test

- Check a signaling tone by connecting the machine to the line to output a test signal of the fax board.
- Signal sounds are monitored by the monitor speaker.

Setting item	Setting value	Default setting
V17	14400 bps	○
	12000 bps	
	9600 bps	
	7200 bps	
V29	9600 bps	○
	7200 bps	
V27ter	4800 bps	○
	2400 bps	
V21	-	-
PB	0 to 9, *, #, A, B, C, D	0

Setting item	Setting value	Default setting
Special Tone	1100 Hz	○
	1300 Hz	
	2100 Hz	

<Procedure>
1. Touch [Fax Line Test].
2. Select the Line, and touch the [Signal Receive Test].
3. Select a test item.
4. Select the parameter you would like to test.
5. Press the Start key. (In order to move to another test, select the next test item after pressing the [Stop] key.)

NOTICE
- Signal is output from pressing [Start] to pressing [Stop].
- To check Line 1, [Administrator] -> [Fax Settings] -> [Line Parameter Setting] -> [Line Monitor Sound] should be set to “ON.”
- To check Line 2 to 4, [Administrator] -> [Fax Settings] -> [Multi Line Settings] -> [Fax Line 2 to 4] -> [Line Parameter Setting] -> [Line Monitor Sound] should be set to “ON.”
- The status of testing or results of tests are shown in the title line as follows

RCV	Waiting signals
OK/NG	Results of signal reception

NCU Test
- To check the operation of NCU.

Contents of test	Device to be tested
CML Relay	**IC201, IC202**
CTL Relay	**RL201**
TEL Relay	**RL501 ***
DC-LOOP Detect	
Speaker	
Outside Ring Send	
Audio Response Send	

- *** RL501 mounts only the Japan.**

<Procedure>
1. Touch [Fax Line Test].
2. Select the Line, and touch the [NCU Test].
3. Select a test item.
4. Press the Start key. (In order to move to another test, select the next test item after pressing the [Stop] key.)

NOTE
- **When CML / CTL / TEL relay test is selected and the Start key is pressed, ON is displayed in the parameter and relay is turned to ON. When [Stop] is pressed, relay is turned OFF.**
- **When the DC-LOOP detection test is selected and Start key is pressed, DT=0001 is shown in the title row in case of detecting the DC-LOOP. If not detected, DT=0000 is displayed.**

Dial Test
- Not used

Off-hook Test
- Not used

15. ADF

15.1 Original Stop Position

- To manually adjust the original stop position and the read position in each of the DF modes.
- When the result is Unable in the automatic adjustment of the original stop position.

Sub Scanning Direction 1-Side

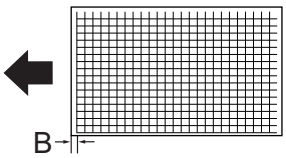
Target	Setting range	Default setting
0.0 ± 2.0 mm	-5.0 to +5.0 mm (1 step: 0.1 mm)	0.0 mm

NOTE

▪ **Before performing this adjustment, the "Feed Zoom" adjustment needs to be complete.**

<Procedure>

1. Call the Service Mode to the screen.
2. Touch [Test Mode] -> [Lattice Pattern] -> [Black(1PC)].
3. Press the Start key to let the machine produce a lattice pattern.
4. Place the lattice pattern in the document feed tray.
   - Place the lattice pattern with the print side facing up.
5. Make a full size copy of the lattice pattern.
6. Check that the difference in the width B between the lattice pattern and the copy sample falls within the target.



7. Call the Service Mode to the screen.
8. Touch [ADF] -> [Original Stop Position].
9. Touch [Sub Scanning Direction 1-Side].
10. Enter the value from the 10-key pad. (Press the [+/-] key to change the +/- code.)
    - If the difference in the width B is greater than the target, enter the [+] value.
    - If the difference in the width B is smaller than the target, enter the [-] value.
11. Touch [Test Copy].
12. Touch the paper tray loaded the paper be used for the test copy.
13. Place the lattice pattern in the document feed tray.
    - Place the lattice pattern with the print side facing up.
14. Press the Start key, and then check the difference in the width B between the lattice pattern and the discharged copy sample.
15. Touch [END] twice.
16. Touch [Exit] on the Service Mode screen.
17. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

Sub Scanning Direction 2-Side

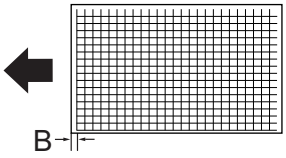
Target	Setting range	Default setting
0.0 ± 2.0 mm	-5.0 to +5.0 mm (1 step: 0.1 mm)	0.0 mm

NOTE

▪ **Before performing this adjustment, the "Feed Zoom" adjustment and the "FD-Mag. Adj. (B)" adjustment need to be complete.**

<Procedure>

1. Call the Service Mode to the screen.
2. Touch [Test Mode] -> [Lattice Pattern] -> [Black(1PC)].
3. Press the Start key to let the machine produce a lattice pattern.
4. Place the lattice pattern in the document feed tray.
   - Place the lattice pattern with the print side facing down.
5. Make a full size 2-sided copy of the lattice pattern.
6. Check that the difference in the width B between the lattice pattern and the copy sample falls within the target.



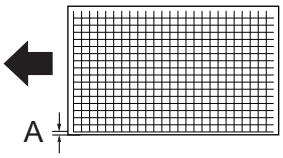
7. Call the Service Mode to the screen.
8. Touch [ADF] -> [Original Stop Position].
9. Touch [Sub Scanning Direction 2-Side].
10. Enter the value from the 10-key pad. (Press the [+/-] key to change the +/- code.)
    - If the difference in the width B is greater than the target, enter the [+] value.
    - If the difference in the width B is smaller than the target, enter the [-] value.
11. Touch [Test Copy].
12. Touch the paper tray loaded the paper be used for the test copy.
13. Touch [2-Sided] -> [2-Sided].

14. Place the lattice pattern in the document feed tray.
    - Place the lattice pattern with the print side facing down.
15. Press the Start key, and then check the difference in the width B between the lattice pattern and the discharged copy sample.
16. Touch [END] twice.
17. Touch [Exit] on the Service Mode screen.
18. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

Main Scanning (Front)

Target	Setting range	Default setting
0.0 ± 2.0 mm	-1.7 to +1.7 mm (1 step: 0.1 mm)	0.0 mm

<Procedure>
1. Call the Service Mode to the screen.
2. Touch [Test Mode] -> [Lattice Pattern] -> [Black(1PC)].
3. Press the Start key to let the machine produce a lattice pattern.
4. Place the lattice pattern in the document feed tray.
    - Place the lattice pattern with the print side facing up.
5. Make a full size copy of the lattice pattern.
6. Check that the difference in the width A between the lattice pattern and the copy sample falls within the target.

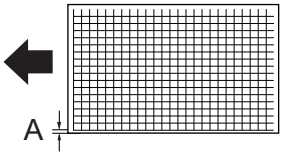


7. Call the Service Mode to the screen.
8. Touch [ADF] -> [Original Stop Position].
9. Touch [Main Scanning (Front)].
10. Enter the value from the 10-key pad. (Press the [+/-] key to change the +/- code.)
    - If the difference in the width A is greater than the target, enter the [+] value.
    - If the difference in the width A is smaller than the target, enter the [-] value.
11. Touch [Test Copy].
12. Touch the paper tray loaded the paper be used for the test copy.
13. Place the lattice pattern in the document feed tray.
    - Place the lattice pattern with the print side facing up.
14. Press the Start key, and then check the difference in the width A between the lattice pattern and the discharged copy sample.
15. Touch [END] twice.
16. Touch [Exit] on the Service Mode screen.
17. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

Main Scanning (Back)

Target	Setting range	Default setting
0.0 ± 2.0 mm	-1.7 to +1.7 mm (1 step: 0.1 mm)	0.0 mm

<Procedure>
1. Call the Service Mode to the screen.
2. Touch [Test Mode] -> [Lattice Pattern] -> [Black(1PC)].
3. Press the Start key to let the machine produce a lattice pattern.
4. Place the lattice pattern in the document feed tray.
    - Place the lattice pattern with the print side facing down.
5. Make a full size 2-sided copy of the lattice pattern.
6. Check that the difference in the width A between the lattice pattern and the copy sample falls within the target.



7. Call the Service Mode to the screen.
8. Touch [ADF] -> [Original Stop Position].
9. Touch [Main Scanning (Back)].
10. Enter the value from the 10-key pad. (Press the [+/-] key to change the +/- code.)
    - If the difference in the width A is greater than the target, enter the [+] value.
    - If the difference in the width A is smaller than the target, enter the [-] value.
11. Touch [Test Copy].
12. Touch the paper tray loaded the paper be used for the test copy.
13. Touch [2-Sided] -> [2-Sided].
14. Place the lattice pattern in the document feed tray.
    - Place the lattice pattern with the print side facing down.
15. Press the Start key, and then check the difference in the width A between the lattice pattern and the discharged copy sample.
16. Touch [END] twice.

17. Touch [Exit] on the Service Mode screen.
18. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

15.2 Registration Loop Adj.

- To adjust the length of the loop to be formed in paper before the registration rollers.
- When an original misfeed or skew occurs.

Setting item	Setting range	Default setting
1-Side	-7 to +7 mm (1 step: 0.1 mm)	0 mm
Second Side	-7 to +7 mm (1 step: 0.1 mm)	0 mm

<Procedure>
1. Select a setting item for the adjustment.
2. Touch clear and change the setting value using the 10-key pad. Press the [+/-] key to change the +/ code.
   - To increase the loop amount: Increase the setting value.
   - To decrease the loop amount: Decrease the setting value.
3. Touch [END].

15.3 Paper Passage

- To check for paper passage through the DF in each of the DF modes.
- Used for checking the document path for any abnormal condition when a document misfeed occurs.

Setting item	Contents
Normal Size	Select it to perform paper passage test from the normal size.
Small Size	Select it to perform paper passage test from the small size.
Business card size	Select it to perform paper passage test from the business card size.

<Procedure>
1. Select a paper passage mode to be tested.
2. Set the original in the feed tray.
3. The Start key changes from orange to blue.
4. Press the Start key. The operation starts.

NOTE
- **After starting the operation by pressing the Start key, if the Start key is pressed during the operation, the operation will be suspended. Then, if the Start key is pressed again during the suspension, the operation will be resumed.**
- **If the Stop key is pressed during the test operation, the test will be forced to end.**
- **If there is no Original set in the feed tray, the Start key will not work.**
- **All Originals set in the feed tray are passed through. Upon the completion of all Originals passed through, the paper through test ends.**

15.4 Sensor Check

- To check sensors on the DF.
- To check sensors on the paper path.
- When a document misfeed occurs.
- Operate the sensor to check by using paper or the like, and check the screen display.

Sensor check list

Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
PS20	Transport Open&Close	Upper door sensor	Open	Closed
PS17	Registration Sensor	Document registration sensor	Paper present (blocked)	Paper not present (unblocked)
PS16	After Separate	After separate sensor	Paper present (unblocked)	Paper not present (blocked)
RS22	DF Open	Angle sensor	Open	Closed
PS18	Before Read	Document before read sensor	Paper present (blocked)	Paper not present (unblocked)
PS19	Original Detection Sensor	Document empty sensor	Paper present	Paper not present
FM4	Fan Lock Detection	DF cooling fan	Locked	Not locked

15.5 Read Pos Adj

- To adjust the original read position.
- When the scanner home sensor have been replaced.

Read Pos Adj

Setting range	Default setting
-27 through +29	Intrinsic values (adjusted at the factory)

<Procedure>
1. Touch [Read Pos Adj].
2. Touch [C].
3. Enter the value using the [+] / [-] keys.

- Set the setting value to a positive number to move the stop position of the LED exposure unit to the right when viewed from the front.
- Set the setting value to a negative number to move the stop position of the LED exposure unit to the left when viewed from the front.

4. Touch [END].

Auto Adjust

- To automatically adjust the original read position.

<Procedure>

1. Touch [Auto Adjust].
2. Open the DF.
3. Place the DF reading chart [1] so that a triangular mark may become the original glass side (downward) and the pointed tip of the triangle points toward the black sheet on the left side.
4. Press the Start key.

NOTE

- **Be sure that the DF reading chart is in position.**
- **Place the DF reading chart [1] so that it comes in contact with the step sheet [2].**
- **Keep the document feeder open while making the adjustment.**
- **When the edge deviation at DF reading after carrying out this adjustment becomes larger, conduct the "Original Stop Position."**

5. Make sure that the result is OK.
6. Touch [END].

NOTE

- **If the result is [Unable]:**
  - **Check that the chart is in the correct place.**
  - **Make the adjustment on the [Original Stop Position] screen.**

15.6 FD-Mag. Adj. (F)

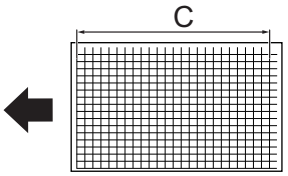
- To adjust the feed zoom in the front side feeding direction on the DF.
- When DF has been replaced.

Orig. Feed Zoom Ad

Target	Setting range	Default setting
0 ± 1.0 mm	-2.00% to +2.00% (1 step: 0.1%)	0.00%

<Procedure>

1. Call the Service Mode to the screen.
2. Touch [Test Mode] -> [Lattice Pattern] -> [Black(1PC)].
3. Press the Start key to let the machine produce a lattice pattern.
4. Place the lattice pattern in the document feed tray.
   - Place the lattice pattern with the print side facing up.
5. Make a full size copy of the lattice pattern.
6. Width C on the lattice pattern is measured and adjusted so that the difference satisfies the target shown below.



7. Make a full size copy of the lattice pattern.
8. Width C on the lattice pattern and one on the copy sample are measured and adjusted so that the difference of Width C satisfies the target shown below.
9. Call the Service Mode to the screen.
10. Touch [ADF] -> [Feed Zoom].
11. Touch [Orig. Feed Zoom Ad].
12. Enter the value using the [+] / [-] keys.
    - If the difference in the width C is greater than the target, enter the - value.
    - If the difference in the width C is smaller than the target, enter the + value.
13. Touch [Test Copy].
14. Touch the paper tray loaded the paper be used for the test copy.
15. Place the lattice pattern in the document feed tray.
    - Place the lattice pattern with the print side facing up.
16. Press the Start key, and then check the difference in the width C between the lattice pattern and the discharged copy sample.
17. Touch [END] twice.
18. Touch [Exit] on the Service Mode screen.
19. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

15.7 Scanning Light Adjustment

- To adjust the scanning light of DF.
- Used for adjusting the difference in the scanning lights between scanning from the original glass and scanning from the DF original glass.

Setting item	Setting range	Default setting
Red	-4 to +4 (step: 1)	0
Green		

Setting item	Setting range	Default setting
Blue		

<Procedure>
1. Select a color by pressing [Red], [Green], or [Blue].
2. Press the value using the [+] / [-] key.
   - Increasing the setting value to lighten the selected color. (Thinner)
   - Decreasing the setting value to deepen the selected color. (Thicker)

   NOTE
   - **It is recommended that the scanning light adjustment should be made by the same steps for all the three colors of red, green, and blue.**
3. Touch [END].

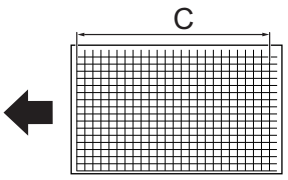
15.8 FD-Mag. Adj. (B)

- To adjust the feed zoom in the back side feeding direction on the DF.
- When DF and CIS have been replaced.

Orig. Feed Zoom Ad

Target	Setting range	Default setting
0 ± 1.0 mm	-2.00% to +2.00% (1 step: 0.1%)	0.00%

<Procedure>
1. Call the Service Mode to the screen.
2. Touch [Test Mode] -> [Lattice Pattern] -> [Black(1PC)].
3. Press the Start key to let the machine produce a lattice pattern.
4. Place the lattice pattern in the document feed tray.
   - Place the lattice pattern with the print side facing down.
5. Make a full size 2-sided copy of the lattice pattern.
6. Width C on the lattice pattern and one on the copy sample are measured and adjusted so that the difference of width C satisfies the target shown below.



7. Call the Service Mode to the screen.
8. Touch [ADF] -> [FD-Mag. Adj. (B)].
9. Touch [Orig. Feed Zoom Ad].
10. Enter the value using the [-] / [+] keys.
    - If the difference in the width C is greater than the target, enter the - value.
    - If the difference in the width C is smaller than the target, enter the + value.
11. Touch [Test Copy].
12. Touch the paper tray loaded the paper be used for the test copy.
13. Touch [2-Sided] -> [2-Sided].
14. Place the lattice pattern in the document feed tray.
    - Place the lattice pattern with the print side facing down.
15. Press the Start key, and then check the difference in the width C between the lattice pattern and the discharged copy sample.
16. Touch [END] twice.
17. Touch [Exit] on the Service Mode screen.
18. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

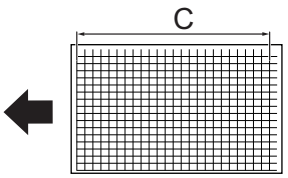
15.9 Main Scanning Direction Zoom

- To adjust the feed zoom in the back side feeding direction on the DF.
- When DF and CIS have been replaced.

Main scanning direction zoom adj

Target	Setting range	Default setting
0 ± 2.0 mm	-1.00% to +1.00% (1 step: 0.1%)	0.00%

<Procedure>
1. Call the Service Mode to the screen.
2. Touch [Test Mode] -> [Lattice Pattern] -> [Black(1PC)].
3. Press the Start key to let the machine produce a lattice pattern.
4. Place the lattice pattern in the document feed tray.
   - Place the lattice pattern with the print side facing up.
5. Make a full size copy of the lattice pattern.
6. Width C on the lattice pattern is measured and adjusted so that the difference satisfies the target shown below.



7. Make a full size copy of the lattice pattern.
8. Width C on the lattice pattern and one on the copy sample are measured and adjusted so that the difference of Width C satisfies the target shown below.
9. Call the Service Mode to the screen.
10. Touch [ADF] -> [Main Scan Direction Zoom Adjustment].
11. Enter the value using the [+] / [-] keys.
    - If the difference in the width C is greater than the target, enter the - value.
    - If the difference in the width C is smaller than the target, enter the + value.
12. Touch [Test Copy].
13. Touch the paper tray loaded the paper be used for the test copy.
14. Place the lattice pattern in the document feed tray.
    - Place the lattice pattern with the print side facing up.
15. Press the Start key, and then check the difference in the width C between the lattice pattern and the discharged copy sample.
16. Touch [END] twice.
17. Touch [Exit] on the Service Mode screen.
18. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

15.10 Shading repair setting

Save the initial shading data in the machine.
To correct the shading data retrieved at scanning the back side of an original with the initial shading data, so as to prevent white lines from occurring in the image due to paper dust.

Adjustment item	Contents	Setting range	Default setting
Usage Setting	To set OFF/ON of the shading repair function.	ON	○
		OFF	
Error Detection	To set the level of error detection at retrieving the initial shading data.	None	
		Level 1: The determining level of error detection is high	○
		Level 2	
		Level 3: The determining level of error detection is low	
Moving Avg. Value	To use the range for averaging the moving level of shading repair.	None	○
		1024 Pixel	Not available
		2048 Pixel	Not available
Init. Data Input	To retrieve the initial shading data.	-	-

NOTE
When the ADF or DF CIS module has been replaced, execute [Init. Data Input].
Be sure to clean the DF CIS module before executing [Init. Data Input].
The greater the level of error detection increases, the more often the white lines tend to occur.

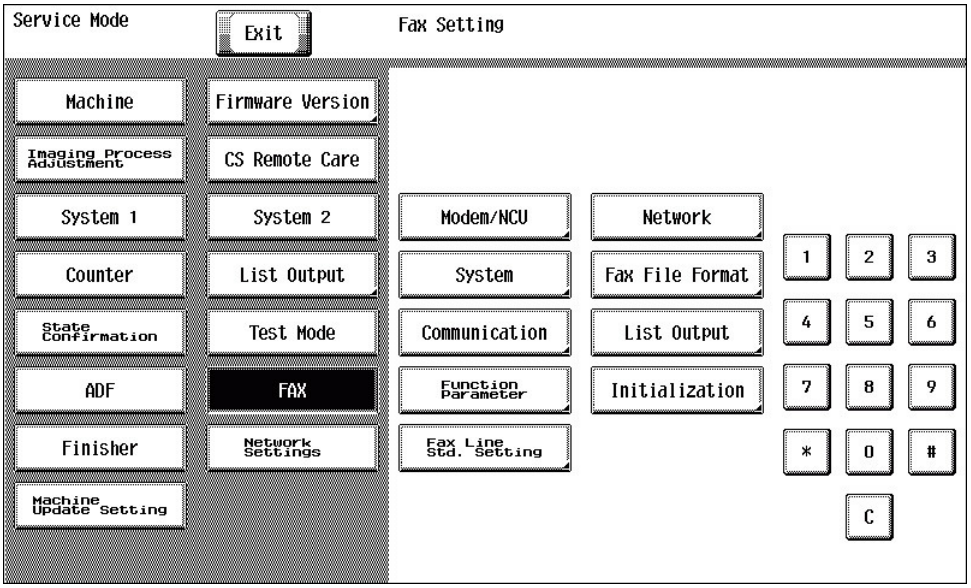
<How to retrieve initial data>
1. Clean the DF CIS module and the shading plate.
2. Select [Init. Data Input], and press the Start key.
3. If OK is displayed, turn OFF and ON the main power switch.

Action to be taken for NG
1. Check in [Result Dets.] for the chip number of the NG point. (Chip0: Rear side to Chip16: Front side)
2. Clean the DF CIS module and shading plate again especially the chip of the NG point.
3. Carry out above mentioned steps again for retrieving the initial data.
4. If NG is displayed, repeat steps 1 to 3 twice. (Total of three times)
5. If OK is not displayed, change the level in [Error Detection], and carry out steps for retrieving the initial data.
   NOTE
   - **Level 1 is the strictest level. The level becomes looser in the order of 1, 2 and 3.**
   - **If OK is not displayed at level 1, change to level 2. If OK is not displayed at level 2, change to level 3.**
6. Perform copying, and make sure that no white lines occur.

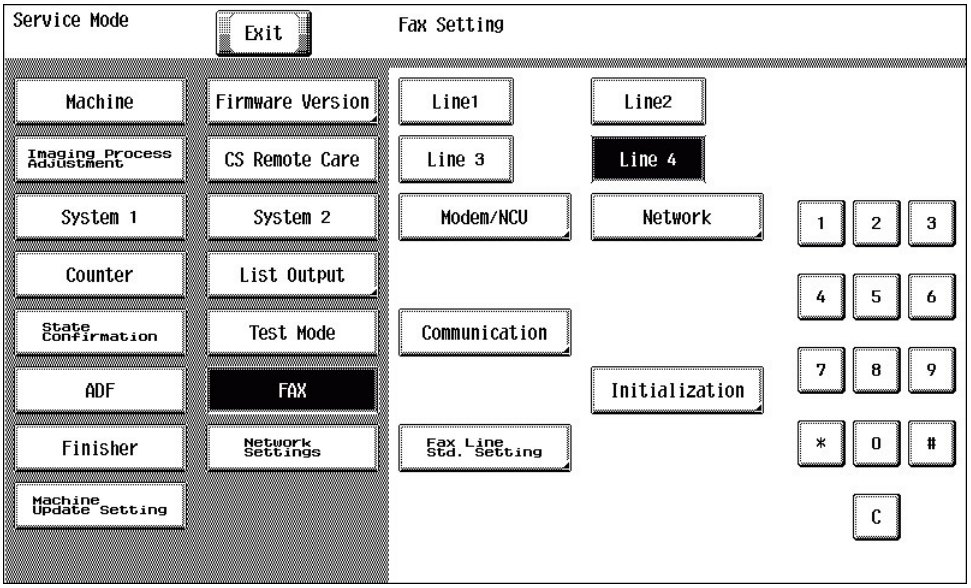
16. FAX

16.1 Outline

- It will not be displayed when [Service Mode] -> [System 2] -> [Option Board Status] shows that FAX (circuit 1) is set to “Unset”.
- To configure settings for fax line 1 when only the FAX (circuit 1) is “Set” in [Service Mode] -> [System 2] -> [Option Board Status].



- To configure settings for each selected fax line when multiple fax lines are “Set” in [Service Mode] -> [System 2] -> [Option Board Status].



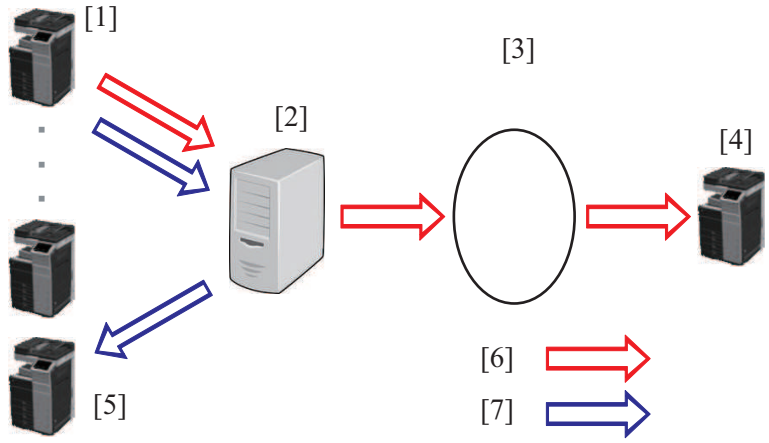
The following setting items are displayed only when “Line1” is selected.

- System, Fax File Format, List Output, Function Parameter

NOTE

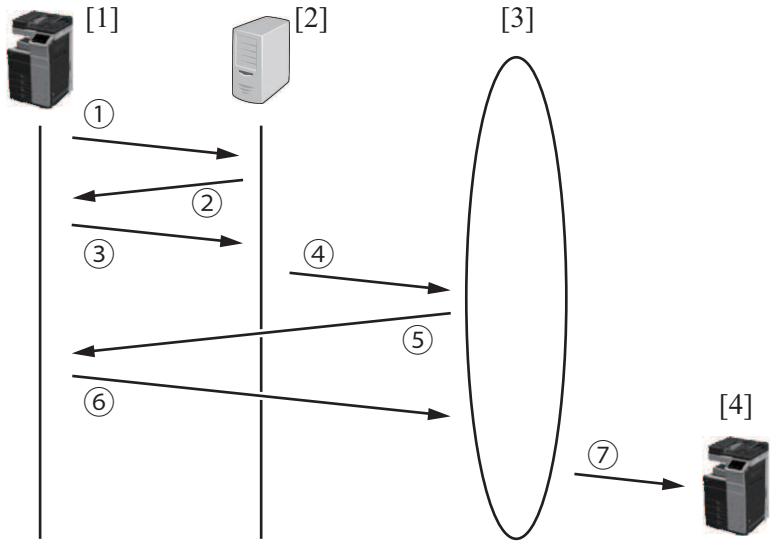
- **Fax lines that can be set may vary by different MFPs. For details, see “PRODUCT OUTLINE.”**

MF4003en **16.1.1 PBX operating environment** Overview



[1]	Fax source	[2]	PBX (Private Branch Exchange)
[3]	Public line	[4]	Fax destination (external line)
[5]	Fax destination (internal line)	[6]	External fax communication
[7]	Internal fax communication	-	-

External fax communication flow



[1]	Fax source	[2]	PBX (Private Branch Exchange)
[3]	Public line	[4]	Fax destination (external line)

<External communication flow>

1. Call from the fax source to the PBX. (In an off-hook state)
2. From the PBX, a PBX dial tone signal is sent to a fax source, which informs that connection is established.
3. The fax source detects the PBX dial tone signal, and sends an external number.
   - Make settings in [Network Settings4] to properly detect the PBX dial tone signal.
4. When the external number is received, the PBX connects to the public line.
5. From the public line, the 1st dial tone signal is sent to the fax source, which informs that connection is established.
6. The fax source detects the 1st dial tone signal, and sends a fax destination number.
   - To properly detect the 1st dial tone signal, make settings in [Network Settings5].
7. The public line connects to the fax destination, and starts the fax communication.

16.2 Modem/NCU

V34

Setting item	Contents	Setting value	Default setting
RX Max. Bit Speed	To set the max. bit speed for reception in V.34.	2400 to 33600 bps (step: 2400 bps)	33600 bps
TX Max. Bit Speed	To set the max. bit speed for transmission in V.34.	2400 to 33600 bps (step: 2400 bps)	33600 bps

Setting item	Contents	Setting value	Default setting
Control CH Speed	A bit speed of the control channel. The negotiation of 2400/1200 is performed in the V.34 start-up procedure.	1200 bps	○
		2400 bps	
Max. SYMB Speed	Maximum modulation speed (baud rate) of V.34 • 3429 SYMB: 3429 33.6 k to 4.8 k • 3200 SYMB: 3200 31.2 k to 2.4 k • 3000 SYMB: 3000 28.8 k to 2.4 k • 2800 SYMB: 2800 • 2400 SYMB: 2400 The modulation speed of both sending and receiving change by change of setting. The upper limit value of V.34 maximum bit speed is determined. Normally you do not need to change the value. In case that a V.34 error frequently occurs, you can attempt to set up 3000 SYMB and decrease the symbol rate, for instance.	2400 SYMB	
		2800 SYMB	
		3000 SYMB	
		3200 SYMB	
		3429 SYMB	○
V34 Point Number	Select the optimal Eye Pattern in accordance with the line state obtained from V.34 transmission training.	Auto	○
		16Point	
		4Point	

V17 Send Max Speed

Setting item	Contents	Setting value	Default setting
TX Max. Speed	To set the max. speed for transmission.	V17-14400 bps	○
		V17-12000bps	
		V17-9600bps	
		V17-7200bps	
		V29-9600bps	
		V29-7200bps	
		V27-4800bps	
		V27-2400bps	
RX Max. Speed	To set the max. speed for reception.	V17-14400 bps	○
		V29-9600bps	
		V27-4800bps	

TxATT

Setting item	Contents	Procedure
PIX TxATT	To set the output level of PIX TxATT. Directly sets modem. There are no external attenuator.	The setting value are different depending on the country.
TONE/Procedure Signal TxATT	To set the output level of TONE/Procedure Signal TxATT. Directly sets modem. There are no external attenuator.	
CED/ANSam TxATT	To set the output level of CED/ANSam TxATT. Directly sets modem. There are no external attenuator.	
DTMF TxATT	To set the output level of DTMF TxATT. Directly sets modem. There are no external attenuator.	

Level

Setting item	Contents	Setting value	Default setting
CD/SED ON Level	To set reception signal sensitivity level. SED is not used.	-48 to -33 dBm (Step: 5 dBm)	-48 dBm
DTMF H-L Level Difference	To set DTMF H-L level difference.	1.0 to 4.0 dB (Step: 0.5 dB)	2.0 dB

Cable EQL

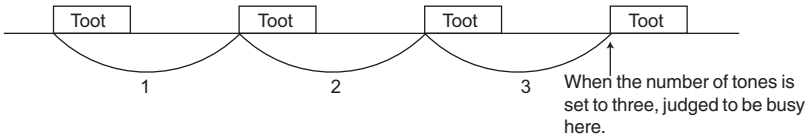
Setting item	Contents	Setting value	Default setting
Send/Rec.	To correct the delay characteristics of the communication line.	0 Km	○
		1.8 Km	
		3.6 Km	
		7.2 Km	

16.3 Network

Network Setting 1

Setting item	Contents	Setting value	Default setting
Receive Signal Detection Mode	To set whether to detect the receive signal by the number of times or by time. Sets to “Time” when ringer can not be detected by the number.	No. of Times	○
		Time	
BUSY TONE Detection	To set whether or not to use the Busy Tone detection.	ON	○ (JP/US)
		OFF	○ (EU)
No. of Times of Busy Tone Detection	To set the number of times of Busy Tone detection. 0 time shows no detection is done.	0 to 15 count (Step: 1 count)	2 (JP/US) 3 (EU)

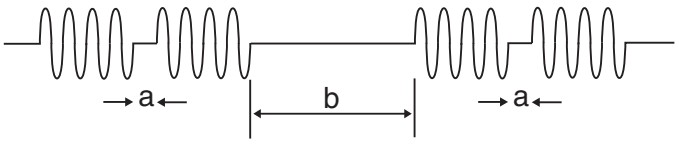
- *: No. of Times of Busy Tone Detection



Network Setting 2

Setting item	Contents	Setting value	Default setting
1300Hz Detection	To set whether or not to use the 1300 Hz detection. Set this function to “ON” if the facsimile network (F-net) is to be used.	ON	
		OFF	○
Dial Tone Detection	To set whether or not to use the Dial Tone detection.	ON	○
		OFF	
DC-LOOP Check	Checks the DC loop current before dialing. When the current is zero, an error occurs. (T.80) You can change the setting to be compliant to standards in other countries. In Japan, set this parameter to OFF.	ON	
		OFF	○
min. RING OFF Time	Minimum time to recognize ringer interval.	0 to 1000 ms (Step: 100 ms)	200 ms (JP) 0 ms (US/EU)
Response Waiting Time	To set the response waiting time. Response waiting timer (55 sec.) • Calling: Starts after dialing. Until CED is received.	35 to 115 s (Step: 1 s)	55 s
Pause Time	The pause time for one pause key (pause between digits)	1 to 7 s (Step: 1 s)	1 s

- *: min. RING OFF Time



- a: To avoid judging “a” as a ring-off time.
- b: Ring-off time

Network Setting 3

NOTE

- **This setting is displayed only when “Line1” is selected.**
- **This setting is displayed only when the “Fax Target” is set to “JP.”**

Setting item	Contents	Setting value	Default setting
Pseudo-RBT Format	To set a pseudo ring back tone format to be send back to the calling side.	Japan	○
		US	
		GB	
		GE	
		None	
Pseudo-RBT TX Level	To set the transmission level for the pseudo ring back tone.	-15 to -10 dBm (Step: 1 dBm)	-10 dBm

Network Settings4, Network Settings5

- Network Settings4: To make settings for PBX dial tone signals received from PBX.
- Network Settings5: To make settings for 1st dial tone signals received from public line.

Setting item	Contents	Setting value	Default setting	
			Network Settings4	Network Settings5
Tone Det. Set.	To execute the tone detection setting.	Continuous Sound		○

Setting item	Contents	Setting value	Default setting	
			Network Settings4	Network Settings5
		Intermittent Sound	○ (JP)	
		OFF	○ (US/EU)	

- To make the following settings according to the setting value in Tone Det. Set.

When [Continuous Sound] is selected in Tone Det. Set.

Setting item	Contents	Setting range	Default setting
Wait Time	To set the dial tone waiting time.	1 to 10 s (Step: 1 s)	3 s
Detection Time	To set the dial tone detection time.	20 to 5000 ms (Step: 20 ms)	1000 ms
Interr. Det. Time	To set the interruption detection time.	0 to 1000 ms (Step: 20 ms)	0 ms
Tone Det. Frequency (*)	To set the dial tone detection frequency pattern.	1 to 23 (Step: 1)	8

When [Intermittent Sound] is selected in Tone Det. Set.

Setting item	Contents	Setting range	Default setting
Minimum ON Time	To set the minimum ON time.	20 to 5000 ms (Step: 20 ms)	100 ms
Maximum ON Time	To set the maximum ON time.	20 to 5000 ms (Step: 20 ms)	1000 ms
Minimum OFF Time	To set the minimum dial tone OFF time.	20 to 5000 ms (Step: 20 ms)	100 ms
Maximum OFF Time	To set the maximum dial tone OFF time.	20 to 5000 ms (Step: 20 ms)	400 ms
Detection Count	To set the number of times of tone detection.	1 to 10 count (Step: 1 count)	3 count
Wait Time	To set the dial tone waiting time.	1 to 10 s (Step: 1 s)	3 s
Tone Det. Frequency (*)	To set the dial tone detection frequency pattern.	1 to 23 (Step: 1)	8

When [OFF] is selected in Tone Det. Set.

Setting item	Contents	Setting range	Default setting
Pre-PauseTime	To set the pre-pause time.	1 to 10 s (Step: 1 s)	3 s
Tone Det. Frequency (*)	To set the dial tone detection frequency pattern.	1 to 23 (Step: 1)	8 (400±100Hz)

- *: The setting values of Tone Det. Frequency are shown as below.

*: Details of Tone Det. Frequency setting.

Setting value	Contents	Setting value	Contents	Setting value	Contents
1	155±65Hz	9	425±100Hz	17	425±150Hz
2	1155±25Hz	10	440±100Hz	18	440±150Hz
3	375±75Hz	11	375±125Hz	19	465±205Hz
4	400±75Hz	12	400±125Hz	20	350±25Hz (Dual)
5	425±75Hz	13	425±125Hz	21	620±25Hz (Dual)
6	440±75Hz	14	440±125Hz	22	400±75Hz (Dual)
7	375±100Hz	15	375±150Hz	23	550±100Hz (Dual)
8	400±100Hz	16	400±150Hz	-	-

16.4 System

NOTE

- **This setting is displayed only for “Line1.”**

Display Setting

Setting item	Contents	Setting value	Default setting
Closed area Rx	To set whether or not to use the menu display for closed reception function by using F-code for junk fax messages.	ON	○
		OFF	
Re-Transmission	To set whether or not to use the re-transmission function.	ON	○
		OFF	

Setting item	Contents	Setting value	Default setting
	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted.		
Compulsory Memory RX	To set whether or not to use the compulsory memory reception function. • When set to “ON”, the function permits selection of ON or OFF setting for the compulsory memory reception function that allows a document when received not to be printed automatically and, instead, to be printed through manual operation.	ON	○
		OFF	
Dial In	To set whether or not to use the modem dial-in function.	ON	○
		OFF	
Reject Calls (Only for Japan)	To set whether or not to use the reject calls function. • When set to “ON”, the function displays the function that allows the user to be rejected as a reject call number.	ON	○
		OFF	
Remote Rx (Only for Japan)	To set whether or not to use the remote reception function.	ON	○
		OFF	
Relay	To set whether or not to use the relay function.	ON	○ (Japan)
		OFF	○ (North America and Europe)
Number display (Only for Japan)	To set whether or not to use the number display function.	ON	○
		OFF	

Scan Setting

Setting item	Contents	Setting value	Default setting
Frame Erasure HP	To set the frame erasure size during reading. The four edges of the original are erased by the same width. Erases the outer lines to prevent black lines from appearing. Effective in the book transmission.	5 mm	
		10 mm	○
		15 mm	

System Function

Setting item	Contents	Setting value	Default setting
Fax Board Watchdog	To set whether or not to enable watchdog by the fax board CPU. • ON: Reset when hung up. • OFF: Keeps being hung up.	ON	○
		OFF	
Fax BOOT Rewrite on ISW	Required when a BOOT BLOCK program is upgraded or a hardware is changed.	ON	
		OFF	○
Error Code Display Time	To set the communication error code display time.	HOLD	20 s
		10 to 250 s (Step: 10 s)	

Communication Setting

Setting item	Contents	Setting value	Default setting
Auto Rotation Send (LT)	To set whether or not to rotate the Letter size original automatically for transmission. • ON: Transmits in the A4 width. • OFF: Transmits in the A3 width.	ON	○
		OFF	
Auto Rotation Send (A4T)	To set whether or not to rotate the A4 size original automatically for transmission. • ON: Transmits in the A4 width. • OFF: Transmits in the A3 width.	ON	○
		OFF	
Error Page Resending	To set whether to retransmit, after a communication error occurs, the document starting with the error page or all pages.	Error Page	○
		All Page	
Number of Redials (Error Page)	To set the number of redials for the error page. Counted as a busy redial when the error page redial is busy.	0 to 7 (Step: 1)	3

16.5 Fax File Format

- To initialize the following data.
  - All of the scan/fax documents stored in the box are erased.
  - All of the boxes produced automatically by the F code are erased.

NOTE

- **This setting is displayed only for “Line1.”**

<Procedure>

1. Press the Start key.
2. The Fax File Format is executed.

16.6 Communication Protocol

Setting item	Contents	Setting value	Default setting
V8/V34 Protocol	To set whether or not to use the V.8/V.34 protocol.	ON	○
		OFF	
V17 EP TONE	Whether the EP tone (Echo Protect: 2100Hz) is added to the top of the training signal. This setting is displayed only when “Line1” is selected.	ON	○
		OFF	
V29 EP TONE	Whether the EP tone (Echo Protect: 2100Hz) is added to the top of the training signal. This setting is displayed only when “Line1” is selected.	ON	
		OFF	○
V17 Selection Mode “-”	V.34 is not used when a dash (-) is added at the top of dial number. This setting is displayed only when “Line1” is selected.	ON	
		OFF	○
ANSam Send Time	To set the transmission time for the V.8 protocol signal ANSam. Usually not need to be changed. This setting is displayed only when “Line1” is selected.	1.0 to 5.5 s (Step: 0.5 s)	4.0 s

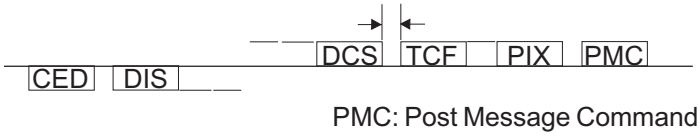
Int’l Comm. Function

Setting item	Contents	Setting value	Default setting
Foreign Communication Function	To set whether or not to use the mode that employs the number of DIS waiting times.	ON	○
		OFF	
No. of DIS Waiting Times at Foreign Communication	To set the number of DIS waiting times.	1	○
		2	
V34 Speed	To set the V.34 international communication mode speed.	16800 to 33600 bps (Step: 2400 bps)	28800 bps
V17 Speed	To set the V.17 international communication mode speed.	7200 to 14400 bps (Step: 2400 bps)	7200 bps
V29 Speed	To set the V.29 international communication mode speed.	2400 to 9600 bps (Step: 2400 bps)	4800 bps

TIMER1

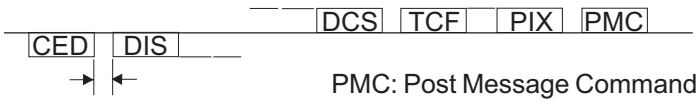
Setting item	Contents	Setting value	Default setting
T1	T1 timer (T.30 standard) • Calling: Designate by the response waiting timer • Called: Starts after DIS is output. The waiting time until DCS is received. Response waiting timer (55sec) • Calling: Starts after dialing. Until CED is received.	30 to 90 s (Step: 5 s)	35 s
DCS-TCF DELAY	To set the delay time between DCS and TCF. (*1)	50 to 150 ms (Step: 10 ms)	80 ms
CED-DIS DELAY	To set the delay time between CED and DIS. (*2)	50 to 150 ms (Step: 10 ms)	80 ms
PIX-PMC DELAY	To set the delay time between PIX and PMC. (*3)	50 to 150 ms (Step: 10 ms)	80 ms

- *1: DCS-TCF DELAY



PMC: Post Message Command

- *2: CED-DIS DELAY



PMC: Post Message Command

- *3: PIX-PMC DELAY



PMC: Post Message Command

TIMER2

Setting item	Contents	Setting value	Default setting
EOL-EOL	To set the transmission time between EOLs. (*)	4.0 to 25.5 s (Step: 0.5 s)	13.0 s
CFR-PIXWAIT	Sets the waiting time from CFR is sent to the image signals are received. Radio fax on boats occasionally requires more than 6 sec.	6.0 to 25.5 s (Step: 0.5 s)	6.0 s
EOM-PIXWAIT	Waiting time to receive PIX before sending DIS when EOM is used. Some fax machines sends PIX without returning to Phase B in spite of EDM.	5.5 to 25.5 s (Step: 0.5 s)	5.5 s
JM WAIT	Time to continue outputting CM until receiving JM.	6.0 to 25.5 s (Step: 0.5 s)	9.0 s

- *: EOL-EOL



Others

Setting item	Contents	Setting value	Default setting
ECM Function	Set whether or not to cancel reception ECM (error correction mode).	ON	○
		OFF	
Frame Size at ECM TX	To set the frame size at ECM transmission.	64	
		256	○
Cording Ability	To set the coding ability. Effective to both sending and reception.	MH	
		MH/MR	
		MH/MR/MMR	
		MH/MR/MMR/JBIG	○

16.7 List Output

NOTE

- **This setting is displayed only for "Line1."**

Report Addition Information

- To set whether or not to add the diagnosis code or dial number to the communication journal.

Setting value	Contents	Default setting
Diagnosis Code	The diagnosis code is printed on the communication journal.	
Dial Number	The dial number is printed on the communication journal.	
OFF	Do not apply diagnosis codes and dial numbers.	○

TX Result Report

- To set whether or not to add image to the transmission result report.
- Even if set to "With image" images are not attached at the time of the quick memory transmission and the manual transmission.

Setting value	Default setting
With image	○
Without image	

Protocol Trace Auto Output

- To set the timing for the protocol trace auto output.

Setting value	Default setting
Always	
Error	
OFF	○

16.8 Function Parameter

Function parameters can be set through addressing.

NOTE

- **To change the value in this address parameter list, comply with the telephone line regulation for each country.**
- **Depending on values that have been changed, compliance with the phone line standards of other countries may not be obtained.**

<Procedure>
1. Select [Address] and then, enter the address using [A] to [F] or keypad.
   A Cursor is movable if [<-] or [->] is pushed.
2. Next, select [Data] and enter a value using binary numbers with keypad.
3. Confirm the setting in [Address] and the entered numbers, then touch [Apply].
4. After the settings have been completed, touch [END].

16.9 Initialization

- To initialize selected data.

Data	Contents
Fax Function Parameter	The function set condition is initialized into the Factory Default condition.
Communication Journal Data	All of the Communication Journal is erased. This setting is displayed only when “Line1” is selected.
Rx Refusal Fax Number	To clear all reception refusal fax numbers (reception refusal telephone numbers). This setting is displayed only when “Line1” is selected.

NOTICE
- For the formats of the Abbreviated Registration Data, the Program Registration Data, The Group Registration Data, and the F-code Box Data, see “ I.16.5 Fax File Format.”

<Procedure>
1. Select data you want to initialize.
   Supplement: Two or more selections are possible for data.
2. Touch [Yes].
3. When a verification message is displayed, touch [Yes].
4. The data selected is initialized.

16.10 Fax Line Std. Setting

- Used to confirm fax settings.

NOTE
- **If the following settings are changed, the settings from [Service Mode] -> [FAX] -> [Network] and [System] are also changed.**
  - **Fax Line Std. Setting 1: Receive Signal Detection Mode, BUSY TONE Detection, No. of Times of Busy Tone Detection**
  - **Fax Line Std. Setting 2: Dial Tone Detection, Pause Time, Response Waiting Time**
  - **Fax Line Std. Setting 3: Error Page Resen, Number of Redial**
- **If the following settings are changed, the settings from [Administrator] -> [Fax Settings] -> [Line Parameter Setting] is also changed.**
  - **Fax Line Std. Setting 1: Number of RX Call Rings, Receive Time Interval Set**
  - **Fax Line Std. Setting 4: Number of Redials, Redial Interval, Line Monitor Sound Volume (Send), Line Monitor Sound Volume (Receive)**

V17 RX Error

- This configures whether or not to lower the reception speed when reattempting to receive data after a receive error occurs.
- When this is set to [ON], the device will use V17 to receive data the next time after a receive error occurs.

Setting value	Default setting
ON	○
OFF	

<Procedure>
1. Touch [Fax Line Std. Setting 3].
2. Select either [ON] or [OFF] for [V17 RX Error].

16.11 Function parameter list (for all fax lines)

16.11.1 Job setting

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
Redial interval	000B0000	7-4	-	-	00000011
		3-0	Redial interval (unit: 1 min.) 0000: 0 min. to 1111: 15 min.	3 min.	
No. of busy redials	000B0001	7	Redial number of times at the time of T82 on US/CA standard 0: 1 time 1: Depending on bit3-0 (administrator menu)	1 time	00000011
		6-4	-	-	
		3-0	No. of busy redials (unit: No. of times) 0000: 0 time to 1111: 15 times	3 times	
No. of error redials	000B0002	7-4	-	-	00000011
		3-0	Number of redials (error page) (unit: No. of times) 0000: 0 time to 1111: 15 times	3 times	
Setting related to FAX memory	000B0003	7	-	-	00001000
		6	V34 mode at the time of error page redial 0: Inhibited	Inhibited	

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
			1: Enabled		
		5	-	-	
		4	Resend from the first page at the time of error page redial 0: Retransmitted from error page 1: Retransmitted from initial page	Retransmitted from error page	
		3	Call acceptance operation with toner empty 0: Refused 1: Permitted	Permitted	
		2-0	-	-	
FAX communication HP	000B0004	7-6	-	-	00000101
		5	Quick memory transmission 0: OFF 1: ON	OFF	
		4	File deleted after polled transmission 0: Yes 1: No	Yes	
		3	Reception mode 0: Auto 1: Manual	Auto	
		2	V.34 0: OFF 1: ON	ON	
		1	International transmission 0: OFF 1: ON	OFF	
		0	ECM transmission 0: OFF 1: ON	ON	
Forward TX	000B0005	7	-	-	00000000
		6	Two-sided recording of FAX 0: Possible 1: Impossible	Possible	
		5-4	-	-	
		3-2	Default setting of forward TX 00: Not specified 01: Line 1 10: Line 2	Not specified	
		1-0	Forward TX 00: No forwarding 01: Forwarding + Always (print) 10: Forwarding + Only when not delivered (print)	No forwarding	
FAX reception automatic output setting	000B0006	7	Two-sided recording	×	00000001
		6	-	-	
		5	Inched recording paper selection	×	
		4	Page unit recording	×	
		3	Face-up output	×	
		2	Page division recording	×	
		1-0	Output tray HP 00: Tray 1 01: Tray 2 10: Tray 3 11: Tray 4	Tray 2	
FAX reception automatic output setting 2	000B0007	7	STOP is effected for printing during reception	○	11010100 (JP/EU) 11110100 (US)
		6	STOP is effected for printing after reception	○	
		5	Inched paper priority	× (JP/EU) ○ (US)	
		4-2	Paper tray fixing 000: Tray 1 001: Tray 2 010: Tray 3 011: Tray 4 100: LCT 101: Auto	Auto	

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
		1	LG is used.	×	
		0	LT is used.	×	
Setting of recording paper for reception	000B0008	7	Selection without A5S 0: A4->B5 1: B5->A4	A4->B5	00000000
		6-2	-	-	
		1-0	Paper select mode 00: APS 01: Recording paper designation mode 1 10: Recording paper designation mode 2	APS	
Setting of recording paper size for reception	000B0009	7-5	-	-	00001111 (JP/EU) 00011111 (US)
		4-0	01000: A3 01001: B4 01111: A4 10001: $8^1/_2$×14 11000: 11 x 17 11111: $8^1/_2$×11	A4 (JP/EU) $8^1/_2$×11 (US)	
Target reduction rate when A4/LTR is used	000B000A	7-0	Target reduction rate when A4/LTR is used (%)	90%	01011010
Other target reduction rate	000B000B	7-0	Other target reduction rate (%)	93%	01011101
BOOT rewrite on FAX ISW	000B000C	7-1	-	-	00000000
		0	Boot area rewrite 0: No 1: Yes	No	
Reduction rate used in APS	000B000D	7-0	Received image reduction rate at APS (%)	93%	01011101
Minimum reduction rate	000B000E	7-0	Received image reduction rate at APS (A3/B4 width) (%)	96%	01100000
Incomplete TX hold	000B000F	7	Debug mode 0: OFF 1: ON (3 min.)	OFF	00000000
		6-4	-	-	
		3-0	File holding time 0000: 12 hours 0001: 24 hours 0010: 48 hours 0011: 72 hours	12 hours	
Inter-station timer	000B0010	7-0	Inter-station timer (unit: sec.) 00000000 to 11111111: 255 sec. (00000000 means 3 sec.)	3 sec.	00000011
PC-FAX reception	000B0016	7	TSI routing function 0: OFF 1: ON	OFF	00010000
		6	At operation with PC-FAX reception code unspecified 0: PC reception 1: Print	PC reception	
		5	PC-FAX reception print 0: No 1: Yes	Yes	
		4	-	-	
		3-1	PC-FAX reception mode 000: OFF 001: ON + Received at fixed box 010: Dialin + Received at fixed box 011: ON + Received at specified box 100: Dialin + Reception at specified box	OFF	
		0	Password check 0: OFF 1: ON	OFF	
PC-FAX reception password	000B0017 - 000B002A	7-0	ASCII 20 digits	0x20	00000010
FAX reception automatic output setting 3	000B002B	7-4	-	-	00000001
		3-0	Output No. of sets setting range (unit: sets) 0000: 0 set to 1111: 15 sets	1 set	
Setting for 2 lines	000B002C	7-6	Line 2 transmission setting 00: Transmission/Reception	Transmission/ Reception	00000000

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
			01: Reception only 10: Transmission only		
		5-0	-	-	
PC-FAX setting	000B002D	7-2	-	-	00000000
		1-0	PC-FAX transmission line specification 00: Not specified 01: Line 1 10: Line 2	Not specified	
I-Fax encoding system capability (default for auto transmission capability)	000B0032	7-4	-	-	00000100
		3-0	0000: (Setting prohibited) 0001: MH 0010: MR/MH 0100: MMR/MR/MH	MMR/MR/MH	
Auto forwarding mode	000B0034	7-2	-	-	00000000
		1	Inched transmission 0: mm 1: inch	mm	
		0	Auto forwarding destination 0: FAX 1: E-Mail	FAX	
I-Fax related default settings	000B0035	7-5	-	-	00000000
		4	RTI position setting 0: Outer 1: Inner	Outer	
		3	TTI position setting 0: Outer 1: Inner	Outer	
		2	RTI setting 0: ON 1: OFF	ON	
		1	TTI setting 0: ON 1: OFF	ON	
		0	Stamp default value setting 0: OFF 1: ON	OFF	
Communication function	000B0039	7	Interception of 1-address transmission in broadcasting transmission 0: Permitted 1: Inhibited	Permitted	01000100
		6	TTI printing, unit ID preference function 0: Not preferred 1: Preferred	Preferred	
		5	Abandoning error pages during transmission 0: Not abandoned 1: Abandoned	Not abandoned	
		4	F code transmission function 0: Yes 1: No	Yes	
		3	Dial number duplication check during broadcasting transmission 0: Checked 1: Not checked	Checked	
		2	Incomplete TX hold function 0: Yes 1: No	No	
		1	Relay reception function 0: Yes 1: No	Yes	
		0	Confidential reception function 0: Yes 1: No	Yes	
Character ID [46]	000B003A - 000B0067	7-0	ASCII [46] When ID is less than 46 digits, justify to the left and insert space at the top. (With NULL terminators)	0x00	00000000
Reception refuse	000B0068	7-1	-	-	00000000

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
		0	Call acceptance rejected - Number display 0: Disconnected line 1: No response	Disconnection line	
Recording paper priority selection	000B0069	7-2	-	-	00000000
		1-0	00: Automatic selection 01: Fixed size 10: Priority	Automatic selection	
Box number error operation	000B006A	7-5	-	-	00000000
		4	Print or not print the images received when the TSI transfer terminates normally. 0: OFF 1: ON	ON	
		3	Operation with no routing registration or no registered BOX upon the TSI routing turned ON 0: Print output 1: Saved in forced memory reception BOX	Print output	
		2-1	Reception of unregistered box sub No. 00: Print 01: Communication error 10: Auto create	Print	
		0	-	-	

16.11.2 Function setting

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
Error line processing/judgment	000E0000	7	RTP transmission	× (JP/US) ○ (EU)	00000001 (JP/US) 10000010 (EU)
		6	-	-	
		5	Error line recirculation	×	
		4	Addition of error sign	×	
		3	-	-	
		2	Judgment of No. of sequential error lines	×	
		1	Error line rate judgment	× (JP/US) ○ (EU)	
		0	Judgment of No. of error lines	○ (JP/US) × (EU)	
No. of error lines-very good	000E0001	7-0	No. of lines-very good No. of error lines≦VeryGoodErrorNum, MCF is transmitted.	16	00010000
No. of error lines-good	000E0002	7-0	No. of error lines-good VeryGoodErrorNum<No. of error lines≦GoodErrorNum, RTP is transmitted	64 (JP/US) 128 (EU)	01000000 (JP/US) 10000000 (EU)
No. of error lines-bad	000E0003	7-0	No. of error lines-bad GoodErrorNum<No. of error lines≦BadErrorNum, RTN is transmitted. No. of error lines>BadErrorNum, it is considered to be error line over.	128 (JP/US) 255 (EU)	10000000 (JP/US) 11111111 (EU)
Rate of error lines-very good	000E0004	7-0	Rate of error lines-very good (%) Rate of error lines≦VeryGoodErrorPercent, MCF is transmitted.	5%	00000101
Rate of error lines-good	000E0005	7-0	Rate of error lines-good (%) VeryGoodErrorPercent<Rate of error lines≦GoodErrorPercent, RTP is transmitted. Rate of error lines>GoodErrorPercent, RTN is transmitted.	10%	00001010
No. of continuous error lines-bad	000E0006	7-0	No. of bad judgment sequential error lines (Normal) No. of sequential error lines≦ErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.	3	00000011
No. of continuous error lines-bad	000E0007	7-0	No. of bad judgment sequential error lines (Fine) No. of sequential error lines≦ErrorContNormal, MCF is transmitted.	6	00000110

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
			No. of sequential error lines>ErrorContNormal, RTN is transmitted.		
No. of continuous error lines-bad	000E0008	7-0	No. of bad judgment sequential error lines (300 dpi) No. of sequential error lines≦ErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.	9	00001001
No. of continuous error lines-bad	000E0009	7-0	No. of bad judgment sequential error lines (Super fine) No. of sequential error lines≦ErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.	12	00001100
EP tone addition	000E000A	7-3	-	-	00000110
		2	V.17	○	
		1	-	-	
		0	V.29	×	
CED detection transmission frequency	000E000B	7-2	-	-	00000000
		1	CED detection 0: Detect 1: Not detect	Detect	
		0	CED transmission frequency 0: 2100 Hz	2100 Hz	
TSI/CSI/CIG parameter	000E000C	7	TSI transmission 0: No 1: Always	Always	11100000
		6	CSI transmission 0: No 1: Always	Always	
		5	CIG transmission 0: No 1: Always	Always	
		4-1	-	-	
		0	Character ID is put on CSI.	0	
G3 mode error	000E000D	7	Ph-C8 min. limit timer at Non-ECM 0: No 1: Yes	No	00000000 (JP/US) 01000100 (EU)
		6	Selection of "-" at dial top 0: OFF 1: ON	OFF (JP/US) ON (EU)	
		5	RTN reception 0: step down 1: Line disconnect	step down	
		4	Remote reception ID received 0: After Ring detection only 1: No limit	After Ring detection only	
		3	DIS retransmission interval in manual reception 0: 4.5 sec. 1: 3.0 sec.	4.5 sec.	
		2	DCN transmission at T200	0 (JP/US) 1 (EU)	
		1	DIS length at reception limited to 4byte 0: No limit 1: Limit	No limit	
		0	DCN transmitted at stop of ph.C	0	
Step up/down	000E000E	7	Strict TCF check 0: Normal 1: Strict check	Normal	00000000
		6-1	-	-	
		0	The PC/BC of the PostMsg is checked while in the ECM reception. 0: Yes 1: No	Yes	
Delay timer between DCS-TCF	000E000F	7-0	DCS - TCF delay timer (unit: 10 ms)	80 ms	00001000
Delay timer between PIX-PMC	000E0010	7-0	PIX - PMC delay timer (unit: 10 ms)	80 ms	00001000

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
Delay timer between CED-DIS	000E0011	7-0	CED - DIS delay timer (unit: 10 ms)	80 ms	00001000
T1 timer for calling	000E0012	7-0	T1 timer for transmission (unit: 1 sec.)	35 sec.	00100011
T1 timer for called	000E0013	7-0	T1 timer for reception (unit: 1 sec.)	35 sec.	00100011
ph.C reception limited time	000E0014	7-0	Max. reception time per page (unit: min.) 00000001: 1 min. to 11111111: 255 min.	15 min.	00001111
Timer between EOLs	000E0015	7-0	EOL - EOL timer (unit: 100 ms)	13000 ms	10000010
Timer between frames	000E0016	7-0	Timer between frames (unit: sec.)	35 sec.	00100011
ANSam signal transmission time	000E0017	7-0	ANSam signal transmission time (unit: 100 ms)	4000 ms	00101000
Ci signal transmission time	000E0018	7-0	Ci signal transmission time (unit: 100 ms)	500 ms	00000101
High-speed signal transmission waiting delay timer	000E0019	7-0	High-speed signal transmission waiting delay timer (unit: 10 ms) (Between CFR-PIX/MPS-PIX/CTR-PIX)	550 ms	00110111
ph.C top dummy data transmitting time	000E001A	7-0	ph.C top dummy data transmission time (unit: 100 ms) (Dummy data for non-ECM / Preamble at ECM)	400 ms	00000100
RTC counter	000E001B	7-3	-	-	00000001
		2-0	The EOL counter judged to be RTC 000: EOL*2 001: EOL*3 010: EOL*4 011: EOL*5 100: EOL*6	EOL*3	
Closed area communication	000E001C	7-3	-	-	00000000
		2	Polling TX	×	
		1	Polling RX	×	
		0	-	-	
Machine password [20]	000E001D - 000E0030	7-0	ASCII [20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminator)	0x20	00100000
CSRC password [20]	000E0031 - 000E0044	7-0	ASCII [20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminator)	0x20	00100000
Watch dog	000E0045	7-1	-	-	00000001
		0	Watch dog 0: OFF 1: ON	ON	
T2 timer after CFR	000E0046	7-0	T2 timer value after CFR x100 ms	6000 ms	00111100
T2 timer after EOM	000E0047	7-0	T2 timer after EOM x100 ms	5500 ms	00110111
JIM waiting timer	000E0048	7-0	JM waiting timer value x100 ms	9000 ms	01011010
Destination	000E0049	7-0	00000000: US 00000001: Canada 00000010: Japan 00000011: Australia 00000100: New Zealand 00000101: Europe 00000110: Germany 00000111: UK 00001000: France 00001001: Switzerland 00001010: Netherlands 00001011: Belgium 00001100: Australia 00001101: Norway 00001110: Sweden 00001111: Finland 00010000: Ireland 00010001: Denmark 00010010: Italy 00010011: Spain 00010100: Portugal 00010101: Poland 00010110: South Africa 00010111: Taiwan 00011000: Saudi Arabia 00011001: China 00011010: Malaysia 00011011: Singapore	Japan (JP) US (US) Europe (EU)	00000010 (JP) 00000000 (US) 00000101 (EU)

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
			00011100: Korea 00011101: Hong Kong 00011110: Generic (OT) 00011111: Argentina 00100000: Brazil 00100001: Vietnam 00100010: Philippines 00100011: Russia		
Function when DIS signal is created	000E004A	7-2	-	-	00000001
		1	Change-over of the silent interval between ANSam and DIS (For revision T.30) 0: Silent interval of 450 ms 1: 75 ms	Silent interval of 450 ms	
		0	V8 capability, if available, of DIS to transmit with V.21 0: V.8 bit ON 1: V.8 bit OFF	V.8 bit OFF	
Signal check at the time of F code communication	000E004B	7-1	-	-	00000000
		0	Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished	Signal checked	
No. of CI signal transmission in manual transmission	000E004C	7-0	CI signal repetitive transmission frequency when no ANSam received after CI transmission (unit: No. of times)	3 times	00000011
Tone detection time (PB)	000E004D	7-4	PB OFF time integration (x10 ms) 0000 to 1111 (Translated to 50 ms when the value is "0000")	50 ms	01010101
		3-0	PB ON time integration (x10 ms) 0000 to 1111 (Translated to 50 ms when the value is "0000")	50 ms	
Time for modem response waiting timeout	000E004E	7-0	Waiting event from modem/Response waiting timeout time (x10 sec.) (00000000 counted as 90 sec.)	90 sec.	00000000
Continuous CRP reception frequency resulting in an error	000E004F	7-0	Sequential CRP reception frequency resulting in error (unit: No. of time) (00000000 counted as 3 times)	3 times	00000000
1300 Hz line seizure parameter detection time	000E0050	7-0	1300 Hz tone detection time for no ringing reception (x100 ms)	2300 ms	00010111
1300 Hz tone detection frequency pattern	000E0051	7-1	-	-	00000000
		0	1300 Hz tone detection frequency pattern 00: 1300 Hz ±30 Hz 01: 1300 Hz ±10 Hz	1300 Hz ±30 Hz	
German specifications	000E0052	7	Custom Mode (clears the FP overwrite of the error line relationship for EU destinations)	×	00000000 (JP/US) 00001111 (EU)
		6-4	-	-	
		3	ERR transmission (DTS sequence)	× (JP/US) ○ (EU)	
		2	DCN reception error ignored	× (JP/US) ○ (EU)	
		1	Line disconnected within 6 sec. after CD OFF in ph.C	× (JP/US) ○ (EU)	
		0	Line disconnected upon reception of DIS to DTC	× (JP/US) ○ (EU)	
Retransmission intervals of DIS (Auto reception)	000E0053	7-0	DIS re-transmission interval in automatic reception (x0.1 sec.)	3 sec.	00011110
TTI for transmission	000E0054	7-2	-	-	00000011
		1-0	TTI in transmission TTI added 00: OFF 01: (OFF) 10: INSIDE 11: OUTSIDE	OUTSIDE	
Image reduction parameter	000E0055	7-1	-	-	00000000
		0	Reduction parameter in main scanning direction 0: Thick line kept 1: Thick line not kept	Thick line kept	

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
Main body polling transmission command wait timer	000E0056	7-0	Timer for waiting a transmission command (+FDT) from the main body during turnaround of polling transmission (unit: sec.) (Translated to 8 sec. when the value is "00000000")	8 sec.	00001000
Guaranteed time to switch post message command receive modes	000E0057	7-0	Guaranteed time to switch post message command receive modes (unit: 1-ms increments) (Translated to 50 ms when the value is "00000000")	50 ms	00000000
V.8 time out (transmission)	000E0059	7-0	V.8 sequence timeout time (transmission)	0	00000000
V.8 time out (reception)	000E005A	7-0	V.8 sequence timeout time (reception)	0	00000000
Delay timer between TCF and CFR	000E005B	7-0	Delay timer between TCF and CFR (unit: 10 ms)	0	00000000
TCF instantaneous interruption allowable time	000E005C	7-0	TCF instantaneous interruption allowable time (Disconnection confirmation time) (unit: 10 ms)	0	00000000
V.21 time at high/low speed judgment	000E005D	7-0	V.21 time judged at high/low speed judgment (unit: 10 ms) (Translated to 500 ms when the value is “00000000”)	500 ms	00000000
V.21 CD OFF time at high/low speed judgment	000E005E	7-0	CD OFF time after V.21 judgment at high/low speed judgment (unit: 10 ms) (Translated to 2000 ms when the value is “00000000”)	2000 ms	00000000
Image data signal CD OFF judgment time	000E005F	7-0	Image data signal CD OFF judgment time (unit: 10 ms) (Translated to 2000 ms when the value is “00000000”)	2000 ms	00000000
V.21 send time after V.21 RX	000E0060	7-0	V.21 send time after V.21 reception (unit: 1 ms) (Translated to 75 ms when the value is “00000000”)	75 ms	00000000
1stDialTone detection method during PBX calls	000E0061	7	Continuous tone judgment 0: Yes 1: No	Yes	00000000
		6-4	-	-	
		3-0	Instantaneous break detection time (unit: 20 ms) (Translated to 80 ms when the value is “0000”)	80 ms	

16.11.3 Report setting

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
TTI/RTI setting	00120000	7	-	-	00000011
		6	SW for prohibiting the printing of the TTI address 0: Printing of the address allowed 1: Printing of the address not allowed	Printing of the address allowed	
		5-4	RTI addition 00: OFF 01: (OFF) 10: INSIDE 11: OUTSIDE	OFF	
		3	TTI denominator display 0: Total 1: Individual	Total	
		2	Inhibition of TTI setting menu INSIDE display 0: No 1: Yes	No	
		1-0	-	-	
Report setting 1	00120001	7	-	-	01101100
		6	Addition of image 0: No 1: Yes	Yes	
		5	Automatic output of reserved report 0: No 1: Yes	Yes	
		4-3	TX result report 00: Not output 01: Output only at errors 10: Always output 11: (Normal output)	Output only at errors	
		2	Automatic output of sequential communication report 0: No 1: Yes	Yes	
		1-0	-	-	

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
Report setting 2	00120002	7	The FAX CSRC communication log is printed on the Activity Report 0: No 1: Yes	No	00000100
		6-4	-	-	
		3	Automatic daily output of journal 0: No 1: Yes	No	
		2	Automatic output of journal 100 communication 0: No 1: Yes	Yes	
		1	Automatic output or error trace list 0: No 1: Yes	No	
		0	Automatic output of trace list 0: No 1: Yes	No	
Output time of daily automatic output of journal	00120003	7-0	Designation of 24 hours ASCII four digit Output time [0]: hour (grade of 10) Output time [1]: hour (grade of 1) Output time [2]: Minute (grade of 10) Output time [3]: Minute (grade of 1) Default: “09:00”	0x30 (0)	00110000
	00120004			0x39 (9)	00111001
	00120005			0x30 (0)	00110000
	00120006			0x30 (0)	00110000
Output settings	00120007	7	Setting of daily difference for daily mode set for automatic output 0: Daily difference not limited 1: Daily difference limited	Daily difference not limited	00000000
		6	-	-	
		5	Transmission result report selection screen 0: Not displayed 1: Displayed	Not displayed	
		4	Broadcast result report output method 0: All destinations 1: Each destination	All destinations	
		3	-	-	
		2	Output order of journal transmission result reservation report 0: From old one 1: From new one	From old one	
		1-0	-	-	
Invisible mode	00120008	7-3	-	-	00000000
		2	Display of PC-FAX TX [PC] in Note of report 0: No 1: Yes	No	
		1	-	-	
		0	Details of remote station display during program direct registered calls and abbreviated dialing 0: Display of registered name 1: Display of number	Display of registered name	
Report settings	0012000A	7	Stop during automatic output of report	○	10100011
		6-4	Tray selection during reports output (HP at manual output) 000: Manual bypass tray 001: Tray 1 (upper) 010: Tray 2 (lower) 011: Tray 3 (DB upper) 100: Tray 4 (DB middle) 101: Tray 5 (DB lower) Others: Tray 2 (lower)	Tray 2 (lower)	
		3	Face-up output	×	
		2	-	-	
		1-0	Output tray HP 00: Tray 1 01: Tray 2 10: Tray 3 11: Tray 4	Tray 4	

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
F code report setting	0012000B	7-4	-	-	00001111
		3	Relay request report output 0: No 1: Yes	Yes	
		2	Relay TX result report output 0: No 1: Yes	Yes	
		1	Bulletin polling transmission report output 0: No 1: Yes	Yes	
		0	Confidential reception report output 0: No 1: Yes	Yes	
Internet Fax report setting	0012000C	7	-	-	01100001
		6	Network Fax RX Error Report 0: No 1: Yes	Yes	
		5	Internet Fax Broadcast Result Report 0: No 1: Yes	Yes	
		4	Error E-Mail Message Body printing 0: ON 1: OFF	OFF	
		3	Normal RX E-Mail Message Body printing 0: ON 1: OFF	ON	
		2	TX Error Report printing 0: ON 1: OFF	ON	
		1	MDN Message printing 0: ON 1: OFF	ON	
		0	DSN Message printing 0: ON 1: OFF	OFF	
FAX report setting	0012000D	7-2	-	-	00000000
		1	PC-Fax Error report output 0: No 1: Yes	No	
		0	Relay print 0: No 1: Yes	No	

16.11.4 Panel settings

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
FAX scan HP2	00130001	7-6	Frame erasure HP 01: 5mm 10: 10mm 11: 15mm	5mm	01000001
		5-0	-	-	
FAX scan HP3	00130002	7-3	-	-	00000100
		2-1	Original reading mode 00: Normal 01: Mixed size 10: DF irregular	DF irregular	
		0	Page transfer read mode 0: Scans from the left 1: Scans from the right	Scans from the left	
HP for FAX main screen	00130007	7-4	FAX main screen selection 0000: Program 0001: Group 0010: Address book 0011: Keypad 0100: i-Fax	Program	00001001
		3	Automatic screen switching at the time of reception	OFF	

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
			0: ON 1: OFF		
		2-0	-	-	
Rotation setting HP	00130008	7-2	-	-	00000011
		1	Letter 0: No 1: Yes	Yes	
		0	A4 0: No 1: Yes	Yes	
Error display time	0013000B	7-0	Error display time 00001010: 10 sec. to 11111010: 250 sec. 00000000: Error display HOLD	20 sec.	00010100
Utility mode display setting	00130035	7	Relay display 0: Yes 1: No	Yes	00000000 (JP) 00001011 (US/EU)
		6	-	-	
		5	Incomplete TX hold display 0: Yes 1: No	Yes	
		4	Compulsory memory reception display 0: Yes 1: No	Yes	
		3	Caller No./Name display 0: Yes 1: No	Yes (JP) No (US/EU)	
		2	Closed communication display 0: Yes 1: No	Yes	
		1	Remote reception display 0: Yes 1: No	Yes (JP) No (US/EU)	
		0	DialIn display 0: Yes 1: No	Yes (JP) No (US/EU)	
Utility mode display setting 2	00130036	7-4	-	-	00000101 (JP) 00001111 (US) 00000111 (EU)
		3	OFF display of header position 0: Yes 1: No	Yes (JP/EU) No (US)	
		2	-	-	
		1	Receive reject display 0: Yes 1: No	Yes (JP) No (US/EU)	
		0	-	-	
Destination default screen setting	00130038	7-0	00000000: Group 00000001: FAX 00000010: E-mail 00000011: BOX 00000100: I-Fax 00000101: IP address FAX 00000110: SMB 00000111: FTP 00001000: WebDAV	Group	00000000
Destination input error prevention setting	00130041	7-1	-	-	00000000
		0	Destination input error prevention display setting 0: OFF 1: ON	OFF	
I-Fax E-mail body message default setting	00130043	7-0	00000000: 0 to 00001001: 9 11111111: No default	1	00000001
I-Fax E-mail title default setting	00130044	7-0	00000000: 0 to 00001001: 9 11111111: No default	1	00000001
DialIn additional No. (FAX) [12]	00130045 - 00130050	7-0	ASCII 11 digits + NULL	0x00	00000000
DialIn additional No. (PC-FAX) [12]	00130051 - 0013005C	7-0	ASCII 11 digits + NULL	0x00	00000000

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
DialIn additional No. (telephone) [12]	0013005D - 00130068	7-0	ASCII 11 digits + NULL	0x00	00000000
Upper limit for signal transmission level setting	00130069	7-0	Upper limit for signal transmission level setting (-dBm)	-10 dBm (JP/US) -8 dBm (EU)	00001010 (JP/US) 00001000 (EU)
Lower limit for call termination no. of times setting range	0013006A	7-0	Lower limit for call termination no. of times setting range (unit: No. of times)	0 time	00000000
Upper limit for call termination no. of times setting range	0013006B	7-0	Upper limit for call termination no. of times setting range (unit: No. of times)	15 times	00001111
Dial method setting	0013006C	7-2	-	-	00000000 (JP) 00100010 (US) 00010001 (EU)
		1-0	Dial method setting 00: PB/10pps/20pps 01: PB 10: PB/10pps 11: PB/10pps/16pps	PB/10pps/20pps (JP) PB/10pps (US) PB (EU)	
Upper limit for redial no. of times setting range	0013006D	7-0	Upper limit for redial no. of times setting range (unit: No. of times)	7 times (JP/EU) 1 time (US)	00000111 (JP/EU) 00000001 (US)
Upper limit for redial interval setting range	0013006E	7-0	Upper limit for redial interval setting range (unit: min.)	1 min.	00000001
Lower limit for redial interval setting range	0013006F	7-0	Lower limit for redial interval setting range (unit: min.)	15 min.	00001111
Telephone-related function setting menu display (1)	00130070	7	-	-	01111111 (JP) 00000000 (US/EU)
		6	Remote reception 0: OFF 1: ON	ON (JP) OFF (US/EU)	
		5	Dial In 0: OFF 1: ON	ON (JP) OFF (US/EU)	
		4	Number display 0: OFF 1: ON	ON (JP) OFF (US/EU)	
		3	Pesudo RBT form 0: OFF 1: ON	ON (JP) OFF (US/EU)	
		2	Pesudo RBT transmission level 0: OFF 1: ON	ON (JP) OFF (US/EU)	
		1	Connection to answering machine 0: OFF 1: ON	ON (JP) OFF (US/EU)	
		0	TEL/FAX switching 0: OFF 1: ON	ON (JP) OFF (US/EU)	
Number display related function setting	00130071	7-2	-	-	00000000
		1-0	Name displayed type of display at fax reception 00: No display 01: Display of number 10: Display of name	No display	
Setting of lower limit for DTMF transmission level setting range	00130072	7-0	Setting of lower limit for DTMF transmission level setting range (-dBm)	-14 dBm (JP) -15 dBm (US) -9 dBm (EU)	00001110 (JP) 00001111 (US) 00001001 (EU)
Setting of upper limit for DTMF transmission level setting range	00130073	7-0	Setting of upper limit for DTMF transmission level setting range (-dBm)	-10 dBm (JP/US) -5 dBm (EU)	00001010 (JP/US) 00000101 (EU)
Setting of lower limit for DTMF H-L level difference setting range	00130074	7-0	Setting of lower limit for DTMF H-L level difference setting range (dB)	1 dB	00000001
Setting of upper limit for DTMF H-L level difference setting range	00130075	7-0	Setting of upper limit for DTMF H-L level difference setting range (dB)	4 dB	00000100

Items	Address	Data		Default	
		Bit	Contents	Setting	Data
For transmission	00130076	7-3	-	-	00000000
		2	Restrict plural fax destination 0: OFF 1: ON	OFF	
		1	Destination check display function 0: OFF 1: ON	OFF	
		0	Screen display during transmission 0: OFF 1: ON	OFF	
Lower limit setting of the signal send-out level setting range	00130077	7-0	Lower limit setting of the signal send-out level setting range (-dBm)	-15 dBm	00001111
Character-to-search default for FAX main screen	00130078	7-0	00000000 00000000 00000000 00000001: [Favorite] 00000000 00000000 00000100 00000000: [ABC] 00000000 00000000 00001000 00000000: [DEF] 00000000 00000000 00010000 00000000: [GHI] 00000000 00000000 00100000 00000000: [JKL] 00000000 00000000 01000000 00000000: [MNO] 00000000 00000000 10000000 00000000: [PQRS] 00000000 00000001 00000000 00000000: [TUV] 00000000 00000010 00000000 00000000: [WXYZ] 00000000 00000100 00000000 00000000: [etc]	[Favorite]	00000001
	00130079				00000000
	0013007A				00000000
	0013007B				00000000
Initial program display page	0013007D	7-0	00000001: 1 page to 00011011: 27 pages 00000000: Temporary distribution	1 page	00000001
Destination type display setting	00130080	7-0	0: Do not display 1: Display	Do not display	00000000
	00130081				00000000
	00130082				00000000
	00130083				00000001
No. of destination display characters setting	00130084	7-0	00001110: 14 characters 00011000: 24 characters	14 characters	00001110
Lower limit of receive time interval setting	00980000	7-0	Lower limit of receive time interval setting (unit: sec.)	0 sec.	00000000
Upper limit of receive time interval setting	00980001	7-0	Upper limit of receive time interval setting (unit: sec.)	45 sec.	00101101

16.12 Function parameter list (for separate line)

16.12.1 Function setting 1

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
Transmission ATT	000E0090	000E01A0	000E02B0	000E03C0	7-4	Tone signal/FSK transmission ATT (-dBm) 0000: 0 dBm to 1111: -15 dBm	-10 dBm	10101010
					3-0	High-speed signal transmission ATT (-dBm) 0000: 0 dBm to 1111: -15 dBm	-10 dBm	
CED transmission ATT	000E0091	000E01A1	000E02B1	000E03C1	7-4	-	-	00001010
					3-0	CED/ANS transmission ATT (-dBm) 0000: 0 dBm to 1111: -15 dBm	-10 dBm	
CD/SED ON level	000E0092	000E01A2	000E02B2	000E03C2	7-2	-	-	00000011
					1-0	CD/SED ON level 00: -33 dBm 01: -38 dBm 10: -43 dBm 11: -48 dBm	-48 dBm	
Cable equalizer	000E0093	000E01A3	000E02B3	000E03C3	7-6	-	-	00000000
					5-4	Cable EQL transmission selection 00: OFF 01: Send only 10: Receive only 11: Send and receive	OFF	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
					3-2	-	-	
					1-0	Cable EQL parameter selection 00: 1.8 km 01: 3.6 km 10: 7.2 km 11: NTT4	1.8 km	
V34 point number	000E0094	000E01A4	000E02B4	000E03C4	7-2	-	-	00000000
					1-0	V34 Point 00: Auto 01: 16-point 10: 4-point	Auto	
TEL/FAX switching (For Line 1 and Japan model only)	000E0095	000E01A5	000E02B5	000E03C5	7	Time from vocal response to RBT transmission (CNG detection waiting time 2) 0: 4 sec. 1: 2 sec.	4 sec.	00000000
					6	Time from reception to voice response transmission (CNG detection waiting time 1) 0: 2 sec. 1: 4 sec.	2 sec.	
					5	TEL/FAX switching mode 0: Disabled 1: Enabled	Disabled	
					4	External telephone no ringing setting 0: Disabled 1: Enabled (disconnected)	Disabled	
					3	TEL/FAX switching ON response details 0: Voice response + RBT transmission 1: RBT transmission only	Voice response + RBT transmission	
					2-0	-	-	
Ring Back Tone parameter (For Line 1 and Japan model only)	000E0096	000E01A6	000E02B6	000E03C6	7-5	RBT form 000: None 001: JP 010: US 011: GB 100: GE 101 to 111: Others	JP (JP) US (US) GB (EU)	00101010 (JP) 01001010 (US) 01101000 (EU)
					4	CED transmitted upon TEL/FAX switching	×	
					3-0	RBT transmission level (-dBm) 0000: 0 dBm to 1111: -15 dBm	-10 dBm (JP/US) -8 dBm (EU)	
International com mode operation	000E0097	000E01A7	000E02B7	000E03C7	7	DIS waiting frequency 0: Always once 1: Twice in overseas communication	Always once	01000000
					6	Overseas communication 0: No 1: Yes	Yes	
					5-0	-	-	
Starting speed in international com mode (V29 modem)	000E0098	000E01A8	000E02B8	000E03C8	7-5	-	-	00000010
					4	9600 bps/V.29	×	
					3	7200 bps/V.29	×	
					2	-	-	
					1	4800 bps/V.27 ter	○	
					0	2400 bps/V.27 ter	×	
Starting speed in international com mode (V17 or V33 modem)	000E0099	000E01A9	000E02B9	000E03C9	7	14400 bps/V.17	×	00010000
					6	12000 bps/V.17	×	
					5	9600 bps/V.17	×	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
					4	7200 bps/V.17	○	
					3-0	-	-	
Starting speed in international com mode (V34)	000E009A	000E01AA	000E02BA	000E03CA	7	33600 bps/V.34	×	00100000
					6	31200 bps/V.34	×	
					5	28800 bps/V.34	○	
					4	26400 bps/V.34	×	
					3	24000 bps/V.34	×	
					2	21600 bps/V.34	×	
					1	19200 bps/V.34	×	
					0	16800 bps/V.34	×	
CD OFF timer	000E009B	000E01AB	000E02BB	000E03CB	7-0	CD OFF timer (unit: 100 ms)	2000 ms	00010100
CD ON integration time	000E009C	000E01AC	000E02BC	000E03CC	7-0	CD ON integration time (unit: 100 ms)	600 ms	00000110
Max. allowable symbol speed	000E009D	000E01AD	000E02BD	000E03CD	7	V34 control ch data rate 0: 1200 1: 2400	1200	00000101
					6-4	-	-	
					3-0	Max. allowable symbol speed 0000:2400 0001: Reserved 0010: 2800 0011: 3000 0100: 3200 0101: 3429	3429	
V34 primary channel fallback	000E009E	000E01AE	000E02BE	000E03CE	7-0	No. of frame errors subjected to fallback	3	00000011
V34 off Rx-V34 off time after error	000E00A0	000E01B0	000E02C0	000E03D0	7-0	Timer value after V.34 reception error used to reset V34 off reception (unit: min.) (Valid only when transmission side cannot be specified)	10 min.	00001010
V34 off Rx-V17 OK Rx times to reset V34 off Rx	000E00A1	000E01B1	000E02C1	000E03D1	7-0	No. of continuous success of V17 receptions used to reset V34 off reception after V.34 reception error (unit: No. of times) (Valid only when transmission side can be specified with Caller ID)	10 times	00001010
(Inhibit of) V34 off Rx-Function ON/ OFF	000E00A2	000E01B2	000E02C2	000E03D2	7	V.34 off function for manual reception (Line 1 only) 0: Enable 1: Disable	Enable	00000000 (JP) 00000010 (US/EU)
					6-2	-	-	
					1	V.34 OFF reset mode = No. of successful consecutive V.17 reception times (ID specified) 0: Enabled 1: Disabled	Enabled (JP) Disabled (US/EU)	
					0	V.34 OFF reset mode = time (ID cannot be specified) 0: Enabled 1: Disabled	Enabled	
JBIG parameter	000E00A3	000E01B3	000E02C3	000E03D3	7-2	-	-	00000001
					1	Use of following FP JBIG option LO size at reduction 0: No 1: Yes	No	
					0	JBIG optional LO capacity 0: No 1: Yes	Yes	
JBIG LO size	000E00A4	000E01B4	000E02C4	000E03D4	7-0	JBIG optional LO size used for reduction	0	00000000
	000E00A5	000E01B5	000E02C5	000E03D5			0	00000000

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
	000E00A6	000E01B6	000E02C6	000E03D6		00000001: 1 to 11111111: 255 [0] = HH, [1] = HL, [2] = LH, [3] = LL	0	00000000
	000E00A7	000E01B7	000E02C7	000E03D7			128	10000000
(Inhibit of) JBIG off Rx-Function ON/ OFF	000E00A8	000E01B8	000E02C8	000E03D8	7-2	-	-	00000000
					1	JBIG off function at A3 high-definition reception (DIS retransmission) 0: OFF 1: ON	OFF	
					0	JBIG off function after JBIG reception error 0: Enable 1: Disable	Enable	
JBIG off Rx-JBIG off time after error	000E00A9	000E01B9	000E02C9	000E03D9	7-0	Timer value after JBIG reception error to reset JBIG off reception (unit: min.) (10 min. if 00000000)	10 min.	00001010

16.12.2 Function setting 2

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
PBX dial tone detection frequency pattern	000E00AA	000E01BA	000E02CA	000E03DA	7	-	-	00001000 (JP) 01010100 (US) 00010011 (EU)
					6	Tone type 0: Single 1: Dual	Single (JP/EU) Dual (US)	
					5	-	-	
					4-0	PBX dial tone detection frequency pattern reference (*1)	400 ±100 Hz (JP) 350 ±25 Hz (Dual) (US) 465 ±205 Hz (EU)	
PBX dial tone detection time	000E00AB	000E01BB	000E02CB	000E03DB	7-0	PBX dial tone detection time or max. ON time value (unit: 20 ms)	1000 ms (JP/US) 520 ms (EU)	00110010 (JP/US) 00011010 (EU)
PBX dial tone ON time min. value	000E00AC	000E01BC	000E02CC	000E03DC	7-0	PBX dial tone ON time min. value (unit: 20 ms)	100 ms	00000101
PBX dial tone OFF time max. value	000E00AD	000E01BD	000E02CD	000E03DD	7-0	PBX dial tone OFF time max. value (unit: 20 ms)	400 ms	00010100
PBX dial tone OFF time min. value	000E00AE	000E01BE	000E02CE	000E03DE	7-0	PBX dial tone OFF time min. value (unit: 20 ms)	100 ms	00000101
PBX dial tone waiting time	000E00AF	000E01BF	000E02CF	000E03DF	7-0	PBX dial tone waiting time or pre-pause time (unit: sec.)	3 sec.	00000011
PBX dial tone instantaneous break detection time	000E00B0	000E01C0	000E02D0	000E03E0	7-0	Instantaneous shutdown detection time (unit: 20 ms) or tone detection no. of times (unit: No. of times)	60 ms	00000011
1st dial tone detection frequency pattern	000E00B1	000E01C1	000E02D1	000E03E1	7	-	-	00001000 (JP) 01010100 (US) 00010011 (EU)
					6	Tone type 0: Single 1: Dual	Single (JP/EU) Dual (US)	
					5	-	-	
					4-0	PBX dial tone detection frequency pattern reference (*1)	400 ±100 Hz (JP) 350 ±25 Hz (Dual) (US) 465 ±205 Hz (EU)	
1st dial tone detection time	000E00B2	000E01C2	000E02D2	000E03E2	7-0	1st dial tone detection time or ON time max. value (unit: 20 ms)	1000 ms (JP/US) 520 ms (EU)	00110010 (JP/US) 00011010 (EU)
1st dial tone ON time min. value	000E00B3	000E01C3	000E02D3	000E03E3	7-0	1st dial tone ON time min. value (unit: 20 ms)	0 ms	00000000
1st dial tone OFF time max. value	000E00B4	000E01C4	000E02D4	000E03E4	7-0	1st dial tone OFF time max. value (unit: 20 ms)	0 ms	00000000
1st dial tone OFF time min. value	000E00B5	000E01C5	000E02D5	000E03E5	7-0	1st dial tone ON time min. value (unit: 20 ms)	0 ms	00000000

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
1st dial tone waiting time	000E00B6	000E01C6	000E02D6	000E03E6	7-0	1st dial tone waiting time or pre-pause time (unit: 1 sec.)	3 sec. (JP/US) 4 sec. (EU)	00000011 (JP/US) 00000100 (EU)
1st dial tone instantaneous break detection time	000E00B7	000E01C7	000E02D7	000E03E7	7-0	Instantaneous shutdown detection time (unit: 20 ms) or tone detection no. of times (unit: No. of times)	0 ms (JP/US) 100 ms (EU)	00000000 (JP/US) 00000101 (EU)
2nd dial tone detection pattern	000E00B8	000E01C8	000E02D8	000E03E8	7	-	-	00001000 (JP) 01010100 (US) 00010011 (EU)
					6	Tone type 0: Single 1: Dual	Single (JP/EU) Dual (US)	
					5	-	-	
					4-0	PBX dial tone detection frequency pattern reference (*1)	400 ±100 Hz (JP) 350 ±25 Hz (Dual) (US) 465 ±205 Hz (EU)	
2nd dial tone detection time	000E00B9	000E01C9	000E02D9	000E03E9	7-0	2nd dial tone detection time or ON time max. value (unit: 20 ms)	160 ms (JP) 1000 ms (US) 520 ms (EU)	00001000 (JP) 00110010 (US) 00011010 (EU)
2nd dial tone ON time min. value	000E00BA	000E01CA	000E02DA	000E03EA	7-0	2nd dial tone ON time min. value (unit: 20 ms)	40 ms (JP) 0 ms (US/EU)	00000010 (JP) 00000000 (US/EU)
2nd dial tone OFF time max. value	000E00BB	000E01CB	000E02DB	000E03EB	7-0	2nd dial tone OFF time max. value (unit: 20 ms)	200 ms (JP) 0 ms (US/EU)	00001010 (JP) 00000000 (US/EU)
2nd dial tone OFF time min. value	000E00BC	000E01CC	000E02DC	000E03EC	7-0	2nd dial tone OFF time min. value (unit: 20 ms)	80 ms (JP) 0 ms (US/EU)	00000100 (JP) 00000000 (US/EU)
2nd dial tone waiting time	000E00BD	000E01CD	000E02DD	000E03ED	7-0	2nd dial tone waiting time or pre-pause time (unit: 1 sec.)	3 sec.	00000011
2nd dial tone instantaneous break detection time	000E00BE	000E01CE	000E02DE	000E03EE	7-0	Instantaneous shutdown detection time (unit: 20 ms) or tone detection no. of times (unit: No. of times)	60 ms (JP) 0 ms (US/EU)	00000011 (JP) 00000000 (US/EU)
3rd dial tone detection pattern	000E00BF	000E01CF	000E02DF	000E03EF	7	-	-	00001000 (JP) 01010100 (US) 00010011 (EU)
					6	Tone type 0: Single 1: Dual	Single (JP/EU) Dual (US)	
					5	-	-	
					4-0	PBX dial tone detection frequency pattern reference (*1)	400 ±100 Hz (JP) 350 ±25 Hz (Dual) (US) 465 ±205 Hz (EU)	
Busy dial tone detection pattern	000E00C0	000E01D0	000E02E0	000E03F0	7	-	400 ±100 Hz (JP) 620 ±25 Hz (Dual) (US) 425 ±100Hz (EU)	00001000 (JP) 01010101 (US) 00001001 (EU)
					6	Tone type 0: Single 1: Dual		
					5	-		
					4-0	PBX dial tone detection frequency pattern reference (*1)		
Busy tone ON time max. value	000E00C1	000E01D1	000E02E1	000E03F1	7-0	Busy tone ON time max. value (unit: 20 ms)	600 ms (JP/US) 540 ms (EU)	0x1e (JP/US) 0x1b (EU)
Busy tone ON time min. value	000E00C2	000E01D2	000E02E2	000E03F2	7-0	Busy tone ON time min. value (unit: 20 ms)	400 ms (JP/US) 100 ms (EU)	0x14 (JP/US) 0x05 (EU)
Busy tone OFF time max. value	000E00C3	000E01D3	000E02E3	000E03F3	7-0	Busy tone OFF time max. value (unit: 20 ms)	600 ms (JP/US) 620 ms (EU)	0x1e (JP/US) 0x1f (EU)

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
Busy tone OFF time min. value	000E00C4	000E01D4	000E02E4	000E03F4	7-0	Busy tone OFF time min. value (unit: 20 ms)	400 ms (JP/US) 180 ms (EU)	0x14 (JP/US) 0x09 (EU)

*1: PBX dial tone detection frequency pattern

Data					Contents
Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	
0	0	0	0	1	155±65Hz
0	0	0	1	0	1155±25Hz
0	0	0	1	1	375±75Hz
0	0	1	0	0	400±75Hz
0	0	1	0	1	425±75Hz
0	0	1	1	0	440±75Hz
0	0	1	1	1	375±100Hz
0	1	0	0	0	400±100Hz
0	1	0	0	1	425±100Hz
0	1	0	1	0	440±100Hz
0	1	0	1	1	375±125Hz
0	1	1	0	0	400±125Hz
0	1	1	0	1	425±125Hz
0	1	1	1	0	440±125Hz
0	1	1	1	1	375±150Hz
1	0	0	0	0	400±150Hz
1	0	0	0	1	425±150Hz
1	0	0	1	0	440±150Hz
1	0	0	1	1	465±205Hz
1	0	1	0	0	350±25Hz (Dual)
1	0	1	0	1	620±25Hz (Dual)
1	0	1	1	0	400±75Hz (Dual)
1	0	1	1	1	550±100Hz (Dual)

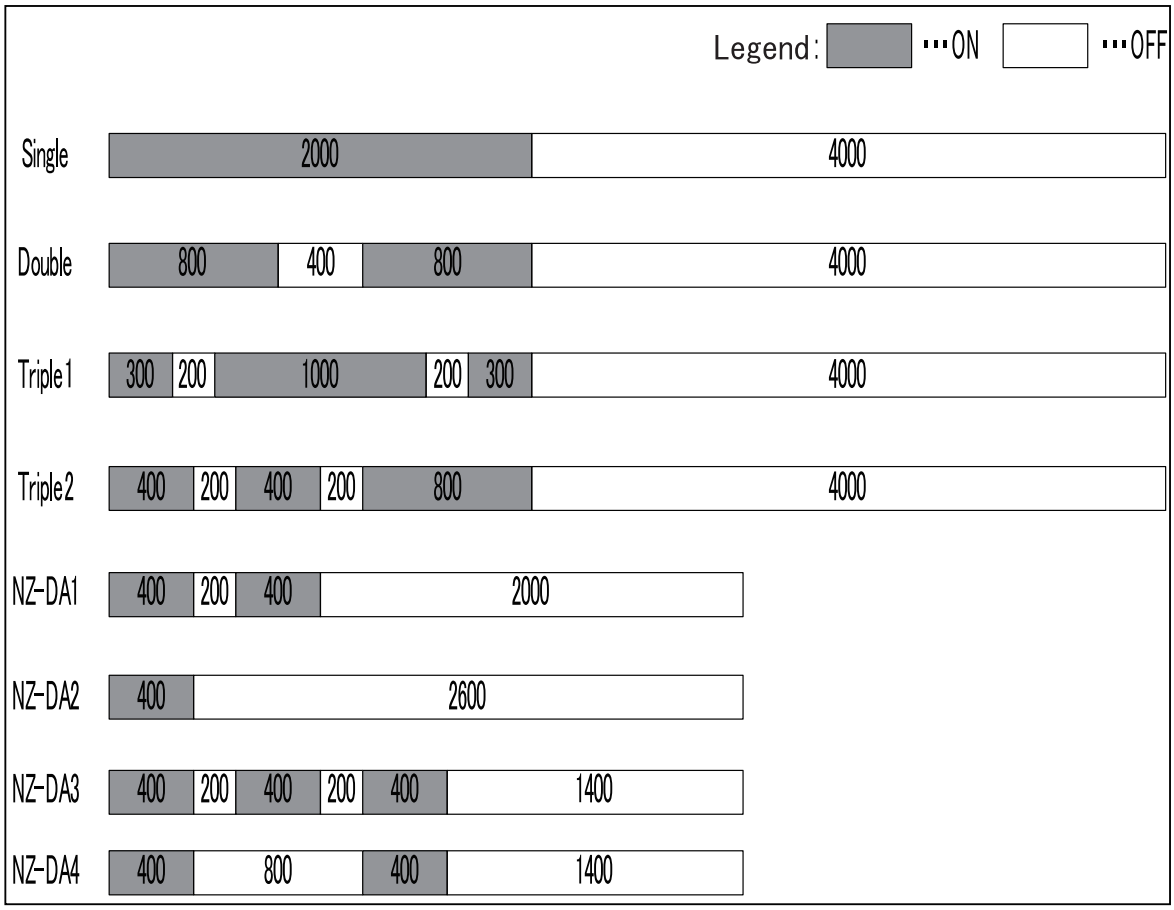
16.12.3 Function setting 3

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
Ringer detection pattern	000E00C5	000E01D5	000E02E5	000E03F5	7	Custom mode 0: OFF (in accordance with bits 3-0) 1: ON (in accordance with bits 5-4)	OFF (in accordance with bits 3-0)	00000000
					6	-	-	
					5-4	Custom mode ringer detection pattern 00: Single 01: Double 10: Triple * The standard time is configured with DRPD_Custom[]. Configure commonly with DRPD_1st[] through 3rd[] to adjust the detection time.	Single	
					3-0	Ringer detection pattern 0000: Nomal 0001: DRPD_Single 0010: DRPD_Double 0011: DRPD_Triple1 0100: DRPD_Triple2 0101: DRPD_NZDA1 0110: DRPD_NZDA2 0111: DRPD_NZDA3 1000: DRPD_NZDA4 1001: DRPD_Duet	Nomal	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
						* Normal conforms to Ringer[2] through [5] as usual. * For DRPD, configure the margin time (min, max) from the standard time (*1).		
Ringer detection frequency upper limits	000E00C6	000E01D6	000E02E6	000E03F6	7-0	Ringer detection frequency upper limit (unit: 1 Hz)	70 Hz	01000110
Ringer detection frequency lower limits	000E00C7	000E01D7	000E02E7	000E03F7	7-0	Ringer detection frequency lower limits (unit: 1 Hz)	12 Hz	00001100
Ringer ON time max. value	000E00C8	000E01D8	000E02E8	000E03F8	7-0	Ringer ON time max. value (unit: 20 ms)	0 ms	00000000
Ringer ON time min. value	000E00C9	000E01D9	000E02E9	000E03F9	7-0	Ringer ON time min. value (unit: 20 ms)	200 ms (JP/US) 160 ms (EU)	00001010 (JP/US) 00001000 (EU)
Ringer OFF time max. value	000E00CA	000E01DA	000E02EA	000E03FA	7-0	Ringer OFF time max. value (unit: 100 ms)	6000 ms (JP/US) 7000 ms (EU)	00111100 (JP/US) 01000110 (EU)
Ringer OFF time min. value	000E00CB	000E01DB	000E02EB	000E03FB	7-0	Ringer OFF time min. value (unit: 100 ms)	200 ms (JP) 0 ms (US/EU)	00000010 (JP) 00000000 (US/EU)
DRPD ringer ON time max. value	000E00CC	000E01DC	000E02EC	000E03FC	7-0	DRPD ringer ON time max. value (unit: 20 ms)	180 ms	00001001
DRPD ringer ON time min. value	000E00CD	000E01DD	000E02ED	000E03FD	7-0	DRPD ringer ON time min. value (unit: 20 ms)	180 ms	00001001
DRPD ringer OFF time max. value	000E00CE	000E01DE	000E02EE	000E03FE	7-0	DRPD ringer OFF time max. value (unit: 20 ms)	180 ms	00001001
DRPD ringer OFF time min. value	000E00CF	000E01DF	000E02EF	000E03FF	7-0	DRPD ringer OFF time min. value (unit: 20 ms)	180 ms	00001001
DRPD max. adjustment value for max. OFF time	000E00D0	000E01E0	000E02F0	000E0400	7-0	DRPD max. adjustment value for max. OFF time (unit: 100 ms)	500 ms	00000101
DRPD min. adjustment value for max. OFF time	000E00D1	000E01E1	000E02F1	000E0401	7-0	DRPD ringer min. adjustment value for max. OFF time (unit: 100 ms)	500 ms	00000101
DRPD single ring stop detection time	000E00D2	000E01E2	000E02F2	000E0402	7-0	DRPD single ring stop detection time (unit: 100 ms)	8000 ms	01010000
DRPD double ring stop detection time	000E00D3	000E01E3	000E02F3	000E0403	7-0	DRPD double ring stop detection time (unit: 100 ms)	8000 ms	01010000
DRPD Triple1 ring stop detection time	000E00D4	000E01E4	000E02F4	000E0404	7-0	DRPD Triple1 ring stop detection time (unit: 100 ms)	8000 ms	01010000
DRPD Triple2 ring stop detection time	000E00D5	000E01E5	000E02F5	000E0405	7-0	DRPD Triple2 ring stop detection time (unit: 100 ms)	8000 ms	01010000
DRPD NZ-DA1 ring stop detection time	000E00D6	000E01E6	000E02F6	000E0406	7-0	DRPD NZ-DA1 ring stop detection time (unit: 100 ms)	6000 ms	00111100
DRPD NZ-DA2 ring stop detection time	000E00D7	000E01E7	000E02F7	000E0407	7-0	DRPD NZ-DA2 ring stop detection time (unit: 100 ms)	6000 ms	00111100
DRPD NZ-DA3 ring stop detection time	000E00D8	000E01E8	000E02F8	000E0408	7-0	DRPD NZ-DA3 ring stop detection time (unit: 100 ms)	5000 ms	00110010
DRPD NZ-DA4 ring stop detection time	000E00D9	000E01E9	000E02F9	000E0409	7-0	DRPD NZ-DA4 ring stop detection time (unit: 100 ms)	5000 ms	00110010
Custom 1st ringer ON time specified value	000E00DA	000E01EA	000E02FA	000E040A	7-0	Custom 1st ringer ON time specified value (unit: 100 ms)	0 ms	00000000
Custom 1st ringer OFF time specified value	000E00DB	000E01EB	000E02FB	000E040B	7-0	Custom 1st ringer OFF time specified value (unit: 100 ms)	0 ms	00000000
Custom 2nd ringer ON time specified value	000E00DC	000E01EC	000E02FC	000E040C	7-0	Custom 2nd ringer ON time specified value (unit: 100 ms)	0 ms	00000000

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
Custom 2nd ringer OFF time specified value	000E00DD	000E01ED	000E02FD	000E040D	7-0	Custom 2nd ringer OFF time specified value (unit: 100 ms)	0 ms	00000000
Custom 3rd ringer ON time specified value	000E00DE	000E01EE	000E02FE	000E040E	7-0	Custom 3rd ringer ON time specified value (unit: 100 ms)	0 ms	00000000
Custom 3rd ringer OFF time specified value	000E00DF	000E01EF	000E02FF	000E040F	7-0	Custom 3rd ringer OFF time specified value (unit: 100 ms)	0 ms	00000000
Custom ring OFF detection time	000E00E0	000E01F0	000E0300	000E0410	7-0	Custom ring OFF detection time (unit: 100 ms)	0 ms	00000000

- *1: DRPD standard time



16.12.4 Function setting 4

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
PB dial signal transmission time	000E00E1	000E01F1	000E0301	000E0411	7-0	PB dial signal transmission time (unit: 5 ms)	105 ms (JP/EU) 125 ms (US)	00010101 (JP/EU) 00011001 (US)
PB dial inter-digit pause	000E00E2	000E01F2	000E0302	000E0412	7-0	PB dial inter digit pause time (unit: 5 ms)	85 ms (JP/EU) 105 ms (US)	00010001 (JP/EU) 00010101 (US)
10 pps pulse dial make time	000E00E3	000E01F3	000E0303	000E0413	7-0	10 pps pulse dial make time	15 (JP) 18 (US/EU)	00001111 (JP) 00010010 (US/EU)
10 pps pulse dial break time	000E00E4	000E01F4	000E0304	000E0414	7-0	10 pps pulse dial break time	31 (JP) 28 (US/EU)	00011111 (JP) 00011100 (US/EU)
10 pps pulse dial inter-digit pause	000E00E5	000E01F5	000E0305	000E0415	7-0	10 pps pulse dial inter digit pause (unit: 10 ms)	1040 ms (JP/US) 940 ms (EU)	01101000 (JP/US)

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
								01011110 (EU)
20 pps pulse dial make time	000E00E6	000E01F6	000E0306	000E0416	7-0	20 pps pulse dial make time	7 (JP) 9 (US/EU)	00000111 (JP) 00001001 (US/EU)
20 pps pulse dial break time	000E00E7	000E01F7	000E0307	000E0417	7-0	20 pps pulse dial break time	16 (JP) 14 (US/EU)	00010000 (JP) 00001110 (US/EU)
20 pps pulse dial inter-digit pause	000E00E8	000E01F8	000E0308	000E0418	7-0	20 pps pulse dial inter digit pause (unit: 10 ms)	890 ms (JP) 640 ms (US) 920 ms (EU)	01011001 (JP) 01000000 (US) 01011100 (EU)
PB signal transmission level	000E00E9	000E01F9	000E0309	000E0419	7-0	PB signal transmission level (unit: 1 dBm)	10 dBm (JP/US) 6 dBm (EU)	00001010 (JP/US) 00000110 (EU)
PB signal level difference (H-L)	000E00EA	000E01FA	000E030A	000E041A	7-0	PB signal level difference (H-L) (unit: 0.5 dBm)	2 dBm	00000100
DC-LOOP integration time at CML OFF	000E00EB	000E01FB	000E030B	000E041B	7-0	DC-LOOP integration time at CML relay OFF (unit: 5 ms) (Lower limit 20 ms)	400 ms	01010000
DC-LOOP integration time at CML ON	000E00EC	000E01FC	000E030C	000E041C	7-0	DC-LOOP integration time at CML relay ON (unit: 5 ms) (Lower limit 20 ms)	80 ms	00010000
Pause time	000E00ED	000E01FD	000E030D	000E041D	7-3	-	-	00000001
					2-0	Pause time (unit: sec.)	1 sec.	
DC-LOOP check mode	000E00EE	000E01FE	000E030E	000E041E	7	DC-LOOP check 0: No 1: Always	No	00000000
					6-1	-	-	
					0	T81 line disconnection check (T80 if line disconnected) 0: Yes 1: No	Yes	
DC-LOOP waiting time	000E00EF	000E01FF	000E030F	000E041F	7-0	DC-LOOP waiting time (unit: 100 ms)	0 ms	00000000
DC-LOOP instantaneous break allowable time (ph.A)	000E00F0	000E0200	000E0310	000E0420	7-0	DC-LOOP instantaneous break allowable time (unit: 10 ms) (at the time of calling, CML ON to end of dialing)	0 ms	00000000
DC-LOOP instantaneous break allowable time (ph.B)	000E00F1	000E0201	000E0311	000E0421	7-0	DC-LOOP instantaneous break allowable time (unit: 10 ms) (after completion of dialing and after CML ON at the time of reception)	0 ms	00000000
Dial mode RING DET mode	000E00F2	000E0202	000E0312	000E0422	7	Wrong dial determination function 0: Disable 1: Enable	Disable	00010010 (JP) 00010000 (US/EU)
					6	-	-	
					5-4	RING detection mode 01: No. of times 10: Time	No. of times	
					3-2	Pulse format 00: General 01: SW 10: NO	General	
					1-0	Dialing method 00: PB 01: 10 pps 10: 20 pps 11: 16 pps	20 pps (JP) PB (US/EU)	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
1st/2nd DT detection parameter	000E00F3	000E0203	000E0313	000E0423	7-4	-	-	00000000
					3	At 2nd DT detection DP dialing only	×	
					2-1	-	-	
					0	1st DT2 type	×	
Tone detection	000E00F4	000E0204	000E0314	000E0424	7-6	-	-	00010001 (JP/US) 00000001 (EU)
					5	1300 Hz 0: No 1: Yes	No	
					4	Busy Tone 0: No 1: Yes	Yes (JP/US) No (EU)	
					3	PBX DT 0: No 1: Yes	No	
					2	3rd DT 0: No 1: Yes	No	
					1	2nd DT 0: No 1: Yes	No	
					0	1st DT 0: No 1: Yes	Yes	
No. of busy tone detection times	000E00F5	000E0205	000E0315	000E0425	7-0	No. of busy tone detection times	2 times (JP/US) 0 time (EU)	00000010 (JP/US) 00000000 (EU)
No. of RING detection times	000E00F6	000E0206	000E0316	000E0426	7-0	No. of RING detection times (unit: No. of times)	2 times	00000010
RING detection time	000E00F7	000E0207	000E0317	000E0427	7-0	RING detection time (unit: sec.)	6 sec.	00000110
Remote station response waiting time	000E00F8	000E0208	000E0318	000E0428	7-0	Remote station response waiting time at calling (unit: sec.)	55 sec.	00110111
Answering machine function	000E00F9	000E0209	000E0319	000E0429	7-5	Answering machine CNG detection time (unit: 10 sec.) 001: 10 sec. to 111: 70 sec.	30 sec.	01100100
					4	Answer mode 0: OFF 1: ON	OFF	
					3-0	Answering machine DC-LOOP detection time (unit: 5 sec.) 0001: 5 sec. to 1111: 75 sec.	20 sec.	
Remote reception password (Line 1 only available)	000E00FA	000E020A	000E031A	000E042A	7-0	ASCII [2]	0x2a	00101010
	000E00FB	000E020B	000E031B	000E042B			0x20	00100000
RBT transmission time	000E00FC	000E020C	000E031C	000E042C	7-0	RingBackTone signal transmission time (unit: 1000 ms)	20000 ms	00010100
CAR signal ON time max. value	000E00FD	000E020D	000E031D	000E042D	7-0	CAR ON time max. value (unit: 20 ms)	800 ms (JP) 0 ms (US/EU)	00101000 (JP) 00000000 (US/EU)
CAR signal ON time min. value	000E00FE	000E020E	000E031E	000E042E	7-0	CAR ON time min. value (unit: 20 ms)	200 ms (JP) 0 ms (US/EU)	00001010 (JP) 00000000 (US/EU)
CAR signal OFF time max. value	000E00FF	000E020F	000E031F	000E042F	7-0	CAR OFF time max. value (unit: 20 ms)	800 ms (JP) 0 ms (US/EU)	00101000 (JP) 00000000 (US/EU)
CAR signal OFF time min. value	000E0100	000E0210	000E0320	000E0430	7-0	CAR OFF time min. value (unit: 20 ms)	200 ms (JP) 0 ms (US/EU)	00001010 (JP)

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
								00000000 (US/EU)
No. of CAR signal detection times	000E0101	000E0211	000E0321	000E0431	7-0	CAR (information receiving terminal start signal) detection no. of times (unit: No. of times)	1 time (JP) 0 time (US/EU)	00000001 (JP) 00000000 (US/EU)
Caller ID signal waiting time	000E0102	000E0212	000E0322	000E0432	7-0	ID waiting time after Caller ID/ DIAL-IN primary response (unit: 1000 ms)	5000 ms (JP) 0 ms (US/EU)	00000101 (JP) 00000000 (US/EU)
Remote reception password entry waiting time	000E0103	000E0213	000E0323	000E0433	7-0	Password signal (DTMF) detection waiting time (unit: 100 ms)	2000 ms	00010100

16.12.5 Function setting 5

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
Normal/number display automatic line distinction function	000E0104	000E0214	000E0324	000E0434	7	Automatic judgment function 0: OFF 1: ON	ON (JP) OFF (US/EU)	10000011 (JP) 00000000 (US/EU)
					6-4	-	-	
					3-0	V23 signal detection waiting time when judged (unit: sec.)	3 sec. (JP) 0 sec. (US/EU)	
Monitor speaker (Transmission signal sound)	000E0105	000E0215	000E0325	000E0435	7	PB tone monitoring at the time of offhook	×	00000011
					6-5	Monitor speaker in communication 00: OFF 01: Up to DIS 10: Up to DIS + RBT transmissions 11: ON	OFF	
					4-0	Speaker volume 00000: 0 to 01000: 8	3	
Numeric ID [20]	000E0106 - 000E0119	000E0216 - 000E0229	000E0326 - 000E0339	000E0436 - 000E0449	7 -0	ASCII [20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminator)	0x20	00100000
PBX connection mode	000E011A	000E022A	000E033A	000E044A	7-4	-	-	00001111
					3-0	PBX call 0000: Keypad 0 to 1001: Keypad 9 1111: PBX unconnected	PBX unconnected	
Protocol monitor	000E011B	000E022B	000E033B	000E044B	7-6	-	-	00000000
					5	TEL/FAX switching RBT monitor sound 0: OFF 1: ON	OFF	
					4	Inhibit the speaker to sound when off-hook key is pressed 0: Not inhibit 1: Inhibit	Not inhibit	
					3-0	-	-	
Reception function (disable)	000E011C	000E022C	000E033C	000E044C	7	-	-	00111111
					6	Auto transmission not available (Line 1 only) 0: Enable 1: Disable (Manual RX)	Enable	
					5	Name display 0: Not inhibit 1: Inhibit	Inhibit	
					4	Compulsory memory RX 0: Not inhibit 1: Inhibit	Inhibit	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
					3	No. of caller / name display (number display / (display of subscribers for trace-back system)) 0: Not inhibit 1: Inhibit	Inhibit	
					2	Closed area communication 0: Not inhibit 1: Inhibit	Inhibit	
					1	Remote RX 0: Not inhibit 1: Inhibit	Inhibit	
					0	Dialin 0: Not inhibit 1: Inhibit	Inhibit	
PBX outside line access code 1 (BCD)	000E011D	000E022D	000E033D	000E044D	7-4	1st digit	0xFF	11111111
					3-0	2nd digit		
PBX outside line access code 2 (BCD)	000E011E	000E022E	000E033E	000E044E	7-4	3rd digit	0xFF	11111111
					3-0	4th digit		
Limit of long size reception	000E011F	000E022F	000E033F	000E044F	7-1	-	-	00000000
					0	Limit of long size reception 0: Limit 1: Unlimited	Limit	
Max. size of long original received (In the case of 400 dpi or less)	000E0120	000E0230	000E0340	000E0450	7-0	When the resolution for reception is 400 dpi or less, the size of a long original received that is regarded as an error (The maximum length is a decimal value x 10 mm.) (00000000 is regarded as 1000 mm.)	1000 mm	01100100
Max. size of long original received (In the case of 600 dpi)	000E0121	000E0231	000E0341	000E0451	7-0	When the resolution for reception is 600 dpi, the size of a long original received that is regarded as an error (The maximum length is a decimal value x 10 mm.) (00000000 is regarded as 1000 mm.)	1000mm	01100100
Voice response output level adjustment	000E0122	000E0232	000E0342	000E0452	7-4	-	-	01100010
					3-0	Voice response volume 0000: 0 to 1111: 15	2	
Monitor speaker (Received signal sound)	000E0123	000E0233	000E0343	000E0453	7-5	-	-	00000100
					4-0	Speaker volume 00000: 0 to 01000: 8	4	
VoIP mode	000E0127	000E0237	000E0347	000E0457	7	Check remote station disconnection and detail error code 0: No 1: Yes	No	00000000
					6	Disconnect remote station after disconnection check 0: No 1: Yes	No	
					5	V.21 detection priority mode during RX setup for V.17 or lower 0: OFF 1: ON	OFF	
					4	Allowable number of times of the post message reception timeout 0: 1 time 1: 3 times	1 time	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
					3	Single detection for V.17 or lower during V.21 setup 0: OFF 1: ON	OFF	
					2	Ignore DIS for V.17 or lower 0: OFF 1: ON	OFF	
					1-0	-	-	
Over-current protection function with current setting	000E0129	000E0239	000E0349	000E0459	7-0	Current detection threshold (×1 mA)	160 mA	00000000
Over-current protection function with voltage setting	000E012A	000E023A	000E024A	000E045A	7	-	-	00000000
					6-0	Voltage threshold (x1 V)	21 V	
Over-current protection function with resistance setting	000E012B	000E023B	000E034B	000E045B	7	-	-	00000000
					6-0	Voltage threshold (×10 Ω)	190 Ω	
Timer for adjusting Phase B retransmission interval (V.17)	000E012D	000E023D	000E034D	000E045D	7-6	Phase B re-transmission interval at manual receiving (available at polling transmission) 00: 3.0 s 01: 3.5 s 10: 4.0 s 11: 4.5 s	3.0 s	00000000
					5-4	Phase B re-transmission interval at manual sending 00: 3.0 s 01: 3.5 s 10: 4.0 s 11: 4.5 s	3.0 s	
					3-2	Phase B re-transmission interval at automatic receiving (available at polling transmission) 00: 3.0 s 01: 3.5 s 10: 4.0 s 11: 4.5 s	3.0 s	
					1-0	Phase B re-transmission interval at automatic sending 00: 3.0 s 01: 3.5 s 10: 4.0 s 11: 4.5 s	3.0 s	
Timer for adjusting Phase D retransmission interval (V.17)	000E012E	000E023E	000E034E	000E045E	7-4	-	-	00000000
					3-2	Phase D re-transmission interval at manual sending 00: 3.0 s 01: 3.5s 10: 4.0 s 11: 4.5 s	3.0 s	
					1-0	Phase D re-transmission interval at automatic sending 00: 3.0 s 01: 3.5s 10: 4.0 s 11: 4.5 s	3.0 s	
Conexant Modem Function selection	000E012F	000E023F	000E034F	000E045F	7-5	-	-	00000000
					4	ANSam/CED detection method 0: Determined by ATV25 only 1: Determined by ATV25 and TONEA	Determined by ATV25 only	
					3	Fix training data to normal RX value before V.17 reception 0: No 1: Yes	Yes	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
					2	Training data fix operation mode 0: During V.17 RX 1: During V.17/V.27ter/V.29 RX	During V.17 RX	
					1	EQFZ operation 0: Yes 1: No	Yes	
					0	EQFZ operation mode 0: During V.17 RX 1: During V.17/V.27ter/V.29 RX	During V.17 RX	
FED OFF waiting time during V.21 set-up	000E0130	000E0240	000E0350	000E0460	7-0	FED OFF waiting time during V.21 set-up (unit: 5 ms) (Translated to 400 ms when the value is “00000000”)	400 ms	00000000
Operation at V.17 RX error	000E0134	000E0244	000E0354	000E0464	7-2	R06 error detection	×	00000000
					1	V.29 communication at V.17 RX error 0: No 1: Yes	Yes	
					0	Condition for V.29 communication at V.17 RX error 0: For R06 error (equivalent) only 1: For all RX errors	For R06 error (equivalent) only	
V.29 communication time at V.17 RX error	000E0135	000E0245	000E0355	000E0465	7-0	Time limited for V.29 communication from V.17 error occurrence (unit: min.)	0 min.	00000000
Setting notifies the number display information* from the start *: To notify the number display information, a number display environment is required	000E013A	000E024A	000E035A	000E046A	7-3	-	-	00000000
					2	Notifies the number display information from the start 0: OFF 1: ON	OFF	
					1	Notifies the number display information when TSI RX is impossible even after retry 0: OFF 1: ON	OFF	
					0	Transmits DIS again when no TSI received (request of TSI retry) 0: OFF 1: ON	OFF	

16.12.6 Fax capacity setting

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
Reception main scan line resolution ability	000F0000	000F0020	000F0040	000F0060	7	400 dpi	○	10101010
					6	300 dpi	×	
					5	200 dpi	○	
					4	-	-	
					3	16 pels/mm	○	
					2	-	-	
					1	8 pels/mm	○	
					0	-	-	
	000F0001	000F0021	000F0041	000F0061	7-3	-	-	00000001
					2	(1200 dpi)	×	
					1	(800 dpi)	×	
					0	600 dpi	○	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
Reception sub scanning resolution ability	000F0002	000F0022	000F0042	000F0062	7	400 dpi	○	10111011
					6	300 dpi	×	
					5	200 dpi	○	
					4	100 dpi	○	
					3	15.4 l/mm	○	
					2	-	-	
					1	7.7 l/mm	○	
					0	3.85 l/mm	○	
	000F0003	000F0023	000F0043	000F0063	7-3	-	-	00000001
					2	(1200 dpi)	×	
					1	(800 dpi)	×	
					0	600 dpi	○	
Reception coding method ability	000F0004	000F0024	000F0044	000F0064	7-6	-	-	00011111
					5	(JPEG)	×	
					4	JBIG	○	
					3	MMR	○	
					2	MR	○	
					1	MH	○	
					0	THRU	○	
Received document width ability	000F0005	000F0025	000F0045	000F0065	7-6	-	-	00001110
					5	(Legal)	×	
					4	(Letter)	×	
					3	A3	○	
					2	B4	○	
					1	A4	○	
					0	(A5)	×	
Received document length ability	000F0006	000F0026	000F0046	000F0066	7	-	-	01000110
					6	Unlimited	○	
					5	(Legal)	×	
					4	(Letter)	×	
					3	-	-	
					2	B4	○	
					1	A4	○	
					0	(A5)	×	
Reception speed ability	000F0007	000F0027	000F0047	000F0067	7-5	-	-	00011011
					4	V.29-96	○	
					3	V.29-72	○	
					2	-	-	
					1	V.27-48	○	
					0	V.27-24	○	
	000F0008	000F0028	000F0048	000F0068	7	V.17-144	○	11110000
					6	V.17-120	○	
					5	V.17-96	○	
					4	V.17-72	○	
					3	V.33-144	×	
					2	V.33-120	×	
					1	(TCM-96)	×	
					0	(TCM-72)	×	
	000F0009	000F0029	000F0049	000F0069	7	V.34-192	○	11111111
					6	V.34-168	○	
					5	V.34-144	○	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
					4	V.34-120	○	
					3	V.34-96	○	
					2	V.34-72	○	
					1	V.34-48	○	
					0	V.34-24	○	
	000F000A	000F002A	000F004A	000F006A	7-6	-	-	00111111
					5	V.34-336	○	
					4	V.34-312	○	
					3	V.34-288	○	
					2	V.34-264	○	
					1	V.34-240	○	
					0	V.34-216	○	
Reception MSLT ability	000F000B	000F002B	000F004B	000F006B	7-0	T3.85 or 200*100 dpi (ms) 00000000: 0 ms to 00101000: 40 ms	5 ms	00000101
	000F000C	000F002C	000F004C	000F006C	7-0	T7.7 or 200*200 dpi (ms) 00000000: 0 ms to 00101000: 40 ms	5 ms	00000101
	000F000D	000F002D	000F004D	000F006D	7-0	T11.55 or 300*300 dpi (ms) 00000000: 0 ms to 00101000: 40 ms	5 ms	00000101
	000F000E	000F002E	000F004E	000F006E	7-0	T15.4 or 400*400 dpi or 600*600 dpi (ms) 00000000: 0 ms to 00101000: 40 ms	5 ms	00000101
Reception ECM ability	000F000F	000F002F	000F004F	000F006F	7-1	-	-	00000001
					0	ECM reception capability 0: OFF 1: ON	ON	
Reception protocol ability	000F0010	000F0030	000F0050	000F0070	7-6	-	-	00111001
					5	FAX-CSRC (Line 1 only)	○	
					4	V.8/V.34	○	
					3	DIAG (Line 1 only)	○	
					2-1	-	-	
					0	G3S	○	
Reception option frame ability	000F0011	000F0031	000F0051	000F0071	7-5	-	-	00000111
					4	(BFT)	×	
					3	(BTM)	×	
					2	PWD	○	
					1	(SEP)	○	
					0	SUB	○	

16.12.7 HP setting

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
Transmission main scan line resolution instruction	00100000	00100020	00100040	00100060	7	400 dpi	×	00100010
					6	300 dpi	×	
					5	200 dpi	○	
					4	-	-	
					3	16 pels/mm	×	
					2	-	-	
					1	8 pels/mm		
					0	-	-	
	00100001	00100021	00100041	00100061	7-3	-	-	00000001
					2	(1200 dpi)	×	
					1	(800 dpi)	×	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
					0	600 dpi	○	
Transmission sub scanning resolution instruction	00100002	00100022	00100042	00100062	7	400 dpi	×	00010001
					6	300 dpi	×	
					5	200 dpi	×	
					4	100 dpi	○	
					3	15.4 l/mm	×	
					2	-	-	
					1	7.7 l/mm	×	
					0	3.85 l/mm	○	
	00100003	00100023	00100043	00100063	7-3	-	-	00000001
					2	(1200 dpi)	×	
					1	(800 dpi)	×	
					0	600 dpi	○	
Transmission coding method instruction	00100004	00100024	00100044	00100064	7-6	-	-	00011111
					5	(JPEG)	×	
					4	JBIG	○	
					3	MMR	○	
					2	MR	○	
					1	MH	○	
					0	THRU	○	
Transmission document width instruction	00100005	00100025	00100045	00100065	7-6	-	-	00001110
					5	(Legal)	×	
					4	(Letter)	×	
					3	A3	○	
					2	B4	○	
					1	A4	○	
					0	(A5)	×	
Transmission document length instruction	00100006	00100026	00100046	00100066	7	-	-	01000110
					6	Unlimited	○	
					5	(Legal)	×	
					4	(Letter)	×	
					3	-	-	
					2	B4	○	
					1	A4	○	
					0	(A5)	×	
Transmission speed instruction	00100007	00100027	00100047	00100067	7-5	-	-	00011011
					4	V.29-96	○	
					3	V.29-72	○	
					2	-	-	
					1	V.27-48	○	
					0	V.27-24	○	
	00100008	00100028	00100048	00100068	7	V.17-144	○	11110000
					6	V.17-120	○	
					5	V.17-96	○	
					4	V.17-72	○	
					3	V.33-144	×	
					2	V.33-120	×	
					1	(TCM-96)	×	
					0	(TCM-72)	×	
	00100009	00100029	00100049	00100069	7	V.34-192	○	11111111
					6	V.34-168	○	

Items	Address				Data		Default	
	Line 1	Line 2	Line 3	Line 4	Bit	Contents	Setting	Data
					5	V.34-144	○	
					4	V.34-120	○	
					3	V.34-96	○	
					2	V.34-72	○	
					1	V.34-48	○	
					0	V.34-24	○	
	0010000A	0010002A	0010004A	0010006A	7-6	-	-	00111111
					5	V.34-336	○	
					4	V.34-312	○	
					3	V.34-288	○	
					2	V.34-264	○	
					1	V.34-240	○	
					0	V.34-216	○	
Transmission MSLT instruction	0010000B	0010002B	0010004B	0010006B	7-0	T3.85 or 200*100 dpi (ms) 00000000: 0 ms to 00101000: 40 ms	5 ms	00000101
	0010000C	0010002C	0010004C	0010006C	7-0	T7.7 or 200*200 dpi (ms) 00000000: 0 ms to 00101000: 40 ms	5 ms	00000101
	0010000D	0010002D	0010004D	0010006D	7-0	T11.55 or 300*300 dpi (ms) 00000000: 0 ms to 00101000: 40 ms	5 ms	00000101
	0010000E	0010002E	0010004E	0010006E	7-0	T15.4 or 400*400 dpi or 600*600 dpi (ms) 00000000: 0 ms to 00101000: 40 ms	5 ms	00000101
Transmission ECM instruction	0010000F	0010002F	0010004F	0010006F	7-2	-	-	00000001
					1	ECM transmission frame size 0: 256 1: 64	256	
					0	ECM transmission instruction 0: OFF 1: ON	ON	
Transmission protocol instruction	00100010	00100030	00100050	00100070	7-6	-	-	00010001
					5	FAX-CSRC (Line 1 only)	×	
					4	V.8/V.34	○	
					3	DIAG (Line 1 only)	×	
					2-1	-	-	
					0	G3S	○	
Transmission option frame instruction	00100011	00100031	00100051	00100071	7-5	-	-	00000000
					4	(BFT)	×	
					3	(BTM)	×	
					2	PWD	×	
					1	(SEP)	×	
					0	SUB	×	

16.13 Recommended Settings for IP Line

To set the line parameter settings related to VoIP in FAX nonvolatile parameter setting.

NOTE

- **It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.237 is set to [00100000] at Bit assignment/[20] at HEX assignment.**
- **If the fax destination is changed, all of these settings are initialized.**
- **The default setting value varies depending on the fax destination.**

Region List of Default Settings

Destination	Region
JP	JP
US	US, CA
EU	EU, DE, GB, FR, CH, NL, BE, AT, NO, SE, FI, IE, DK, IT, ES, PT, PL, RU

Destination	Region
Others	AU, NZ, ZA, TW, SA, CN, MY, SG, KR, HK, AR, BR, VN, PH, OT

Protocol

Setting item	Contents	Setting value	Default setting			
			JP	US	EU	Others
V34 TX	To set whether or not to use the V34 protocol.	ON				
		OFF	○	○	○	○
V34 RX	To set whether or not to use the V34 protocol.	ON				
		OFF	○	○	○	○

Speed 1

Setting item	Contents	Setting value	Default setting			
			JP	US	EU	Others
V17 TX Max. Speed	To set the max. speed for transmission.	V17-14400 bps				
		V17-12000 bps	○	○		○
		V17-9600 bps				
		V17-7200 bps				
		V29-9600 bps			○	
		V29-7200 bps				
		V27-4800 bps				
		V27-2400 bps				
V17 RX Max. Speed	To set the max. speed for reception.	V17-14400 bps	○	○		○
		V29-9600 bps			○	
		V27-4800 bps				

Speed 2

Setting item	Contents	Setting value	Default setting			
			JP	US	EU	Others
RX Max. Bit Speed	To set the max. bit speed for reception in V.34.	2400 to 33600 bps (step: 2400 bps)	28800 bps	24000 bps	21600 bps	21600 bps
RX Max. Bit Speed	To set the max. bit speed for transmission in V.34.	2400 to 33600 bps (step: 2400 bps)	28800 bps	24000 bps	21600 bps	21600 bps
Max. SYMB Speed	To set maximum modulation speed (baud rate) of V.34. • 3429 SYMB: 3429 33.6 k to 4.8 k • 3200 SYMB: 3200 31.2 k to 2.4 k • 3000 SYMB: 3000 28.8 k to 2.4 k • 2800 SYMB: 2800 • 2400 SYMB: 2400 The modulation speed of both sending and receiving changes by change of setting. The upper limit value of V.34 maximum bit speed is determined. Normally you do not need to change the value. In case that a V.34 error frequently occurs, you can attempt to set up 3000 SYMB and decrease the symbol rate, for instance.	2400 SYMB				
		2800 SYMB				
		3000 SYMB				
		3200 SYMB	○	○	○	○
		3429 SYMB				

Level

Setting item	Contents	Setting value	Default setting			
			JP	US	EU	Others
PIX TxATT	To set the PIX transmission level. Set directly to modem, no external attenuator.	-15 to -10 dBm (Step: 1 dBm)	-15 dBm	-15 dBm	-15 dBm	-15 dBm
CED/ANSam TxATT	To set the CED/ANSam transmission level. Set directly to modem, no external attenuator.	-15 to -10 dBm (Step: 1 dBm)	-15 dBm	-15 dBm	-15 dBm	-15 dBm
TONE/procedure signal TxATT	To set the TONE/procedure signal TxATT transmission level. Set directly to modem, no external attenuator.	-15 to -10 dBm (Step: 1 dBm)	-15 dBm	-15 dBm	-15 dBm	-15 dBm
CD/SED ON Level	To set the CD/SED ON transmission level. Set directly to modem, no external attenuator.	-48 to -33 dBm (Step: 5 dBm)	-43 dBm	-43 dBm	-43 dBm	-43 dBm

Cording Ability

Setting item	Contents	Setting value	Default setting			
			JP	US	EU	Others
Cording Ability	To set the coding ability. Effective to both sending and reception.	MH				
		MH/MR				
		MH/MR/MMR	○	○	○	○
		MH/MR/MMR/JBIG				

Timer1

Setting item	Contents	Setting value	Default setting			
			JP	US	EU	Others
CFR-PIXWAIT	To set the delay time between CFR and PIX.	6.0 to 25.5 s (Step: 0.5 s)	10.0 s	10.0 s	10.0 s	10.0 s
EOM-PIXWAIT	To set the delay time between EOM and PIX.	5.5 to 25.5 s (Step: 0.5 s)	10.5 s	10.5 s	10.5 s	10.5 s
T4 Timer(Tx)	To set the T4 Timer (Tx) value.	3.0 to 4.5 s (Step: 0.5 s)	3.0 s	3.0 s	3.0 s	3.0 s
T4 Timer(Rx)	To set the T4 Timer (Rx) value.	3.0 to 4.5 s (Step: 0.5 s)	3.0 s	3.0 s	3.0 s	3.0 s

Timer2

Setting item	Contents	Setting value	Default setting			
			JP	US	EU	Others
between V.21 Signals	To set the signal interval for V.21.	30 to 90 ms (Step: 5 ms)	70 ms	70 ms	90 ms	70 ms
Calling Interval	To set the call interval.	3 to 60 s (Step: 1 s)	5 s	5 s	5 s	5 s

Others

Setting item	Contents	Setting value	Default setting			
			JP	US	EU	Others
No. of DIS Waiting Times	No. of DIS waiting times at overseas communication	1 time	○	○	○	○
		2 times				
Admin. Screen Display Sett. (ECM Function)	To set whether or not to use the administrator screen display (ECM function).	ON	Do not display	Do not display	○	Do not display
		OFF	Do not display	Do not display		Do not display
Admin. Screen Display Sett. (DTS Function)	To set whether or not to use the administrator screen display (DTS function).	ON	Do not display	Do not display	○	Do not display
		OFF	Do not display	Do not display		Do not display
ECM Function	To set whether or not to use reception ECM (error correction mode).	ON	Do not display	Do not display	○	Do not display
		OFF	Do not display	Do not display		Do not display
DTS Function	To set whether or not to use the DTS function.	ON	Do not display	Do not display		Do not display
		OFF	Do not display	Do not display	○	Do not display

17. Network Settings

17.1 2nd Network Setting

NOTE

- **Before making settings, note the network environment of the customer and make the settings to suit the environment.**

2nd network card settings

- To be configured when an optional Upgrade Kit (wireless LAN) has been installed in this machine.

NOTICE

- To perform a remote control from an Android tablet terminal or iOS terminal, d-Color Remote Access are required.

Setting item	Contents	Default setting
Set	To be selected to install optional wireless LAN devices.	
Unset	To be selected not to install optional wireless LAN devices.	○

NOTE

- **When [Set] is selected, make sure that the set wireless LAN is displayed, and configure the following settings.**

Network interface structure

- To connect the MFP main unit as a wireless LAN adapter to a wireless LAN access point connected to the LAN environment. (when Wireless Only or Wired+Wireless (Secondary Mode) is selected)
- To perform direct communication between the MFP main unit and a mobile device. (when Wired+Wireless (Primary Mode) or Wired +Wireless (Wi-Fi Direct) is selected)

Network Interface Settings	Description
Wired Only	Select this option to use this machine only in the wired LAN environment.
Wireless Only	Select this option to use this machine only in the wireless LAN environment. A job is received from the client via the wireless LAN access point and executed.
Wired+Wireless (Secondary Mode)	Select this option to use this machine in both the wired LAN environment and wireless LAN environment. To execute a job received from a client via the LAN. A job is received from the client via the wireless LAN access point and executed.
Wired+Wireless (Primary Mode)	Select this option to use this machine in both the wired LAN environment and wireless LAN environment. The main body is used as a wireless LAN access point. When starting up the main body, perform wireless LAN communication between the main body and the mobile device (Android device, iOS device, or devices supporting Wi-Fi) without via wireless LAN access point.
Wired+Wireless (Wi-Fi Direct)	Select this option to use this machine in both the wired LAN environment and wireless LAN environment. The main body is used as a wireless LAN access point. With this mode, a mobile device (excluding iOS) can be connected to Wi-Fi Direct authentication devices easily.

17.2 Remote Service Setting

17.2.1 Function Setting

Enable Settings

- To set whether to use the remote service.

NOTE

- **When [ON] is selected, [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting], [Auto Update setting] will not be displayed.**
- **When [ON] is selected, [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting], [Relay server setting] will not be displayed.**

Setting item	Default setting
ON	
Disable	○

Server Settings

- To set URL, ID and password of the server to be used on remote service communication.

Setting item	Setting
URL	(Address or host name): port number • Address: IPv4 or IPv6 address • Host name: Alphanumeric characters and symbols up to 253 characters
ID	Alphanumeric characters and symbols: 1-64 characters
Password	Alphanumeric characters and symbols: 0-64 characters

17.2.2 Proxy Server Setting

Enable Settings

- To set whether to use the proxy server.
- When [ON] is set, the [WebDAV Synchronize] and [Proxy Server] settings can be configured.

Setting item	Default setting
ON	
Disable	○

WebDAV Synchronize

- To set whether to synchronize with [WebDAV Client Settings] in Administrator settings.
- When [Synchronize] is set, operation is performed in accordance with the configuration of the [WebDAV Client Settings] within the Administrator settings.

Setting item	Default setting
Synchronize	
Do not Synchronize	○

Proxy Server

- To configure the proxy server settings.

NOTE

- **It will be not displayed when [WebDAV Synchronize] is set to [Synchronize].**

Setting item	Setting
Host Name	Address or host name • Address: IPv4 or IPv6 address • Host name: Alphanumeric characters and symbols up to 253 characters
User Name	Alphanumeric characters and symbols: 0 to 63 characters
Password	Alphanumeric characters and symbols: 0 to 63 characters
Port Number	1 to 65535

17.2.3 Maintenance Setting

Identification Code

- To enter the identification code used to organize and manage multiple machines on a per-customer basis.

Setting range	Description
0 to 99999999 (8-digit number)	Note the hierarchical order: First 2 digits represent the region code and the last 6 digits represent the management code.

Operator Name

- To enter the keywords used by maintenance personnel to easily search for corresponding machines on the remote service server UI screen.

Setting range	Description
Alphanumeric characters/symbols/space (up to 64 characters)	Specify the operator name.

Setup

- To connect to the remote service server manually.
- Touch Start to send the identification code and operator name to the remote service server.

17.2.4 XMPP Settings

Function setting

- To set whether to use sessions when communicating with the XMPP server.

NOTE

- **When [Disable] is set, initial commands cannot be received from the remote service server via the XMPP server.**

Setting item	Default setting
ON	○
Disable	

Connection Setting

Setting item	Description	Setting	Default setting
Repeat Interval	To set the repeat interval used when communication with the XMPP server fails.	1 to 5 Minutes	3 Minute
Connection Time-out	To set the timeout used for communication with the XMPP server.	5 to 300 Sec	60 sec.
SSL	To set whether to use the SSL when communicating with the XMPP server.	ON	○
		OFF	
BOSH	To set whether to use the BOSH connection when communicating with the XMPP server.	ON	○
		OFF	

Connection server info

- To confirm the URL, ID, domain name, port number and connection status.

17.2.5 Always Connection Setting

Maintenance Time

- Specify the maintenance time.

Setting item	Description	Default setting
User Power Save Settings	Operates when maintenance can be performed in accordance with power save settings.	
Always Connection	Maintenance can be performed at any time.	

Setting item	Description	Default setting
Individual Settings	Maintenance start and end times are configured individually.	○

Existence Notice Interval

- To set the time interval used to send existence notice packets for existence notice from the machine to the XMPP server.

Setting range	Default setting
1 to 3600 sec.	55 sec.

Learning Function

- To set whether to enable “Learning function” used to change the packet transmission interval in accordance with the XMPP session state when sending existence notice.

Setting item	Description	Setting	Default setting
Learning Function	To set whether to enable the learning function. • When [Enable] is set, the adjust value and lower limit must be configured.	Enable	
		Disable	○
Adjust Value	To lengthen the next packet transmission interval by the amount of the "adjust value" when a existence notice is sent successfully. To shorten the next packet transmission interval by the amount of the "adjust value" when a existence notice is sent unsuccessfully.	1 to 3600 sec.	30 sec.
Lower Limit	To make sure not to set the packet transmission interval shorter than the "lower limit".	1 to 3600 sec.	30 sec.

17.3 Port Settings

- To set the threshold value for determining the load state of the Raw port.

Setting range	Default setting
1 to 60 minutes	3 minutes

17.4 MTU Param. set.

- Set the maximum value (MTU) of data that can be transmitted at once.
- Set operations of Path MTU Discovery.

NOTICE

- Path MTU Discovery detects the minimum MTU on the communication path and uses it to automatically set the MTU size.

Path MTU Discovery Settings

- Set whether to enable Path MTU Discovery.

Setting	Description	Default setting
0	To enable Path MTU Discovery.	○
1	To disable Path MTU Discovery.	

Minimum MTU Size Setting

- This setting is available when Path MTU Discovery is enabled.

Setting range	Description	Default setting
68 byte to 1500 byte	The setting value is used as the minimum MTU size of the packet to be sent.	552 byte

Fixed MTU Size Setting

- This setting is available when Path MTU Discovery is disabled.

Setting range	Description	Default setting
1280 byte to 1500 byte	The setting value is used as the fixed MTU size of the packet to be sent.	1500 byte

18. Machine Update Setting

18.1 Internet ISW

18.1.1 Internet ISW Set

- To use when upgrading the firmware by Internet ISW.
- Each setting such as Server setting will be valid by setting this to “ON”.

NOTE

- **If [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON”, this setting will automatically be set to “OFF” and cannot be changed.**

Setting item	Description	Setting	Default setting
Function setting	To set whether or not to enable each setting for Internet ISW.	ON	
		OFF	○
Open Mode Settings	This setting is available when Function Setting is set to “Set.” When “Set” is set, download and update of firmware by Internet ISW is enable by administrator settings.	Set	
		Unset	○

18.1.2 HTTP Setting

To use when accessing the server using the HTTP protocol.

Setting item	Description	Setting	Default setting
HTTP data acquisition setting	To set whether or not to enable downloading using the HTTP protocol. When “ON” is set, set Connection Time-out.	ON	
		OFF	○
Connection Time-out	To set the time for the timeout for accessing the server.	30 to 300 sec.	60 sec.

18.1.3 FTP Setting

To use when accessing the server with FTP protocol.

Setting item		Description	Setting	Default setting
FTP data acquisition setting		To set whether or not to enable downloading using FTP protocol.	ON	○
			OFF	
Connection Setting	Port Number	To set the port number.	1 to 65535	21
	Connection Timeout	To set the timeout time.	1 to 60 (Minute)	1 (Minute)
	PASV Mode:	To set whether to enable or disable connection by the PASV (passive) mode (FTP server side will inform the connection port before connecting).	ON	
			OFF	○

18.1.4 Forwarding Access Setting

Setting item	Description	Setting
User ID	To register the user ID for accessing the program server where firmware is to be stored.	Alphanumeric characters and symbols (up to 64 characters)
Password	To register the password for accessing the program server where firmware is to be stored.	Alphanumeric characters and symbols (up to 64 characters)
URL	To register the user ID for accessing the program server where firmware is to be stored. • When connecting to http “http:// (Host name or IP address)/ directory name” or “https:// (Host name or IP address)/directory name”. • When connecting to ftp “ftp:// (Host name or IP address)/directory name”.	Alphanumeric characters and symbols (up to 256 characters)
FileName	To register the file name of the firmware data to be downloaded.	Alphanumeric characters and symbols (up to 63 characters)

<Procedure>

1. Select a setting item.
2. Enter information using the on-screen keyboard.

18.1.5 Download

NOTE

- **To connect the machine to the Internet via a proxy, the proxy server related settings must be configured in addition to [Forwarding Access Setting]. The settings of the proxy used in Internet ISW communications is configured in [Administrator] -> [Network] -> [Machine Update Settings] -> [Internet ISW Settings] -> [FTP Server Setting] or [Administrator] -> [Network] -> [Machine Update Settings] -> [HTTP Proxy Settings].**
- **If connection to the program server or data download fails, an error code and a message are displayed. Identify the cause of the problem with the error code and reconfigure the settings following the message. Refer to “ L.6 ERROR CODE FOR THE INTERNET ISW” for the error codes.**

Download/Update

- Access the program server according to the Internet ISW setting, and download the firmware.
- To use when updating the firmware via network.

- The firmware is downloaded and updated successively. During the firmware download and update, the machine cannot be used.

<Procedure>

1. Select [Download/Update].
2. Touch [Start] to start downloading the firmware.
3. The message to show the status will be displayed on the screen while connecting and transferring data.
4. When the firmware is normally upgraded, the main body will automatically be restarted to complete the Internet ISW.

Download

- To access the program server and download the firmware in accordance with the settings configured in Internet ISW Settings.
- As the firmware is downloaded in the background, the machine can be used during download.

<Procedure>

1. Select [Download].
2. Touch [Start] to start downloading the firmware.
3. The message to show the status will be displayed on the screen while connecting and transferring data. In the middle of downloading, the task can be cancelled by touching [Cancel].
4. When the firmware download is successfully completed, the result "OK" appears.

Update

- To update the firmware by using the firmware downloaded and saved in the storage.
- During the firmware download and update, the machine cannot be used.
- This button is not appeared if there is no firmware in the storage.

<Procedure>

1. Touch [Update].
2. Check the firmware file version in the storage.
3. Touch [Start] to update the firmware.
4. When the firmware is normally upgraded, the main body will automatically be restarted to complete the Internet ISW.

Delete

- To delete the firmware file saved in the storage.
- This button is not appeared if there is no firmware in the storage.

<Procedure>

1. Touch [Delete].
2. Touch [Start] to delete the firmware.

18.1.6 Update Start Time Settings

- To set the start time in order to automatically update the downloaded firmware.

NOTE

- **If updated firmware has not been downloaded by the specified time, firmware update is not performed.**
- **If the main power switch is turned OFF during a firmware update, the firmware is updated next time when the main power switch is turned ON.**
- **If a job is in process when the specified time comes, the firmware is updated after the completion of the job.**

<Procedure>

1. Select [Set] for [Update Firmware at Specified Time].
2. Touch [Hour] and [Min.] and set the firmware update start time.

18.2 Machine Auto Update setting

18.2.1 Auto Update setting

(1) Outline

- "Auto Update" is the function, which makes the main body access the program server periodically through the network to obtain a new firmware data, then rewrites it automatically.
- To use the Auto Update function, the main body must be connected to such a network environment that the update data can be downloaded on the network using the SMB or http protocol.
- The Auto Update function will not operate when the main body is under the following conditions.
  - Main power switch is set to OFF.
  - Sub power OFF mode (power key is orange) or ErP auto power OFF mode (power key flashes orange) enabled
  - [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON”.
  - The machine is operating, or there are jobs present (including appointed jobs).
  - The machine is in idle with suspended job.
  - Trouble has occurred.
  - Image file is in the memory.
  - Model or the circuit board of the program does not match.

(2) Preparations

- For using this function effectively, before executing the following procedures contact with the administrator to obtain an agreement.
- Set the network parameter, program server address as well as firewall address to the main body.
- Create a program update information file (C_UpdateList.ini) and store a set of data for updating in the program server.

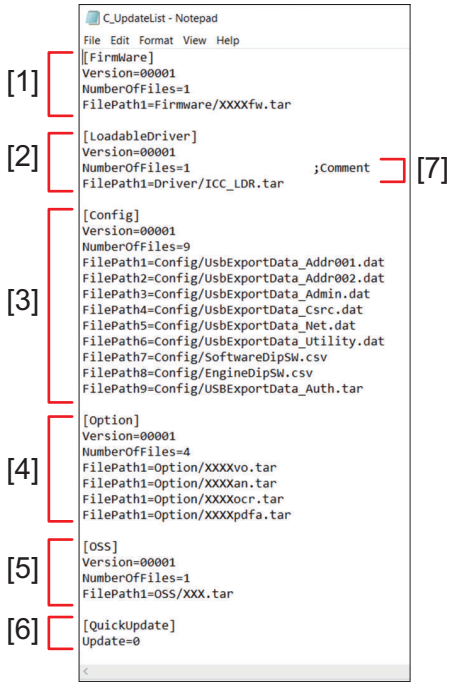
Creating the program update information file (C_UpdateList.ini)

- Specify the firmware, loadable driver, configuration files as shown below.

  NOTE

  - **[FirmWare], Version, FilePath, [LoadableDriver], NumberOfFiles, [Config], [Option], [OSS], [QuickUpdate] and Update must be specified by using the capital letters and small letters properly.**

A sample of C_UpdateList.ini



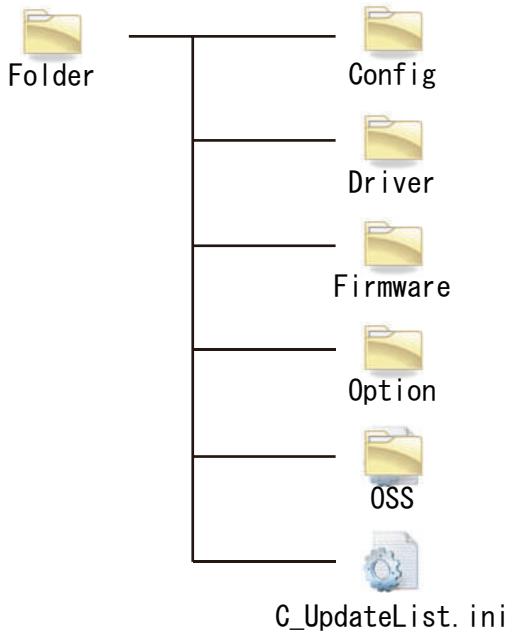
	Setting item	Description	Parameter list
[1]	[FirmWare]	Firmware updating information	Version, NumberOfFiles, FilePath
[2]	[LoadableDriver]	Loadable driver updating information	Version, NumberOfFiles, FilePath
[3]	[Config]	Configuration files updating information	Version, NumberOfFiles, FilePath
[4]	[Option]	Options updating information • Voice guidance data, movie help data, OCR data, PDF/A font, OEM name customize data and authentication customize data are to be updated.	Version, NumberOfFiles, FilePath
[5]	[OSS]	OSS update information (for independent OSS update)	Version, NumberOfFiles, FilePath
[6]	[QuickUpdate]	Timing for updating data	Update
[7]	-	Comment	A comment can be inserted between "#" or ";" and the line break code.

Parameter list

Parameter	Description
Version	Specify the version information of update data using a number including up to five digits.
NumberOfFiles	Specify the number of update data to up to three digits. Specify “NumberOfFiles=0” not to include the data to update.
FilePath	Specify a location to store the update data. A relative path should be specified from the program update information. If there are multiple files, give sequence numbers like “FilePath1,” “FilePath2.” Even if there is only one file, “1” must be given as “FilePath1.”
Update	Specify the data update timing. “Update=0”: Rewrite in accordance with the update time settings. “Update=1”: Rewrite soon after downloading.

Configuration of files and folders

- The folder configuration of the sample of C_UpdateList.ini is as shown below.



Create a configuration file

1. Select [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update Setting] -> [Machine Export Setting].
2. Insert a USB memory into the USB port.
3. Enter a password.
   NOTE
   - **The password specified at above step 3 must be set beforehand by selecting [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Machine Update Password].**
4. Select [START].
5. [Result: OK] will be displayed.
6. Complete the data export.
7. Store the export file to the directory described in C_UpdateList.ini.

Create the Software switch setting/Engine FW DipSW setting file

- Create CSV files for the data with the required switch number as SoftwareDipSW.csv and EngineDipSW.csv.
- Store the file to the directory described in C_UpdateList.ini.

A sample of SoftwareDipSW.csv

	A	B	C
1	69	00000001	00000001
2	188	00000011	00000011
3			

Example	Description
A row	Software switch number
B row	Set 1 on the bit to be overwritten (bit7 to bit0 from left side)
C row	Set 1 or 0 for new setting at selected bit(s) on B row. (bit7 to bit0 from left side)

A sample of EngineDipSW.csv

	A	B
1	5	0
2	11	1
3	13	0
4		

Example	Description
A row	Engine FW DipSW number
B row	0 (not select) or 1 (select)

Create the user DB data file

1. Create UsbExportData_Auth.tar with a making tool of user DB data.
2. Store created file (UsbExportData_Auth.tar) to the directory described in C_UpdateList.ini.

(3) Auto Update setting

- Obtain the machine update file from the program server, and configure settings to update the machine at the specified time.
- This function is same as that of the [Administrator] -> [Network], but it will not be used together with the function of the service mode.

NOTE

- **It will not be displayed when [Service Mode] -> [Network Settings] -> [Remote Service Setting] -> [Function Settings] -> [Enable Settings] is set to "ON." [Machine Auto Update setting] in "Administrator" is not applicable.**
- **When the SMB protocol used, the machine uses static IP addresses.**

Server 1 Settings

Setting item		Description	Setting	Default setting
Auto Update		To set whether or not to use the auto update setting. • When [ON] is selected, configure the settings for Acquisition protocol.	ON	
			OFF	○
Server Name		To set an arbitrary server name to identify the connection destination.	Alphanumeric characters (up to 20 characters)	Server1
Download Protocol		To set the protocol for acquiring an update data. • If the machine relay server is used as a server on the data providing side, select [HTTP].	SMB	○
			HTTP	
SMB Setting	Host Name	Set the host name for the SMB server.	Alphanumeric characters and symbols (up to 253 characters)	-
	File Path	Set the file path used for SMB server communication. • Specify the folder in which C_UpdateList.ini is stored.	Up to 255 characters	-
	User Name	Set the user name used to access the SMB server.	Up to 64 characters	-
	Password	Set the password used to access the SMB server.	Alphanumeric characters and symbols (up to 64 characters)	-
	Number of retries	Set the number of times to retry when failed to obtain.	0 to 10 count	3 times
HTTP Setting	URL	Set the address of the http server. • Specify the folder in which C_UpdateList.ini is stored.	Alphanumeric characters and symbols (up to 253 characters)	-
	User Name	Set the user name used to access the relay server by http protocol.	Up to 64 characters	-
	Password	Set a password used to access the http server.	Alphanumeric characters and symbols (up to 64 characters)	-
	Proxy	To set whether or not to use the proxy server. • If [ON] is selected, set the proxy with [Administrator] -> [Network] -> [Machine Update Settings] -> [HTTP Proxy Settings].	ON	
			OFF	○
	Connection Time-out	To set the time for the timeout for accessing the server.	30 - 300	60 Sec.

Server 2 settings

Setting item		Description	Setting	Default setting
Auto Update		To set whether or not to use the auto update setting. • When [ON] is selected, configure the settings for Acquisition protocol.	ON	
			OFF	○
Server Name		To set an arbitrary server name to identify the connection destination.	Alphanumeric characters (up to 20 characters)	Server2
HTTP Setting	URL	To set the address of the http server. • Specify the folder in which C_UpdateList.ini is stored.	Alphanumeric characters and symbols (up to 253 characters)	-
	User Name	Set the user name used to access the relay server by http protocol.	Up to 64 characters	-
	Password	Set a password used to access the http server.	Alphanumeric characters and symbols (up to 64 characters)	-
	Proxy	To set whether or not to use the proxy server. • If [ON] is selected, set the proxy with [Administrator] -> [Network] -> [Machine Update Settings] -> [HTTP Proxy Settings].	ON	
			OFF	○
	Connection Time-out	To set the time for the timeout for accessing the server.	30 - 300	60 Sec.

Common Settings

- Configure the common settings for [Server 1 settings] and [Server 2 settings].

Setting item	Description	Setting	
Update Time	Touch Clear to set the time to update the machine.	Time	00 to 23 o'clock
		Minute	00 to 59 Minutes
Polling Settings	To set the polling period or day of the week and clock for obtaining the update list.	Set Interval.	1 to 240 Minutes
		Select Day of the Week	To set the day of the week and clock.
Repeat Interval	Set the period for retrying when failed to obtain.	• 1 to 240 Minutes	

(4) Data Update

Download the update data

- The machine confirms the program update information file in the program server with an interval set at [Polling Interval].
- The machine compares the program update information file in the program server with that in the machine, and starts downloading the update data with a changed Version number.

Data auto update

- If the machine power is set to ON at the time set with [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Auto Update setting] -> [Common Settings] -> [Update Time], the firmware will be rewritten automatically. If the power is set to OFF at that time, no rewriting will be executed.

Data update from control panel

- Select [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Manually Update] -> [Start], then execute rewriting.

NOTE

- **Do not set the power to OFF under the following state.**
  - **Touch [Manually Update] -> [Start] to the next operation of the machine (Auto Power OFF).**
  - **About one minute after the download completed screen being displayed, the machine will restart.**
  - **When rewriting configuration files followed by the firmware, the machine will restart again.**

(5) Error code

- The error code can be displayed using [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Update Log Display], or viewed on the PC where the log which saves up to 100 records sent by using [Transmission log Update] is received.

When using SMB protocol

Error code	Cause of error	Solution
N00107	• Cannot access the SMB server	• Set the IP address of the server or the server name correctly. • Confirm that if the server runs normally.
N04096		
N04097	• Authentication error	• Set the ID and the password correctly.
N04098		
N04105	• SMB connection error	• Check the SMB connection setting again.
N04106	• Cannot obtain C_UpdateList.ini • Cannot find the data described in C_UpdateList.ini	• Confirm that if C_UpdateList.ini is stored in the server, and set the file path for accessing C_UpdateList.ini correctly. • Set the folder name and the file path correctly.

When using the HTTP protocol

Error code	Cause of error	Solution
N00107	• Cannot access the HTTP server	• Set the IP address of the server or the server name correctly. • Confirm that if the server runs normally.
N00401	• Authentication error	• Set the ID and the password correctly.
N00404	• Cannot obtain C_UpdateList.ini • Cannot find the data described in C_UpdateList.ini	• Confirm that if C_UpdateList.ini is stored in the server, and set the file path for accessing C_UpdateList.ini correctly. • Set the folder name and the file path correctly.

Common in all cases

Error code	Cause of error	Solution
C00000	• XML setting error	• Make sure that the settings in each configuration file are correct.
C00001	• Decryption error	• Set the decryption password for the configuration files correctly.
D00001	• Format related error (software SW)	• Check for errors in the SoftwareDipSW.csv file.
D00010	• DipSW number not defined (software SW)	
D10001	• Format related error (Engine DipSW)	• Check for errors in the EngineDipSW.csv file.
D10010	• DipSW number not defined (Engine DipSW)	
F00000	• Firmware update error	• Check to see if the file on the server is correct.
F10107	• The file is not the firmware file	• Check to see if the file on the server is correct.
F10109		
N00100	• Network communication error	• Check the connection to the network cable and communications settings.

Error code	Cause of error	Solution
N00110		
T10001	• The C_UpdateList. data has not been properly downloaded • The C_UpdateList. data is corrupted	• Download the file again. • Check to see if the file on the server is correct.
T10010	• Descriptions in C_UpdateList.ini are not correct	• Set the descriptions in C_UpdateList.ini correctly.
T10020		

18.2.2 Relay server setting

(1) Outline

- The “Relay Server Function” is possible to share the update data obtained from the network with other machine, and operate the machine as a program server for the “Auto Update function.”
- To use the Relay Server function, the main body must be connected to such a network environment that the update data can be downloaded on the network using the http protocol.
- The relay server function will not operate under the following conditions.
  - Main power switch is set to OFF.
  - Sub power OFF mode (power key is orange) or ErP auto power OFF mode (power key flashes orange) enabled
  - [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON”.

NOTE

- **This function is disabled when the Marketing Area of the service mode is set to US or Others5.**

(2) Preparations

- For using this function effectively, before executing the following procedures contact with the administrator to obtain an agreement.
- Set the network parameter, program server address as well as firewall address to the main body.
- Create one set of data used to the auto update function as the relay data, and store it in the program server.
- Create a data update information file (S_UpdateList.csv) and store it in the program server for managing the relay data saved on one relay server machine.

Creating the data update information file (S_UpdateList.csv)

- Create a CSV file by specifying the model name, data update date and time, and path for accessing the Data update folder used to the Auto Update function.
- Specify up to four (four types) folders of relay data set.

  NOTE

  - **Information of five or more folders (five types) will be invalid.**

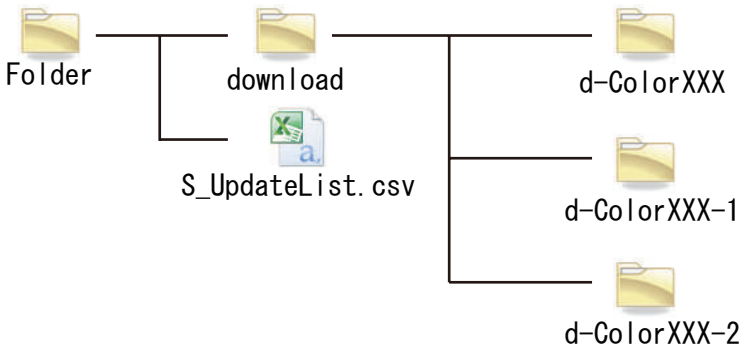
A sample of S_UpdateList.csv

	A	B	C
1	[illegible]XXX Standard	YYYY/MM/DD hh:mm:ss	download/[illegible]XXX
2	[illegible]XXX Customer1	YYYY/MM/DD hh:mm:ss	download/[illegible]XXX-1
3	[illegible]XXX Customer2	YYYY/MM/DD hh:mm:ss	download/[illegible]XXX-2

A row	Model name (any character string)
B row	Data update date and time
C row	Path for accessing the update data folder used to the Auto Update function

How to store data in program server

- The folder configuration of the sample data of S_UpdateList.csv is as shown below.



(3) Relay server setting

- Configure settings to use the relay server to obtain the update relay data.
- This function is same as that of the [Administrator] -> [Network], but it will not be used together with the function of the service mode.

Setting item		Description
Update File Download		Access the program server periodically, and set whether or not to use the function to obtain the latest update file.
Obtain Setting File	URL	Set the address of the file storage server. • Specify the folder in which S_UpdateList.csv is stored.
	User Name	Set the user name used to access the file storage server.
	Password	Set the password used to access the file storage server.
	Proxy	Select whether to use the proxy server. • If [ON] is selected, set the proxy with [Administrator] -> [Network] -> [Machine Update Settings] -> [HTTP Proxy Settings].
	Connection Time-out	To set the time for the timeout for accessing the server.
Polling Settings		Set the polling period or day of the week and clock for obtaining the update list. • Set Interval: Specify in range of 1 to 240 minutes. • Select Day of the Week: Select Day of the Week To set the day of the week and clock.
Repeat Interval		Set the period for retrying when failed to obtain. • Specify in range of 1 to 240 minutes.
SMB Authentication		Do not use SMB Authentication.
Distribution Server (HTTP)	Distribution Server (HTTP)	Set whether or not to use the Distribution Server (HTTP) function for the update file.
	User Name	Set the user name used to access the relay server by http protocol.
	Password (*)	Set a password used to access the http server.

NOTE

- ***: Be sure not to forget the password used to access the http server. It is required for reset.**

(4) Acquiring update data

1. The machine confirms the data update information file in the program server with an interval set at [Polling Interval].
2. The machine compares the data update information file in the program server with that in the machine, and starts downloading the relay data with a changed update date and time.
3. The downloaded relay data is stored in the machine storage.

(5) Error code

- The error code can be displayed using [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Relay Server Log Confirmation], or viewed on the PC where the log which saves up to 100 records sent by using [Transmission Server Log] is received.

Error code	Cause of error	Countermeasure
N00107	• Cannot access the HTTP server	• Set the IP address of the server or the server name correctly. • Confirm that if the server runs normally.
N00401	• Authentication error	• Set the ID and the password correctly.
N00404	• Cannot obtain S_UpdateList.csv • Cannot find the data described in S_UpdateList.csv	• Confirm that if S_UpdateList.csv is stored in the server, and set the file path for accessing S_UpdateList.csv correctly. • Set the folder name and the file path correctly.

(6) Auto update by relay server

- Configure the following settings on the machine where auto update function due to relay server update data is used.

1. Select [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Auto Update setting].
2. Select either [Server 1 Settings] or [Server 2 Settings] as the connection to configure.
3. Touch [Auto update], then select [ON].
4. Select [HTTP] in [Download Protocol].
5. Specify the folder including C_UpdateList.ini in [HTTP Setting] -> [URL].
   in the case of the sample of S_UpdateList.csv
   - http://IP address or host name of the machine to become the relay server/DAV/Service/download/d-ColorXXX
   - File paths are case sensitive, so enter the portion after "DAV/Service/" exactly is it appears in the C column in S_UpdateList.csv.
   - If activate the relay server function in Administrator settings, the file path will be changed as "/DAV/Admin/".
6. Set the item in [HTTP Setting] -> [User Name] and [Password] that has been set in [Relay server setting] -> [Distribution Server (HTTP)].
7. Touch [OK].
8. Make settings in [Common Settings].

18.2.3 Transmission log Update

- Save the log related to machine auto update, and send it to the specified location.
- The log file saves up to 100 records.

Setting item	Description	Setting	Default setting
Update log transmission.	To set whether or not to use Transmission log Update. When [ON] is selected, configure the settings for transmission protocol and server.	ON	
		OFF	○
Transmission protocol	Configure settings for the transmission protocol.	SMB	○
		WebDAV	

Setting item		Description	Setting	Default setting
SMB Setting	Host Name	Set the host name for the SMB server.	Alphanumeric characters and symbols (up to 253 characters)	-
	File Path	Set the file path used for SMB server communication.	Up to 255 characters	-
	User Name	Set the user name used to access the SMB server.	Up to 64 characters	-
	Password	Set the password used to access the SMB server.	Alphanumeric characters and symbols (up to 64 characters)	-
WebDAV Setting	URL	To set the address of the WebDAV server.	Alphanumeric characters and symbols (up to 253 characters)	-
	User Name	Set the user name used to access the WebDAV server.	Up to 64 characters	-
	Password	Set the password used to access the WebDAV server.	Alphanumeric characters and symbols (up to 64 characters)	-
	Proxy	Set whether or not to use the proxy server. • If [ON] is selected, set the proxy with [Administrator] -> [Network] -> [Machine Update Settings] -> [HTTP Proxy Settings].	ON	-
			OFF	-

18.2.4 Transmission Server Log

- Save the log related to the update relay data download at relay server, and send it to the specified location.
- The log file saves up to 100 records.

Setting item		Description	Setting	Default setting
Transmission Server Log		To set whether or not to use Transmission Server Log. When [ON] is selected, configure the settings for transmission protocol and server.	ON	
			Disable	○
Transmission protocol		Configure settings for the transmission protocol.	SMB	○
			WebDAV	
SMB Settings	Host Name	Set the host name for the SMB server.	Alphanumeric characters and symbols (up to 253 characters)	-
	File Path	Set the file path used for SMB server communication.	Up to 255 characters	-
	User Name	Set the user name used to access the SMB server.	64 characters maximum	-
	Password	Set the password used to access the SMB server.	Alphanumeric characters and symbols (up to 64 characters)	-
WebDAV Setting	URL	To set the address of the WebDAV server.	Alphanumeric characters and symbols (up to 253 characters)	-
	User Name	Set the user name used to access the WebDAV server.	64 characters maximum	-
	Password	Set the password that is used to access the WebDAV server.	Alphanumeric characters and symbols (up to 64 characters)	-
	Proxy	To set whether or not to use the proxy server. • If [ON] is selected, set the proxy with [Administrator] -> [Network] -> [Machine Update Settings] -> [HTTP Proxy Settings].	ON	-
			Disable	-

18.2.5 Update Log Display

- To check the log related to the file download of the machine auto update.
- The latest five logs can be checked.

18.2.6 Relay Server Log Confirmation

To check the log related to the file download of the relay server.

The latest five logs can be checked.

18.2.7 Manually Update

- This is displayed when [Auto Update] is set to [ON] in [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Auto Update setting], and the update file has been downloaded.
- To execute update manually by using the downloaded file.
- Touch [Start] to start update.

NOTE

- **Do not set the power to OFF under the following state.**
  - **Touch [Manually Update] -> [Start] to the next operation of the machine (Auto Power OFF).**
  - **About one minute after the download completed screen being displayed, the machine will restart.**
  - **When rewriting configuration files followed by the firmware, the machine will restart again.**

18.2.8 Machine Import setting

- This is displayed only when Switch No. “72” is set to “04” in HEX Assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].
- To import all importable files those are saved in the root folder of the USB memory.
  NOTE
  - **In the following conditions, export of MFP setting data is prohibited.**
    - [Administrator] -> [Security] -> [USB port connection permission setting] is set to [Restrict].
    - [Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] is set to [Restrict].
    - [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON.”

Importable setting file	FileName
Address Book (*1)	UsbExportData_Addr.dat
Authentication Data (*1)	UsbExportData_Auth.dat
Network Settings (*1)	UsbExportData_Net.dat
Remote Access Setting	UsbExportData_Csrc.dat
User Settings	UsbExportData_Utility.dat
Administrator Setting (*1)	UsbExportData_Admin.dat
Service Settings	UsbExportData_Service.dat
Cloud Connection	UsbExportData_Cloud.dat
Display Custom Settings (*1)	UsbExportData_Topmenu.dat, TopMenuGadget.tar
External Cert (*1)	UsbExportData_ExtCertificates.tar
Custom Settings (*1) (*2)	UsbExportData.dat
UserBox Config Information (*1)	UsbExportData_BackUpBoxConf***.dat
Accessibility (*1)	UsbExportData_Universal.dat
Authentication customize data (*2)	AuthCustomMaster_***.xml
Copy Program	UsbExportData_CopyProgram.dat
PKI Batch Setting (*1)	UsbExportData_PKI.dat

- *1: It will be displayed when [Service Mode] -> [System 2] -> [Maintenance Mode] is set to [Effective], and [Administrator] -> [Security] -> [Maintenance Mode Access] is set to [Allow].
- *2: This file can be imported without inputting password, because it is not encrypted.

<Procedure>

1. Insert a USB memory into the USB port.
2. Enter a password.
3. Touch [Start].
   NOTE
   - **“OK” appears on the item that is imported successfully.**
   - **“NG” appears on the item where the password is mismatched or an error occurred.**
   - **“-” appears when no importable file is saved in the USB memory.**
4. Follow the massage appearing on the screen and turn OFF and ON the main power switch.
   NOTE
   - **If no “OK” appears in the import result, no message will be displayed.**

18.2.9 Machine Export setting

- Output the main unit configuration in XML format to a USB memory device or the SMB folder in the main unit.

NOTE

- **In the following conditions, export of the machine setting data is prohibited.**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] is set to [Restrict].**
  - **[Administrator] -> [Security] -> [USB port connection permission setting] -> [Detail Setting] -> [External Memory(Service)] is set to [Restrict].**
  - **[Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON.”**

Data to be exported
Address Book (*)
Authentication Data (*)
Network Settings (*)
Remote Access Setting

Data to be exported
User Settings
Administrator Setting (*)
Service Settings (Excluding the setting of Software switch and Engine FW DipSW)
Cloud connection (*)
Display Custom Settings (*)
External Cert (which is retained) (*)
UserBox Config Information (*)
Accessibility (*)
Authentication customize data
Copy Program
PKI Batch Setting (*)

- *: It will be displayed when [Service Mode] -> [System 2] -> [Maintenance Mode] is set to [Effective], and [Administrator] -> [Security] -> [Maintenance Mode Access] is set to [Allow].

<Procedure>

1. Select the item to be output.
2. Select either [USB] or [SMB] as the [Export Destination].
   NOTE
   [SMB] displays when the following settings are made.
   - [Administrator] -> [Network] -> [SMB Setting] -> [SMB Server Settings] -> [Share SMB File Setting] -> [ON]

   If you select [USB], connect a USB memory device to a USB port.
3. Enter a password.
   NOTE
   - **If an XML file is to be used on the Auto Update function, register the same password beforehand to the machine where a data is to be downloaded as [Machine Update Password].**
4. Touch [Start].
5. [Result: OK] will be displayed.
6. Complete the data export.

NOTE

- **When [SMB] is selected, the data is exported to the SMB folder of this machine.**
  - **Check of the SMB folder: \\(IP address)\FWData_out$**
- **If [ON] is selected for [CE Authentication], "User Name" and "CE Password" are required to access the folder.**
  - **User name: CE**
  - **Password: CE password**

18.2.10 Machine Update Password

- To set a password used to decrypt the update file of the machine.

<Procedure>

1. Current Password: Enter the currently used decryption password. (only when the decryption password has been set)
2. New Password: Enter the new decryption password.
3. Re-input Password: Enter the new decryption password again.

NOTE

- **Be sure not to forget the decryption password. It is required for reset.**

18.2.11 System Settings JSON Format

- To update the MFP system settings with a JSON file using a USB memory.

Operation Items	Description
Settings	To change the MFP system settings according to a JSON file (RmtSettingRequest***.dat) stored in a USB memory. RmtSettingRequest***.dat is output using the Editor function of the WW Remote Service PF in version 3.2 or later.
Get	Not used

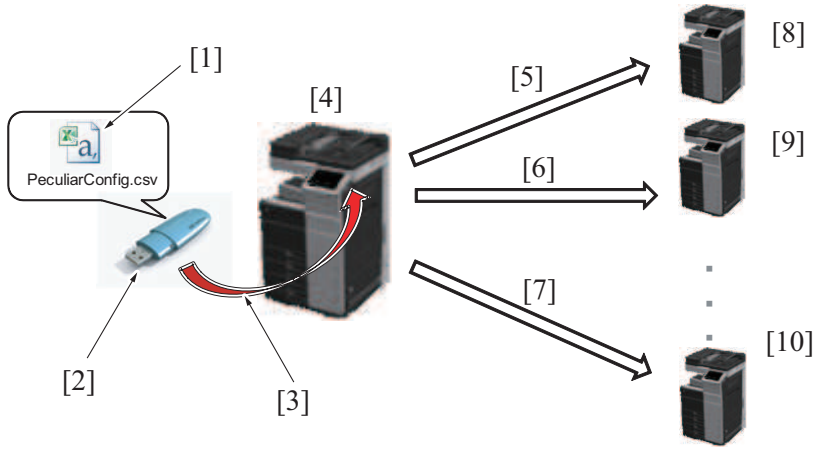
18.3 Firmware Update

- Not used

18.4 Copy Network Settings

18.4.1 Outline

- To deliver the network-related information saved in the USB memory to, and set it in, other MFPs.
- One MFP is an originating side that delivers the network connection setting values to other MFPs within the same network.
- Setting values described in the CSV file and associated with the serial number of the recipient MFP are delivered and set.



[1]	CSV file containing setting values for network connection	[2]	USB memory
[3]	Connection	[4]	Recipient MFP
[5]	Delivering and setting values of recipient MFP (serial No.1X)	[6]	Delivering and setting values of recipient MFP (serial No.2)
[7]	Delivering and setting values of recipient MFP (serial No.X)	[8]	Recipient MFP (serial No.1)
[9]	Recipient MFP (serial No.2)	[10]	Recipient MFP (serial No.X)

18.4.2 Environmental preparations

- It is necessary to set and prepare in advance the originating MFP, recipient MFPs, USB memory, and the CSV file that describes the network settings.

Setting the originating MFP

- Check that the originating MFP and the recipient MFPs are connected to the same network (segment).
- Set a fixed IP address in the originating MFP.
- Set [Administrator] -> [Network] -> [OpenAPI Setting] -> [Access Setting] to “ON”.
- Set [Administrator] -> [Network] -> [OpenAPI Setting] -> [External Application Connection] to “ON”.

Setting the recipient MFP

- Check that the originating MFP and the recipient MFPs are connected to the same network (segment).
- Check that the TCP/IP setting of the recipient MFP is enabled to permit network communications.
- Check that a serial number is set in the MFP.
- Set all settings in [Administrator] -> [System Connection] -> [OpenAPI Setting] to the default values.

USB memory

- The following shows the requirements for the USB memory to be used for copying in the network settings:
  - USB flash memory compatible with the USB (1.1/2.0) interface
  - Formatted to the FAT32 file system
  - Not including security features (Possible to turn OFF security features)
  - A USB memory that is recognized by the computer as two or more drives cannot be used.
  - Use any write-protected USB memory in the write-enabled condition.

CSV file

- Appropriate the format of the CSV file, and prepare a CSV file where the recipient MFP and network setting value to be delivered and set have been input.
  - Setting item: Corresponding to the “Column” of a CSV file format
  - Setting value of recipient MFP: Corresponding to the “row” of a CSV file format

NOTICE

- CSV file format (PeculiarConfig.xls)

<Procedure>

1. Enter the serial number and the IP address v4 validation method.
2. Enter the other setting details in accordance with the CSV file format.
   For items that can be delivered and set and the detailed descriptions, see the CSV file format.
3. Enter the setting value of one recipient MFP against one row. And to set multiple MFPs, create setting value for each MFP while adding rows from top in order.

NOTE

- **The serial number and the IP address v4 validation method should invariably be entered.**
- **In any items left blank in the file, the items set in the MFP are automatically set.**
- **The file name should read “PeculiarConfig” with an extension of CSV.**
- **All MFPs having serial numbers contained in the CSV file will be the recipient MFPs. If any MFP that is to be excluded is included in the network, do not include the serial number of such an MFP in the file.**
- **Even when the serial number of the originating MFP is included in the CSV file, the originating MFP is not a recipient MFP.**
- **Up to 255 MFPs are recognized as the recipient MFP. Any serial numbers of the 256th MFP and onward contained in the CSV file will be excluded from the recipient MFPs.**

18.4.3 Deliver/setting procedure

1. Prepare a CSV file (PeculiarConfig.csv) that describes the setting values to be delivered into the root directory under the USB memory, and connect the USB memory to the originating MFP
2. Set the time-out time in [Copy Network Settings] -> [Connection Timeout].
   - Setting range: 1 to 300 sec.
   - Default value: 30 sec.
3. Touch [Copy Network Settings] -> [Copy Setting] -> [Check Connection] -> [Start].
4. Check the number of MFPs displayed at “Result” against the number of MFPs displayed “OK”.
5. Touch [Copy] -> [Start]. This delivers the setting value information to the recipient MFPs one by one.
   NOTE
   - **Screen operations are displayed in the MFP in which the setting values are being rewritten.**
   - **Do not remove the USB memory until the procedure is completed.**
6. When the delivery of the setting values to all recipient MFPs and rewriting of the setting values in all recipient MFPs are completed, the recipient MFPs are restarted.
7. The CSV file (PeculiarConfig_Result.csv) that contains the delivery result is stored in the USB memory inserted in the originating MFP.
8. Check the delivery result file in the USB memory to thereby determine that the procedure has been normally terminated.
   NOTE
   - **When an error that disables continued delivery occurs, a corresponding error code appears on the control panel.**
   - **When a delivery error occurs in any of the recipient MFPs, a message appears that prompts a check of the delivery result file.**
   - **For details of the delivery error, check the specific details of the delivery result file.**

Error code list

Error code	Description
N*****	Communication error
E00001	The USB memory is not connected to the originating MFP.
E00002	The CSV file in the USB memory cannot be read.
E00003	The delivery result file cannot be created in the USB memory connected to the originating MFP.
E00004	The CSV file format is illegal.
E00005	Communication is not successful with an MFP having a serial number contained in the CSV file.
E00006 (*)	“OFF” is set in [OpenAPI Setting] -> [Access Setting].
E00007 (*)	“ON” is set in [OpenAPI Setting] -> [Authentication].
E00008 (*)	“SSL Only” or “SSL/Non-SSL” is set in [OpenAPI Setting] -> [SSL/Port Settings].
E00009 (*)	Any data other than “50001” is set in [OpenAPI Setting] -> [SSL/Port Settings].
E00010 (*)	“No” is set in [OpenAPI Setting] -> [External Application Connection].
E00011	No response is received from the recipient MFP even after the lapse of a predetermined period of time after the CSV file has been delivered. (Timeout error)
E00012	The recipient MFP is not at timing at which it can accept the OpenAPI message.
E00013	The recipient MFP fails in updating.
E00014	“Cancel” is selected during delivery.
E00015	The USB memory is removed from the originating MFP during delivery.
E00016	A serial number in the CSV file is illegal.
E00099	A network system error. Any of the network settings is not the default value.

- *: Check the settings in the originating MFP when the error code appears on the control panel; check the settings in the recipient MFP when the error code is included in the delivery result file.

18.5 OSS Update

- Not used

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J BILLING SETTING/ENHANCED SECURITY/DEBUG SETTINGS

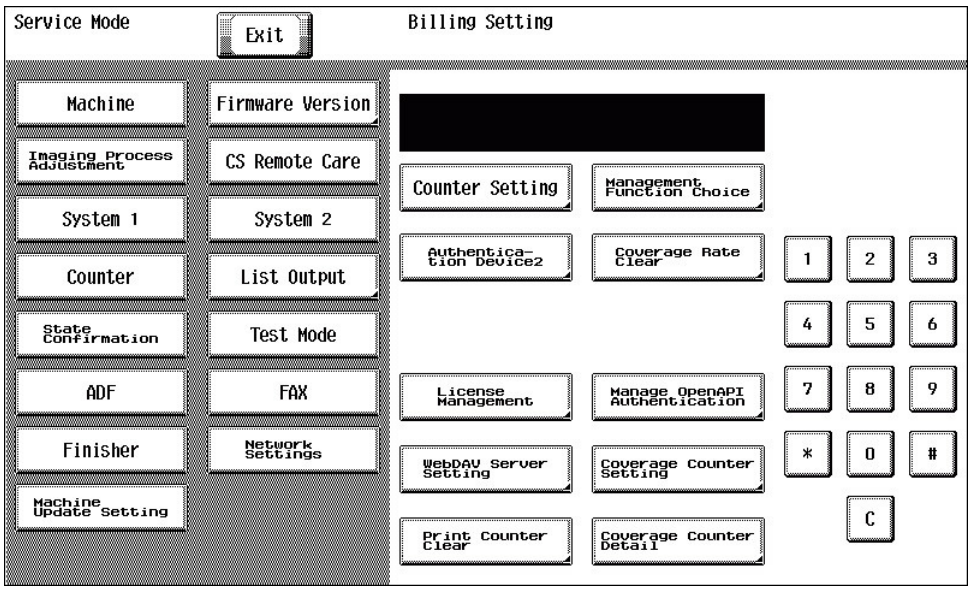
1. BILLING SETTING

1.1 Outline

Starting procedure

1. Call the initial screen of Service Mode.
2. Press the following keys in this order.
   - Stop -> 9
3. Call the Billing Setting screen.

An example of the Billing Setting screen



Exiting procedure

1. Touch [Exit].
2. Turn OFF the main power switch. Wait 10 seconds, then turn ON the main power switch again.

1.2 Counter Setting

1.2.1 Total Counter Mode

- To set the counting method for the total counter.

Setting item	Contents	Default setting
Mode 1	1 count per copy cycle	○ (Japan)
Mode 2	Large size is double counts	○ (North America/ Europe/Others)

Count-up table

Total Counter mode	Print mode	Paper size	Total	Large size	2-Sided Total
Mode 1	1-Sided	Except for large size	1 count	0 count	0 count
		Large size	1 count	1 count	0 count
	2-Sided	Except for large size	2 count	0 count	1 count
		Large size	2 counts	2 counts	1 count
Mode 2	1-Sided	Except for large size	1 count	0 count	0 count
		Large size	2 counts	1 count	0 count
	2-Sided	Except for large size	2 counts	0 count	1 count
		Large size	4 counts	2 counts	1 count

1.2.2 Large Size Counter Mode

- To set the size regarded as the large size.

Setting item	Contents	Default setting
No count	No count the large size counter.	○ (Japan/ North America)
8 $^{1}/_{2}$ x 14	When it exceeds 215 mm in the main scan direction and 355 mm in the sub scan direction (exceeds 337 mm at fax scan), it is regarded as the large size.	○ (Europe/ Others)

Setting item	Contents	Default setting
8 1/2 x 14/Foolscap	When it exceeds 203 mm in the main scan direction and 330 mm in the sub scan direction (exceeds 313 mm at fax scan), it is regarded as the large size. (However the size in the main scan direction changes according to the foolscap size setting.)	

1.2.3 Count by the combination of each setting

- The count method depends on the combination of the Counter Setting.
- The following shows count methods that are the combination of each setting.

Total Counter	Large Size Counter Mode	Paper size	Count
Mode 1	No count	-	1 count
	Other than No count	Except for large size	1 count
		Large size	1 count
Mode 2	No count	-	1 count
	Other than No count	Except for large size	1 count
		Large size	2 counts

1.3 Management Function Choice

- To set whether or not the Key Counter, Management Device (Data controller), Authentication Device, or Vendor are to be mounted.

NOTE

- **This is not displayed when [Administrator] -> [Security] -> [Enhanced Security Mode] is set to "ON".**
- **When the setting shows that [Management Device 2] or [Vendor 2] is mounted, the following applications will be invalid.**
  PC FAX transmission / HDD TWAIN/PS Box Operator / PS Scan Direct / PS Job Spooler / Fiery: Scan to Box
  Also, [Administrator] -> [Security] -> [Function Management Settings] -> [Network Function Settings] will be set to "OFF".

1.3.1 Management Device 2

- To set whether or not the management device 2 is installed.
- Set when the management device 2 is mounted.

(1) Management setting

- To set the management method when the management device 2 is mounted.

NOTE

- **The setting is not available when either "External Authentication server setting" of user authentication, "Password Only" of account track, "Do Not Synchronize" of user authentication and account track or "ON" of public user access has been set with [Administrator] -> [User Auth/Account Track] -> [Authentication Type].**

Setting item	Contents
Mode 1	Use contact type device. (Logout with ID key is not allowed.)
Mode 2	Use non-contact type device. (Logout with ID key is allowed.)

(2) Billing Line

- To be displayed only when [Fax (Line 3)] and [Fax (Line 4)] are set to [Set] in [Service Mode] -> [System 2] -> [Option Board Status].

1.3.2 Vendor 2

- To set whether or not the vendor 2 is installed.

(1) Vendor

Message

- Select message of vendor.

Setting item	Contents
Type 1	Message for coin vendor
Type 2	Message for card keeper
Type 3	Message for both coin and card

(2) Billing Line

- To be displayed only when [Fax (Line 3)] and [Fax (Line 4)] are set to [Set] in [Service Mode] -> [System 2] -> [Option Board Status].

1.4 Authentication Device 2

- To set whether or not the authentication device 2 is installed.
- Set when the authentication unit (biometric type or card type) is mounted.

Setting item	Contents
Card	Uses IC card authentication system (AU-201S/OMNIKEY 5427CK (AU-205H)/YSoft card reader/USB keyboard emulation card reader). A response timeout interval is displayed. (The interval is unchangeable.)
Body	Uses biometrics (finger vein) authentication system (AU-102) Set a film timeout interval, capture trial time and authentication trial time.

Setting item	Contents
Card 3	Uses IC card authentication device for PKI card system It will be displayed only when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No. 12 is set to [00000010]/[02] (bit value/HEX value).

1.4.1 Installation procedures of authentication unit

(1) AU-102

1. Install the AU-102 loadable driver (BIO_LDR.tar) to the main unit. (*1)
2. Install the AU-102 to the main unit.
3. Select [Body] in [Service Mode] -> [Billing Settings] -> [Authentication Device 2].
4. Turn off the main power switch and turn it on again more than 10 seconds after.
5. Register the authentication user data.

Note *1

- **Use the loadable driver in advanced combination with the firmware version.**

Authentication device	Compatible IC cards
AU-102	**Body**

(2) AU-201S

1. Install the loadable driver (ICC_LDR.tar) to the main unit. (*1)(*2)(*3)
2. Install the AU-201S to the main unit.
3. Select [Card] in [Service Mode] -> [Billing Settings] -> [Authentication Device 2].
4. Turn off the main power switch and turn it on again more than 10 seconds after.
5. Register the authentication card data.

Note *1

- **A combination of the loadable driver and the IC card information setting file will be supplied as a loadable driver by OLI.**

Note *2

- **The loadable driver to be installed varied according to the type of the card. Identify the type of the card requiring authentication and install the correct loadable driver.**
- **Use the loadable driver in advanced combination with the firmware version.**

Authentication device	Loadable driver name (OLI standard setting)	Compatible IC cards
AU-201S	**AU-201S loadable driver**	**FeliCa IDm, FeliCa SSFC, FeliCa FCF, FeliCa FCF(Campus), TypeA FeliCaPrivate**

Note *3

- **If FeliCa IDm, FeliCa SSFC, FeliCa Private, or related card requiring detailed settings is to be used, make the detailed settings by using either one of the following methods:**
  1. Using the Auth Device Tool Advanced for AU-201S, prepare a combination of the loadable driver and the IC card information setting file and export it as a loadable driver.
  D.2.1 IC card information setting tool of card reader
  2. Using the Auth Device Tool Advanced for AU-201S, prepare the IC card information setting file only and install the loadable driver in the MFP. Then, using the Data Administrator, write the IC card information setting file in the MFP.
  D.2.1.2 IC card information setting procedures

E.g.: Information setting sample when the FeliCa SSFC card is used

Information to be obtained from the administrator		
Items of FeliCa SSFC detail setting	Sample-data (decimal number)	Setting value (hexadecimal number)
Room number	37	00 25
Floor number	15	00 0F
Building number	50	00 32
Area number	85	00 55
Security level	2	00 02
Company identification code (CL code) (*1)	06BGLQVX17 (ASCII code)	30 36 42 47 4C 51 56 58 31 37
Company code (*2)	CompanyA (ASCII code)	CompanyA

*1: The character length of the company code is 10 bytes.
*2: Use alphabetical upper case/lower case characters and numeric characters for Company code. When the company code is not set, this space will be left blank.

(3) USB keyboard emulation card readers

1. Install the loadable driver (ICC_LDR.tar) to the main unit. 1
2. Select [Card] in [Service Mode] -> [Billing Settings] -> [Authentication Device 2].
3. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
4. Turn OFF the main power switch.
5. Install the USB keyboard emulation card readers to the main unit.
6. Turn ON the main power switch.
7. Register the authentication card data.

NOTE

- **Use the card reader supporting US keyboards.**
- **The length of card ID is 1 to 512 bytes.**
- **Send data as card ID data received until the reception of the key code that has been set as a delimiter (Enter).**

Note *1
- **Use the loadable driver in advanced combination with the firmware version.**

Authentication device	Loadable driver name (OLI standard setting)	Compatible IC cards
USB keyboard emulation card readers	KeyboardEmu loadable driver	Depends on the card reader

(4) Miscellaneous card readers
- The same setting method as that for AU-201S applies for other card readers.
- The following loadable drivers are necessary.
- Use the loadable driver in advanced combination with the firmware version.

Authentication device	Compatible IC cards	Loadable driver name (OLI standard setting)
OMNIKEY 5427CK (AU-205H)	HID Prox, HID iCLASS, TypeA, FeliCa IDm (*1)	5427CK (AU-205H) loadable driver (*2)
OLI USB Reader v3 MF & Legic	LEGIC	Loadable driver for YSoft card reader (Default: HID Prox) (*3)
OLI USB Reader v3 Indala	Indala	
OLI USB Reader v3 MF+	Mifare	
	EM4100, EM4102, RFID 125kHz	
	HID Prox	
	HID iCLASS	

Note *1
- **To use FeliCa, make either of the following settings.**
  - **Select [FeliCa] at [Administrator] -> [User Auth/Account Track] -> [Authentication Device Settings] -> [Card Authentication] -> [IC Card type].**
  - **Although [Use Card Reader Settings] is also selectable at [Administrator] -> [User Auth/Account Track] -> [Authentication Device Settings] -> [Card] -> [IC Card type], "FeliCa" is dedicated for the card reader (OMNIKEY5427CK) settings.**
  - **Make card reader (OMNIKEY5427CK) settings with the tool that is exclusively used for PC settings and downloaded from the HID web page.**

Note *2
- **If cards of HID iClass of OMNIKEY 5427CK (AU-205H) that require detailed settings are to be used, make the detailed settings by using either one of the following methods:**
  - **Using the Auth Device Tool Advanced for 5427CK (AU-205H), prepare a combination of the loadable driver and the IC card information setting file and export it as a loadable driver.**
  - **Using the Auth Device Tool Advanced for 5427CK (AU-205H), prepare the IC card information setting file only and install the loadable driver in the MFP. Then, using the Data Administrator, write the IC card information setting file in the MFP.**
  - **Reference " D.2.1.2 IC card information setting procedures"**

Note *3
- **If a YSoft card reader is used, all types of card will be reported as HID Prox card to the authentication program.**
- **To report the card type other than HID Prox to the authentication program, choose the corresponding card type shown in the following list.**

Card Reader Name	Readable Card Type	Card type to be reported to the authentication program (Default) (*3-3,*3-5)	IC Card Information Setting (card type to be reported) (*3-4)
OLI USB Reader v3 MF & Legic	LEGIC	HID Prox	TypeA (1) (*3-1,*3-2)
OLI USB Reader v3 Indala	Indala	HID Prox	Indala
OLI USB Reader v3 MF+	Mifare	HID Prox	TypeA (1) (*3-1,*3-2)
	EM4100, EM4102, RFID 125kHz	HID Prox	EM4100/ EM4102/ RFID 125kHz
	HID Prox	HID Prox	HID Prox (1) (*3-2)
	HID iCLASS	HID Prox	HID iCLASS (1) (*3-2)

- ***3-1 The content (ID) to be read from the type A card setting differs from which to be read by using AU-201S.**
- ***3-2 When add the YSoft card reader to the authentication network composed of the present AU-201S, the ID may vary depending on the card reader. Therefore, it is required to set the card type to TypeA (1), HID Prox (1) or HID iCLASS (1) and register the card again.**
- ***3-3 For the content to be read from the HID Prox card, since the ID length is fixed to 16 bytes, the unused part will be bridged with 0xFF.**
- ***3-4 If a card type other than HID Prox is selected, the card ID type will be set to up to 512 bytes, the card ID length will be reported together with the card ID.**
- ***3-5 If the card type is set to HID Prox by using the LDAP-IC card authentication, specify the card ID type to be sent to the LDAP server as shown below.**
  1. Software switch No.135 Hex: 00 Reports that the 1st byte shows the ID length of the card, the 2nd byte and after shows the card ID. (Default)
  2. Software switch No.135 Hex: 01 Reports the card ID with the ID length including the 1st byte.

1.5 Coverage Rate Clear

To clear the coverage rate.

Setting value	Contents	Default setting
Set	Select [Set] and [END] key will clear the coverage rate.	
Unset	Not cleared	○

1.6 License Management

1.6.1 Activation

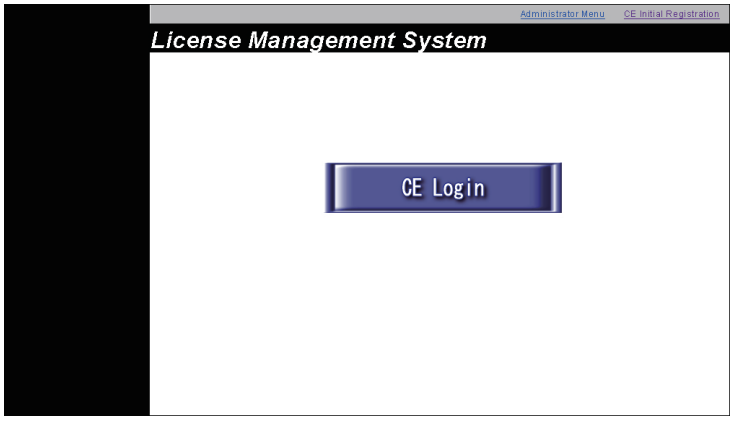
- To activate i-Option functions.
- The functions can be activated by selecting the desired function and enter the appropriate license code and function code.
- Administrators also can carry out the procedure No.14 or later step to activate i-Option functions through Administrator Settings.

NOTE

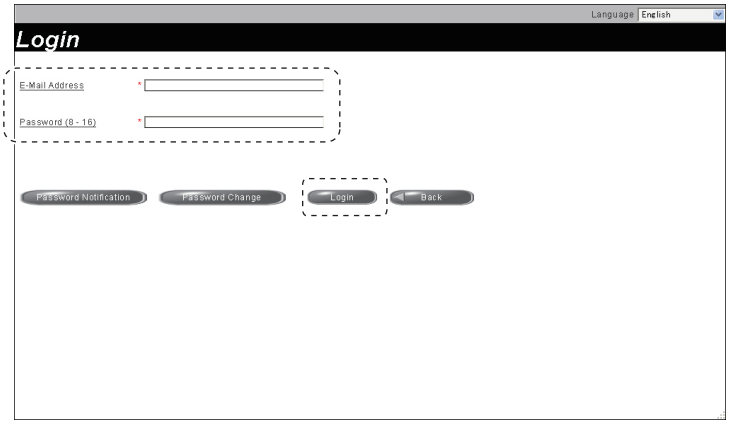
- **You need to access License Management System (LMS) to implement each function setting.**
- **Before accessing the LMS, CE are required to register the E-mail address and the password in the LMS. To register, click [CE Initial Registration] that is located in the upper right of CE Login screen.**

<Procedure>

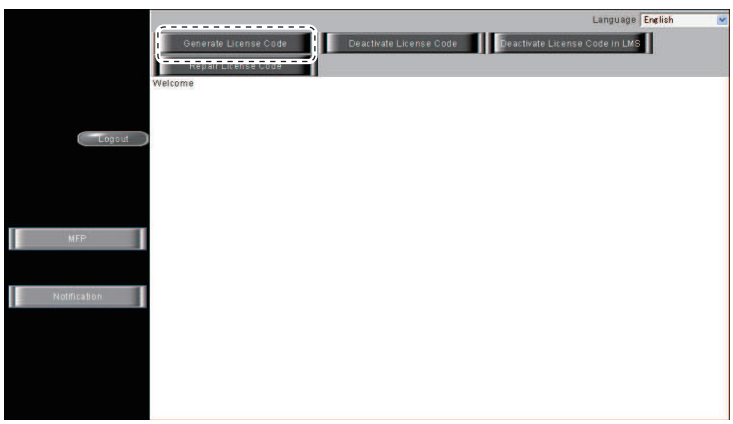
1. Prepare “token certification.”
2. Access the following URL using the PC connected to the Internet.
   https://lms.konicaminolta.com/license/KM/support.aspx
3. Click [CE Login].



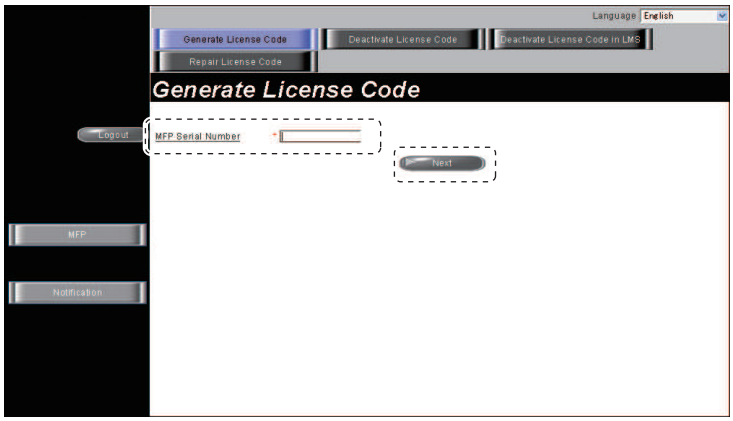
4. Enter [E-Mail Address] and [Password], and click [Login].



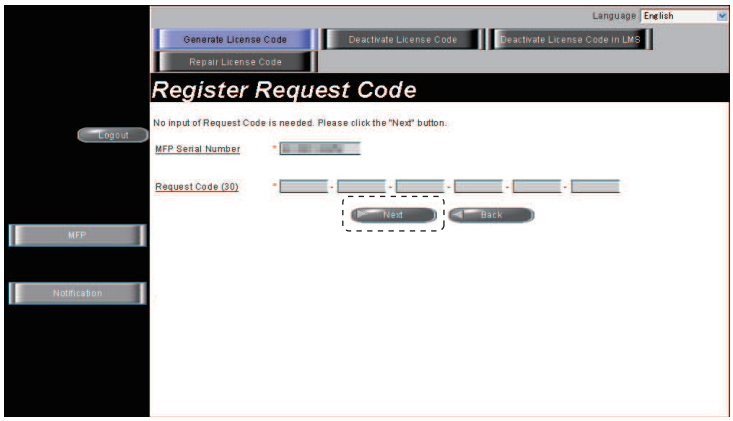
5. Click [Generate License Code].



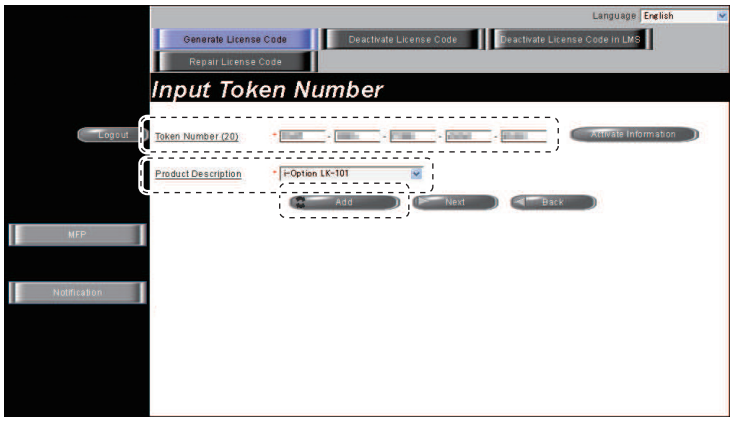
6. Enter the serial number of the target MFP, and click [Next].
   NOTE
   - **Make sure to enter alphabet letters of the serial number in all capital letters.**



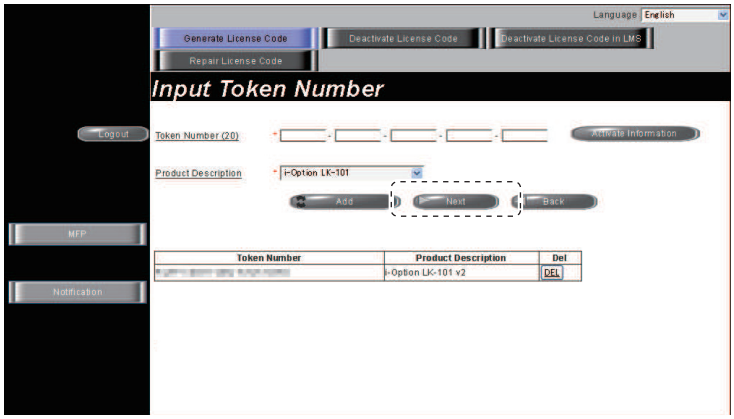
7. Click [Next].



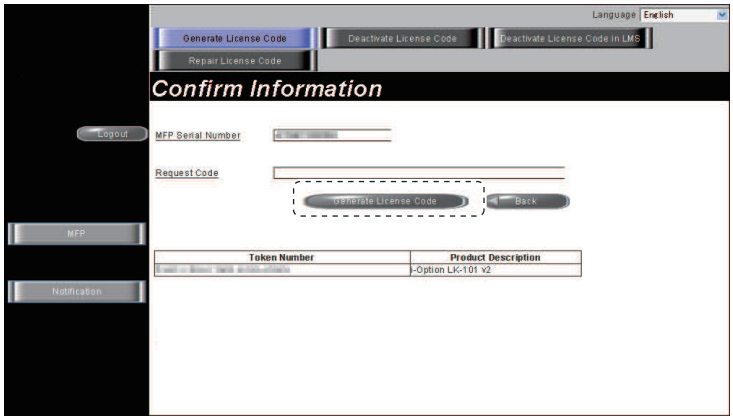
8. Enter the token number written in the token certification, and select the product description.
9. Click [Add].



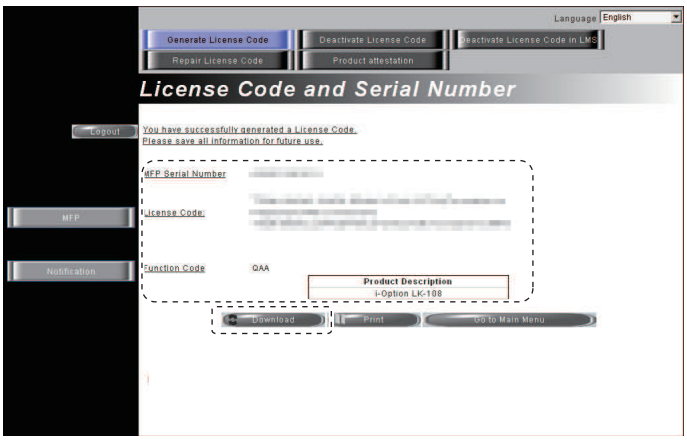
10. Confirm the registered items, and click [Next].



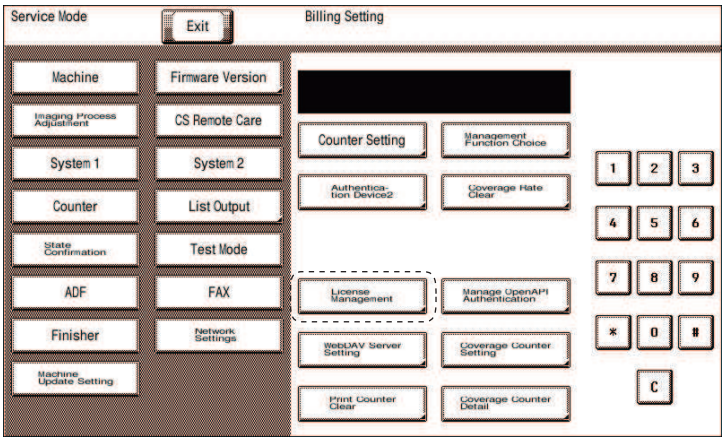
11. Click [Generate License Code].



12. LMS issues license code and function code.
13. Write down the serial number, license code and function code.
<When activating with an USB memory>
Click [Download], and save a "***.fek" file to the root directory of the USB memory.

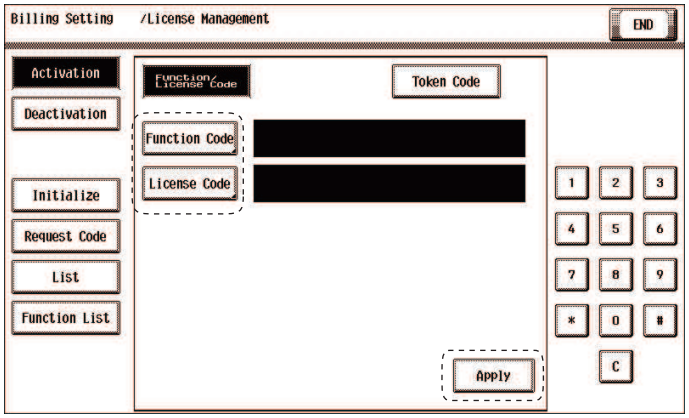


14. Select [Service Mode] -> [Billing Setting] -> [License Management].



15. Select [Activation] -> [Function Code] or [License Code], and enter the function code and the license code confirmed at Step13.
<When activating with an USB memory>
Connect the USB memory to the USB port on the side of the control panel, and select [Activation] -> [USB].

16. Touch [Apply].



17. Follow the massage appearing on the screen and turn OFF and ON the main power switch.
<When activating with an USB memory>
This step is unnecessary. Proceed to the next step.

18. Select [Service Mode] -> [Billing Setting] -> [License Management] -> [Function List], and confirm that the activated function is displayed at the list.

1.6.2 Deactivation

- To deactivate i-Option functions.
- To deactivate i-Option functions due to registration error, expiration of lease term, change to other MFP or etc.
- The functions can be deactivated by selecting the desired function and enter the appropriate deactivation code.

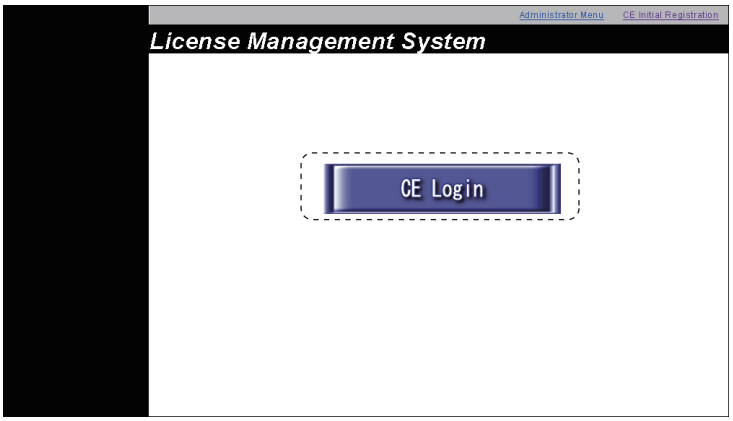
NOTE

- **You need to access License Management System (LMS) to implement each function setting.**
- **Before accessing the LMS, CE are required to register the E-mail address and the password in the LMS. To register, click [CE Initial Registration] that is located in the upper right of CE Login screen.**

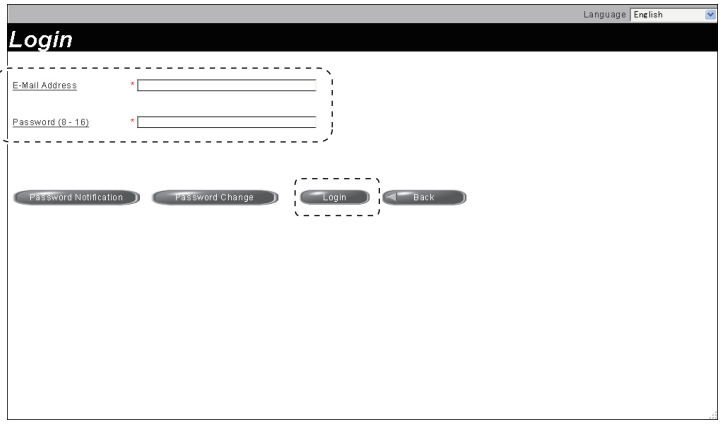
<Procedure>

1. Check the serial number of the target MFP.

2. Access the following URL using the PC connected to the Internet.
   https://lms.olivetti.com/license/OLI/support.aspx
3. Click [CE Login].



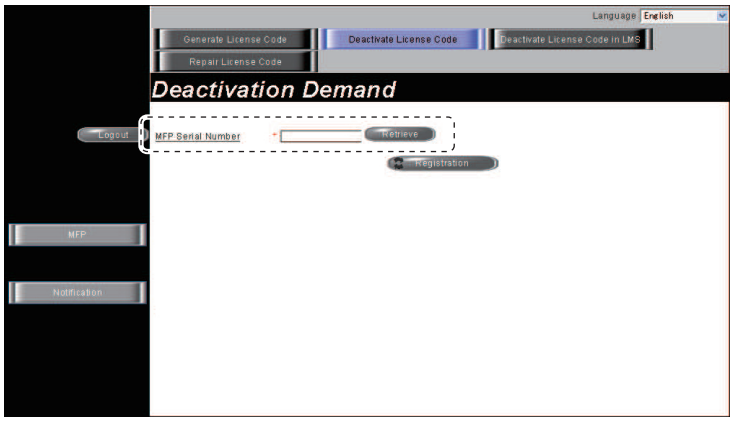
4. Enter [E-Mail Address] and [Password], and click [Login].



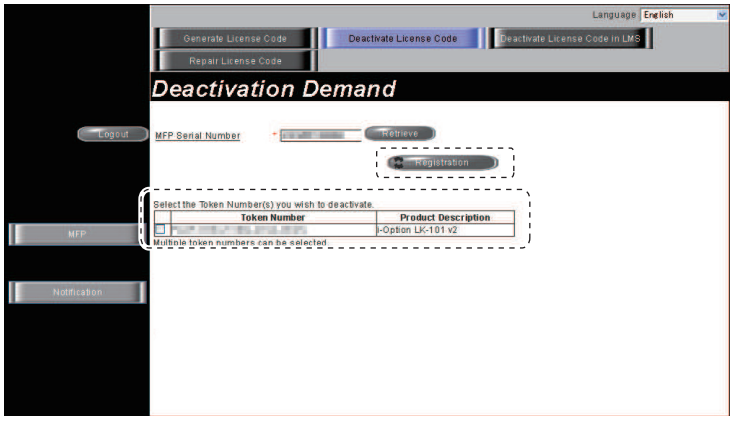
5. Click [Deactivate License Code].



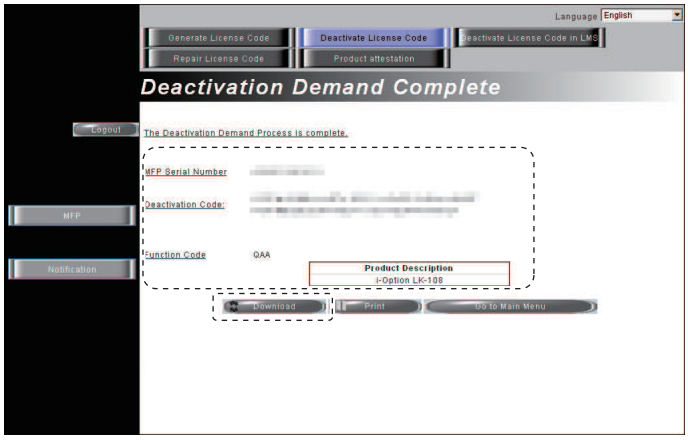
6. Enter the serial number of the target MFP, and click [Retrieve].
   NOTE
   - **Make sure to enter alphabet letters of the serial number in all capital letters.**



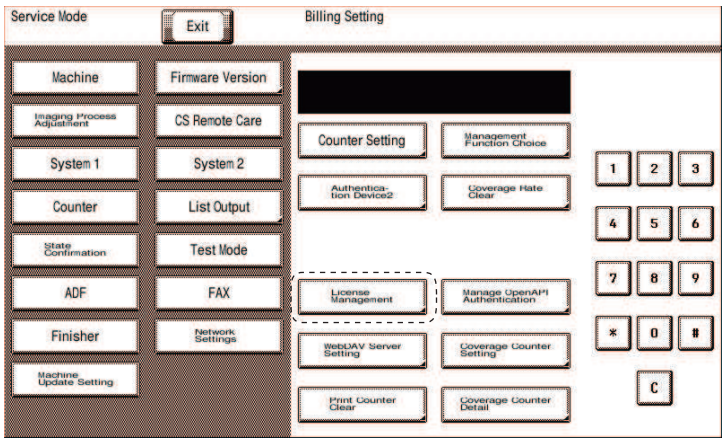
7. Select the token to be deactivated, and click [Registration].



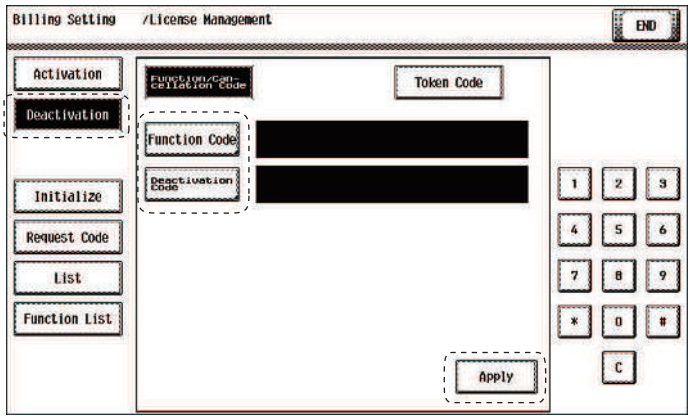
8. LMS issues deactivation code and function code.
9. Write down the serial number, deactivation code and function code.
   <When deactivating with an USB memory>
   Click [Download], and save a "***.fek" file to the root directory of the USB memory.



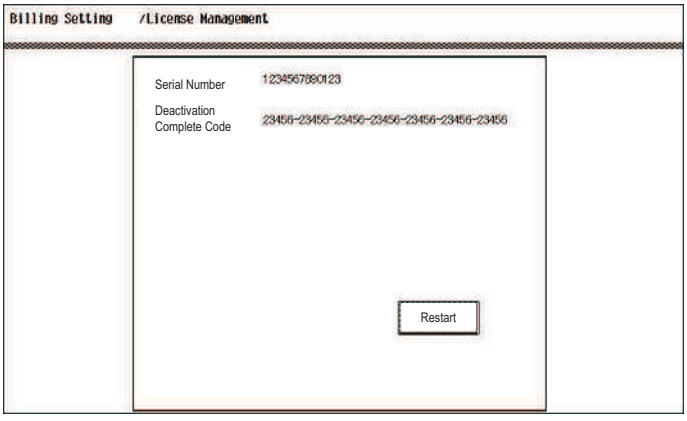
10. Select [Service Mode] -> [Billing Setting] -> [License Management].



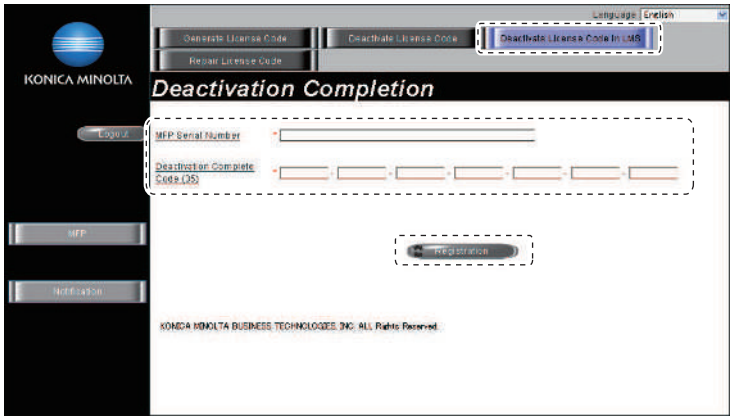
11. Select [Deactivation] -> [Function Code] or [Deactivation Code], and enter the function code and the deactivation code confirmed at Step9.
<When deactivating with an USB memory>
Connect the USB memory to the USB port on the side of the control panel, and select [Deactivation] -> [USB].
12. Touch [Apply].



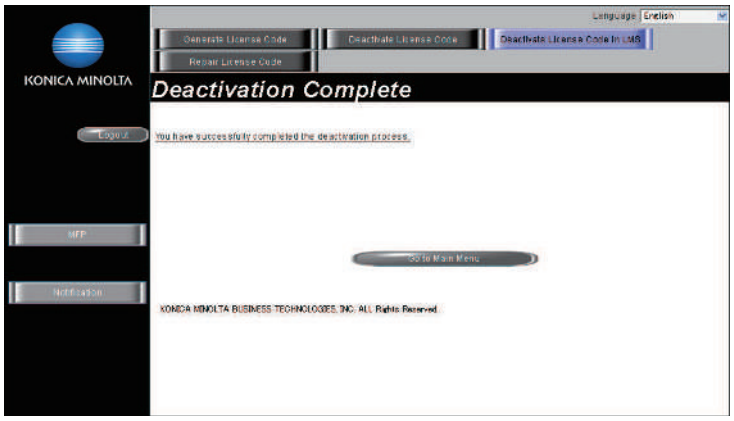
13. Write down or print out the serial number and deactivation complete code.
<When deactivating with an USB memory>
MFP will restart automatically. After MFP restarts, write down or print out the serial number and deactivation complete code.
NOTE
- **When A4S or 8 1/2 x 11S is set to the paper feed tray, the above-mentioned serial number and deactivation complete code can be printed out by pressing the start key.**
- **Serial number and deactivation complete code can be confirmed in [List] available from [License Management].**



14. Touch [Restart].
<When deactivating with an USB memory>
This step is unnecessary. Proceed to the next step.
15. Access to the LMS and login again.
For detail of the login method, refer to step 2 to step 4.
16. Click [Deactivate License Code in LMS].
17. Enter the serial number and the deactivation complete code confirmed at step13.
NOTE
- **Make sure to enter alphabet letters of the serial number in all capital letters.**



18. "Deactivation Complete" message will be displayed.
The license become invalid at both MFP and LMS, and deactivated token number can be used for another MFP.

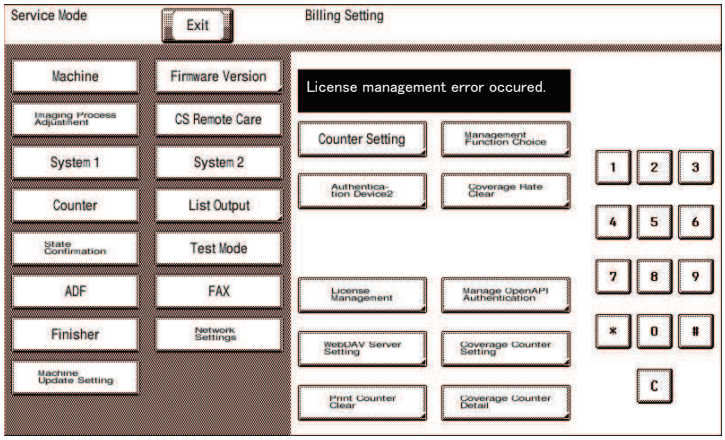


1.6.3 Repair

- To repair license management information.
- To be used when license management information is lost due to replacement of CPU board or the storage board, or some other trouble.
- License management information can be repaired by acquiring repair code with repair request code, and entering the repair code.

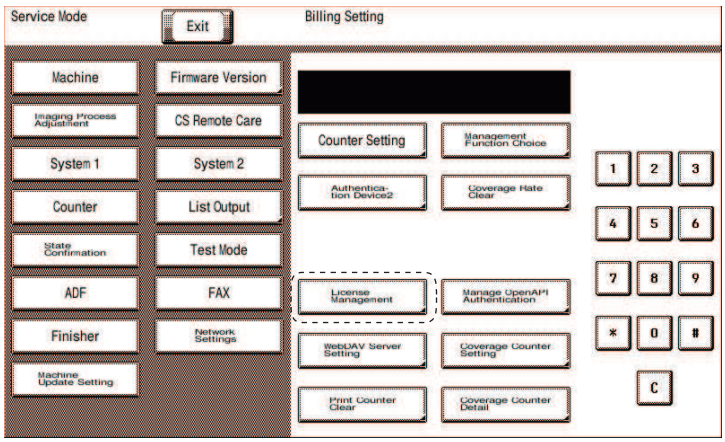
NOTE

- **You need to access License Management System (LMS) to implement each function setting.**
- **Before accessing the LMS, CE are required to register the E-mail address and the password in the LMS. To register, click [CE Initial Registration] that is located in the upper right of CE Login screen.**
- **When the message "License management error occurred." is displayed, carry out the repair operation with the following steps.**

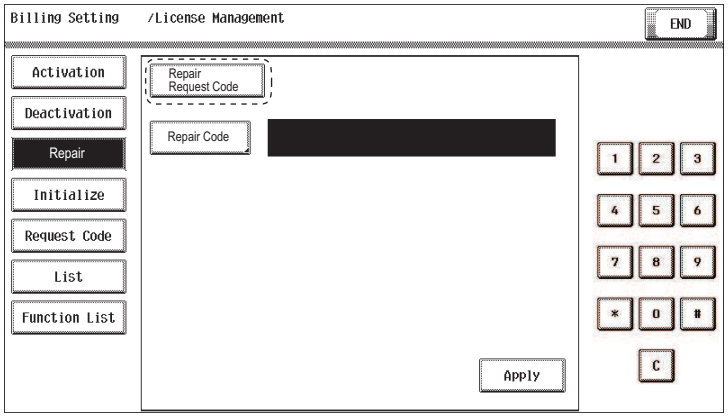


<Procedure>

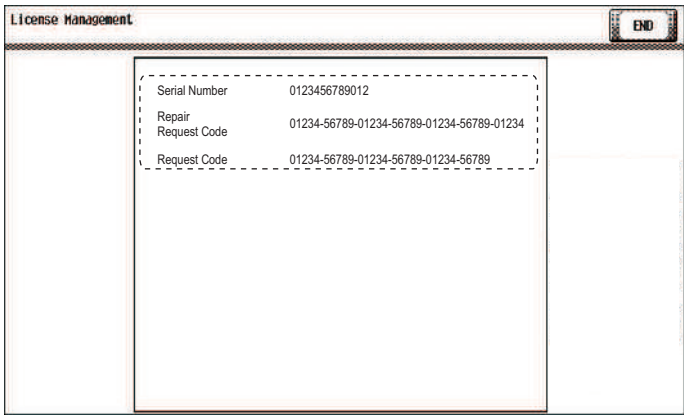
1. Select [Service Mode] -> [Billing Setting] -> [License Management].



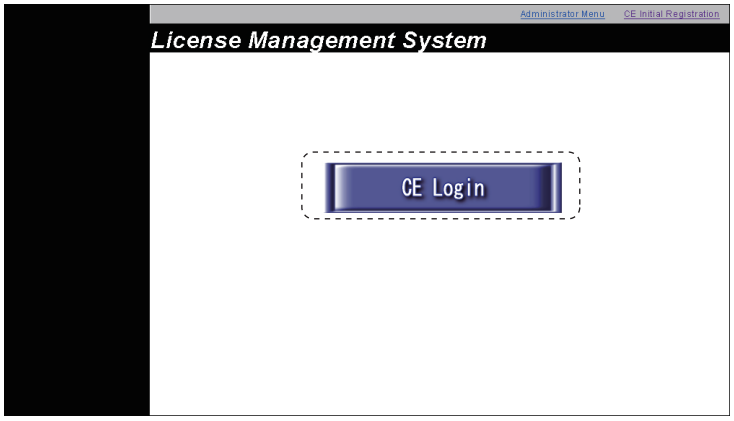
2. Select [Repair] -> [Repair Request Code].



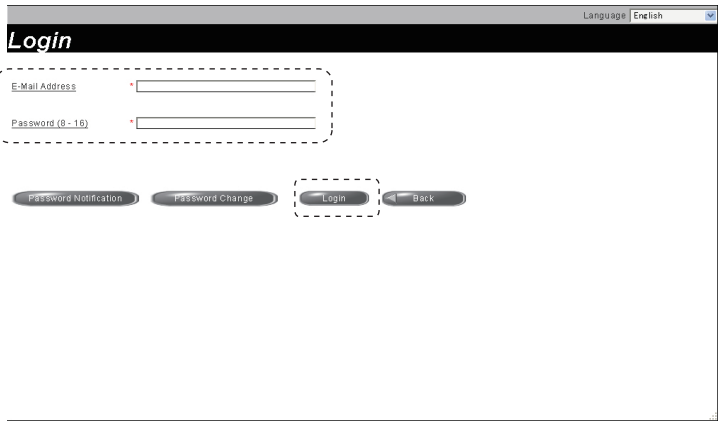
3. Write down or print out the serial number, repair request code and request code.
NOTE
- **When A4S or 8 1/2 x 11S is set to the paper feed tray, the above-mentioned serial number and repair request code can be printed out by pressing the start key.**



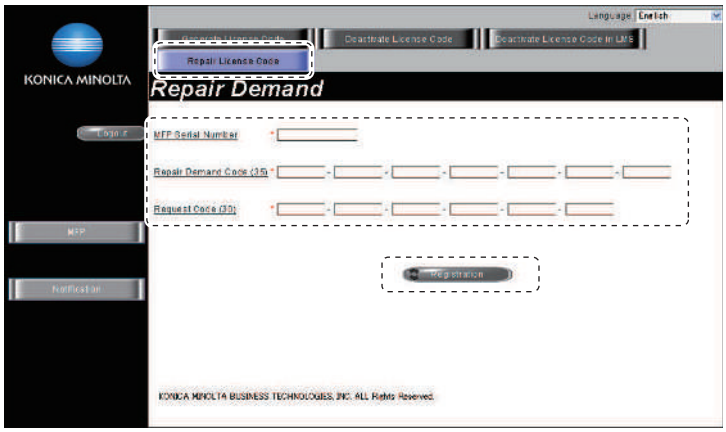
4. Access the following URL using the PC connected to the Internet.
   - https://lms.konicaminolta.com/license/KM/support.aspx
5. Click [CE Login].



6. Enter [E-Mail Address] and [Password], and click [Login].



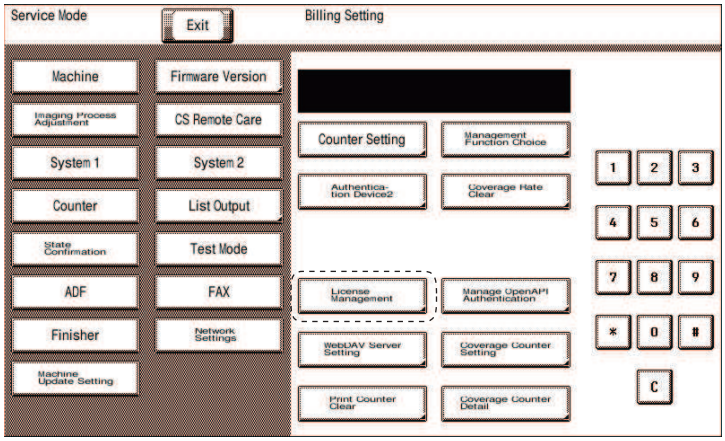
7. Click [Repair License Code].
8. Enter the serial number, repair request code and request code confirmed at step3, and click [Registration].
   NOTE
   - **Make sure to enter alphabet letters of the serial number in all capital letters.**



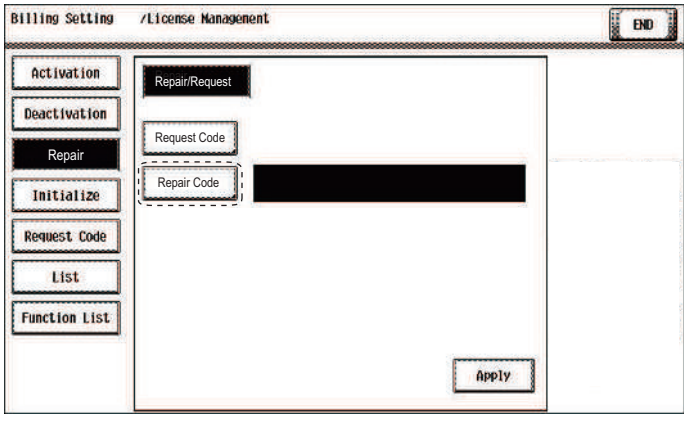
9. LMS issues repair permission code.
10. Write down the serial number and repair permission code.



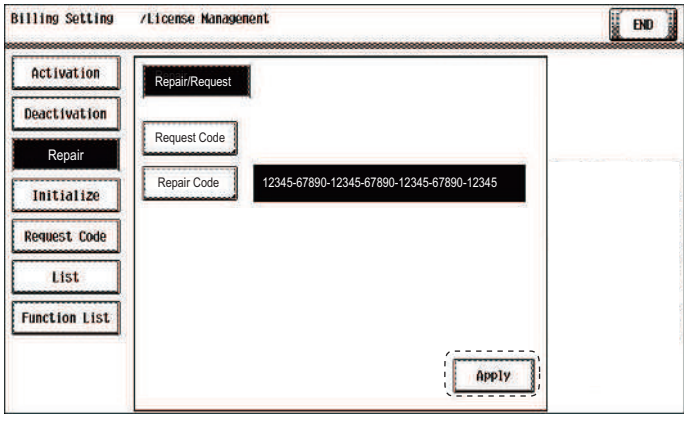
11. Select [Service Mode] -> [Billing Setting] -> [License Management].



12. Select [Repair] -> [Repair Code], and enter the repair code confirmed at step10.



13. Touch [Apply].



14. After repair is completed, the machine restarts automatically.

1.6.4 Initialize

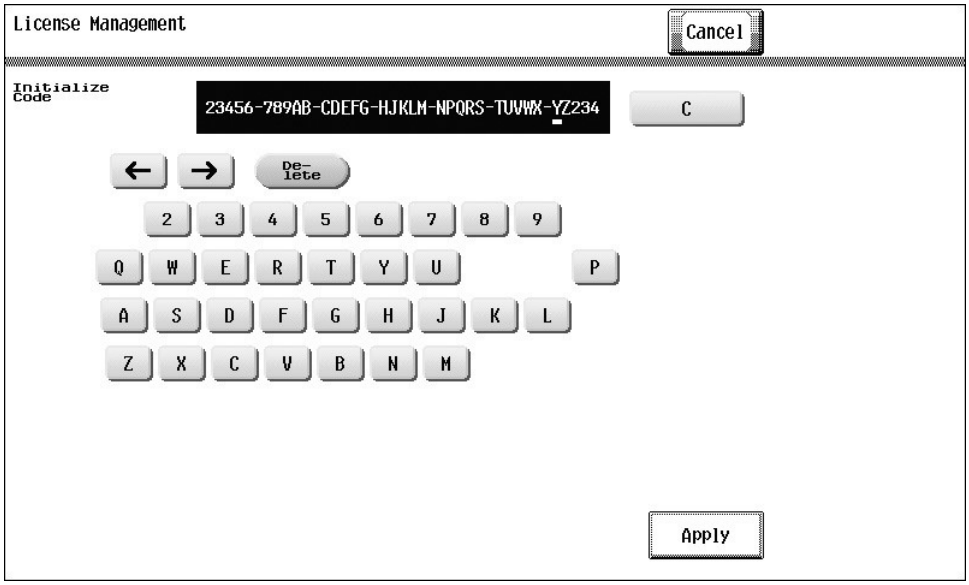
- To initialize license management information.
- To be used when license management information cannot be repaired.
- License management information should be initialized when the machine fails to generate request code or repair request code due to any trouble and the information cannot be repaired.

NOTE

- **You need to access License Management System (LMS) to implement each function setting.**
- **When license management information cannot be repaired, initialize the information with the following procedure.**

<Procedure>

1. Contact the license management section of sales company to report the information necessary to issue the initialize code.
2. The license management section of sales company supplies the initialize code.
3. Call the Billing Setting to the screen.
4. Touch [License Management] -> [Initialize].
5. Enter the initialize code issued by call center using the keyboard on the screen, and touch [Apply].



6. After completing the initialization, follow the message appearing on the screen and turn OFF and ON the main power switch.

1.6.5 Request Code

- To display and print request code and serial number.
- To check the request code and serial number.

NOTE

- **When the license management error is occurred, it will not be displayed until the repair code is input.**

<Procedure>

1. Set A4S or 8 1/2 x 11S paper to the tray.
2. Press start key at request code screen to print.

1.6.6 List

- To display and print deactivation complete code and serial number.
- To check deactivation complete code and serial number.

<Procedure>

1. Set A4S or 8 1/2 x 11S paper to the tray.
2. Press start key at deactivation complete code screen to print.

1.6.7 Function List

- To display currently activated functions.
- To display activated functions.

1.7 Manage OpenAPI Authentication

Restriction Code

- These are communication settings for the application which is developed by the third vendor. Do not set or change these settings without vendor's instructions.

Region Code

- These are communication settings for the application which is developed by the third vendor. Do not set or change these settings without vendor's instructions.

1.8 WebDAV Server Setting

Select Address

- To select the address of the LMS server used to manage the license of i-Option.

- Used to change the LMS server address set at the time of shipment.

Setting item	Contents	Default setting
Fixed Address	Uses the LMS server address set at the time of shipment. The specified address cannot be changed.	○
Specify Address	Specifies a desired LMS server address. When selecting [Specify Address], [Server Setting] is displayed.	

Server Setting

- To configure the settings on the WebDAV server that communicates with MFP when selecting [Specify Address] in [Select Address].

Setting item	Contents	Setting value	Default setting
Host Name	Set the host name of the WebDAV server.	Up to 253 one-byte alphameric characters and symbols	-
File Path	Set the file path used in the WebDAV server communication.	Up to 47 one-byte alphameric characters and symbols	-
User Name	Set the user name used to access the WebDAV server.	Up to 64 one-byte alphameric characters and symbols	-
Password	Set the password that is used to access the WebDAV server.	Up to 64 one-byte alphameric characters and symbols	-
Port Number	Set the port number that is used to access the WebDAV server.	1 to 65535	80

Polling

- To set the number of times and interval at which MFP polls the WebDAV server.

Setting item	Contents	Setting value	Default setting
Polling Count	Set the number of times that MFP polls the WebDAV server.	10 to 30 times	30 times
Polling Interval	Set the interval at which MFP polls the WebDAV server.	20 to 30 sec.	20 sec.

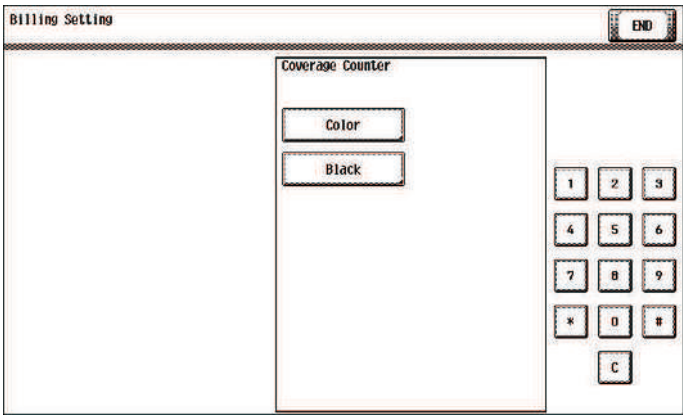
NOTE

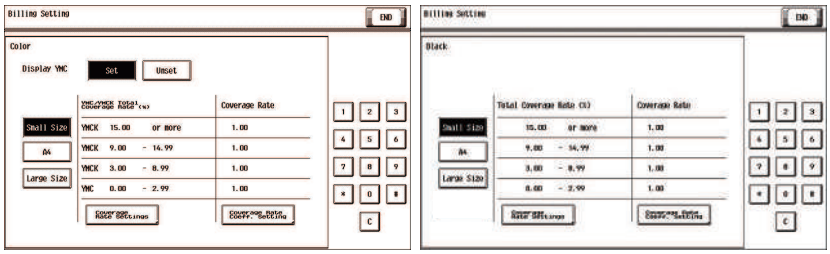
- **When MFP accesses to WebDAV server via proxy server, set the proxy setting in [Administrator] -> [Network] -> [WebDAV Settings] -> [Proxy Setting for Remote Access].**

1.9 Coverage Counter Setting

- It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.206 is set to [00000001] at Bit assignment/[01] at HEX assignment.
- To set the counting method according to the print paper size, the total coverage rate of each color, and the count-up coefficient.
  NOTE
  - **The coverage rate refers to a ratio of the print area of each color relative to the print paper size.**
- The coverage rate and the coefficient can be set for each of the print modes and paper sizes listed in the following table.

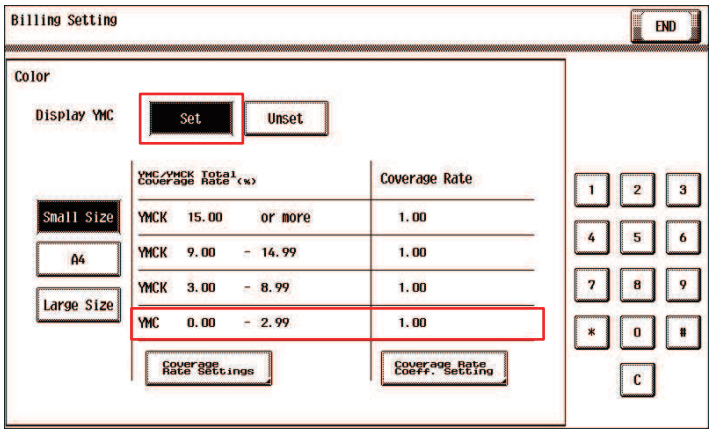
Print mode	Paper size	Description
Color/Black	Small size	Set the counting method for data printed on paper having a size smaller than A4/Letter.
	A4	Set the counting method for data printed on paper having a size of A4/Letter.
	Large size	Set the counting method for data printed on paper having a size larger than A4/Letter and smaller than A3.



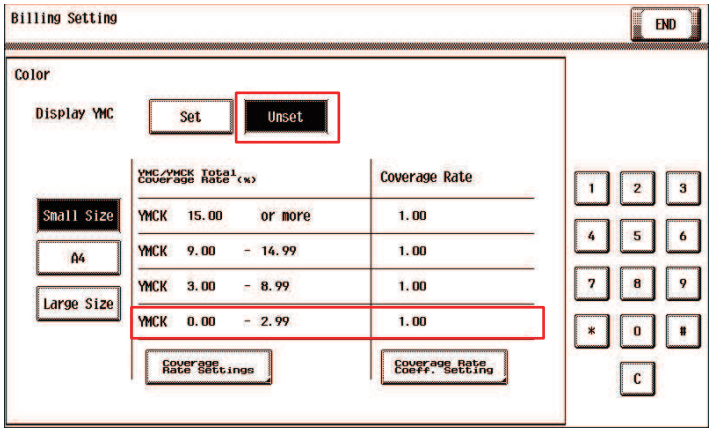


Display YMC

- Set whether to use the total coverage rates of YMC, but K (black), in color printing as a basis for calculating the coverage counter.
- “Set” is the default setting.
- When “Set” is set, counting is performed regardless of the coverage rate of K as long as the coverage rate of YMC falls within the YMC total coverage rate.



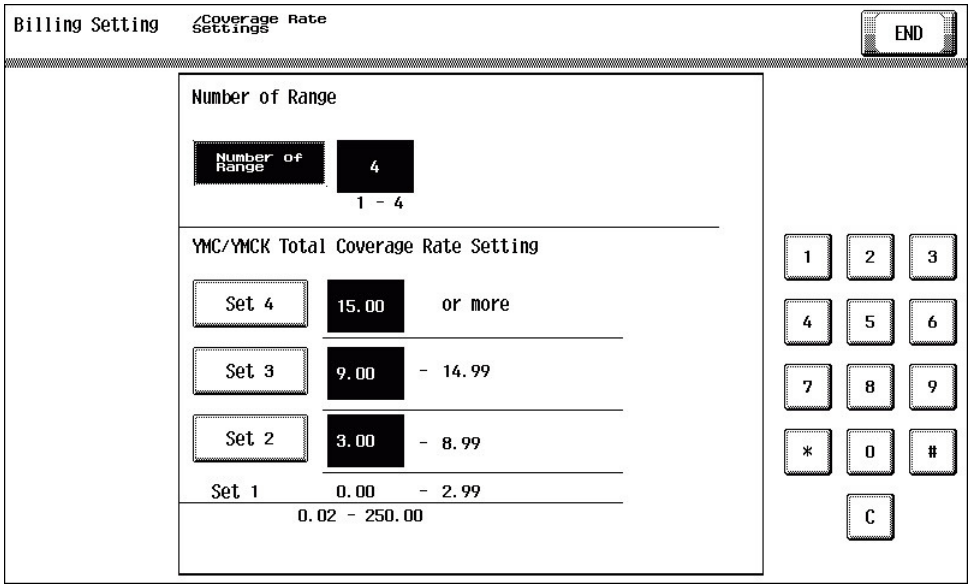
- If “Unset” is set, the area to be counted is determined based on the total coverage rate of YMCK.



Coverage Rate Settings

- To configure settings related to the YMC/YMCK total coverage rate.

Setting item	Description	Setting range	Default setting
Number of Range	Set the number of ranges used for setting the YMC/YMCK total coverage rate.	1 to 4 ranges	4 ranges
YMC/YMCK Total Coverage Rate Setting	Set the threshold values of each of the sets of the total coverage rate. The setting values should satisfy the following relation: • 0.02 ≦ Setting values of Set 2 < Setting values of Set 3 < Setting values of Set 4 ≦ 250.00	0.02 to 250.00	Set 4: 15.00 or more Set 3: 9.00 to 14.99 Set 2: 3.00 to 8.99 Set 1: 0.00 to 2.99

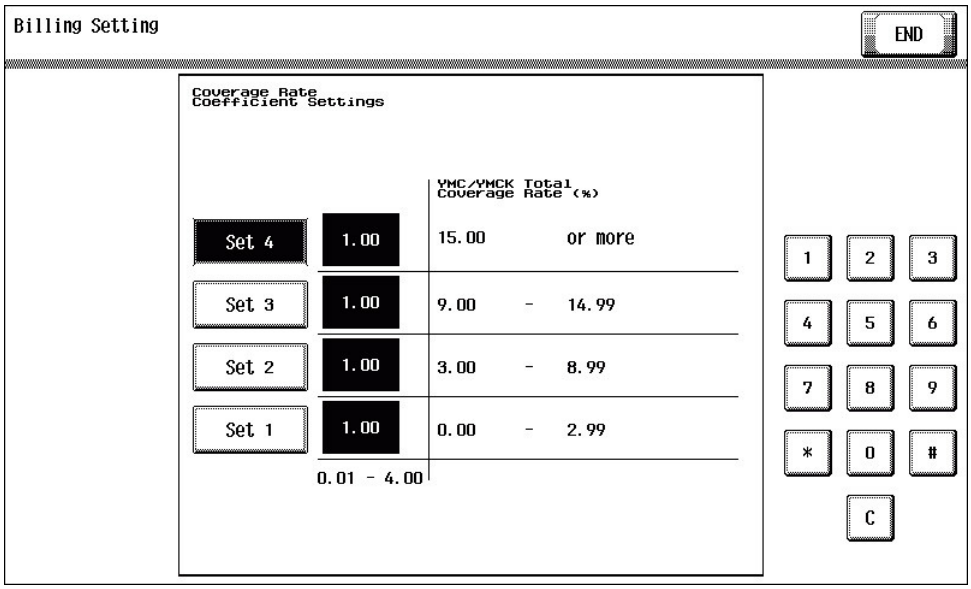


<Procedure>
1. Select [Color] or [Black].
2. When [Color] is selected, select [Set] or [Unset] for Display YMC.
3. Select the paper size.
4. Select [Coverage Rate Settings].
5. Enter [Number of Range] using the 10-key pad.
6. When [Number of Range] is entered, the corresponding number of sets are displayed.
7. Select a [Set] and enter the threshold values of the coverage to be set using the 10-key pad.
8. After the values are entered, touch [END].

Coverage Rate Coeff. Setting

- Set the coverage rate coefficient relative to the set made in Coverage Rate Settings.

Setting item	Contents	Setting range	Default setting
Coverage Rate Coeff. Setting	Set the coefficient relative to the set total coverage rate set.	0.01 to 4.00	1.00



<Procedure>
1. Select the paper size.
2. Touch [Coverage Rate Coeff. Setting].
3. Touch the [Set] set by [Coverage Rate Settings] and enter the coefficient from the 10-key pad.
4. After the coefficient has been entered, touch [END].

1.10 Print Counter Clear

- It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.206 is set to [00000001] at Bit assignment/[01] at HEX assignment.
- To clear Print Counter and Subtotal values of Coverage Counter Detail.
- Clear Subtotal value in [Meter Count] -> [Coverage Counter].

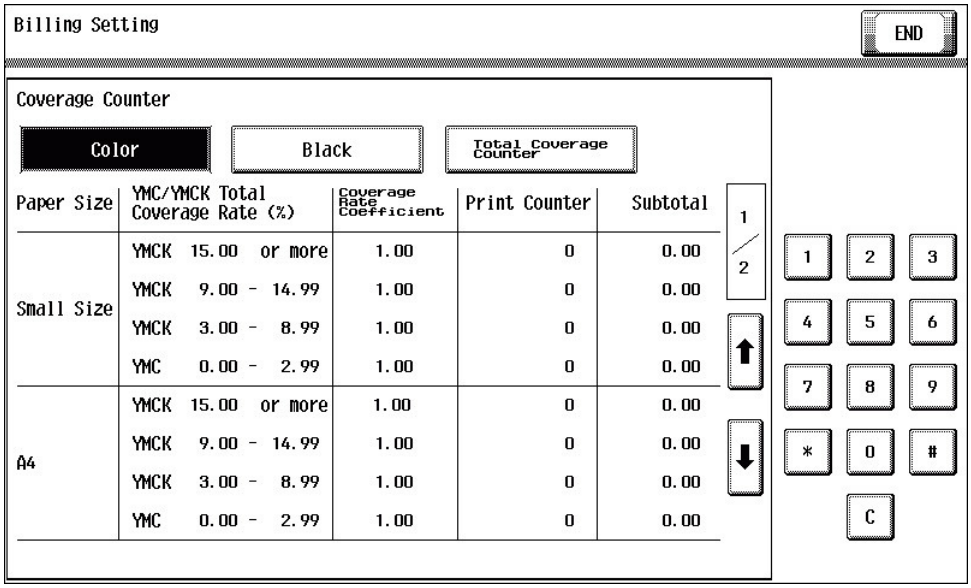
Setting item	Default setting
Set	

Setting item	Default setting
Unset	○

<Procedure>
1. Select [Set].
2. Touch [END].

1.11 Coverage Counter Detail

- It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.206 is set to [00000001] at Bit assignment/[01] at HEX assignment.
- To display details of the coverage counter value calculated according to Coverage Counter Setting.



Indication	Contents
Color/Black	Displays the count values of color and monochrome printing.
Total Coverage Counter	Displays the count values of color, monochrome, and total. Displays the cumulative value of the coverage counter since the installation of the machine.
YMC/YMCK Total Coverage Rate (%) (*1)	Displays the set of the total coverage rate that serves as a basis for counting.
Coverage Rate Coefficient (*1)	Displays the coverage rate coefficient set for each set that serves as the basis for countering.
Print Counter	Displays the count value of the number of printed pages on which the print paper size and the total coverage rates of each color satisfy the counting base.
Subtotal	Displays the counter value obtained through the following calculation involving the print counter and the coverage rate coefficient: Subtotal = print counter × coverage rate coefficient

- *1: What is displayed complies with the setting made in [Service Mode] -> [Billing Setting] -> [Coverage Counter Setting].

NOTE

- **The total coverage counter has been activated upon the installation of the machine regardless of whether it is displayed on the screen. Thus, the counter default value during screen display setting is not necessarily "0".**
- **The total coverage counter value is the cumulative value since the installation of the machine, while the print counter value is the cumulative value since the last performance of print counter clear. Thus, the sum of the subtotal values does not necessarily coincide with the total coverage counter value.**

2. ENHANCED SECURITY

2.1 Outline

Starting procedure

1. Call the initial screen of Service Mode.
2. Press the following keys in this order.
   - Stop -> 0 -> Clear
3. Call the Enhanced Security screen.

Exiting procedure

1. Touch [Exit].
2. Turn OFF the main power switch. Wait 10 seconds, then turn ON the main power switch again.

2.2 CE Password

- To set and change the CE password.
- The CE password needs to be 8 to 64 one-byte alphameric characters and symbols.
  - Default setting: 9272927292729272

<Procedure>

1. Current Password: Enter the currently using CE password.
2. New Password: Enter the new CE password.
3. Re-input Password: Enter the new CE password again.

NOTE

- **When Password Rules of [Administrator] -> [Security] -> [Security Details] is set to “ON,” new passwords cannot contain the same string of characters nor can be previous passwords be used.**
- **A new password is set when starts from the service mode after changing.**
- **NEVER forget the CE password. When forgetting the CE password, call responsible person of OLI.**

2.3 Administrator Password

- To set and change the administrator password.
- Use this function when the administrator forget the administrator password because a new password can be set without entering the current administrator password with this.
- The administrator password needs to be 8 to 64 one-byte alphameric characters and symbols.
  - Default setting: 1234567812345678

<Procedure>

1. New Password: Enter the new administrator password.
2. Re-input Password: Enter the new administrator password again.

NOTE

- **When Password Rules of [Administrator] -> [Security] -> [Security Details] is set to “ON,” new passwords cannot contain the same string of characters nor can be previous passwords be used.**

2.4 Administrator Feature Level

- To set which modes to be allowed for the administrator to use in Service Mode.
- Use when allowing the administrator to use some modes in Service Mode.

Setting item	Contents	Default setting
Level1	Extend the administrator function Level 1.	
Level2	Extend the administrator function Level 2.	
Prohibit	Prohibit the administrator feature extend.	○

Administrator feature level extension item

Administrator settings function				Level 1	Level 2
System Settings	Expert Adjustment	Printer Adjustment	Erase Leading Edge	-	○
			Vertical Adjustment	-	○
		Scanner Area	Scanner Adjustment: Leading Edge	-	○
			Scanner Adjustment: Centering	-	○
			Horizontal Adjustment	-	○
			Vertical Adjustment	-	○
		ADF Adjustment	Centering	-	○
			Original Stop Position	-	○
		User Paper Settings		-	○
	Standard Size Setting	Foolscap Size Setting		-	○

2.5 CE Authentication

- To determine whether or not to authenticate CE password as entering Service Mode.

NOTE

- **If [Administrator] -> [Security] -> [Security Details] -> [Password Rules] is "Enable", "OFF" in the setting item is not displayed.**
- **It will not be displayed when [Administrator] -> [Network] -> [Remote Panel Settings] -> [Client Settings] is set to “ON.”**

Setting item	Default setting
ON	○
OFF	

2.6 Life Stop Setting

Life stop

- To select whether or not to stop a print cycle when the applicable units reach its service life.

NOTE

- **The settings of software Dip switch No.227 (bit7) and switch No. 230 (bit3) have priority.**

Setting item	Setting value	Default setting
Imaging Unit, Transfer belt, Fusing Unit	Enable	○ (For others)
	Off	○ (For Japan, North America and Europe)

Life Cycle Display Warning

- Select whether to display or not display the pre-near life warning, near life warning, life warning, life stop warning, and L-call warning. Warning statuses are not displayed for units in which this setting is set to [OFF] even if each warning status is enabled.

NOTE

- **The settings of software Dip switch No.227 (bit7) and switch No. 230 (bit3) have priority.**

Setting item	Setting value	Default setting
Imaging Unit, Transfer belt, Fusing Unit	Enable	○ (For others)
	Off	○ (For Japan, North America and Europe)

2.7 Memory Data Backup

- To backup the data stored in the memory region on board to the flash memory.
- To backup current data in order to prevent data in the memory region on the board from being erased unexpectedly.
- To backup data manually. It usually makes backup every hour automatically.
- Backup data can be restored by following the specified procedure when the trouble (CD3XX) occurred.
- Refer to “TROUBLESHOOTING” for details on restoration procedure.

<Procedure>

1. Touch [Memory Data Backup].
2. Touch [Start] to start making a backup.
3. Check the message [Backup is completed.], and turn main power switch OFF. Wait for ten seconds or more and turn main power switch back ON.

2.8 operation Ban release time

- To set the period of time to be elapsed before the access lock state is released in CE password authentication.

Setting range	Default setting
1 to 60 (minutes)	5 (minutes)

NOTE

- **When Enhanced Security Mode is set to ON in [Administrator] -> [Security] -> [Enhanced Security Mode], the period of time that can be set in this setting is 5 minutes or more.**

Releasing the an access lock

- After the CE password authentication, if the access lock is activated, the lock release timer starts to operate the following procedures.

<Procedure>

1. Main power switch is turned OFF and ON.
2. [Utility] -> [Counter] -> [Print List]
3. Touch [Display Keypad], displaying 10-key pad.
4. The lock release timer starts to operate by input the Stop -> 0 -> 9 -> 3 -> 1 -> 7.
   - To set the period of time that elapses before the machine releases the access lock, which aims to prevent the unintentional release of the access lock.
5. When the timer reaches the time specified in this setting, the access lock is released.

2.9 Administrator unlocking

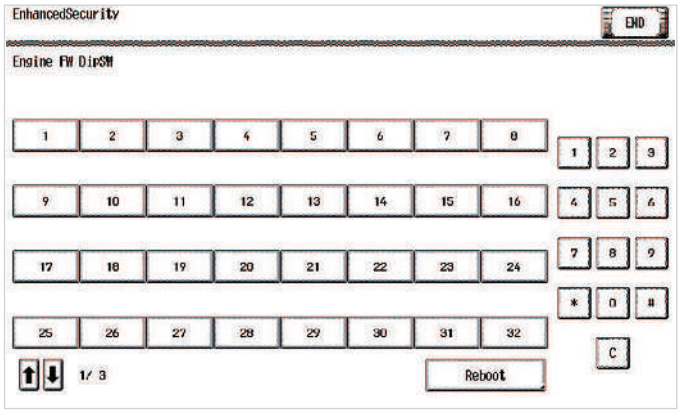
- To release an access lock that is activated after an administrator password authentication.
- To release the access lock with service authority when an administrator password authentication fails and the access lock is activated.
- When the main power switch is turned OFF and ON or the period of time set in the Release Time Settings elapses, the machine releases the access lock that is activated after the administrator password authentication. In addition to these operations, this setting provides another way to release the access lock.

<Procedure>

1. Touch [Administrator unlocking].
2. Touch [Unlocking] to release an access lock.
3. When [OK] is displayed, touch [END].

2.10 Engine FW DipSW

- To make printer engine settings.



<Procedure>
1. Touch [Engine FW DipSW].
2. Touch the key that corresponds to the switch No. of the function to be set and check the key is highlighted (ON state) in reverse video.
3. Touch [Reboot].

Normal: OFF state



Reverse: ON state



Engine FW DipSW setting list

- The following table shows DIP switches that can be set in this machine.

Switch No.	Function
1	Not used
2	Not used
3	New Release Disable mode
4	Choice of full-speed print prohibited condition detected
5	Choice of enabling high-humidity warm-up
6	Choice of toner empty recovery mode
7	Not used
8	Not used
9	Not used
10	Not used
11	Choice of fusing rotation while waiting
12	Choice not to conduct image stabilization
13	Choice of securing fusibility
14	Not used
15	Not used
16	Not used
17	Not used
18	Not used
19	Not used
20	Not used
21	Not used
22	Choice of main scan direction white line correction
23	Intermediate transfer belt free rotation option
24	Not used
25	Choice of ACS parameter
26	Not used
27	Not used
28	Not used
29	Not used
30	Not used
31	Choice of AT1VC high frequency
32	Choice of changing AT1VC conditions

Switch No.	Function
33	Choice 1 of extending PU life
34	Choice of extending PU life
35	Choice of improving fusibility strength
36	Choice of increasing stabilization frequency
37	Choice of silent mode
38	Not used
39	Not used
40	Not used
41	Not used
42	Choice of increasing registration stabilization frequency
43	Choice of HH memory upper limit voltage
44	Not used
45	Choice of fusing environment control
46	Choice of UFP behavior mode
47	Not used
48	Replacement timing Intelligent Control of Transfer Roller Unit
49	Not used
50	Replacement timing Intelligent Control of Imaging unit (K)
51	Not used
52	Not used
53	Not used
54	Not used
55	Choice of following-up properties in early morning
56	Choice of disabling duplex tacking PPM
57	Choice of fusing printing preparation extension
58 - 80	Not used
81	Choice of disabling gradation area correction of Dmax density adjustment

2.10.1 Details of Each Function

(1) New Release Disable mode

- To enable a unit that is used temporarily for troubleshooting to be used again as a new unit in another machine, the New Release Disable mode is provided.
- Applicable units are the following units that have the new unit detection feature.
  - Drum unit, developing unit
- When the New Release Disable mode is set, the parameter of the unit before replacement is used without making automatic adjusting control with the TCR sensor and new image stabilization control.

Switch No. 3	Contents	Default
OFF	Disables New Release Disable mode.	○
ON	Enables New Release Disable mode.	

<Procedure>

1. Open the front door.
2. Call the [Service Mode] -> [Enhanced Security] to the screen.
3. Set [Engine FW DipSW] -> [3] to ON.
4. Close the front door.
   By closing the front door, the New Release Disable mode takes effect.

Notes when using the New Release Disable mode

<Before starting the mode>

- Output the list in [Service Mode] -> [List Output] to check the information on the wear-out rate of each unit and keep the Dmax density adjustment value. Replace units that have reached their part replacement time or that are near life with new ones, and perform New Release.
- If the toner is empty, start this mode when the toner empty status is resolved by replacing the toner cartridge with a new one or charging the toner.

<During the New Release Disable mode>

- The New Release Disable mode is subject to the condition that the New Release Disable mode should not be used for a long period, i.e. duration of printing only several tens of sheets.
  - Units used in the New Release Disable mode for a long time cannot be guaranteed as new ones.
- In the New Release Disable mode, the drum unit/K life counter is not reset and it continues to count in a normal manner. If the counter reading becomes close to the value for the replacement time, the replacement time can be reached in the New Release Disable mode.
  - If the drum unit/K counter should reach the value for the replacement time while temporarily using a new drum unit/K in the New Release Disable mode, turn OFF the New Release Disable mode, open and close the front door (or turn the main power switch OFF and ON), and perform New Release in a normal manner. In this case, the previous drum unit/K, which has been temporarily removed, cannot be used again.
- After activating the New Release Disable mode in [Engine FW DipSW], do not turn OFF and ON the main power switch or do not let the machine go into the sleep mode until the work in the New Release mode is completed.

- In case that the main power switch is turned OFF or the machine goes into the sleep mode, be sure to open the front door and turn the main power switch ON or activate the machine from the sleep mode. Then turn ON the New Release Disable mode and close the front door.)

<After finishing work in New Release Disable mode>

- When continuing to use the new unit used in the New Release Disable mode in the same machine, turn OFF the new Release Disable mode and open and close the front door (or turn OFF and ON the main power switch) to perform New Release.
- To reinstall the previous unit used in the machine, open the front door, turn OFF the New Release Disable mode, replace the new unit with the previous unit, and close the front door (or turn the main power switch OFF and ON).
  In this case, perform Initialize + Image Stabilization, Gradation Adjustment, and input of the previous Dmax density adjustment value in service mode. (If these adjustments are not performed, gradation reproducibility cannot be guaranteed.)
- After temporarily using a new drum unit/K in the New Release Disable mode, before reinstalling the previous drum unit/K, be sure to check the reading of the drum unit/K life counter in [Service Mode] -> [Counter] -> [Life] to learn that New Release is not performed on the new drum unit/K, i.e. the counter value have not decreased.
  - There is no way to determine whether New Release is performed on the new drum unit/K or not from the appearance of the unit. Checking the counter reading is necessary to avoid bringing back the drum unit/K on which New Release is performed, assuming that the drum unit/K remains new.

(2) Choice of full-speed print prohibited condition detected

- To set low-speed printing in order to prevent line image problems in the main scanning direction under low temperature environment.

Switch No.4	Contents	Default
OFF	Full-speed print prohibited condition not detected.	○
ON	Full-speed print prohibited condition detected.	

NOTE

- **To reflect the adjustment value after change, make sure to exit from the Service Mode.**
- **The adjustment value is not reflected when turning off the power without exiting from the Service Mode.**

(3) Choice of high humidity circumstance

- Out of Fusing PPM control for preventing the paper from losing its fusibility, "high humidity circumstance mode" which controls paper curling in high humidity is prohibited.

Switch No. 5	Contents	Default
OFF	• Run "High-humidity Mode" in high-humidity environments. • Longer warm-up time, but no occurrence of curl even under high humidity environment	○
ON	• Unable to run "High-humidity Mode" even in high-humidity environments. • Shortens the warm-up time in high humidity environments, but there is a risk of paper curl occurring.	

(4) Choice of toner empty recovery mode

- To perform the auxiliary toner replenishing sequence when the old toner cartridge is replaced after a toner-empty condition.

Switch No.6	Contents	Default
OFF	Not performed	○
ON	Performed	

NOTE

- **To reflect the adjustment value after change, make sure to exit from the Service Mode.**
- **The adjustment value is not reflected when turning off the power without exiting from the Service Mode.**

(5) Choice of fusing rotation while waiting

- To choose steadiness or fusibility due to rotation of the fusing motor.

Switch No.11	Contents	Default
OFF	The fusing motor stops after 5 seconds in rotation waiting condition. (Priority on steadiness)	○
ON	The fusing motor stops after 30 minutes in rotation waiting condition. (Priority on fusibility)	

NOTE

- **To reflect the adjustment value after change, make sure to exit from the Service Mode.**
- **The adjustment value is not reflected when turning off the power without exiting from the Service Mode.**

(6) Choice not to conduct image stabilization

- It sets whether or not to conduct image stabilization.

Switch No.12	Contents	Default
OFF	To conduct image stabilization.	○
ON	Not to conduct image stabilization.	

NOTE

- **To reflect the adjustment value after change, make sure to exit from the Service Mode.**
- **The adjustment value is not reflected when turning off the power without exiting from the Service Mode.**

(7) Choice of securing fusibility

- Sets whether or not to conduct printing wait for ensuring fusibility in low-temperature/low-humidity environments.

Switch No. 13	Contents	Default
OFF	Without printing wait	○
ON	With printing wait	

(8) Choice of main scan direction white line correction

- When printing is continued with lower coverage, filming may occur to the transfer belt which may cause the main scan direction white lines.
- By setting this ON, the toner will be supplied to the transfer belt by the toner patch during image stabilization to prevent white lines to occur.
  - The toner consumption increases by using this setting. Choose the setting suitable for the user.

Switch No.22	Contents	Default
OFF	Does not conduct toner patch for the white lines.	○
ON	Conducts toner patch for the while lines.	

NOTE

- **To reflect the adjustment value after change, make sure to exit from the Service Mode.**
- **The adjustment value is not reflected when turning off the power without exiting from the Service Mode.**

(9) Transfer belt free rotation option

- Rotates the transfer belt under predetermined conditions to prevent whiteouts and black lines that develop when the machine has not been used for long time.

Switch No.23	Contents	Default
OFF	Does nothing.	○
ON	When the conditions are satisfied, rotates the transfer belt when the machine is first powered on or while recovering from sleep mode.	

NOTE

- **To reflect the adjustment value after change, make sure to exit from the Service Mode.**
- **The adjustment value is not reflected when turning off the power without exiting from the Service Mode.**

(10) Choice of ACS parameter

- It sets the black printing quantity threshold until switching the transfer belt from all press to K press when a few pages of black printing is included in color printing.
- With the initial setting, print productivity has the priority and printing is conducted with all press (the transfer belt being pressed onto the color photoconductors) even when the specified quantity of black printing is included. In that case, the color photoconductors rotate unnecessarily. The color photoconductors deteriorate by the amount of rotation.
- When this setting is ON, black printing quantity threshold until switching to K press (release of color photoconductors) becomes smaller.
- This setting is to be used when the degradation control of the color photoconductors should have priority over printing productivity.

Switch No. 25	Contents	Default
OFF	Print productivity priority	○
ON	Degradation control of the color photoconductors	

(11) Choice of AT1VC high frequency

- Choice to switch to mode for conducting AT1VC frequently

Switch No.31	Contents	Default
OFF	Normal mode	○
ON	High frequency mode	

NOTE

- **To reflect the adjustment value after change, make sure to exit from the Service Mode.**
- **The adjustment value is not reflected when turning off the power without exiting from the Service Mode.**

(12) Choice of changing AT1VC conditions

- Choice to change the conditions for conducting AT1VC

Switch No.32	Contents	Default
OFF	Condition 1	○
ON	Condition 2	

NOTE

- **To reflect the adjustment value after change, make sure to exit from the Service Mode.**
- **The adjustment value is not reflected when turning off the power without exiting from the Service Mode.**

(13) Choice 1 of extending PU life

To change the imaging unit life threshold.

Switch No.33	Contents	Default
OFF	To use the default threshold.	○

Switch No.33	Contents	Default
ON	To use the threshold 1.25 times the normal one.	

(14) Choice 2 of extending PU life

To change the imaging unit life threshold.

Switch No.34	Contents	Default
OFF	To use the default threshold.	○
ON	To use the threshold 1.5 times the normal one.	

(15) Choice of improving fusibility strength

- Choice to raise fusing temperature to secure fusibility for the image erasing problem with eraser test

Switch No. 35	Contents	Default
OFF	-	○
ON	Raise the fusing temperature.	

(16) Choice of silent mode

- Switches the drive for the polygon motor, fusing, and fan during standby.

Switch No.37	Contents	Default
OFF	Normal mode	○
ON	Silent mode Level (highest-speed rotation before printing/after printing is not energized)	

(17) Choice of increasing registration stabilization frequency

- Choice of increasing registration stabilization frequency by PH temperature change

Switch No.42	Contents	Default
OFF	Disable	○
ON	Enable	

(18) Choice of HH memory upper limit voltage

- Release protection against upper limit voltage of 1st transfer

Switch No.43	Contents	Default
OFF	With protection against upper limit voltage of 1st transfer	○
ON	No protection against upper limit voltage of 1st transfer	

(19) Choice of fusing environment control

- Choice to prevent low-temperature offset due to the fusing environment

Switch No.45	Contents	Default
OFF	Disable	
ON	Enable	○

(20) Choice of UFP behavior mode

- Choice to conduct a control to restrict the occurrence of UFP

Switch No.46	Contents	Default
OFF	Not to conduct a control to restrict the occurrence of UFP.	○ (Except for Europe)
ON	Not to conduct a control to restrict the occurrence of UFP.	○ (Europe only)

NOTE

- **To reflect the adjustment value after change, make sure to exit from the Service Mode.**
- **The adjustment value is not reflected when turning off the power without exiting from the Service Mode.**

(21) Replacement timing Intelligent Control of Transfer Roller Unit

- To set an optimal timing for part replacement depending on the usage of each user.

Switch No. 48	Contents	Default
OFF	Standard Yield Control	
ON	Intelligent Yield Control	○

(22) Replacement timing Intelligent Control of Imaging unit (K)

- To set an optimal timing for part replacement depending on the usage of each user.

  NOTE

  - **This choice is only available to imaging unit/K.**

Switch No. 50	Contents	Default
OFF	Standard Yield Control	
ON	Intelligent Yield Control	○

(23) Choice of following-up properties in early morning

- Degrade the productivity by using thick plain paper to enhance the following-up properties in the early morning.

Switch No.55	Contents	Default
OFF	Plain paper 3 is used for PPM12.	○
ON	Plain paper 2 and 3 is used for PPM12.	

(24) Choice of disabling duplex tacking PPM

- To widen the interval between print jobs for preventing paper stacking from occurring in the paper exit tray during consecutive 2-sided printing.

Switch No.56	Contents	Default
OFF	OFF	○
ON	ON	

NOTE

- **Not available to 1-sided printing.**
- **Not available to 2-sided printing on paper other than plain paper, plain paper+ and recycled paper.**

(25) Choice of fusing printing preparation extension

- Extend the printing preparation to secure fusibility when printing from the stop standby.

Switch No. 57	Contents	Default
OFF	Not extend printing preparation	○
ON	Extend printing preparation	

(26) Choice of gradation area correction at Dmax density adjustment

- Dmax density adjustment is performed to correct not only the Dmax but also the gradation area. Choice to disable it to correct the Dmax only. (For gradation area, density is fix at Dmax density ±0. For solid area, density is fix at 255.)

Switch No. 81	Contents	Default
OFF	Correct gradation area.	○
ON	Do not correct gradation area.	

2.11 Migration data backup

- Not used

2.12 Storage Data Backup

- Backup the settings of the machine and the image data in the box to the HDD connected with a USB.
- Restore the backup data to the HDD connected with a USB.

Setting item	Contents
Generic format Backup	Store the setting data for this machine as an XML data and store the data saved in the box as a TIFF-C image to the HDD. However, a data that is saved at 1200dpi in the box cannot be backed up. Since the free space in the HDD for backup cannot be checked beforehand, after starting the backup, it will be terminated as an error at the time that no space remained in the HDD.
OLI Format Backup	Save the settings of the machine as a XML data, and save the image data in the box in internal format (RAW data) to the HDD connected with a USB. A backup starts after making a if the storage is enough.
Restore	Execute restore the backup data in the HDD.

Target data

- Settings an image data in the box to be backed up and restored are as follows.
  - Setting data for the machine (User Settings, Administrator Settings, part of each settings in Service Mode)
  - User authentication, Account track settings information
  - One-touch Registration Address Information
  - Images saved in the box (User box (Public, Personal, Group, and Encrypted PDF box))
  - Information to compose a box (setting data exclusive for box)

Conditions required to backup/restore

- To use a self-power external HDD (a type to supply power from outside)
  NOTE
  - **A bus-power external HDD shall not be used.**
- After connecting an external HDD to the machine via a USB, the data is converted with ext3 format automatically.
- The backup will be executed after the backup data which has already existed in the external HDD is deleted automatically.
- Data of only one model can be saved in the external HDD.
- Cancellation during a backup is allowed. However cancellation during formatting an external HDD is not allowed.

- Operation of backup/restore is not allowed when a trouble or warning occurred.
- Operation of backup/restore is not allowed when a timer job has been reserved.

Procedure of backup/restore

NOTE

- **Set [Administrator] -> [Security] -> [Security Details] -> [Storage Data Backup] to [Allow]. If [Restrict] is set, the machine cannot be used.**
- **Be sure to turn the main power switch of the machine off and on after performing a backup/restore.**

<Backup procedure>

1. Connect the USB cable of an external HDD to the USB port of the machine. (USB NG will be displayed when the HDD is not recognized correctly.)
2. Call the Service Mode to the screen.
3. Call the Enhanced Security to the screen.
4. Touch [Storage Data Backup].
5. Select [Generic format Backup] or [OLI Format Backup].
6. Touch [Enter Password], enter an encryption password using 1 to 32 characters, then touch [END].
7. Touch [Start]. (“Processing” will be displayed.)
   Touch [Cancel] if you want to stop the backup.
8. After completing the backup, [Result OK] will be displayed.
9. Turn OFF and ON the main power switch.

<Restore procedure>

1. Connect the USB cable of an external HDD to the USB port of the machine.
2. Call the Service Mode to the screen.
3. Call the Enhanced Security to the screen.
4. Touch [Storage Data Backup].
5. Select [Restore].
6. Touch [Enter Password], enter a decryption password using 1 to 32 characters, then touch [END].
7. Touch [Start]. (“Processing” will be displayed.)
   Touch [Cancel] if you want to stop the restore.
8. After completing the restore, [Result OK] will be displayed.
9. Turn OFF and ON the main power switch.

2.13 Data Backup

2.13.1 Client Function

- To be used for moving data at the time of machine replacement.
- Back up data saved in the machine to the WebDAV server or an HDD.

(1) Server Backup

Select Backup

- Select the backup method.

Setting item	Contents
Disable	Select not to use the backup.
Server Backup	Select to make backup to the server as backup. Set “Setting when selecting backup to the server”.
Server Backup 2	Select to make backup to the server as backup 2. Set “Setting when selecting backup 2 to the server”.

Setting when selecting backup to the server

<Backup setting>

- Set the backup setting.

NOTE

- **This function cannot be enabled when Transmission protocol, SMB Setting or HTTP Setting, Backup target and Encryption Password have not been set.**

Setting item		Contents	Setting value	Default setting
Function Setting		To set whether to back up data to a server. • When [ON] is selected, configure settings required for backup.	ON	
			Disable	○
Transmission protocol		To select a Transmission protocol.	SMB	
			HTTP	○
SMB Setting	Host Name	To be set when “SMB” is selected for Transmission protocol.	Alphanumeric characters and symbols up to 253 characters	-
	File Path		255 characters maximum	
	User Name		64 characters maximum	
	Password		64 characters maximum	
HTTP Setting	URL	To be set when “HTTP” is selected for Transmission protocol.	Alphanumeric characters and symbols up to 253 characters	-
	User Name		64 characters maximum	
	Password		64 characters maximum	

Setting item		Contents	Setting value	Default setting
	Proxy		ON/Disable	
Backup target		To select a target to back up. Items of (*) are displayed only when selected [Enable] in [Service Mode] -> [System 2] -> [Maintenance Mode], and [Allow] in [Administrator] -> [Security] -> [Security details] -> [Maintenance Mode Access].	Remote Access Setting	-
			User Settings	
			Service setting	
			Address Book (*)	
			Authentication Data (*)	
			Network Settings (*)	
			Accessibility (*)	
			Administrator Setting (*)	
			Cloud connection (*)	
			Display Custom Settings (*)	
			External Cert (*)	
Encryption Password		Enter the encryption password.	1 to 32 characters	-

<Auto backup>
- Set the auto backup setting.

NOTE
- **It is displayed when Backup Settings is enabled.**

Setting item		Contents	Setting value	Default setting
Auto backup		To set whether to execute auto backup. • When “Yes” is selected, configure the following settings.	Set	
			Unset	○
Backup period	Interval of day(s)	Select the backup as Interval of day(s).	1 to 30 days	-
	Weekly frequency	Select the backup as Weekly frequency.	Sun, Mon, Tue, Wed, Thu, Fri, Sat	
Backup time		To setting a time to back up.	Hour: 00 - 23 Minute: 00 - 59	-

<Immediate backup>
- To be used for executing backup immediately.
- If “OK” appears when pressing “Start”, the backup is completed successfully.
- If “NG” appears, an error code will be displayed. Contact the OLI representative as necessary.
  - N******: Error related to network.
  - S******: Error other than that related to network.

<Backup result>
- To make a confirmation of the date and time when the final backup is completed successfully.
- Up to 100 backup logs can be displayed in the order from the latest backup.

Setting when selecting backup to the server 2

<Format>
- To select a format to backup.

Setting item	Contents
Generic format	Select to backup of box documents by generic format.
OLI format	Select to backup of box documents by OLI format.

NOTE
- **Select the format and touch [Fix].**

<Backup settings>
- Set the backup setting.

NOTE
- **This function cannot be enabled when WebDAV Settings, Encryption Password or Data hold period have not been set.**

Setting item		Contents	Setting value	Default setting
Function Setting	Function Setting	To set whether to back up data to a server. • When [ON] is selected, configure settings required for backup.	ON	
			Disable	○
	User Box Document	To set whether to target box documents.	Target	
			Not in target	○
WebDAV Settings	URL	Set the WebDAV Settings.	Alphanumeric characters and symbols up to 253 characters	-
	User Name		64 characters maximum	
	Password		64 characters maximum	
	Proxy		ON/Disable	

Setting item	Contents	Setting value	Default setting
Encryption Password	Enter the encryption password.	1 to 32 characters	-
Data Hold Period	To select data hold period.	1 to 180 days	60 days

<Auto backup>
- Set the auto backup setting.

NOTE
- **It is displayed when Backup Settings is enabled.**

Setting item		Contents	Setting value	Default setting
Enable Settings		To set whether to execute auto backup. • When “Yes” is selected, configure the following settings.	ON	
			Disable	○
Full Backup	Interval of day(s)	Select the backup as Interval of day(s).	1 to 30 days	-
	Weekly frequency	Select the backup as Weekly frequency.	Sun, Mon, Tue, Wed, Thu, Fri, Sat	
	Backup time	To setting a time to back up.	Hour: 00 - 23 Minute: 00 - 59	
Diff. Backup	Disable	Select not to backup Diff. backup.	-	-
	Time Setting	Select the backup period by time setting.	1 to 48 hours	
	Time Setting	Select the backup period by time setting.	Hour: 00 - 23 Minute: 00 - 59	

<Backup reservation>
- To select the backup reservation.

Setting item	Contents
Full Backup	Select to make backup Full backup.
Diff. Backup	Select to make backup Diff. backup.

NOTE
To select the backup reservation and touch [Fix].

<Backup history>
- To make a confirmation of the date and time when the final backup is completed successfully.
- Up to 100 backup logs can be displayed in the order from the latest backup.

(2) Restore from Server

Restore Mode Select
- Select the restore method.

Setting item	Contents
Restore from Server	Select to make restore from the server. Set “Setting when selecting restore from the server”.
Restore from Server 2	Select to make restore from the server as restore 2. Set “Setting when selecting restore from the server 2”.

Setting when selecting restore from the server
<Restore setting>
- To specify a location from where restore data is to be downloaded.
- Select a server and press “Start” to start restoring.

Setting item	Contents	Default setting
Acquire from backup	Execute restore from a location other than the server specified in Backup Settings.	○
Edit Restore path	Execute restore other than from a location other than the server specified in Backup Settings. • When Edit Restore path is selected, enter WebDAV setting and Encryption Password.	

<Restore result>
- To display the final date of restore.

Setting when selecting restore from the server 2
<Restore setting>
- To specify a location from where restore data is to be downloaded.
- Select machine, restore data and restore target from [Restore Data Select] and press “Start” to start restoring.

Setting item	Contents	Default setting
Acquire from Backup	Execute restore from a location other than the server specified in Backup Settings.	○
Edit Restore path	Execute restore other than from a location other than the server specified in Backup Settings. • When Edit Restore path is selected, enter Download Protocol and SMB setting, or HTTP Setting and Encryption Password.	

<Restore history>
- Restore history is displayed.

- Insert USB memory, touch the start key and save the restore result details in the USB memory.

2.13.2 Server Function

- Use MFP as backup server (WebDAV server).

(1) Backup Server Setting

- Set the backup server settings.

Setting item		Contents	Setting value	Default setting
Function Setting		To set whether to use MFP as backup server (WebDAV server). • When [ON] is selected, configure [Server settings].	ON	
			Disable	○
Server Settings	User Name	Set the User name.	64 characters maximum	-
	Password	Set the password.	64 characters maximum	-

2.14 Customer Type

- To make each settings for customer type.

Setting item	Contents	Setting value	Default setting
Function Setting	To set whether to configure setting of customer type. • When [Yes] is selected, configure setting of the [Business Type] and [Employee Number].	Yes	
		No	○
Business Type	Select the Business type.	Manufacturing	-
		Financial/Securities/Insurance	
		Business Distr/Services	
		IT Related Industry	
		Government Office	
		Other	
Employee Number	Select the employee number	10 or less	-
		11 or more to 100 or less	
		101 or more to 500 or less	
		501 or more to 1000 or less	
		1001 or more to 5000 or less	
		5001 or more	

2.15 TPM Setting

- This is displayed only when the optional i-Option LK-115 is enabled.

Initialize

- To initialize the memory area installed on the TPM chip.

NOTE

- **Be sure to perform it if the i-Option LK-115 is enabled.**

<Procedure>

1. Touch [Initialization].
2. Press the Start key.

Status report

- To notify an error which is detected by the TPM chip self diagnosis, and output the diagnosis result, or output a report file to a USB memory.
- The TPM chip self diagnosis is conducted when the machine starts to run.

<List Output Procedure>

1. Touch [List Output].
2. Press the Start key.
3. The status report is output.

<USB save Procedure>

1. Connect a USB memory to the USB port.
2. Touch [USB save].
3. Press the Start key.
4. The status report file is saved to the USB memory.

2.16 FWCert. Settings

- Not used

3. DEBUG SETTINGS

3.1 Outline

- To configure the settings on log information acquisition performed to analyze the MFP controller's internal operation.

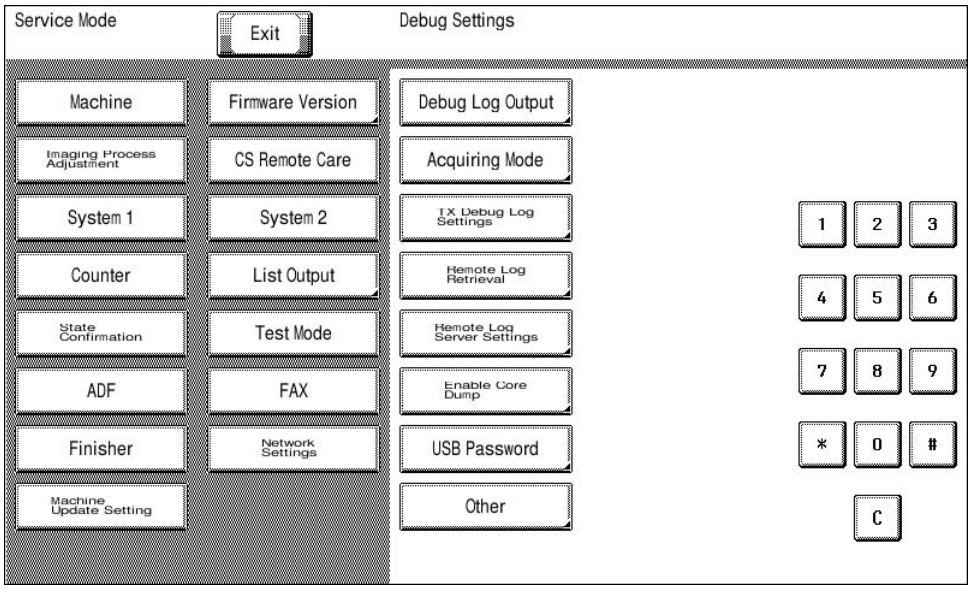
NOTE

- **Before the procedure, set the switch No. 155 to [00000001] at Bit assignment/[01] at HEX assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].**

Starting procedure

1. Call the initial screen of Service Mode.
2. Press the following keys in this order.
   - Stop -> 6 -> 1 -> 8
3. Call the Debug Setting screen.

Example of the Debug Setting screen



Exiting procedure

1. Touch [Exit] on the Service Mode screen.
2. Turn OFF the main power switch. Wait 10 seconds, then turn ON the main power switch again.

3.2 Debug Log Output

- To select debug log data to be output and save it in a USB memory.
- Logs obtained under normal operation and logs obtained upon occurrence of trouble are separated and stored in different areas. Up to 20 logs can be stored.
  - Logs obtained under normal operation: 10 logs
  - Logs obtained upon occurrence of trouble: 10 logs
- When the number of saved logs reaches the upper limit, files are overwritten starting from the oldest file.

NOTE

- **If a USB memory is not connected to the USB port of MFP or [Administrator] -> [Security] -> [Security Details] -> [Export Debug Log] is set to [Restrict], output is unavailable.**

Setting item	Contents
All	Outputs available all logs.
Select File	Specifies a desired file and outputs it. Capable of narrowing file types from [Normal], [Trouble], or [Print Data].
Select Time	Specifies a desired period and outputs corresponding data.
Shared Memory -> HDD	Manually stores debug information written in the memory into the body storage. After selecting [Save], saving is started by pressing the Start key.
HDD -> USB Memory	Outputs debug information stored in the body storage into a USB flash drive. After selecting [Output], saving is started by pressing the Start key.

3.3 Acquiring Mode

- To select mode used to acquire debug logs.
- If the cause of a problem cannot be identified by the debug logs acquired in basic mode, obtain more detailed debug logs in Enhance mode and analyze them.

Setting item	Contents	Default setting
Basic	Normal mode Stores debug information saved in the memory into the body storage.	○
Enhance	Mode that enables you to obtain more detailed debug information than Basic mode. When a large amount of detailed information must be output, the CPU or other devices is heavily loaded and the performance of MFP is affected.	

Enhance mode

- When "Enhance" is selected, configure the following items.

Setting item	Contents	Setting value
Network Packet	If network packet information is necessary, select "ON."	OFF/ON
Acquisition function	Select the functions to be covered when obtaining debug logs. This item will not be displayed when [Network Packet] is set to ”ON.”	Select All, Copy, Printer, User Box, Net/ Scan, Web Connection, FAX, Net Fax, and Authentication
Network Packet Capture	If [Network Packet] is set to "ON," configure [Capture Filter Settings] and [Capture Settings]. This item will not be displayed when [Network Packet] is set to "OFF."	-
By Job	Set the number of jobs handled as a unit (the number of jobs by which debug information is acquired).	1 - 100
Individual Command	Register and execute individual debug commands.	-
Command Set	Install a command set and execute it.	-

Timing of Saving Debug Information in Each Mode

- Debug information is stored at the timings described below.

Modes	Saving timing	Save Destination
Basic mode	When trouble occurs When there is no job During transition to energy save mode (sleep mode or low power mode) When authentication fails When [Debug Log Output] -> [Shared Memory -> HDD] is performed manually	Main body storage
Enhance mode	Save as needed.	USB memory or Main body storage

3.4 TX Debug Log Settings

- To configure settings used to send debug information via the network.
- To send the information via the network, SMB, FTP, or WebDAV transmission is selectable.
- This item will be displayed only when [Acquiring Mode] is set to “Basic.”

Select TX Method

- To select a method used to send via the network.

Setting item	Contents	Default setting
OFF	Select OFF as transmission method of debug information.	○
SMB	Select SMB as transmission method of debug information.	
FTP	Select FTP as transmission method of debug information.	
WebDAV	Select WebDAV transmission as transmission method of debug information.	

SMB Setting

- To configure settings used in SMB transmission.

Setting item	Contents	Setting value
Host Name	Set the host name for the SMB server.	Alphanumeric characters and symbols up to 253 characters
File Path	Set the file path used in the SMB server communication.	255 characters maximum
User Name	Set the user name used to access the SMB server.	64 characters maximum
Password	Set the password used to access the SMB server.	64 characters maximum

FTP Settings

- To configure settings used in FTP transmission.

Setting item	Contents	Setting value	Default setting
Host Name	Set the host name of the FTP server.	Alphanumeric characters and symbols up to 253 characters	-
File Path	Set the file path used in the FTP server communication.	127 characters maximum	-
User Name	Set the user name used to access the FTP server.	64 characters maximum	-
Password	Set the password used to access the FTP server.	64 characters maximum	-
Port Number	Set the port number that is used to access the FTP server.	1 - 65535	21
PASV	Set PASV mode to ON or OFF	ON	○
		OFF	
Proxy	Set whether or not to connect to a proxy server.	ON	
		OFF	○

WebDAV Setting

- To configure settings used in WebDAV transmission.

Setting item	Contents	Setting value	Default setting
Host Name	Set the host name of the WebDAV server.	Alphanumeric characters and symbols up to 253 characters	-
File Path	Set the file path used in the WebDAV server communication.	142 characters maximum	-
User Name	Set the user name used to access the WebDAV server.	64 characters maximum	-
Password	Set the password that is used to access the WebDAV server.	64 characters maximum	-
Port Number	Set the port number that is used to access the WebDAV server.	1 - 65535	80
Proxy	Set whether or not to connect to a proxy server.	ON	
		OFF	○
SSL Settings	Select to use SSL communication.	ON	
		OFF	○

3.5 Remote Log Retrieval

- Use the WebDAV server to retrieve remote access logs.
- Downloads the command set from the server configured from [Remote Log Server Settings] -> [Command Set Acquisition Pt.] at the timing configured from [Time Setting] and [polling].
- If the command set successfully downloads, logs and settings data is retrieved in accordance with the command set, and the log files and settings data files are saved on the server configured from [Remote Log Server Settings] -> [Log Save Destination].

Setting value	Default setting
ON	
OFF	○

Time Setting

- Downloads the command set at the specified time and retrieves/saves the logs and settings data.
- This item will be displayed only when [ON] is set to Remote Log settings.

Setting value	Default setting
ON	
OFF	○

- *: When [Yes] selected, configure the time settings.

Polling

- Downloads the command set at each specified time and retrieves/saves the logs and settings data.
- This item will be displayed only when [ON] is set to Remote Log settings.

Setting value	Default setting
ON (*)	
OFF	○

- *: When [ON] selected, configure the polling interval settings.

Retrieve Log Information

- Immediately downloads the command set and retrieves/saves the logs and settings data.

NOTE

- **This is displayed only when [Administrator] -> [Security] -> [Security Details] -> [Export Debug Log] is set to “Allow.”**

3.6 Remote Log Server Settings

Command Set Acquisition Pt.

- Configures the server from which command sets as used for [Remote Log Retrieval] are retrieved.
- Touch [Copy Setting] after settings parameters are selected to copy the settings to the destination as configured from [Log Save Destination].

Setting item	Contents	Setting value	Default setting
Host Name	Set the host name of the WebDAV server.	Alphanumeric characters and symbols up to 253 characters	-
File Path	Set the file path used in the WebDAV server communication.	142 characters maximum	-
User Name	Set the user name used to access the WebDAV server.	64 characters maximum	-
Password	Set the password that is used to access the WebDAV server.	64 characters maximum	-
Port Number	Set the port number that is used to access the WebDAV server.	1 - 65535	80
Proxy	Set whether or not to connect to a proxy server.	ON	
		OFF	○
SSL Settings	Select to use SSL communication.	ON	
		OFF	○

Log Save Destination

- Configures the server for storing files used for [Remote Log Retrieval].
- Touch [Copy Setting] after settings parameters are selected to copy the settings to the destination as configured from [Command Set Acquisition Pt.].

Setting item	Contents	Setting value	Default setting
Host Name	Set the host name of the WebDAV server.	Alphanumeric characters and symbols up to 253 characters	-
File Path	Set the file path used in the WebDAV server communication.	142 characters maximum	-
User Name	Set the user name used to access the WebDAV server.	64 characters maximum	-
Password	Set the password that is used to access the WebDAV server.	64 characters maximum	-
Port Number	Set the port number that is used to access the WebDAV server.	1 - 65535	80
Proxy	Set whether or not to connect to a proxy server.	ON	
		OFF	○
SSL Settings	Select to use SSL communication.	ON	
		OFF	○

3.7 Enable Core Dump

To set whether to acquire a log of Core Dump.

Setting item		Default setting
Enable	USB memory	
	Remote Log Server	
Disable		○

NOTE

- **When [Enable] is selected, select a saving location and press [Fix].**
- **When [Remote Log Server] is selected, be sure to complete setting of [Log Save Destination] in [Remote Log Server Settings].**

3.8 USB Password

- To set a password used to store debug information into a USB flash drive.
  - Default setting: 01234567890123456789
- CE informs the OLI contact person of this password and the debug information data separately.

NOTE

- **NEVER forget the USB password.**

<Procedure>

1. Current Password: Enter the USB password currently in use.
2. New Password: Enter a new USB password.
3. Re-input Password: Re-enter the new USB password.

3.9 Other

3.9.1 Screen Capture

- The screen displayed on the control panel can be captured and saved in a USB memory as a file.

NOTE

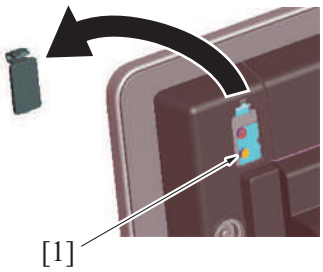
- **Use a USB memory having no security functions.**
- **This setting is unavailable when [Administrator] -> [Security] -> [Security Details] -> [Export Debug Log] is set to "Restrict."**

Preparations

1. Touch [Other].
2. Touch [Screen Capture] and then [END].
3. Insert the USB memory.

Capturing individually

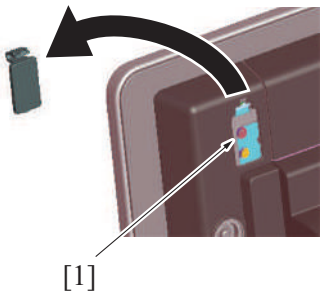
1. Call the screen to be captured to the control panel.
2. Press the [Rear Reset] key at the back of the control panel.



3. A "Capture" folder is automatically created in the USB memory and a file in the PNG format is saved in the folder.

Capturing continuously

1. Call the screen to be captured to the control panel.
2. Press the [Rear Stop] key at the back of the control panel.
3. Start the screen operations.
4. When the operations are completed, press the [Rear Stop] key again.



5. A "Capture" folder is automatically created in the USB memory and a file in the PNG format is saved in the folder.

3.9.2 Panel Operation Playback

- A series of operations is stored in memory and automatically played back on the control panel.

NOTE

- **To perform the playback, be sure to go back to the first screen with which the capturing was started. A playback operation starting with any screen not stored in memory results in faulty playback.**

Preparations

1. Touch [Other].
2. Touch [Panel Operation Playback] and then [END].

Procedure

1. Call the auto playback starting screen to the control panel.
2. Press the [Rear Stop] key at the back of the control panel.
3. Start the screen operations to store a series of screens.
4. When the operations are completed, press the [Rear Stop] key again.
5. Go back to the first screen and press the [Rear Reset] key at the back of the control panel.

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K FIRMWARE

1. Overview

Rewriting of Firmware

- Methods for rewriting the firmware are shown below.

NOTE

- **The settings in the "Utility" mode and the "Service Mode" will not be changed, when the firmware is rewritten.**

<How to use a USB memory>

- Save the firmware data to a USB memory. Connect the USB to the main body directly and update the firmware.

<How to use an Internet ISW>

- “Internet ISW” is a system, which obtains firmware from the program server via the Internet to update the firmware.
- It is executed when a firmware update instruction is issued or at a predetermined time.

<How to use an Auto Update setting>

- "Auto Update" is the function, which makes the main body access the program server periodically through the network to obtain a new firmware data, then rewrites it automatically.
- It is also possible to share the update data obtained from the network with other MFP, and operate the MFP as a program server for “the Auto Update function.” For details, see “ I.18.2.2 Relay server setting.”

Other data

- Activate all data such as the voice data, and the loadable device driver as required in accordance with the rewriting firmware or user's environment.

Data	How to install
All data	[Service Mode] -> [System 2] -> [Install Data]
Loadable device driver	[Service Mode] -> [System 2] -> [Driver Install]

Confirming the firmware version

- After conducting firmware rewriting, check the firmware version No. and confirm that the firmware has been normally updated.

<Procedure>

1. Select [Service Mode] -> [Firmware Version].
2. To check the firmware version.

2. USB memory

2.1 Preparation

System preparation

- PC with USB ports
- USB memory
  - USB flash memory compatible with the USB (1.1/2.0/3.0) interface. The speed is limited to USB2.0 specifications even if using a device that supports USB3.0.
  - The USB memory is formatted in FAT32 format.
  - No security functions such as encryption and password lock have been added (or the USB memory allows its security functions to be turned OFF).
  - A USB memory that is recognized by the computer as two or more drives cannot be used.

NOTE

- **Possible to be non-operational products.**

USB memory used to update firmware

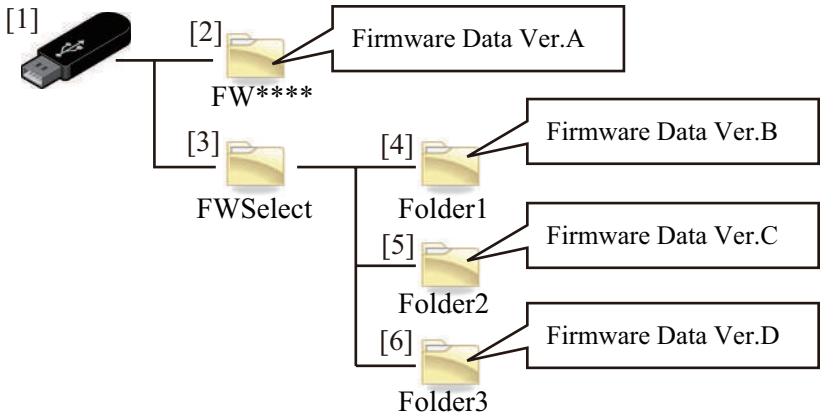
1. Uncompress the firmware file.
2. Connect the USB memory to the computer.
3. Copy the extracted update data folder into the root directory of the USB memory.

Product name	Rewriting data folder name
d-Color MF3303/MF3303en/MF4003/MF4003en	FW0022

NOTE

- **More than one firmware data with a single model can be stored in the USB memory.**
- **In this case, copy the firmware data to the USB memory according to the following procedures.**
  1. Make the folder named "FWSelect" (case-sensitive) to the root directory of the USB memory.
  2. Make a folder with any folder name (one byte alphameric characters, maximum 40 characters) under "FWSelect" folder, and store the firmware data to the folder.

Directory configuration of USB memory



[1]	USB memory	[2]	Rewriting data folder (Required) *1
[3]	Storage folder for a plurality of data (Folder name: FWSelect (Fixed)) *2	[4]	Storage folder for firmware data B (Folder name: Arbitrary) *2
[5]	Storage folder for firmware data C (Folder name: Arbitrary) *2	[6]	Storage folder for firmware data D (Folder name: Arbitrary) *2

- *1: Required to start the firmware update screen.
- *2: Required only when a plurality of data is stored.

2.2 Rewriting of Firmware

Starting the update screen

NOTE

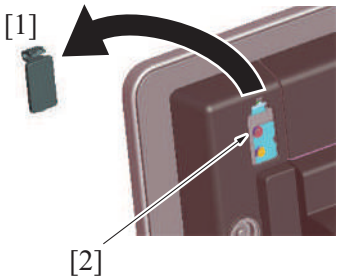
- **When [Administrator] -> [Security] -> [USB port connection permission setting] -> [USB flash drive] -> [Firmware Update Parameters] is set to "Restrict", firmware update cannot be executed by using a USB memory.**
  - **When the main power switch is turned on, a message "It is limited by the administrator." will appear.**
- **When [Administrator] -> [Security] -> [Firmware Update (USB) Permission Setting] is set to "Password Priority", it requires to input a password after confirming with the administrator.**
- **USB memory must be connected with the main power switch off.**

<Procedure>

1. Turn OFF the main power switch.

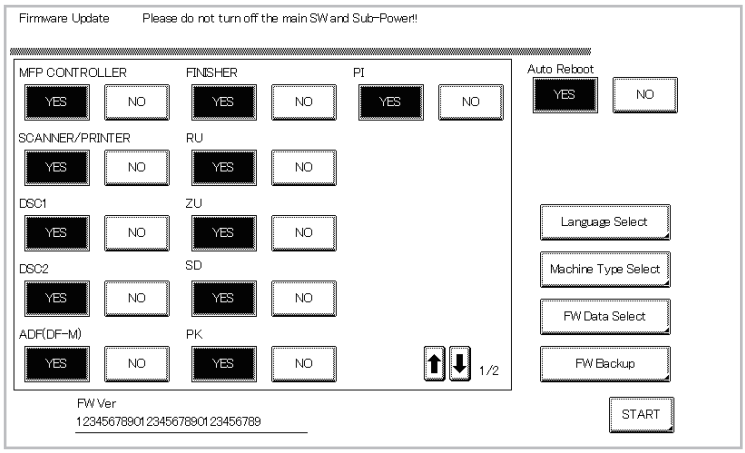


2. Connect the USB memory containing the firmware into the USB port on the right side of the control panel.



3. Remove the cover [1] at the back of the control panel.
4. Turn the main power switch ON while pressing the [Rear Stop] key [2].

5. Firmware Update selection screen is displayed.



NOTE

- **Unless one of the keys on the control panel is pressed, firmware is automatically updated after 30 seconds when the main power switch is turned on.**
- **Selectable items displayed change depending on equipped options, etc.**

Selecting the firmware data

- When multiple set of firmware data is stored in the USB memory, a set of data can be selected.
- The firmware data in the update data folder "FW0022" copied to the root directory of the USB memory is selected as the default data.

<Procedure>

1. Touch [FW Data Select] on the firmware update selection screen.
2. After the data in the USB memory is checked, a list of the available firmware data is displayed.
   - The default data is indicated by an asterisk (*).
3. Select the firmware, and touch [OK].

Language Selection

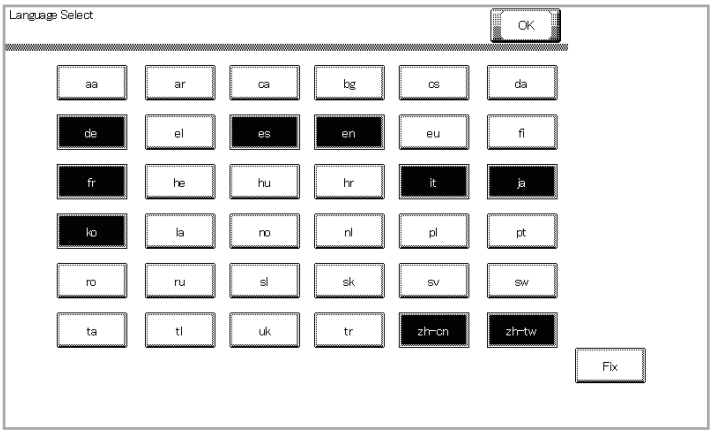
- Select the language data displayed on the Language Selection screen of Utility.
- Select languages as required according to, for example, the use environment of the user.

NOTE

- **Up to 9 languages are selectable. However, Japanese and English are essential options.**

<Procedure>

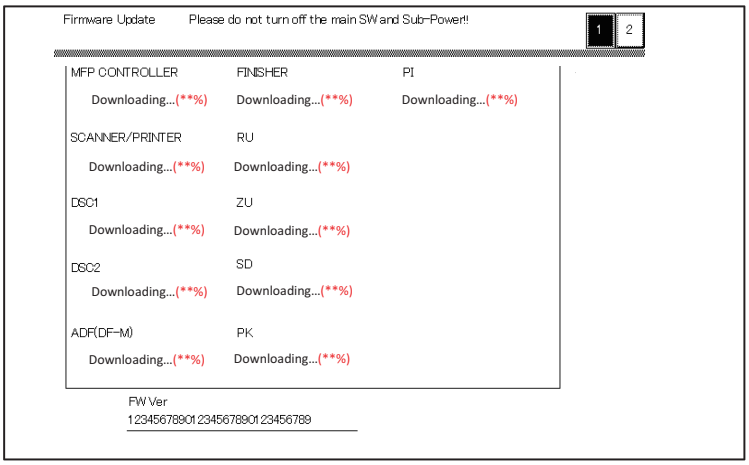
1. Touch [Language Select] on the firmware update selection screen.
2. On the Language Select screen, select a language to be displayed on the LCD area of the control panel, then touch [Fix].



3. Touch [OK].

Updating the firmware

1. Select the target firmware data to be updated in the Firmware Update selection screen. If multiple pages is displayed in the selection screen, check all of the pages.
2. Press the [START]. (At this time, the Power key LED starts blinking red.)
   NOTE
   - **The progress ratio of each board is displayed in writing the program.**



3. Check that the control panel shows the message indicating that the data has been rewritten correctly ([Downloading Completed]). (The Power key LED lights blue.)
   NOTE
   - **Check all pages, and make sure that no item is under firmware updating (Downloading...).**
4. Turn OFF the main power switch.
5. Remove the USB memory.
6. Turn ON the main power switch.
7. Check the firmware version in Service Mode.

2.3 Action when data transfer fails

- If "NG" appears on the control panel, indicating that rewriting has been unsuccessful (in which case the Power key LED lights up red), take the following steps.

1. Perform the data rewriting procedure again.
2. If the procedure is abnormally terminated, change the USB memory for a new one and try another rewriting sequence.
3. If the procedure is still abnormally terminated, change the board that has caused “NG” and carry out data rewriting procedure.

F/W to be updated	Appropriate board	Remark
MFP CONTROLLER	Storage board (STRGB)	-
SCANNER/PRINTER/ADF	CPU board (CPUB)	-
FAX BOARD CONTROLLER1	Fax board/1 (FAXB/1)	Only when Fax Kit is mounted

3. Internet ISW

3.1 Service environment

- To use the “Internet ISW”, the MFP must be connected to such a network environment that the firmware can be downloaded on the Internet using the ftp or http protocol.
- The “Internet ISW” will not operate under the following conditions.
  - Main power switch is set to OFF.
  - Sub power auto power off mode is enabled.
  - [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON”.
  - Machine is operating, or there are jobs present (including appointed jobs).
  - Machine is in idle with suspended job.
  - Paper jam has occurred.
  - Image file is in the memory.
  - Model or the circuit board of the program does not match.

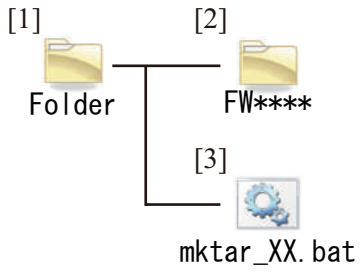
3.2 Preparation

3.2.1 Making the firmware data

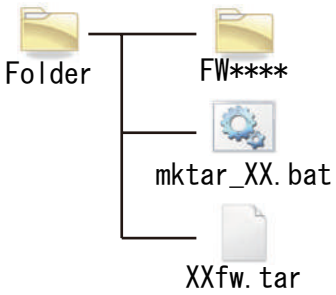
- It is necessary to convert the firmware data and save it in the target directory of the Internet ISW server for upgrading the firmware via Internet ISW.

<Procedure>

1. Uncompress the firmware file.
2. Drag and Drop the firmware folder “FW****” [2] which is in the uncompressed folder [1] into the batch file "mktar_A7PU.bat" [3] which is in the same folder.
   NOTE
   - **For the folder name of the folder [2] and the file name of the file [3], refer to “Table: Folder name, File name.”**



3. Windows command prompt runs and file generation starts.
4. The command prompt closes automatically when the processing completes.
5. "XXfw.tar" file is created in the same directory.
   NOTE
   - **For file name, refer to “Table: Folder name, File name.”**



6. Copy the "XXfw.tar" file to the predetermined directory of the Internet ISW program server.

Table: Folder name, File name

Product name	Firmware data folder name	File name (.bat)	File name (.tar)
d-Color MF3303/MF3303en/MF4003/MF4003en	FW0022	mktar_AAJN.bat	AAJNfw.tar

3.2.2 Internet ISW Set

- Enable Internet ISW function in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set].
- In [Service Mode] -> [Machine Update Setting] -> [Internet ISW], configure the settings related to Internet ISW functions, including the protocol to use and access settings to the program server.
- For detailed settings, refer to “ I.18.1 Internet ISW.”

3.3 Rewriting of Firmware

NOTE

- **When performing the Internet ISW, ask the administrator for permission beforehand.**
- **DO NOT turn OFF the main power switch while downloading.**

Update instruction

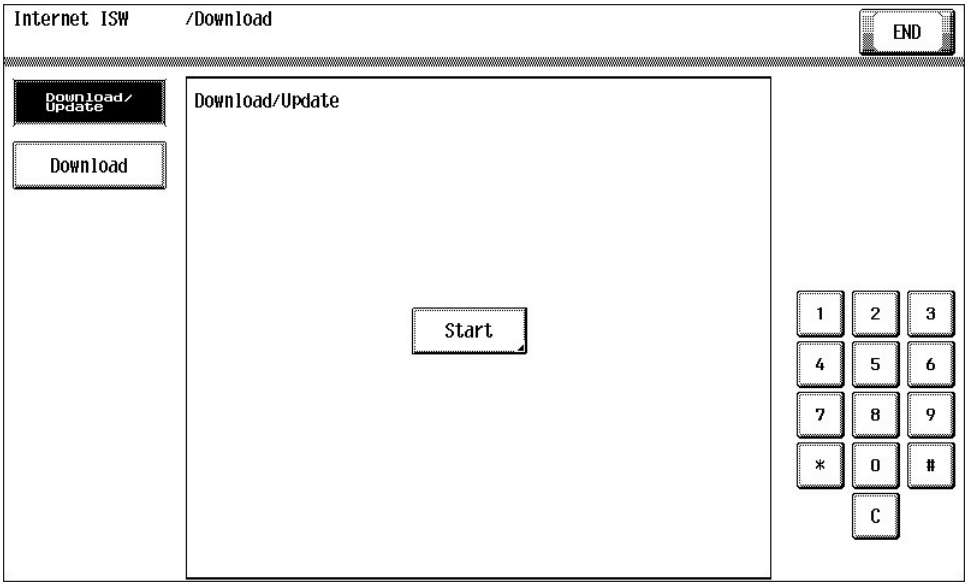
- The firmware update instruction by Internet ISW can be issued from the control panel, CS Remote Care, and Web Connection.

NOTE

- **When IP address of MFP is assigned by DHCP, the firmware rewriting will be failed by using [Download/Update] button. Use [Download] button in such case.**
- **The Static IP address of MFP is necessary to execute the firmware rewriting by CS Remote Care or Web Connection remotely.**
- **Updates cannot be performed via the [Download/Update] button when connected over Wi-Fi. Use [Download] button in such case.**

<Control panel>

1. Touch [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Download].
2. To download and update firmware data, select [Download/Update]. To only download firmware data and update it later, select [Download].
3. Touch [Start].



4. MFP accesses the program server and starts downloading the firmware data.
5. To download and update firmware data, select the types of firmware data to be written and replaced with a newer version in the Firmware Update screen and press [START].

   NOTE

   - **Unless one of the keys on the control panel is pressed, firmware is updated after 30 seconds when the unit has restarted.**
   - **The display item varies by the configuration of optional parts installed on this machine.**
   - **If multiple pages is displayed in the selection screen, check all of the pages.**

<CS Remote Care>

- Issue an update instruction from CS Remote Care center.
- For details, refer to the CS Remote Care Center manual.

NOTE

- **For detailed error information relating to CS Remote Care, refer to " I.8.1 Remote Care."**

<Web Connection>

1. Access the Web Connection of the MFP.
2. In the administrator mode, use [Internet ISW Set] -> [Firmware Update Parameters] to issue the update instruction.

During updating

1. After pressing [Start], the MFP main body connects to the program server and starts the download.
2. The message to indicate the status will be displayed on the screen while connecting or transferring data.

Completing update

<Firmware updated normally>

1. When the Firmware is normally updated, restart the MFP in auto or manual mode to display the outcome, and touch [OK] to return to the main screen.

<Failing to update the firmware due to the network trouble>

1. When updating failed to complete due to the trouble on connecting to the network, an error code and the message will be displayed.
2. Restart the MFP main body in auto or manual mode, and touch [OK]. It can be used with the firmware version before conducting updating.
3. Check the settings for the network by Internet ISW error codes, and try updating again.

<Failure to update firmware after starting the update process>

1. Once firmware updating has started, the ROM in the MFP will be deleted. When it failed right after updating has started, restart the MFP, and shift to the standby screen to retry downloading.
2. When updating on the control panel, touch [settings] on the standby screen, and check the Network settings again. Touch [Download], and restart the Internet ISW.

NOTE

- **Return to the standby screen without fail after turning the main power switch OFF/ON if the firmware is not updated.**
- **Firmware can be updated with the USB memory.**

4. Auto Update setting

4.1 Service environment

- To use the “Auto Update setting”, the MFP must be connected to such a network environment that the firmware data can be downloaded on the network using the SMB or http protocol.
- The Auto Update function will not operate when the MFP is under the following conditions.
  - Main power switch is set to OFF.
  - Sub power OFF mode (power key is orange) or ErP auto power OFF mode (power key flashes orange) enabled
  - [Administrator] -> [Security] -> [Enhanced Security Mode] is set to “ON”.
  - MFP is operating, or there are jobs present (including appointed jobs).
  - MFP is in idle with suspended job.
  - Trouble has occurred.
  - Image file is in the memory.
  - Model or the circuit board of the program does not match.

4.2 Preparation

- For using this Auto Update setting effectively, before executing the following procedures contact with the administrator to obtain an agreement.
- Convert the obtained firmware data to an appropriate format. Refer to “ K.3.2.1 Making the firmware data.”
- Create the program update information file (C_UpdateList.ini).
- Upload the firmware data and program update information file to the program server.
- Configure the settings related to the automatic update function in [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Auto Update setting].
- For details, see “ I.18.2.1 Auto Update setting.”

4.3 Rewriting of Firmware

Download

- The program server is accessed at the configured polling interval to check the program update information file.
- Compare the program update information file in the program server with that in the MFP, and starts downloading the firmware data with a changed Version number.

Auto Update of firmware

- If the MFP power is set to ON at the scheduled update time, rewriting is executed automatically. If the power is set to OFF, no rewriting will be executed.

5. How to install the i-Option data

5.1 Available function for i-Option

i-Option	Functions	Data location	How to install data when formatting the MFP storage
LK-105	Searchable PDF	In the Standard firmware	[Service Mode] -> [System 2] -> [Install Data]
LK-106	Barcode font	In the Standard firmware	n/a
LK-107	Unicode font	In the Standard firmware	LK-107/LK-108 font data installation procedure
LK-108	OCR font	In the Standard firmware	
LK-110	High functional Image Processing	In the Standard firmware	[Service Mode] -> [System 2] -> [Install Data]
LK-111	Enhancing external linkage (supported by ThinPrint)	In the Standard firmware	n/a
LK-114	Ubiquitous Printing	In the Standard firmware	
LK-115	TPM (Trusted Platform Module)	In the Standard firmware	
LK-116	Virus Scan	In the Standard firmware	
LK-117	IP fax (SIP)	In the Standard firmware	[Service Mode] -> [System 2] -> [Install Data]

5.2 LK-107/LK-108 font data installation procedure

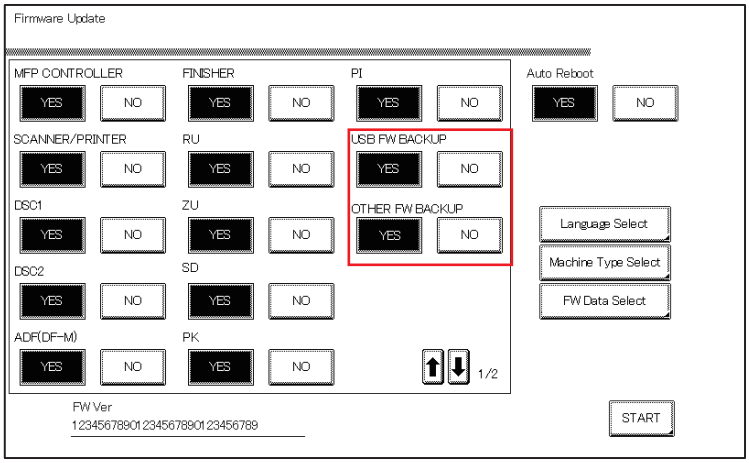
1. Prepare an USB memory.
2. Copy the font data to the root directory of the USB memory.
   - OCR font: download_OCRA-0.pdf
   - Unicode font: download_Andale_J-0.pdf, download_Andale_K-0.pdf, download_Andale_S-0.pdf, download_Andale_T-0.pdf
3. Turn ON the main power switch, and connect the USB memory to the USB port on the side of the control panel.
4. The message “Print a document from External Memory” will be displayed on the control panel, and select it.
5. The font data in the USB memory will be displayed, and select these data to print out.
6. The message “Document Printing Failed” will be displayed, and touch [OK].
7. Print out a PCL font list, and confirm that the font data are registered as following names.
   - LK-107: Andale Mono WT J, Andale Mono WT K, Andale Mono WT S, Andale Mono WT T
   - LK-108: OCR-A

6. Creating back up files when updating firmware

- By enabling backup, the old firmware data is backed up to the storage of the main body when the firmware is updated.
- If backup data exists in the storage of the main body, the old backup data is deleted and new firmware data is backed up.
- This enables you to restore the backed up firmware (rollback) if an error occurs when updating the firmware.
- To roll back the firmware, select [Service Mode] -> [Machine Update Settings] -> [Firmware Rollback].

<Procedure>

1. The firmware update selection screen is displayed when updating the firmware.
2. Touch [FW Backup] on the firmware update selection screen.



3. Select [USB FW BACKUP] and [OTHER FW BACKUP] in the firmware backup screen.
   - [USB FW BACKUP]: Select to execute backup when updating the firmware on the USB flash memory.
   - [OTHER FW BACKUP]: Select to execute backup when updating the firmware by non-USB Internet ISW or automatic update feature.
4. Touch [OK].
5. Update the firmware.

   NOTE
   - **The update process takes a few more minutes when creating a backup than when not creating a backup.**

7. Function to erase data from storage board (SSD) completely (Secure Erase function)

7.1 Function

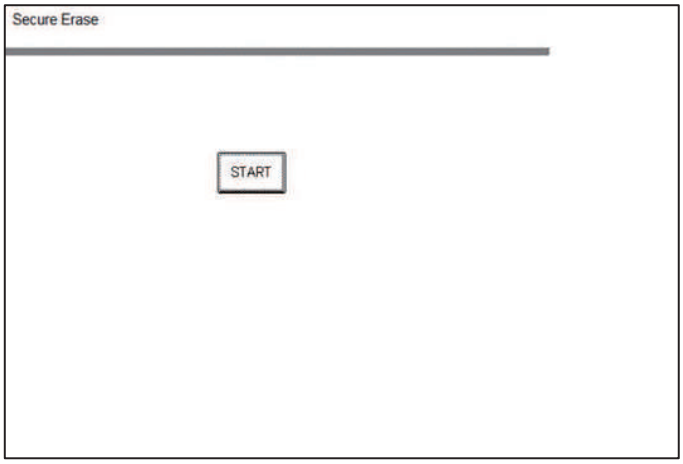
The Secure Erase function completely erases data from the storage board (SSD). (Complies with the Purge level of NIST SP800-88 Rev1)

NOTE

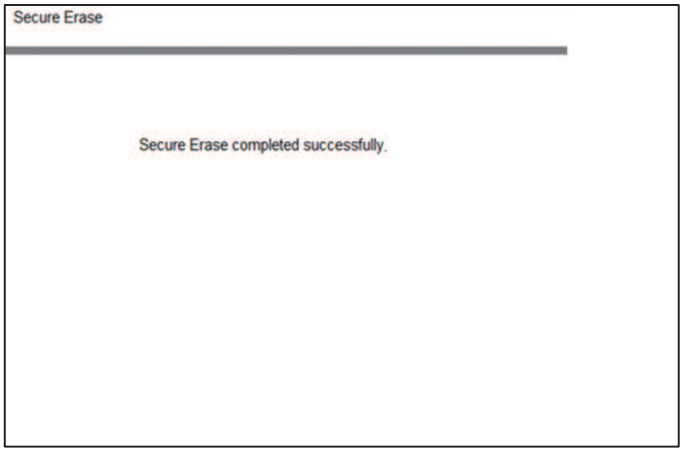
- **Since the firmware is also erased after Secure Erase is executed, the main body does not start up. To use the main body again, download and install the firmware.**

7.2 Procedure

1. Prepare a USB memory.
2. Obtain function version 2.3 or later firmware data, and extract it on your PC.
3. Copy the data folder "FW00**" to the root directory of the USB memory.
4. Newly create a folder (empty) under "FW00**", and rename it as "FW_SecureErase_USB".
5. Turn off the main power switch of the main body.
6. Connect the USB memory containing the firmware to the USB port on the right side of the operation panel.
7. Remove the cover on the rear side of the control panel, and turn on the main power switch while pressing the [Rear Stop] key.
8. Go to the Secure Erase screen, you can find [START] in the center of the screen.



9. Press [START] to start the data erase.
   It terminates after one to two seconds, and [Secure Erase completed successfully.] appears for a normal completion.



NOTE

- **If it failed, turn off the main power switch, and execute Secure Erase again.**

L TROUBLESHOOTING

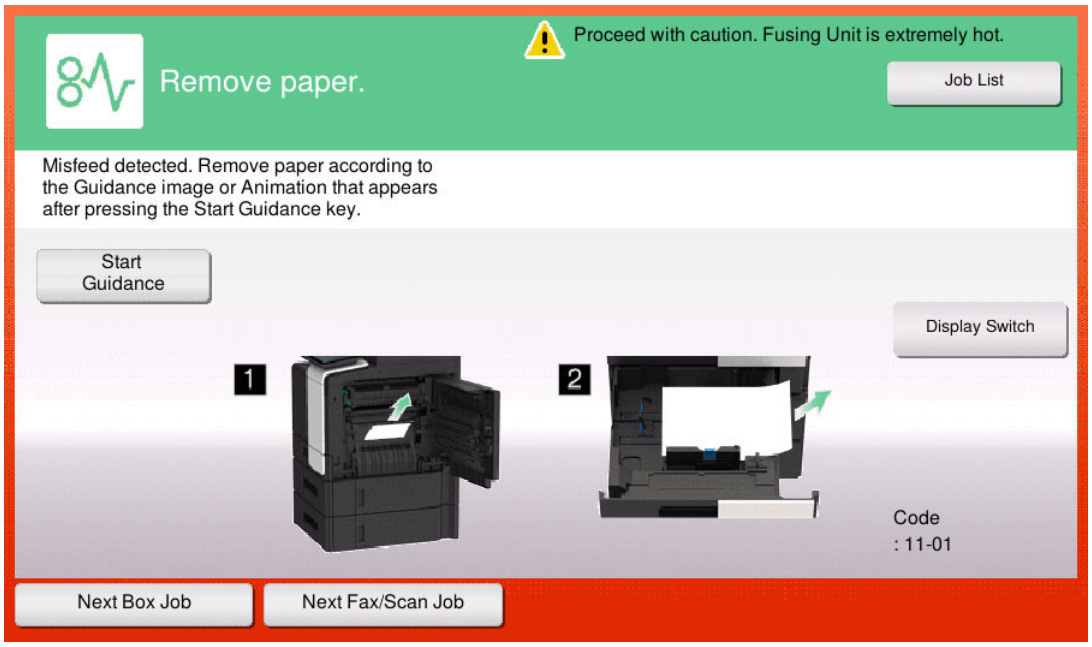
1. JAM CODE

1.1 JAM display

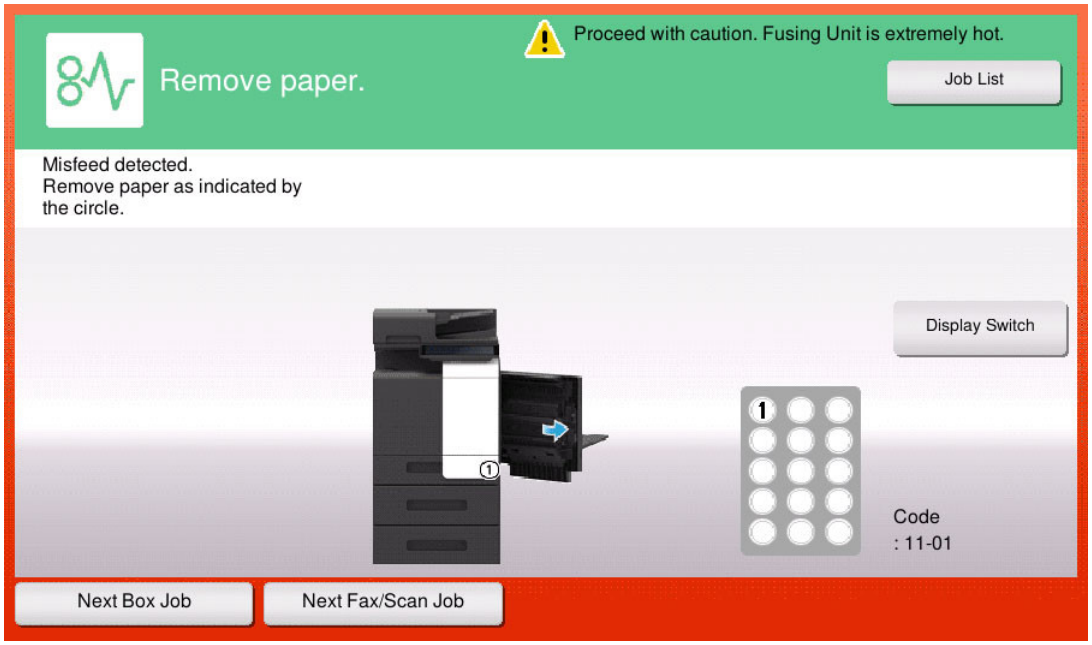
Display procedure

- When the paper jam occurred, the message, the jam clear procedure, the position jam occurred (number lights up), position of the remaining paper (number lights up), and the JAM code are displayed.
- Touch [Display Switch] to switch the screen showing the jam clear procedure or the jam occurring position.

Screen showing jam clear procedure



Screen showing the jam occurring position



NOTE

- **JAM code is displayed on the jam warning screen only when [Service Mode] -> [System 2] -> [JAM Code Display Setting] is set to "Display."**
- **To change the initial display when jam occurred to the screen showing the jam occurring position, set [Paper jam release procedure display settings] on the [Utility] -> [Utility] -> [Customize] -> [Active screen setting] to "OFF." When [Paper jam release procedure display settings] is set to "OFF," the "screen showing jam clear procedure" cannot be displayed.**
- **When a tray lift-up failure (trouble code) occurred, for the trouble that can be cleared by removing the tray, the following screen is displayed showing users how to remove jammed paper and how to load paper properly. Therefore, for remaining paper jam, the screen will disappear.**



- **A trouble code (C-02XX) will be displayed if the tray lift-up failure cannot be cleared even when action has been taken by following the Guidance.**

Resetting procedures

1. Open the corresponding door, clear the sheet of paper misfeed, and close the door.
2. Touch “OK” displayed on the touch panel.

1.2 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct user on proper paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path or replace the part on the paper path if necessary.
Are rolls or rollers dirty, deformed, or worn?	Clean the defective roll or roller. Replace the defective roll or roller.
Are the paper size and the detected paper size by the edge guide are matching?	Adjust the edge guide to match the paper size.
Are the actuators operating correctly?	Correct the defective actuator. Replace the defective actuator.

1.3 List of the JAM code

JAM code	JAM type
10-01	Misfeed at manual bypass paper feed section
10-02	
10-40	
11-01	Misfeed at tray 1 paper feed section
11-02	
11-40	
12-01	Misfeed at tray 2 paper feed section (When PF-P20 or PF-P27 is installed)
12-40	
13-01	Misfeed at tray 3 paper feed section (When PF-P20 or PF-P27 is installed)
13-40	
14-01	Misfeed at tray 4 paper feed section (When PF-P27 is installed) (d-Color MF4003en/MF3303en only)
14-40	
20-02	Misfeed at vertical transport section (When PF-P20 or PF-P27 is installed)
20-10	
20-11	
20-12	
20-13	
20-14	
20-21	
20-22	
20-26	
30-01	Misfeed at 2nd transfer section
30-03	
32-05	Misfeed at paper exit section
32-06	
32-31	
66-02	Misfeed at DF document feed section
66-13	Misfeed at DF document transport section
66-33	
66-05	Misfeed at DF document reading section
66-06	Controller JAM (reading error detected)
66-07	Misfeed at DF document feed/transport/reading section
66-08	Double feed detection jam (When UK-P19 is installed)
92-01	Misfeed at duplex pre-registration section
92-02	
92-03	
92-04	
93-03	Misfeed at duplex transport section
99-01	Controller JAM (paper size error)
99-02	Controller JAM (controller forced stop command)
99-03	Controller JAM (image processing)
99-04	Controller JAM (a job reservation in the main body is not released)
99-05	Controller JAM (main body not starting a job)
99-06	Controller JAM (print control on the main body is not completed)
99-07	Controller JAM (main body not completing a job)
99-14	Controller JAM (image stabilization timeout)

1.4 JAM that do not display the JAM code

JAM type	JAM detection timing	Ref. page
Misfeed at manual bypass paper feed section	Paper jam of a sheet of paper left at the manual bypass paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.1 10-01, 10-02, 10-40
Misfeed at tray 1 paper feed section	Paper jam of a sheet of paper left at the tray 1 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.2 11-01, 11-02, 11-40

JAM type	JAM detection timing	Ref. page
Misfeed at tray 2 paper feed section (When PF-P20 or PF-P27 is installed)	Paper jam of a sheet of paper left at the tray 2 paper feed section results, if the tray 2 transport sensor (PS6/2) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.3 12-01, 12-40
	Paper jam of a sheet of paper left at the tray 2 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at tray 3 paper feed section (When PF-P20 is installed)	Paper jam of a sheet of paper left at the tray 3 paper feed section results, if the tray 3 transport sensor (PS6/3) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.4 13-01, 13-40
	Paper jam of a sheet of paper left at the tray 3 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at tray 4 paper feed section (When PF-P27 is installed) (d-Color MF4003en/ MF3303en only)	Paper jam of a sheet of paper left at the tray 4 paper feed section results, if the tray 4 transport sensor (PS6/4) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.5 14-01, 14-40
	Paper jam of a sheet of paper left at the tray 4 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at vertical transport section (When PF-P20 or PF-P27 is installed)	Paper jam of a sheet of paper left at the vertical transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.6.1 20-02, 20-10, 20-11, 20-12, 20-13, 20-14, 20-21, 20-22, 20-26
Misfeed at 2nd transfer section	Paper jam of a sheet of paper left at the 2nd transfer section results, if the registration sensor (PS9) is turned ON (blocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.7.1 30-01, 30-03
	Paper jam of a sheet of paper left at the 2nd transfer section results, if the fusing loop sensor (PS10) is turned ON (blocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
	Paper jam of a sheet of paper left at the 2nd transfer section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at paper exit section	Paper jam of a sheet of paper left at the paper exit section results, if the paper exit sensor (PS13) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.7.2 32-05, 32-06, 32-31
	Paper jam of a sheet of paper left at the paper exit section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at DF document feed section	Paper jam of a sheet of paper left at the DF document feed section results, if the after separate sensor (PS16) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.8.1 66-02
Misfeed at DF document transport section	Paper jam of a sheet of paper left at the DF document transport section results, if the document registration sensor (PS17) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.8.2 66-13, 66-33
Misfeed at DF document reading section	Paper jam of a sheet of paper left at the DF document reading results, if the document before read sensor (PS18) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.8.3 66-05
Misfeed at duplex pre-registration section	Paper jam of a sheet of paper left at the duplex pre-registration section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.9.1 92-01, 92-02, 92-03, 92-04
Misfeed at duplex transport section	Paper jam of a sheet of paper left at the duplex transport section results, if the ADU transport sensor (PS11) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.9.2 93-03
	Paper jam of a sheet of paper left at the duplex transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	

1.5 1#-##

1.5.1 10-01, 10-02, 10-40

Contents

JAM type	Misfeed at manual bypass paper feed section	
JAM code	10-01, 10-02, 10-40	
JAM detection timing	10-01	The leading edge of the paper is not turned ON (blocked) the registration sensor (PS9) even after the lapse of a given period of time after the manual bypass tray starts to feed paper.
	10-02	For paper fed from the manual bypass tray, loop forming has not been complete before a sheet enters the registration roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.
	10-40	For paper fed from the manual bypass tray, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the manual bypass paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• Main motor (M1) • Bypass tray paper feed clutch (CL2) • Registration clutch (CL4) • Registration sensor (PS9) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS9 I/O check, sensor check	BASEB CN22EA-13 (ON)	13-C
3	CL2 load check • Check code: 20 • Multi code: 4	BASEB CN23E-10 (ON)	9-K
4	CL4 load check • Check code: 21 • Multi code: 3	BASEB CN22EA-3 (ON)	12-C
5	M1 load check • Check code: 40 • Multi code: 1, 2	BASEB CN17E-1 to 5	1-C
6	Replace BASEB.	-	-

1.5.2 11-01, 11-02, 11-40

Contents

JAM type	Misfeed at tray 1 paper feed section	
JAM code	11-01, 11-02, 11-40	
JAM detection timing	11-01	The leading edge of the paper is not turned ON (blocked) the registration sensor (PS9) even after the lapse of a given period of time after the tray 1 starts to feed paper.
	11-02	For paper fed from the tray 1, loop forming has not been complete before a sheet enters the registration roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.
	11-40	For paper fed from the tray 1, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the tray 1 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	• Right door • Tray 1	
Relevant parts	• Main motor (M1) • Tray 1 paper feed clutch (CL3) • Registration clutch (CL4) • Registration sensor (PS9) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS9 I/O check, sensor check	BASEB CN22EA-13 (ON)	13-C
3	CL3 load check • Check code: 20	BASEB CN22EA-1 (ON)	12-C

Step	Action	Control signal	Location of electrical component
	• Multi code: 1		
4	CL4 load check • Check code: 21 • Multi code: 3	BASEB CN22EA-3 (ON)	12-C
5	M1 load check • Check code: 40 • Multi code: 1, 2	BASEB CN17E-1 to 5	1-C
6	Update the firmware to the latest version (Ver.G00-K8 or later).	-	-
7	Replace the stopper part of the paper feed unit. (J11-01)	-	-
8	Replace BASEB.	-	-

1.5.3 12-01, 12-40

Contents

JAM type	Misfeed at tray 2 paper feed section (When PF-P20 or PF-P27 is installed)	
JAM code	12-01, 12-40	
JAM detection timing	12-01	The leading edge of the paper is not turned ON (unblocked) the tray 2 transport sensor (PS6/2) even after the lapse of a given period of time after the tray 2 starts to feed paper.
	12-40	For paper fed from the tray 2, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the tray 2 paper feed section results, if the tray 2 transport sensor (PS6/2) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the tray 2 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	• Right door • Tray 2	
Relevant parts	• Tray 2 drive motor (M1/2) • Tray 2 paper feed clutch (CL1/2) • Tray 2 transport clutch (CL2/2) • Tray 2 transport sensor (PS6/2) • Tray 2 PC control board (PCCB/2) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS6/2 I/O check, sensor check	PCCB/2 CN3-3 (ON)	17-X
3	CL1/2 load check • Check code: 20 • Multi code: 2	PCCB/2 CN5-3 (ON)	16-P
4	CL2/2 load check • Check code: 21 • Multi code: 1	PCCB/2 CN5-1 (ON)	15-P
5	M1/2 load check • Check code: 28 • Multi code: 1, 2	PCCB/2 CN4-1 to 7	18-P
6	Replace PCCB/2.	-	-
7	Replace BASEB.	-	-

1.5.4 13-01, 13-40

Contents

JAM type	Misfeed at tray 3 paper feed section (When PF-P20 or PF-P27 is installed)	
JAM code	13-01, 13-40	
JAM detection timing	13-01	The leading edge of the paper is not turned ON (unblocked) the tray 3 transport sensor (PS6/3) even after the lapse of a given period of time after the tray 3 starts to feed paper.
	13-40	For paper fed from the tray 3, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.

	-	Paper jam of a sheet of paper left at the tray 3 paper feed section results, if the tray 3 transport sensor (PS6/3) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the tray 3 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	• Right door • Tray 3	
Relevant parts	• Tray 3 drive motor (M1/3) • Tray 3 paper feed clutch (CL1/3) • Tray 3 transport clutch (CL2/3) • Tray 3 transport sensor (PS6/3) • Tray 3 PC control board (PCCB/3)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS6/3 I/O check, sensor check	PCCB/3 CN3-3 (ON)	17-X
3	CL1/3 load check • Check code: 20 • Multi code: 3	PCCB/3 CN5-3 (ON)	16-P
4	CL2/3 load check • Check code: 21 • Multi code: 2	PCCB/3 CN5-1 (ON)	15-P
5	M1/3 load check • Check code: 28 • Multi code: 3, 4	PCCB/3 CN4-1 to 7	18-P
6	Replace PCCB/3.	-	-

1.5.5 14-01, 14-40

Contents

JAM type	Misfeed at tray 4 paper feed section (When PF-P27 s installed) (d-Color MF4003en/MF3303en only)	
JAM code	14-01, 14-40	
JAM detection timing	14-01	The leading edge of the paper is not turned ON (unblocked) the tray 4 transport sensor (PS6/4) even after the lapse of a given period of time after the tray 4 starts to feed paper.
	14-40	For paper fed from the tray 4, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the tray 4 paper feed section results, if the tray 4 transport sensor (PS6/4) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the tray 4 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	• Right door • Tray 4	
Relevant parts	• Tray 4 drive motor (M1/4) • Tray 4 paper feed clutch (CL1/4) • Tray 4 transport clutch (CL2/4) • Tray 4 transport sensor (PS6/4) • Tray 4 PC control board (PCCB/4)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS6/4 I/O check, sensor check	PCCB/4 CN3-3 (ON)	17-X
3	CL1/4 load check • Check code: 20 • Multi code: 5	PCCB/4 CN5-3 (ON)	16-P
4	CL2/4 load check • Check code: 21 • Multi code: 4	PCCB/4 CN5-1 (ON)	15-P
5	M1/4 load check • Check code: 28 • Multi code: 5, 6	PCCB/4 CN4-1 to 7	18-P
6	Replace PCCB/4.	-	-

1.6 2#-##

1.6.1 20-02, 20-10, 20-11, 20-12, 20-13, 20-14, 20-21, 20-22, 20-26

Contents

JAM type	Misfeed at vertical transport section (When PF-P20 or PF-P27 is installed)	
JAM code	20-02, 20-10, 20-11, 20-12, 20-13, 20-14, 20-21, 20-22, 20-26	
JAM detection timing	20-02	For paper fed from the tray 2/3, loop forming has not been complete before a sheet enters the registration roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.
	20-10	The leading edge of the paper is not turned OFF (blocked) the tray 2 transport sensor (PS6/2) even after the lapse of a given period of time after the tray 2 starts to feed paper.
	20-11	The leading edge of the paper is not turned OFF (blocked) the tray 3 transport sensor (PS6/3) even after the lapse of a given period of time after the tray 3 starts to feed paper.
	20-12	The leading edge of the paper is not turned OFF (blocked) the tray 2 transport sensor (PS6/2) even after the lapse of a given period of time after the tray 3 starts to feed paper.
	20-13	The leading edge of the paper is not turned OFF (blocked) the tray 4 transport sensor (PS6/4) even after the lapse of a given period of time after the tray 4 starts to feed paper. (d-Color MF4003en/ MF3303en only)
	20-14	The leading edge of the paper is not turned OFF (blocked) the tray 3 transport sensor (PS6/3) even after the lapse of a given period of time after the tray 4 starts to feed paper (d-Color MF4003en/ MF3303en only)
	20-21	The leading edge of the paper is not turned ON (unblocked) the tray 2 transport sensor (PS6/2) even after the lapse of a given period of time after the tray 3 starts to feed paper.
	20-22	The leading edge of the paper is not turned ON (unblocked) the tray 3 transport sensor (PS6/3) even after the lapse of a given period of time after the tray 4 starts to feed paper (d-Color MF4003en/MF3303en only)
	20-26	The leading edge of the paper is not turned ON (blocked) the registration sensor (PS9) even after the lapse of a given period of time after the tray 2/3/4 starts to feed paper.
	-	Paper jam of a sheet of paper left at the vertical transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	• Right door • Tray 2 right door • Tray 3 right door • Tray 4 right door	
Relevant parts	• Main motor (M1) • Tray 2 drive motor (M1/2) • Tray 3 drive motor (M1/3) • Tray 4 drive motor (M1/4) • Registration clutch (CL4) • Tray 2 transport clutch (CL2/2) • Tray 3 transport clutch (CL2/3) • Tray 4 transport clutch (CL2/4) • Registration sensor (PS9) • Tray 2 transport sensor (PS6/2) • Tray 3 transport sensor (PS6/3) • Tray 4 transport sensor (PS6/4) • Base board (BASEB) • Tray 2 PC control board (PCCB/2) • Tray 3 PC control board (PCCB/3) • Tray 4 PC control board (PCCB/4)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS9 I/O check, sensor check	BASEB CN22EA-13 (ON)	13-C
3	PS6/2, PS6/3 , PS6/4 I/O check, sensor check	PCCB/2 CN3-3 (ON) PCCB/3 CN3-3 (ON) PCCB/4 CN3-3 (ON)	17-X
4	CL4 load check • Check code: 21 • Multi code: 3	BASEB CN22EA-3 (ON)	12-C
5	CL2/2, CL2/3 , CL2/4 load check • Check code: 21 • Multi code: 1, 2 , 4	PCCB/2 CN5-1 (ON) PCCB/3 CN5-1 (ON) PCCB/4 CN5-1 (ON)	15-P
6	M1 load check (Main body) • Check code: 40 • Multi code: 1, 2	BASEB CN17E-1 to 5	1-C
7	M1/2, M1/3 , M1/4 load check	PCCB/2 CN4-1 to 7	18-P

Step	Action	Control signal	Location of electrical component
	• Check code: 28 • Multi code: 1, 2, 3, 4 , 5, 6	PCCB/3 CN4-1 to 7 PCCB/4 CN4-1 to 7	
8	Replace PCCB/2, PCCB/3, or PCCB/4.	-	-
9	Replace BASEB.	-	-

1.7 3#-##

1.7.1 30-01, 30-03

Contents

JAM type	Misfeed at 2nd transfer section	
JAM code	30-01, 30-03	
JAM detection timing	30-01	The registration sensor (PS9) is not turned OFF (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (blocked) PS9.
	30-03	The leading edge of the paper is not turned ON (unblocked) the paper exit sensor (PS13) even after the lapse of a given period of time after a paper feed starts to feed paper.
	-	Paper jam of a sheet of paper left at the 2nd transfer section results, if the registration sensor (PS9) is turned ON (blocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the 2nd transfer section results, if the fusing loop sensor (PS10) is turned ON (blocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the 2nd transfer section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• Main motor (M1) • Fusing motor (M3) • Registration clutch (CL4) • Registration sensor (PS9) • Fusing loop sensor (PS10) • Paper exit sensor (PS13) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS9 I/O check, sensor check	BASEB CN22EA-13 (ON)	13-C
3	PS10 I/O check, sensor check	BASEB CN23E-9 (ON)	9-K
4	PS13 I/O check, sensor check	BASEB CN16E-3 (ON)	11-K
5	CL4 load check • Check code: 21 • Multi code: 3	BASEB CN22EA-3 (ON)	12-C
6	M1 load check • Check code: 40 • Multi code: 1, 2	BASEB CN17E-1 to 5	1-C
7	M3 load check • Check code: 45 • Multi code: 1, 2, 3	BASEB CN17E-6 to 10	1-C
8	Replace BASEB.	-	-

1.7.2 32-05, 32-06, 32-31

Contents

JAM type	Misfeed at paper exit section	
JAM code	32-05, 32-06, 32-31	
JAM detection timing	32-05	The paper exit sensor (PS13) is not turned OFF (blocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (unblocked) PS13.
	32-06	The fusing loop sensor (PS10) is not turned OFF (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (blocked) PS10.
	32-31	The paper exit sensor (PS13) is turned OFF (blocked) before the trailing edge of the paper moves past the fusing pad.
	-	Paper jam of a sheet of paper left at the paper exit section results, if the paper exit sensor (PS13) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.

	-	Paper jam of a sheet of paper left at the paper exit section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• Fusing motor (M3) • Fusing loop sensor (PS10) • Paper exit sensor (PS13) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS10 I/O check, sensor check	BASEB CN23E-9 (ON)	9-K
3	PS13 I/O check, sensor check	BASEB CN16E-3 (ON)	11-K
4	M3 load check • Check code: 45 • Multi code: 1, 2, 3	BASEB CN17E-6 to 10	1-C
5	Replace BASEB.	-	-

1.8 6#-##

1.8.1 66-02

Contents

JAM type	Misfeed at DF document feed section	
JAM code	66-02	
JAM detection timing	66-02	The after separate sensor (PS16) is not turned ON even after the lapse of a given period of time after the document main motor (M8) has turned ON.
	-	Paper jam of a sheet of paper left at the DF document feed section results, if the after separate sensor (PS16) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Left cover	
Relevant parts	• Document main motor (M8) • Document paper feed clutch (CL8) • After separate sensor (PS16) • DF control board (DFCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS16 I/O check, sensor check	DFCB CN3-2 (ON)	21-P
3	CL8 load check • Check code: 60 • Multi code: 145	DFCB CN4-2 (ON)	21-X
4	M8 load check • Check code: 60 • Multi code: 1, 5	DFCB CN5-1 to 4	21-X
5	Replace DFCB.	-	-

1.8.2 66-13, 66-33

Contents

JAM type	Misfeed at DF document transport section	
JAM code	66-13, 66-33	
JAM detection timing	66-13	The document registration sensor (PS17) is not turned ON (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON the after separate sensor (PS16).
	66-33	The document before read sensor (PS18) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON (unblocked) the document registration sensor (PS17).
	-	Paper jam of a sheet of paper left at the DF document transport section results, if the document registration sensor (PS17) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Left cover	

Relevant parts	• Document main motor (M8) • Document paper feed clutch (CL8) • Document registration clutch (CL9) • After separate sensor (PS16) • Document registration sensor (PS17) • Document before read sensor (PS18) • DF control board (DFCB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS16 I/O check, sensor check	DFCB CN3-2 (ON)	21-P
3	PS17 I/O check, sensor check	DFCB CN2-8 (ON)	23-P
4	PS18 I/O check, sensor check	DFCB CN6-2 (ON)	21-P
5	CL8 load check • Check code: 60 • Multi code: 145	DFCB CN4-2 (ON)	21-X
6	CL9 load check • Check code: 60 • Multi code: 146	DFCB CN4-4 (ON)	21-X
7	M8 load check • Check code: 60 • Multi code: 1, 5	DFCB CN5-1 to 4	21-X
8	Replace DFCB.	-	-

1.8.3 66-05

Contents

JAM type	Misfeed at DF document reading section	
JAM code	66-05	
JAM detection timing	66-05	• The document before read sensor (PS18) is not turned OFF even after the lapse of a given period of time after the document registration sensor (PS17) has turned OFF (blocked). • During transporting document, the paper information is not cleared even after the lapse of a given period of time. • The timing of start of scanning the front side of a document is not notified even after the lapse of a given period of time after the document before read sensor (PS18) has turned ON. • The timing of end of scanning the front side of a document is not notified even after the lapse of a given period of time after the document before read sensor (PS18) has turned OFF. • The timing of start of scanning the back side of a document is not notified even after the lapse of a given period of time after the document before read sensor (PS18) has turned ON. • The timing of end of scanning the back side of a document is not notified even after the lapse of a given period of time after the document before read sensor (PS18) has turned OFF.
	-	Paper jam of a sheet of paper left at the DF document reading results, if the document before read sensor (PS18) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Left cover	
Relevant parts	• Document main motor (M8) • Document registration sensor (PS17) • Document before read sensor (PS18) • DF control board (DFCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Make the adjustment of original stop position.	-	-
3	PS17 I/O check, sensor check	DFCB CN2-8 (ON)	23-P
4	PS18 I/O check, sensor check	DFCB CN6-2 (ON)	21-P
5	M8 load check • Check code: 60 • Multi code: 1, 5	DFCB CN5-1 to 4	21-X
6	Replace DFCB.	-	-

1.8.4 66-06

Contents

JAM type	Controller JAM (reading error detected)
JAM code	66-06

JAM detection timing	66-06	When an abnormality is detected that leads to a reading sequence failure (FATAL) due to high CPU load, etc., this code will be displayed at the timing of feeding the sheet of paper next to the occurrence of the cause.
Misfeed processing location	Paper feed section	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.8.5 66-07

Contents

JAM type	Misfeed at DF document feed/transport/reading section	
JAM code	66-07	
JAM detection timing	66-07	Due to a remaining sheet of paper that has not been detected by sensors, before the start of a job, a sensor detects the sheet at an unexpected timing.
Misfeed processing location	Left cover	
Relevant parts	• Document registration sensor (PS17) • Document before read sensor (PS18) • DF control board (DFCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Make the adjustment of original stop position.	-	-
3	PS17 I/O check, sensor check	DFCB CN2-8 (ON)	23-P
4	PS18 I/O check, sensor check	DFCB CN6-2 (ON)	21-P
5	Replace DFCB.	-	-

1.8.6 66-08

Contents

JAM type	Double feed detection jam (When UK-P19 is installed)	
JAM code	66-08	
JAM detection timing	66-08	The double feed of document is detected within a given period of time after the leading edge of the paper has turned ON (unblocked) the document registration sensor (PS17).
Misfeed processing location	Left cover	
Relevant parts	• Multi feed detection board/TX (MFDB/TX) • Multi feed detection board/RX (MFDB/RX) • DF control board (DFCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Replace MFDB/TX.	-	-
3	Replace MFDB/RX.	-	-
4	Replace DFCB.	-	-

1.9 9#-##

1.9.1 92-01, 92-02, 92-03, 92-04

Contents

JAM type	Misfeed at duplex pre-registration section	
JAM code	92-01, 92-02, 92-03, 92-04	
JAM detection timing	92-01	The leading edge of the paper is not turned ON (blocked) the registration sensor (PS9) even after the lapse of a given period of time after a duplex paper feed sequence has been started.
	92-02	After the start of the second-side feed of paper in the duplex mode, loop forming has not been complete before the second side of a sheet enters the registration roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.

	92-03	For the second-side feed of paper in the duplex mode, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	92-04	The leading edge of the paper is not turned OFF (blocked) the ADU transport sensor (PS11) even after the lapse of a given period of time after a duplex paper feed sequence has been started.
	-	Paper jam of a sheet of paper left at the duplex pre-registration section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• Main motor (M1) • Registration clutch (CL4) • ADU transport clutch (CL5) • Registration sensor (PS9) • ADU transport sensor (PS11) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS9 I/O check, sensor check	BASEB CN22EA-13 (ON)	13-C
3	PS11 I/O check, sensor check	BASEB CN23E-6 (ON)	9-K
4	CL4 load check • Check code: 21 • Multi code: 3	BASEB CN22EA-3 (ON)	12-C
5	CL5 load check • Check code: 81 • Multi code: 1	BASEB CN23E-12 (ON)	9-K
6	M1 load check • Check code: 40 • Multi code: 1, 2	BASEB CN17E-1 to 5	1-C
7	Replace BASEB.	-	-

1.9.2 93-03

Contents

JAM type	Misfeed at duplex transport section	
JAM code	93-03	
JAM detection timing	93-03	The leading edge of the paper is not turned ON (unblocked) the ADU transport sensor (PS11) even after the lapse of a given period of time after the paper has turned OFF (blocked) the paper exit sensor (PS13).
	-	Paper jam of a sheet of paper left at the duplex transport section results, if the ADU transport sensor (PS11) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the duplex transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• Main motor (M1) • Fusing motor (M3) • ADU transport clutch (CL5) • ADU forward rotation clutch (CL6) • ADU reverse rotation clutch (CL7) • ADU transport sensor (PS11) • Paper exit sensor (PS13) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS11 I/O check, sensor check	BASEB CN23E-6 (ON)	9-K
3	PS13 I/O check, sensor check	BASEB CN16E-3 (ON)	11-K
4	CL5 load check • Check code: 81 • Multi code: 1	BASEB CN23E-12 (ON)	9-K
5	CL6 load check • Check code: 80 • Multi code: 1	BASEB CN18E-6 (ON)	2-C

Step	Action	Control signal	Location of electrical component
6	CL7 load check • Check code: 80 • Multi code: 2	BASEB CN18E-8 (ON)	3-C
7	M1 load check • Check code: 40 • Multi code: 1, 2	BASEB CN17E-1 to 5	1-C
8	M3 load check • Check code: 45 • Multi code: 1, 2, 3	BASEB CN17E-6 to 10	1-C
9	Replace BASEB.	-	-

1.9.3 99-01

Contents

JAM type	Controller JAM (paper size error)	
JAM code	99-01	
JAM detection timing	99-01	• As a result of a paper size error, the controller transmits a forced stop command to the printer engine and the printer engine is internally processing the size error. • As a result of a paper size error, the controller transmits a forced stop command to the printer engine; but the paper causing the size error cannot be fed out.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.9.4 99-02

Contents

JAM type	Controller JAM (controller forced stop command)	
JAM code	99-02	
JAM detection timing	99-02	The controller transmits a forced stop command under a condition other than a paper size error during a print cycle.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.9.5 99-03

Contents

JAM type	Controller JAM (image processing)	
JAM code	99-03	
JAM detection timing	99-03	Image stabilization not completing a job.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.9.6 99-04

Contents

JAM type	Controller JAM (a job reservation in the main body is not released)
JAM code	99-04

JAM detection timing	99-04	A job reservation is not released after a lapse of a given time after that a print start command has been received.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.9.7 99-05

Contents

JAM type	Controller JAM (main body not starting a job)	
JAM code	99-05	
JAM detection timing	99-05	A waiting status is not released even with a print start command received.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.9.8 99-06

Contents

JAM type	Controller JAM (print control on the main body is not completed)	
JAM code	99-06	
JAM detection timing	99-06	Print control is not completed even after a job has been completed.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.9.9 99-07

Contents

JAM type	Controller JAM (main body not completing a job)	
JAM code	99-07	
JAM detection timing	99-07	The engine does not stop after a lapse of a given time after that a print has finished.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.9.10 99-14

Contents

JAM type	Controller JAM (image stabilization timeout)	
JAM code	99-14	
JAM detection timing	99-14	After the image stabilization start command has been received, the response from the controller is lost for more than 1 minute.
Misfeed processing location	-	

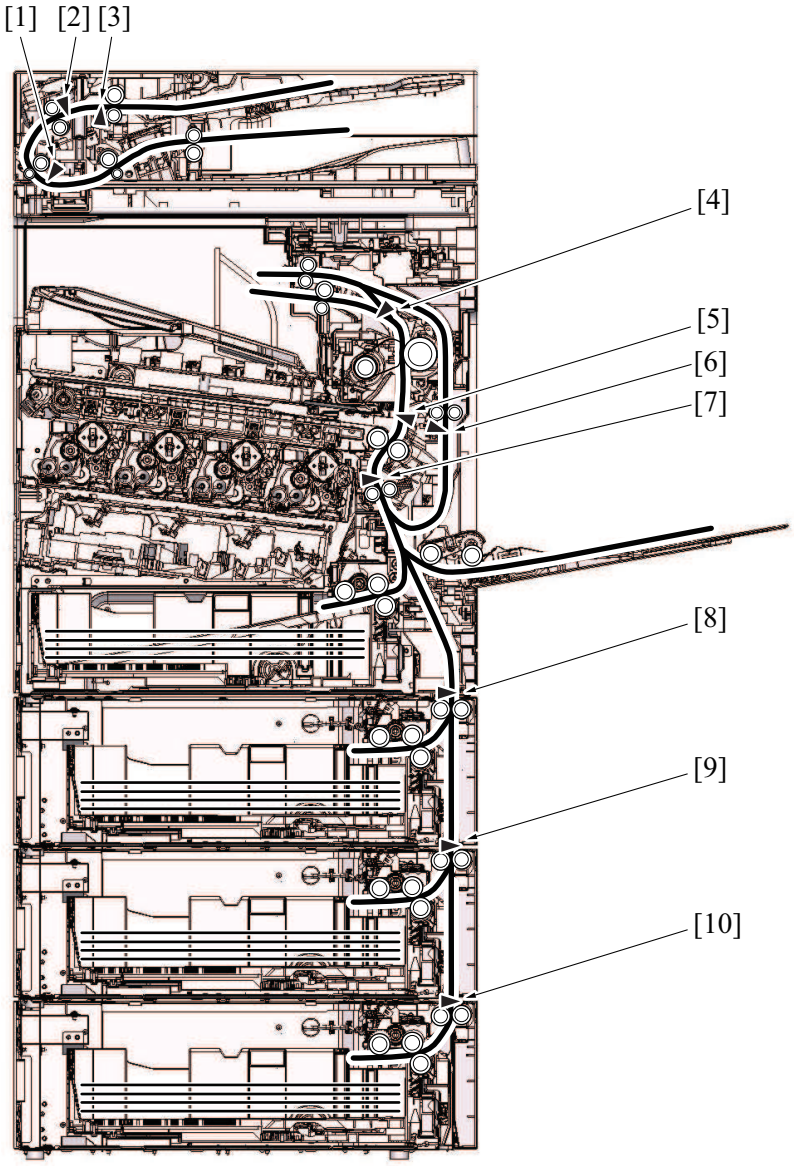
Relevant parts	-

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.10 Sensor layout

1.10.1 d-Color MF3303/MF3303en/MF4003/MF4003en



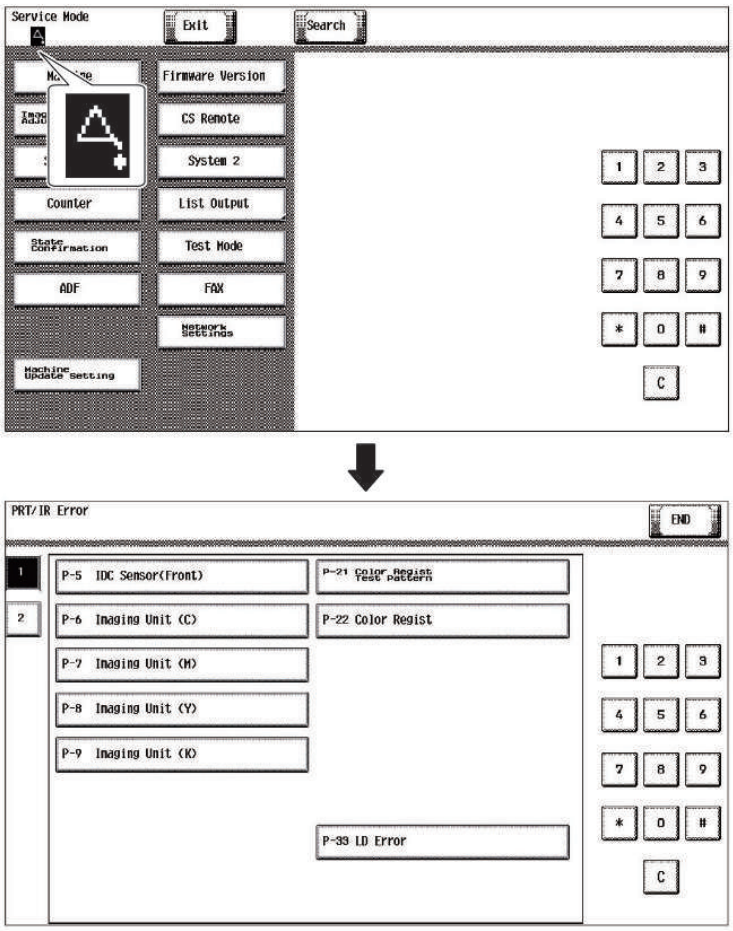
[1]	Document before read sensor (PS18)	[2]	Document registration sensor (PS17)
[3]	After separate sensor (PS16)	[4]	Paper exit sensor (PS13)
[5]	Fusing loop sensor (PS10)	[6]	ADU transport sensor (PS11)
[7]	Registration sensor (PS9)	[8]	Tray 2 transport sensor (PS6/2) *1
[9]	Tray 3 transport sensor (PS6/3) *1	[10]	Tray 4 transport sensor (PS6/4) *2

- *1: When PF-P20, or PF-P27 is installed
- *2: When PF-P27 is installed (d-Color MF4003en/MF3303en only)

2. MALFUNCTION CODE

2.1 Display procedure

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the control panel.
- Touching the maintenance call mark will display the corresponding malfunction code on the state confirm screen.



2.2 List of the malfunction code

- If an image stabilization or scanner fault occurs, the corresponding malfunction code appears.

Malfunction code	Contents
S-1	CCD gain adjustment failure
P-5	IDC sensor failure
P-6	Imaging unit (C) failure
P-7	Imaging unit (M) failure
P-8	Imaging unit (Y) failure
P-9	Imaging unit (K) failure
P-21	Color regist test pattern failure
P-22	Color regist adjust failure
P-33	LD malfunction

2.3 S-1

Contents

Malfunction type	CCD gain adjustment failure
Malfunction code	S-1
Malfunction detection timing	It is detected that the CCD clamp gain adjustment value is faulty.
Relevant parts	• CIS module (IR CIS) • Base board (BASEB)

Procedure

1. Correct the harness connection between IR CIS-BASEB CN6 if faulty.
2. Check for possible extraneous light and correct as necessary.
3. Replace IR CIS.
4. Replace BASEB.

2.4 P-5

Contents

Malfunction type	IDC sensor failure
Malfunction code	P-5
Malfunction detection timing	• During IDC sensor light intensity correction, IDC sensor output is uncompleted. • During IDC base surface detective control, sensor output voltage detected is under 0.7 V or over 3.35V. • During image stabilization (gamma correction control), detected output value for IDC sensor did not go below threshold (half the value of what is detected by IDC sensor on the belt surface) for three consecutive times (position of the pattern end is not detected).
Relevant parts	• Transfer belt unit • IDC sensor (IDCS1) • High voltage unit (HVPS) • Base board (BASEB)

Procedure

1. Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2. Replace the transfer belt unit if the transfer belt is damaged.
3. Reinstall or reconnect IDCS1, connectors connecting between IDCS1-relay CN70-BASEB CN22E, if any of the foregoing parts is installed or connected improperly.
4. Clean IDCS1, if it is dirty.
5. Check the connector between HVPS CN1-BASEB CN4E for proper connection.
6. Open/close the front door, run an image stabilization sequence, and select [Service Mode] -> [State Confirmation] -> [Level History 1] to check the IDC value.
   IDC1: IDCS1
   If the value is 1.0 V or less, replace IDCS1.
7. Replace BASEB.

2.5 P-6, P-7, P-8, P-9

Contents

Malfunction type	Imaging unit (C) failure, Imaging unit (M) failure, Imaging unit (Y) failure, Imaging unit (K) failure
Malfunction code	P-6, P-7, P-8, P-9
Malfunction detection timing	All density readings taken from the density pattern produced on the transfer belt are 1.0 g/m^2 (IDC sensor photo receiver output) or less during max. density adjustment (Vg/Vdc adjustment).
Relevant parts	• Imaging unit/Y,M,C,K • Transfer belt unit • IDC sensor (IDCS1) • Base board (BASEB) • High voltage unit (HVPS)

Procedure

1. Check the setting value in [Max Image Density Adj] of [Service Mode] -> [Imaging Process Adjustment] and, if it is negative, readjust.
2. Check the drive transmission portion of the imaging unit and correct as necessary.
3. Clean IDCS1 window if dirty.
4. Clean the contact of the imaging unit connector if dirty.
5. Check the connector between HVPS CN1-BASEB CN4E for proper connection.
6. Replace the imaging unit.
7. Replace the transfer belt unit.
8. Replace HVPS.
9. Replace BASEB.

2.6 P-21

Contents

Malfunction type	Color regist test pattern failure
Malfunction code	P-21
Malfunction detection timing	• During pre-pattern detection, pre-pattern edge (start/ end point of effective area) is not detected within the pre-pattern search area. • During detection of regist pattern at vertical/horizontal direction, pattern edge (start/end point of effective area) is not detected within the pattern search area of each unit.
Relevant parts	• Transfer belt unit • PH unit • Base board (BASEB)

Procedure

1. Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2. Replace the transfer belt unit if the transfer belt is damaged.
3. Replace the PH unit.
4. Replace BASEB.

2.7 P-22

Contents

Malfunction type	Color regist adjust failure
Malfunction code	P-22
Malfunction detection timing	• The gap between maximum and minimum value of deviations among each color (the values before averaging) is over the predetermined value. • Average deviation exceeds the predetermined value. • In case the final value of the deviation after stabilization exceeds the predetermined value, it is regarded as failure even if the average deviation is within tolerance.
Relevant parts	• IDC sensor (IDCS1) • Base board (BASEB)

Procedure

1. Slide out the imaging unit and reinstall it in position.
2. Reinstall or reconnect IDCS1, connectors connecting between IDCS1-relay CN70-BASEB CN22E, if any of the foregoing parts is installed or connected improperly.
3. Check the vertical transport guide for installed position and correct as necessary.
4. Replace BASEB.

2.8 P-33

Contents

Malfunction type	LD malfunction
Malfunction code	P-33
Malfunction detection timing	The DETOUT signal of the LD drive detected malfunction consecutively for the predetermined frequency.
Relevant parts	• PH unit • Laser diode/Y (LD/Y) • Laser diode/M (LD/M) • Laser diode/C (LD/C) • Laser diode/K (LD/K) • LD drive board (LASDB) • Base board (BASEB)

Procedure

1. Replace the PH unit.
2. Replace BASEB.

2.9 P-41

Contents

Malfunction type	Machine inside temperature sensor failure
Malfunction code	P-41
Malfunction detection timing	• After turning ON, when the detected temperature of the temperature/humidity sensor (TEM/HUMS1) is 0°C. • Turning OFF or entry in sleep mode resets the warning.
Relevant parts	• Temperature/humidity sensor (TEM/HUMS1) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between TEM/HUMS1-BASEB CN22EB for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the temperature/humidity sensor (TEM/HUMS1).
4. Replace CPUB.
5. Replace BASEB.

2.10 P-42

Contents

Malfunction type	PH temperature sensor failure
Malfunction code	P-42
Malfunction detection timing	• After turning ON, when the detected temperature of the paper feed thermistor is 0°C. • Turning OFF or entry in sleep mode resets the warning.
Relevant parts	• PH unit • CPU board (CPUB) • Base board (BASEB)

Procedure

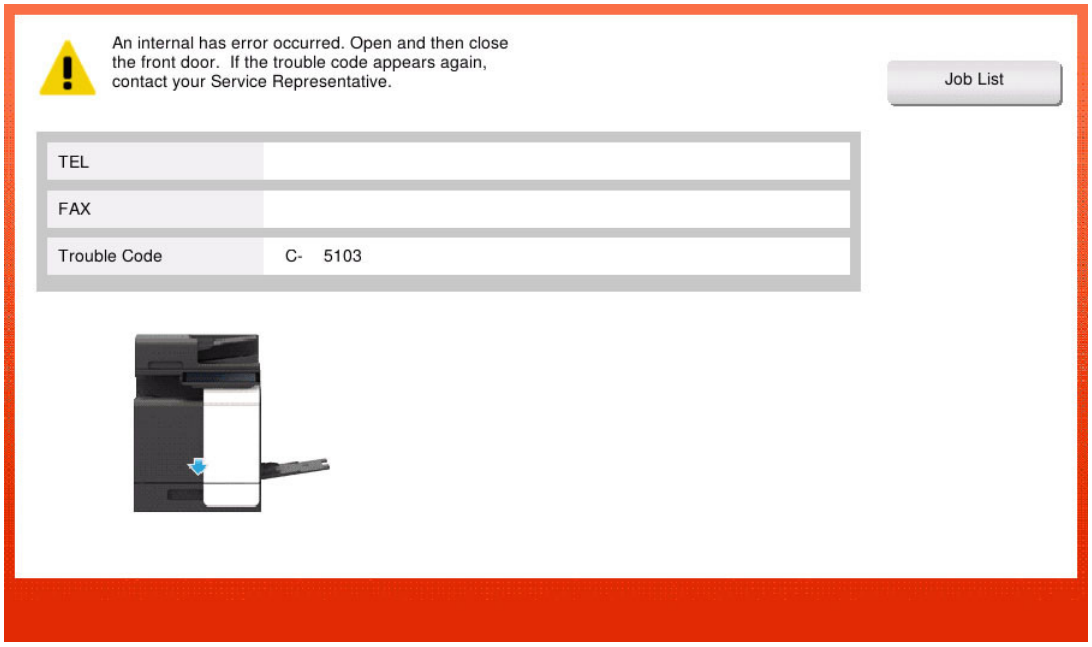
1. Check the connector between the PH unit-relay CN20-BASEB CN5E for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the PH unit.

4. Replace CPUB.
5. Replace BASEB.

3. TROUBLE CODE

3.1 Overview of trouble code

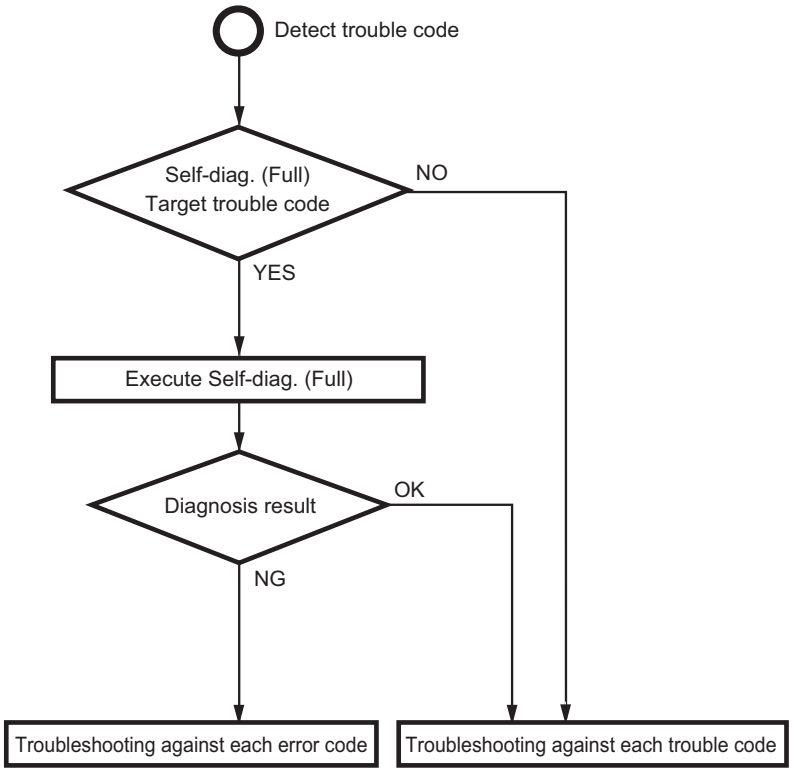
- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding trouble code on the control panel.



3.2 Overview of troubleshooting procedure

- When a trouble code is displayed, confirm that if the displayed code is the target of the "Self-diag. (Full)". (Check the "Self-diag. (Full)" field on the List of the trouble code)
- If it is the target of the self-diagnosis, execute the "Self-diag. (Full)".
  If [NG] is displayed as the result of the "Self-diag. (Full)", perform the troubleshooting against each item of "Error code".
- If it is not the target of the self-diagnosis, perform the troubleshooting against each item of "Trouble code".
  NOTE
  - **Only in the case that trouble cannot be resolved even after the troubleshooting against each item of "Error code" from the "Self-diag. (Full)", perform the troubleshooting against each item of "Trouble code".**
- After the troubleshooting against each item of "Trouble code", execute the "Self-diag. (Full)" again, and make sure that all troubles on each device have been resolved.

Troubleshooting flow



3.2.1 Troubleshooting procedure

1. Display the trouble code.
2. Execute Self-diag. (Full), and perform the troubleshooting against each [Error code].
3. After the troubleshooting against each error code, if the trouble code is displayed again, perform the troubleshooting against each trouble code.
   NOTE
   - **Perform the troubleshooting in the sequence from step 1 of "Corrective action procedure" against each item while checking that if each trouble has been resolved. Do not perform the troubleshooting against all procedures at once.**
   - **At "Troubleshooting against each error code" and "Troubleshooting against each trouble code", if the parts to be replaced are the same (ex. base board), do not replace the same parts twice. (Because the trouble can hardly be resolved even after replacing the same parts twice)**
4. Perform the troubleshooting against each trouble code, and make sure that the trouble has be resolved.
5. After the troubleshooting against each trouble code, execute the "Self-diag. (Full)" again, and make sure that all troubles on each device have been resolved.

3.3 Trouble resetting procedure

- Different malfunction resetting procedures apply depending on the rank of the trouble code.

* List of malfunction resetting procedures

Trouble code rank	Resetting procedures
Rank A	Trouble reset key: Refer to the Trouble resetting procedure by Trouble Reset key.
Rank B	• Opening/closing the front door or lower front door • Trouble reset key: • When the [Internal Error. Auto Cancel] for rank B is set to “Yes”, after the set period of time, trouble is automatically cleared.
Rank C	• Turning main power switch OFF/ON • When the [Internal Error. Auto Cancel] for rank C is set to “Yes”, after the set period of time, trouble is restarted and cleared.

3.3.1 Trouble resetting procedure by Trouble Reset key

NOTE

Before parts replacement, do not carry out “trouble resetting by the trouble reset key”. If the trouble resetting is carried out, abnormal heating may occur and smoke may be emitted.

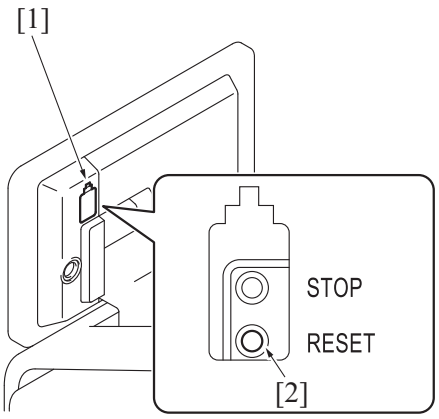
Use

- If the all troubles occur and the status would not be cleared by turning the main power switch off and on again, or opening and closing the front door and lower front door, clear the status of the machine.

- To be used when the status would not be cleared by turning the main power switch off and on again, or opening and closing the front door and lower front door in case of a trouble.

Procedure

1. Turn off the main power switch.
2. Replace parts.
3. Remove the key cover [1] on the rear side of the control panel, and turn on the main power switch while pressing the RESET key [2].



4. Touch [Trouble Reset].
5. Check to make sure that [OK] is displayed and it has been reset.
6. After turning off the main power switch, turn it on again more than 10 seconds after and check if the machine starts correctly.
7. When the machine fails to start even after perform step 1 through 5, turn off the main power switch and unplug the power cord.
8. Insert the power cord after 15 sec. or more, turn on the main power switch and check if the machine starts correctly.

3.3.2 Trouble resetting procedure by the auto cancel function

Use

- When rank B or C trouble occurs, main body automatically clears trouble and makes the main body ready for use.
  When the trouble auto cancel function is enabled, upon the occurrence of trouble to be automatically cleared, the trouble detection message is displayed on the screen and the trouble is automatically cleared. If the trouble remains after performing the auto cancel operation 3 times, the normal trouble code display screen appears.

Procedure

1. Select [Yes] for the trouble rank to which the trouble auto cancel operation is applied in [Service Mode] -> [System 2] -> [▶] -> [Internal Error. Auto Cancel]. (The default setting for rank B and rank C are set to [Yes].)
2. Touch [OK], and turning main power switch OFF and ON again.

3.3.3 Trouble resetting procedure by remote operation

Use

- Trouble can be cleared by remote operation using the applications or CS Remote Care system.
- The combinations of the applications to be used and the ranks of trouble to be cleared are shown below.

Trouble code rank / Application	Rank A	Rank B	Rank C
Web Connection	Cannot be cleared	Can be cleared	Can be cleared
OpenAPI (Enterprise Suite)	Cannot be cleared	Can be cleared	Can be cleared
CS Remote Care (Excluding communications by fax modem)	Can be cleared	Can be cleared	Can be cleared

Procedure

< Web Connection >

1. Access the Web Connection of the MFP where trouble occurs.
2. The screen for logging into Administrator Mode appears.
3. Check the following message appears; “An error has occurred. Do you want to clear the error?” Click [Trouble Reset].
4. Click [Trouble Reset] again in the confirmation screen.
5. Check that the MFP starts normally.

< OpenAPI (Enterprise Suite) >

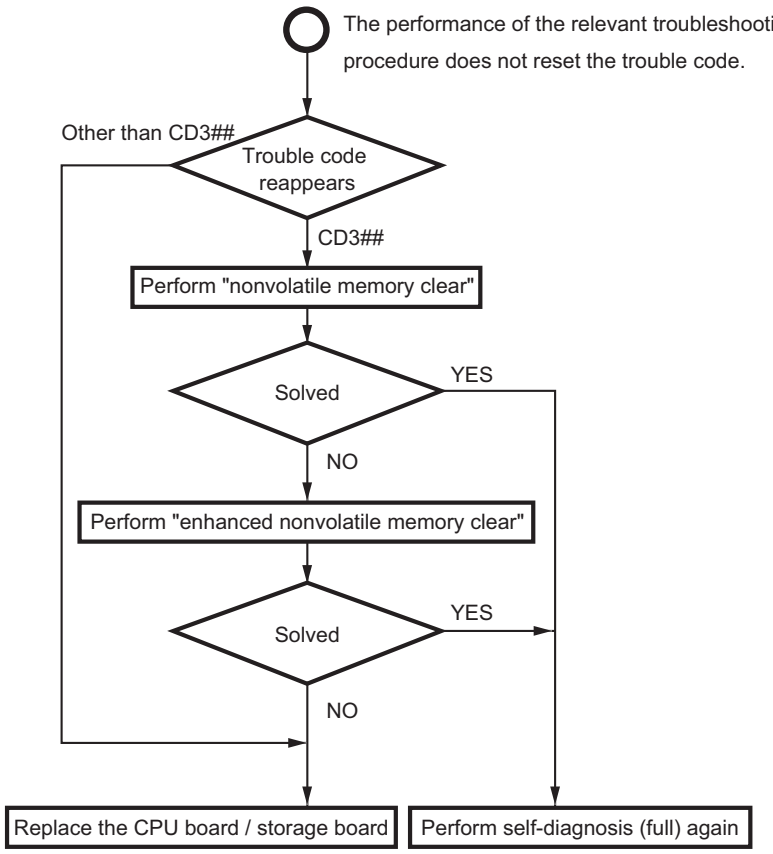
1. Access Enterprise Suite.
2. Select [Device List] -> [Device Management] -> [Device List] -> [Device List] -> [Device].
3. For rank B trouble, click [Trouble Reset]. For rank C trouble, click [Reset].
4. For rank B trouble, click the [Execute] button.
   For rank C trouble, click the [Execute] button in [Device Reset].
5. Check that the MFP starts normally.

< CS Remote Care >

- Refer to the CS Remote Care manual.

3.4 Nonvolatile memory clear function

- When performance of the troubleshooting procedure according to the trouble code for "C-D3##" does not solve the problem and there is no way left but to replace the CPU board or storage board, the nonvolatile data on the CPU board and the storage board is cleared.
- Two types are available from the "nonvolatile memory clear function": "nonvolatile memory clear" and "enhanced nonvolatile memory clear."
  First, perform "nonvolatile memory clear." If the problem persists, then, perform "enhanced nonvolatile memory clear."



NOTE

- **Perform "nonvolatile memory clear / enhanced nonvolatile memory clear" only for the trouble code of "C-D3##".**

3.4.1 Data to be cleared by the nonvolatile memory clear function

Device to be cleared	Memory space	Nonvolatile memory clear	Enhanced nonvolatile memory clear	Remark
CPU board (on-board SPI-Flash memory)	Firmware space	Not cleared	Not cleared	
	Boot firmware space	Not cleared	Not cleared	
	Important data B*1 (main)	Cleared	Cleared	
	Important data A*2 (sub)	Not cleared	Not cleared	
	Flash memory control space	Cleared	Cleared	
Storage board	Firmware space	Not cleared	Cleared	
	Application space	Not cleared	Cleared	
	Important data A*2 (main)	Cleared	Cleared	Counter data not cleared.
	Important data B*1 (sub)	Not cleared	Not cleared	

- *1: DIP SW information, TPM setting data, etc.
- *2: Counter data, machine setting values, optical setting values, printer adjustment values, etc.

3.4.2 Start and execution procedure

NVRAM Clear

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diag.(Full)] to display the “Self Full Check” screen.
3. Press the following keys in this order.
   - Stop -> 2 -> 9 -> 8 -> 2
4. Touch [NVRAM Clear].
5. Touch [Clear the memory.] or [Start].
   This clears the nonvolatile memory information and the machine is automatically is restarted.

NOTE
- **The warning screen appears after the restarting. Perform a data recovery procedure according to the predetermined procedure.**
- **If the performance of "nonvolatile memory clear" does not solve the problem, perform "enhanced nonvolatile memory clear."**

Enhanced NVRAM Clear
1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diag.(Full)] to display the "Self Full Check" screen.
3. Press the following keys in this order.
   - Stop -> 2 -> 9 -> 8 -> 2
4. Touch [Enhanced NVRAM Clear].
5. Touch [Clear the memory.] or [Start].
6. When "OK" is displayed, turn OFF the main power switch of the main body.
7. Insert the USB memory that contains the latest firmware data and, while holding down the Rear stop key, turn ON the main power switch. After "enhanced nonvolatile memory clear" has been performed, "Machine/Type" needs to be input and, after "Machine/Type" has been input, the firmware needs to be reinstalled.
8. When the firmware has been installed, turn OFF the main power switch.
9. Remove the USB memory and turn ON the main power switch. Make sure that the machine is started.
10. If the performance of "nonvolatile memory clear" and "enhanced nonvolatile memory clear" does not solve the problem, replace the storage board.
11. If the problem persists even after the replacement of the storage board, replace the CPU board.

3.5 Trouble isolation function

- The trouble isolation function enables you to control MFP temporarily isolating faulty units, options, and functions where the trouble isolation function can be applied when trouble occurs. This allows you to continue using the other units or functions that are not affected and reduce down time that continues until CE resolves the problem.
- This function can be selected for the following units and options.
  - Tray 1
  - Tray 2
  - Tray 3
  - Tray 4
  - Scanner
  - ADF
  - Expansion Fun. (Storage)
- If a problem occurs with the units where the trouble isolation function can be applied, the control panel displays a trouble code and a key with which you decide whether to continue using the MFP. When you press down the key, the control panel displays the units that will be isolated as well as the next confirmation key with which you decide to continue.
- When you press down the confirmation key, the message on the control panel asks you to turn OFF and ON the main power switch. After turning OFF and ON the main power switch, the MFP starts operating, isolating the faulty units or functions.
  The message on the control panel also tells that the MFP is working, isolating the faulty units.
- To temporarily isolate faulty units and continue using the MFP with the trouble isolation function, be sure to make the above mentioned control panel operation. The faulty units cannot be automatically isolated.

NOTE
- **The malfunction detection mechanism is not applied to units and options that are being isolated.**

3.6 List of the trouble code

Trouble Code	Contents	Rank	Self-diag. (Full)
C0103	Tray 2 drive motor malfunction (When PF-P20 or PF-P27 is installed)	B	-
C0104	Tray 3 drive motor malfunction (When PF-P20 or PF-P27 is installed)	B	-
C0108	Tray 4 drive motor malfunction (When PF-P20 or PF-P27 is installed) (d-Color MF4003en/MF3303en only)	B	-
C0202	Tray 1 feeder up/down abnormality	B	-
C0204	Tray 2 feeder up/down abnormality (When PF-P27 is installed)	B	-
C0206	Tray 3 feeder up/down abnormality (When PF-P20 or PF-P27 is installed)	B	-
C0208	Tray 4 feeder up/down abnormality (When PF-P27 is installed) (d-Color MF4003en/MF3303en only)	B	-
C2153	Transfer belt spacing fault at K pressure switching	B	-
C2154	Transfer belt contact fault at all pressure switching	B	-
C2155	Transfer belt contact fault after K pressure established	B	-
C2156	Transfer belt spacing fault after all pressure established	B	-
C2253	Color motor failure to turn	B	-
C2254	Color motor turning at abnormal timing	B	-
C2350	Toner suction fan failure to turn	B	-
C2411	Imaging unit/C new article release	B	-
C2412	Imaging unit/M new article release	B	-
C2413	Imaging unit/Y new article release	B	-
C2414	Imaging unit/K new article release	B	-
C2551	Abnormally low toner density detected cyan TCR sensor	B	-
C2552	Abnormally high toner density detected cyan TCR sensor	B	-
C2553	Abnormally low toner density detected magenta TCR sensor	B	-
C2554	Abnormally high toner density detected magenta TCR sensor	B	-
C2555	Abnormally low toner density detected yellow TCR sensor	B	-
C2556	Abnormally high toner density detected yellow TCR sensor	B	-
C2557	Abnormally low toner density detected black TCR sensor	B	-
C2558	Abnormally high toner density detected black TCR sensor	B	-
C2559	Cyan TCR sensor adjustment failure	B	-
C255A	Magenta TCR sensor adjustment failure	B	-
C255B	Yellow TCR sensor adjustment failure	B	-
C255C	Black TCR sensor adjustment failure	B	-
C2561	Cyan TCR sensor failure	B	-
C2562	Magenta TCR sensor failure	B	-
C2563	Yellow TCR sensor failure	B	-
C2564	Black TCR sensor failure	B	-
C2650	Main backup media access error	C	-
C2A21	Toner cartridge/C new release failure	C	-
C2A22	Toner cartridge/M new release failure	C	-
C2A23	Toner cartridge/Y new release failure	C	-
C2A24	Toner cartridge/K new release failure	C	-
C3201	Fusing motor failure to turn	B	-
C3202	Fusing motor turning at abnormal timing	B	-
C3425	Fusing warm-up trouble	A	-
C3722	Fusing abnormally high temperature detection (Edge of the heating roller)	A	-
C3725	Fusing abnormally high temperature detection (Main of the heating roller)	A	-
C3726	Fusing abnormally high temperature detection (Center of the heating roller)	A	-
C3731	Fusing abnormally high temperature detection (hard protector)	A	-
C3825	Fusing abnormally low temperature detection (Main of the heating roller)	A	-
C3826	Fusing abnormally low temperature detection (Center of the heating roller)	A	-
C3922	Fusing sensor wire breaks detection (Edge of the heating roller)	A	-
C3925	Fusing sensor wire breaks detection (Main of the heating roller)	A	-

Trouble Code	Contents	Rank	Self-diag. (Full)
C3926	Fusing sensor wire breaks detection (Center of the heating roller)	A	-
C392B	Fusing sensor wire breaks detection (difference of temperature)	A	-
C4091	Engine communication error	C	-
C40A2	Mechanical controller PF communication data error	C	-
C40A3	Mechanical controller PF transmission timeout	C	-
C40A4	Mechanical controller PF communication pulse error	C	-
C40A5	QSPI communication clock switching error	C	-
C40A6	Mechanical controller ASIC communication error	C	-
C40C3	CTL PF transmission timeout 1	C	-
C40C5	CTL PF transmission timeout 2	C	-
C4101	Polygon motor rotation trouble	B	-
C4501	Laser malfunction	B	-
C5102	Main motor failure to turn	B	-
C5103	Main motor turning at abnormal timing	B	-
C5357	Machine cooling fan failure to turn	B	-
C5360	Clean unit fan failure to turn (When CU-202 or CU-204 is installed) (Europe models only)	B	-
C5372	MFP control board CPU temperature failure	C	Target
C5501	AC signal abnormality	C	-
C5601	Engine control malfunction	C	-
C5604	PH configuration fault	C	-
C5605	Engine communication data error	C	-
C5606	Engine transmission timeout	C	-
C5610	PH LD drive communication error	C	-
C5620	Mechanical controller WDT error	C	-
C5701	Power supply malfunction	C	-
C6001	DF related configuration error 1	C	Target
C6002	DF related configuration error 2	C	-
C6102	Drive system home sensor malfunction	B	Target
C6704	Image input time out	C	Target
C6751	CCD clamp/gain adjustment failure	B	Target
C6752	ASIC clock input error (front side)	C	Target
C6753	ASIC clock input error (back side)	C	Target
C6754	CIS clamp adjustment failure	B	Target
C6755	CIS gain adjustment failure	B	Target
C6756	CIS power-supply voltage malfunction	C	Target
C6902	Bus check NG1-1	C	Target
C6903	Bus check NG1-2	C	Target
C6912	Bus check NG2-1	C	Target
C6913	Bus check NG2-2	C	Target
C6F01	Scanner sequence trouble 1	C	Target
C6F02	Scanner sequence trouble 2	C	Target
C6F03	Scanner sequence trouble 3	C	Target
C6F04	Scanner sequence trouble 4	C	Target
C6F05	Scanner sequence trouble 5	C	Target
C6F06	Scanner sequence trouble 6	C	Target
C6F07	Scanner sequence trouble 7	C	Target
C6F08	Scanner sequence trouble 8	C	Target
C6F09	Scanner sequence trouble 9	C	Target
C6F0A	Scanner sequence trouble 10	C	Target
C6FDC	Scanner sequence trouble DC	B	Target
C6FDD	Scanner sequence trouble DD	B	Target
C7111	Tray 1 lift-up motor failure	C	-
C7131	Toner supply motor/CK failure	C	-
C7133	Toner supply motor/YM failure	C	-
C7201	Tray 1 paper feed clutch failure	C	-
C7206	Bypass tray paper feed clutch failure	C	-

Trouble Code	Contents	Rank	Self-diag. (Full)
C720A	Registration clutch failure	C	-
C720B	1st transfer pressure clutch failure	C	-
C720D	ADU transport clutch failure	C	-
C720E	ADU forward rotation clutch failure	C	-
C720F	ADU reverse rotation clutch failure	C	-
C7243	Exit path switch solenoid failure	C	-
C7311	Machine cooling fan failure	C	-
C7312	Toner suction fan failure	C	-
C7502	Tray 1 upper limit sensor failure	C	-
C7601	Power line A1 error	C	-
C7602	Power line A2 error	C	-
C7604	Power line A4 error	C	-
C7605	Power line A5 error	C	-
C7607	Power line A7 error	C	-
C760A	Power line A10 error	C	-
C760F	Power line A15 error	C	-
C7613	Power line A19 error	C	-
C7615	Power line A20 error	C	-
C7616	Power line A21 error	C	-
C7631	Supply power line 1 error	C	-
C7632	Supply power line 2 error	C	-
C7633	Supply power line 3 error	C	-
C8302	DF cooling fan trouble	B	-
C8401	Data flash failure	C	-
C8402	Multi feed detection board failure (When UK-P19 is installed)	C	-
C8403	Initial data failure	C	-
C9401	CIS LED lighting failure (front side)	B	Target
C9402	CIS LED lighting abnormally (front side)	B	Target
C9403	CIS LED lighting failure (back side)	B	Target
C9404	CIS LED lighting abnormally (back side)	B	Target
C9701	Front side reading device cable break detection	A	Target
C9702	Back side reading device cable break detection	A	Target
CA051	Standard controller configuration failure	C	-
CA052	Controller hardware error	C	-
CA053	Controller start failure	C	-
CB004	Fax board DipSw setting error	C	Target
CB005	No fax board is installed. Mistake in installation. Defective HW.	C	Target
CB006	USB connection is interrupted	C	Target
CB110	Program control error (instance acquisition error)	C	Target
CB112	Semaphore control error	C	Target
CB113	I/F error among tasks	C	Target
CB114	Message queue generation error	C	Target
CB115	I/F error with fax (I/F error between main body and fax)	C	Target
CB120	Soft error	C	Target
CB122	Modem-DAA initialize error	C	Target
CB123	Modem-DAA power save recovery error	C	Target
CB125	ISW failure of SubCPU	C	Target
CB126	Timeout of suspension process (Codec control)	C	Target
CB127	Timeout of suspension process (communication control)	C	Target
CB128	Timeout of suspension process (line control)	C	Target
CB129	Timeout of suspension process (modem control)	C	Target
CB130	I/F error with main body (fax soft error)	C	Target
CB131	I/F error with main body (reception frame error)	C	Target
CB134	I/F error with main body (sequence error)	C	Target
CB135	I/F error with main body	C	Target
CB136	ACK waiting timeout	C	Target
CB137	I/F error with main body (RESET reception from main body)	C	Target

Trouble Code	Contents	Rank	Self-diag. (Full)
CB139	Modem responses waiting timeout (during playing voice guidance when switching between TEL and FAX)	C	Target
CB141	Fax soft error (received unexpected command)	C	Target
CB142	Fax soft error (received undefined command)	C	Target
CB143	Fax soft error (command frame length error)	C	Target
CB144	Fax soft error (parameter length error)	C	Target
CB145	Fax soft error (received undefined parameter)	C	Target
CB146	Fax soft error (command/response sequence error)	C	Target
CB150	Program control error (instance acquisition error)	C	Target
CB151	Job start error	C	Target
CB152	Doc access error	C	Target
CB153	Program control error (logic error)	C	Target
CB154	Program control error (table control error)	C	Target
CB158	Job generation error	C	Target
CB160	Program control error (instance acquisition error)	C	Target
CB162	Program control error (interface error)	C	Target
CB163	Program control error (sequence error)	C	Target
CB165	Program control error (table control error)	C	Target
CB167	Sending image access error (image acquisition error)	C	Target
CB168	Receiving image access error (image storage error)	C	Target
CB169	Sending image access error (image deletion error)	C	Target
CB170	Program control error (table control error)	C	Target
CB171	Program control error (instance acquisition error)	C	Target
CB173	Program control error (interface error)	C	Target
CB176	Unable to secure domain for header (TTI) image generation	C	Target
CB177	Header (TTI) image generation error	C	Target
CB185	Receiving data size logic error (Receiving data are not multiples of dotline)	C	Target
CB186	Unable to secure domain for receiving image	C	Target
CB187	Receiving image conversion error	C	Target
CB188	Program control error (table control error)	C	Target
CB190	USB sending error	C	Target
CB191	USB sending error	C	Target
CB192	Error retry 5 sec. T.O (No response or other errors)	C	Target
CB193	No response due to detach of USB	C	Target
CB195	Attach not detected for 1 min. after recovery from sleep when receiving	C	Target
CB196	Detach not detected for 1 min. when shifting to sleep	C	Target
CB197	USB I/F error during formatting when main power switch ON	C	Target
CB198	Attach not detected for 1 min. after recovery from sleep at the time other than receiving	C	Target
CC002	Vendor internal error	C	Target
CC151	ROM contents error upon startup (MSC)	C	Target
CC152	ROM contents error upon startup (IR)	C	Target
CC156	DF ROM error	C	Target
CC163	ROM contents error (PRT)	C	-
CC164	ROM contents error (MSC)	C	Target
CC170	Dynamic link error during starting (AP0)	C	Target
CC171	Dynamic link error during starting (AP1)	C	Target
CC172	Dynamic link error during starting (AP2)	C	Target
CC173	Dynamic link error during starting (AP3)	C	Target
CC174	Dynamic link error during starting (AP4)	C	Target
CC180	Dynamic link error during starting (LDR)	C	Target
CC181	Dynamic link error during starting (IBR)	C	Target
CC182	Dynamic link error during starting (IID)	C	Target
CC183	Dynamic link error during starting (IPF)	C	Target
CC184	Dynamic link error during starting (IMY)	C	Target
CC185	Dynamic link error during starting (SPF)	C	Target
CC186	Dynamic link error during starting (OAP)	C	Target

Trouble Code	Contents	Rank	Self-diag. (Full)
CC190	Outline font load error	C	Target
CC191	Setting parameter load error (LDR)	C	Target
CC211	Authentication device general error	C	Target
CC212	User validation error	C	Target
CC213	User registration error/Card information setting error	C	Target
CC214	User information deletion error	C	Target
CC216	Acquisition failure of the number of trials/Initialize error of number of authentication	C	Target
CC301	Authentication customize data error	B	Target
CC302	Authentication customize data version mismatch error	B	Target
CCC00	Public user account track information error	B	-
CD002	JOB RAM save error	C	Target
CD004	Storage access error (connection failure)	C	Target
CD00F	Storage data transfer error	C	Target
CD010	Storage unformat	C	Target
CD011	Storage out of specifications mounted	C	Target
CD012	Mount error due to storage being unformatted	C	Target
CD030	Storage management information reading error	C	Target
CD041	Storage command execution error	C	Target
CD042		C	Target
CD043		C	Target
CD044		C	Target
CD045		C	Target
CD046		C	Target
CD047	Storage SCSI library error	C	Target
CD048		C	Target
CD049		C	Target
CD04A		C	Target
CD04B		C	Target
CD050	Storage recovery timeout	C	Target
CD110	Wireless LAN destination initialization error	C	Target
CD201	File memory mounting error	C	Target
CD202	Memory capacity discrepancy	C	Target
CD203	Memory capacity discrepancy 2	C	Target
CD211	PCI-SDRAM DMA operation failure	C	Target
CD212	Compression/extraction timeout detection	C	Target
CD241	Encryption ASIC setting error	C	Target
CD242	Encryption ASIC mounting error	C	Target
CD261	USB hub board failure	C	Target
CD262	Extension network adapter installation error	C	Target
CD2D1	VLAN setting configuration error	B	-
CD3##	Nonvolatile data error	C	Target
CD313	TPM key data error	C	Target
CD38E	Nonvolatile data save error (SPI-Flash)	C	Target
CD390	Nonvolatile data checksum error	C	Target
CD391	Nonvolatile data save error (Storage)	-	Target
CD392	Nonvolatile data save error (EEPROM)	C	Target
CD3B1	DB server startup failure	C	Target
CD3B3	DB access failure	C	Target
CD3B4	No DB definition file	C	Target
CD3B5	DB definition file error	C	Target
CD3C0	New board detection	C	Target
CD401	NACK command incorrect	C	Target
CD402	ACK command incorrect	C	Target
CD403	Checksum error	C	Target
CD404	Receiving packet incorrect	C	Target
CD405	Receiving packet analysis error	C	Target

Trouble Code	Contents	Rank	Self-diag. (Full)
CD406	ACK receiving timeout	C	Target
CD407	Retransmission timeout	C	Target
CD411	Touch panel board error	C	Target
CD412	Touch panel type mismatch	C	Target
CD413	Electrostatic touch panel operation mode error	C	Target
CD601	Trouble related to security	-	-
CD602			
CD603			
CD701	Mechanical controller flash ROM writing error	C	-
CD702	Mechanical controller flash ROM device error	C	-
CD703	FW download communication fault	C	-
CDC##	Trouble related to security	-	-
CDF50	ASIC image version failure	C	Target
CDF51	ASIC image version failure (back side)	C	Target
CDF70	ASIC image access failure	C	Target
CDF71	ASIC image access failure (back side)	C	Target
CDFA0	ASIC image error	C	Target
CDFA1	ASIC image error (back side)	C	Target
CE001	Abnormal message queue	C	Target
CE002	Message and method parameter failure	C	Target
CE003	Task error	C	Target
CE004	Event error	C	Target
CE005	Memory access error	C	Target
CE006	Header access error	C	Target
CE007	DIMM initialize error	C	Target
CE009	Memory resource shortage error	C	Target
CE011	Config. file access error at startup of FW	C	Target
CE013	Virus scan engine startup failure (8 GB storage)	C	Target
CE014	Virus scan engine startup failure (storage error)	C	Target
CE101	Browser finish detected	C	Target
CE201	Transmission operation log storage fault	C	Target
CE202	PDL interpreter error	C	Target
CE203	Unrecoverable error	C	Target
CE204	SIP / T.38 library loading failure	C	Target
CE301	Referring incorrect memory	C	Target
CE302	Incorrect command	C	Target
CE303	Finished due to error inside Qt library	C	Target
CE304	Finished due to error outside Qt library	C	Target
CE305	Program forced to stop	C	Target
CED01	The authentication application information does not exist in the storage in the enhanced server authentication state.	C	Target
CEEE1	CPU board (MSC) malfunction	C	Target
CEEE2	Scanner section malfunction	A	Target
CEEE3	Base board (ENG) malfunction	A	Target
CF###	Trouble code (CF###) is referred to as abort code. For details of abort code, refer to “ABORT CODE”.	C	-

3.7 C0###

3.7.1 C0103

Contents

Trouble type	C0103: Tray 2 drive motor malfunction (When PF-P20 or PF-P27 is installed)	
Rank	B	
Trouble detection condition	The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	
Trouble isolation	Tray 2	
Relevant electrical parts	<When PF-P20 or PF-P27 is installed>	• Tray 2 drive motor (M1/2) • Tray 2 PC control board (PCCB/2)

		• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M1/2-PCCB/2 CN4 for proper connection and correct as necessary.
2. Check the connector between PCCB/2 CN1-relay CN24-BASEB CN21E for proper connection and correct as necessary.
3. Check the connector of M1/2 for proper drive coupling and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. M1/2 load check
   - Check code: 28
   - Multi code: 1, 2
   - Control signal: PCCB/2 CN4-1 to 7
   - Location of electrical component: 18-P
6. Replace M1/2.
7. PCCB/2 F1 conduction check
8. Replace PCCB/2.
9. Replace CPUB.
10. Replace BASEB.

3.7.2 C0104

Contents

Trouble type	C0104: Tray 3 drive motor malfunction (When PF-P20 or PF-P27 is installed)	
Rank	B	
Trouble detection condition	The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	
Trouble isolation	Tray 3	
Relevant electrical parts	<When PF-P20 or PF-P27 is installed>	• Tray 3 drive motor (M1/3) • Tray 3 PC control board (PCCB/3) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M1/3-PCCB/3 CN4 for proper connection and correct as necessary.
2. Check the connector between PCCB/3 CN1-relay CN2PC-PCCB/2 CN2 for proper connection and correct as necessary.
3. Check the connector between PCCB/2 CN1-relay CN24-BASEB CN21E for proper connection and correct as necessary.
4. Check the connector of M1/3 for proper drive coupling and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. M1/3 load check
   - Check code: 28
   - Multi code: 3, 4
   - Control signal: PCCB/3 CN4-1 to 7
   - Location of electrical component: 18-P
7. Replace M1/3.
8. PCCB/3 F1 and F2 conduction check
9. Replace PCCB/3.
10. Replace CPUB.
11. Replace BASEB.

3.7.3 C0108

Contents

Trouble type	C0108: Tray 4 drive motor malfunction (When PF-P27 is installed) (d-Color MF4003en/MF3303en only)	
Rank	B	
Trouble detection condition	The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	
Trouble isolation	Tray 4	
Relevant electrical parts	<When PF-P27 is installed>	• Tray 4 drive motor (M1/4) • Tray 4 PC control board (PCCB/4) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M1/4-PCCB/4 CN4 for proper connection and correct as necessary.
2. Check the connector between PCCB/4 CN1-relay CN2PC-PCCB/3 CN2 for proper connection and correct as necessary.
3. Check the connector between PCCB/3 CN1-relay CN2PC-PCCB/2 CN2 for proper connection and correct as necessary.
4. Check the connector between PCCB/2 CN1-relay CN24-BASEB CN21E for proper connection and correct as necessary.
5. Check the connector of M1/4 for proper drive coupling and correct as necessary.
6. Check CPUB for proper installation and correct as necessary.
7. M1/4 load check
   - Check code: 28
   - Multi code: 5, 6
   - Control signal: PCCB/4 CN4-1 to 7
   - Location of electrical component: 18-P
8. Replace M1/4.

9. PCCB/4 F1 and F2 conduction check
10. Replace PCCB/4.
11. Replace CPUB.
12. Replace BASEB.

3.7.4 C0202

Contents

Trouble type	C0202: Tray 1 feeder up/down abnormality
Rank	B
Trouble detection condition	The tray 1 upper limit sensor (PS7) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
Trouble isolation	Tray 1
Relevant electrical parts	• Tray 1 lift-up motor (M6) • Tray 1 upper limit sensor (PS7) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Remove the tray and check to see if a piece of paper is not left inside the machine.
2. Check the connector between M6-BASEB CN19E for proper connection and correct as necessary.
3. Check the connector of M6 for proper drive coupling and correct as necessary.
4. Check the connector between PS7-BASEB CN22E for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. PS7 I/O check, sensor check
   - Control signal: BASEB CN22EA-7 (ON)
   - Location of electrical component: 12-C
7. M6 load check
   - Check code: 23
   - Multi code: 4
   - Control signal: BASEB CN19E-7 to 8
   - Location of electrical component: 10-C
8. Replace M6.
9. Replace CPUB.
10. BASEB F11E conduction check
11. Replace BASEB.

3.7.5 C0204

Contents

Trouble type	C0204: Tray 2 feeder up/down abnormality (When PF-P20 or PF-P27 is installed)
Rank	B
Trouble detection condition	The tray 2 upper limit sensor (PS2/2) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
Trouble isolation	Tray 2
Relevant electrical parts	• Tray 2 lift-up motor (M2/2) • Tray 2 upper limit sensor (PS2/2) • Tray 2 PC control board (PCCB/2) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Remove the tray and check to see if a piece of paper is not left inside the machine.
2. Check the connector between M2/2-PCCB/2 CN4 for proper connection and correct as necessary.
3. Check the connector of M2/2 for proper drive coupling and correct as necessary.
4. Check the connector between PS2/2-PCCB/2 CN3 for proper connection and correct as necessary.
5. Check the connector between PCCB/2 CN1-relay CN24-BASEB CN21E for proper connection and correct as necessary.
6. Check CPUB for proper installation and correct as necessary.
7. PS2/2 I/O check, sensor check
   - Control signal: PCCB/2 CN3-9 (ON)
   - Location of electrical component: 18-X
8. M2/2 load check
   - Check code: 23
   - Multi code: 5
   - Control signal: PCCB/2 CN4-8 to 9
   - Location of electrical component: 18-P
9. Replace M2/2.
10. Replace PCCB/2.
11. Replace CPUB.
12. Replace BASEB.

3.7.6 C0206

Contents

Trouble type	C0206: Tray 3 feeder up/down abnormality (When PF-P20 or PF-P27 is installed)
Rank	B
Trouble detection condition	The tray 3 upper limit sensor (PS2/3) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
Trouble isolation	Tray 3
Relevant electrical parts	• Tray 3 lift-up motor (M2/3) • Tray 3 upper limit sensor (PS2/3) • Tray 3 PC control board (PCCB/3) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Remove the tray and check to see if a piece of paper is not left inside the machine.
2. Check the connector between M2/3-PCCB/3 CN4 for proper connection and correct as necessary.
3. Check the connector of M2/3 for proper drive coupling and correct as necessary.
4. Check the connector between PS2/3-PCCB/3 CN3 for proper connection and correct as necessary.
5. Check the connector between PCCB/3 CN1-relay CN2PC-PCCB/2 CN2 for proper connection and correct as necessary.
6. Check the connector between PCCB/2 CN1-relay CN24-BASEB CN21E for proper connection and correct as necessary.
7. Check CPUB for proper installation and correct as necessary.
8. PS2/3 I/O check, sensor check
   - Control signal: PCCB/3 CN3-9 (ON)
   - Location of electrical component: 18-X
9. M2/3 load check
   - Check code: 23
   - Multi code: 6
   - Control signal: PCCB/3 CN4-8 to 9
   - Location of electrical component: 18-P
10. Replace M2/3.
11. PCCB/3 F2 conduction check
12. Replace PCCB/3.
13. Replace CPUB.
14. Replace BASEB.

3.7.7 C0208

Contents

Trouble type	C0208: Tray 4 feeder up/down abnormality (When PF-P27 is installed) (d-Color MF4003en/ MF3303en only)
Rank	B
Trouble detection condition	The tray 4 upper limit sensor (PS2/4) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
Trouble isolation	Tray 4
Relevant electrical parts	• Tray 4 lift-up motor (M2/4) • Tray 4 upper limit sensor (PS2/4) • Tray 4 PC control board (PCCB/4) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Remove the tray and check to see if a piece of paper is not left inside the machine.
2. Check the connector between M2/4-PCCB/4 CN4 for proper connection and correct as necessary.
3. Check the connector of M2/4 for proper drive coupling and correct as necessary.
4. Check the connector between PS2/4-PCCB/4 CN3 for proper connection and correct as necessary.
5. Check the connector between PCCB/4 CN1-relay CN2PC-PCCB/3 CN2 for proper connection and correct as necessary.
6. Check the connector between PCCB/3 CN1-relay CN2PC-PCCB/2 CN2 for proper connection and correct as necessary.
7. Check the connector between PCCB/2 CN1-relay CN24-BASEB CN21E for proper connection and correct as necessary.
8. Check CPUB for proper installation and correct as necessary.
9. PS2/4 I/O check, sensor check
   - Control signal: PCCB/4 CN3-9 (ON)
   - Location of electrical component: 18-X
10. M2/4 load check
    - Check code: 23
    - Multi code: 7
    - Control signal: PCCB/4 CN4-8 to 9
    - Location of electrical component: 18-P
11. Replace M2/4.
12. PCCB/4 F2 conduction check
13. Replace PCCB/4.
14. Replace CPUB.
15. Replace BASEB.

3.8 C2###

3.8.1 C2153, C2154, C2155, C2156

Contents

Trouble type	• C2153: Transfer belt spacing fault at K pressure switching • C2154: Transfer belt contact fault at all pressure switching • C2155: Transfer belt contact fault after K pressure established • C2156: Transfer belt spacing fault after all pressure established
Rank	B
Trouble detection condition	• C2153: The 1st transfer pressure switch (SW4) is not turned ON even after the lapse of a given period of time after the retraction operation started. • C2154: The 1st transfer pressure switch (SW4) is not turned OFF even after the lapse of a given period of time after the pressure operation started. • C2155: The 1st transfer pressure sensor (SW4) is turned OFF after the lapse of given time after the retraction operation is finished. • C2156: The 1st transfer pressure sensor (SW4) is turned ON after the lapse of given time after the pressure operation is finished.
Trouble isolation	-
Relevant electrical parts	• Color motor (M2) • 1st transfer pressure clutch (CL1) • 1st transfer pressure switch (SW4) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M2-BASEB CN17E for proper connection and correct as necessary.
2. Check the connector of M2 for proper drive coupling and correct as necessary.
3. Check the connector between SW4-BASEB CN18E for proper connection and correct as necessary.
4. Check the connector between CL1-relay CN13-BASEB CN18E for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. SW4 I/O check, sensor check
   - Control signal: BASEB CN18E-3 (ON)
   - Location of electrical component: 2-C
7. CL1 load check
   - Check code: 24
   - Multi code: 1
   - Control signal: BASEB CN18E-4 (ON)
   - Location of electrical component: 2-C
8. M2 load check
   - Check code: 41
   - Multi code: 1, 2
   - Control signal: BASEB CN17E-11 to 15
   - Location of electrical component: 1-C
9. Replace M2.
10. Replace CPUB.
11. Replace BASEB.

3.8.2 C2253, C2254

Contents

Trouble type	• C2253: Color motor failure to turn • C2254: Color motor turning at abnormal timing
Rank	B
Trouble detection condition	• C2253: The control circuit detects motor failure to turn while the motor is turning. • C2254: The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Color motor (M2) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M2-BASEB CN17E for proper connection and correct as necessary.
2. Check the connector of M2 for proper drive coupling and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. M2 load check
   - Check code: 41
   - Multi code: 1, 2
   - Control signal: BASEB CN17E-11 to 15
   - Location of electrical component: 1-C
5. Replace M2.
6. Replace CPUB.
7. BASEB F20E conduction check
8. Replace BASEB.

3.8.3 C2350

Contents

Trouble type	C2350: Toner suction fan failure to turn
Rank	B
Trouble detection condition	The fan lock signal remains HIGH for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Toner suction fan (FM2) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM2-relay CN10-BASEB CN18E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. FM2 load check
   - Check code: 42
   - Multi code: 3
   - Control signal: BASEB CN18E-12 (REM), BASEB CN18E-14 (LOCK)
   - Location of electrical component: 3-C
5. Replace FM2.
6. Replace CPUB.
7. Replace BASEB.

3.8.4 C2411, C2412, C2413, C2414

Contents

Trouble type	• C2411: Imaging unit/C new article release • C2412: Imaging unit/M new article release • C2413: Imaging unit/Y new article release • C2414: Imaging unit/K new article release
Rank	B
Trouble detection condition	The status with the new unit is not cleared after the new imaging unit is set.
Trouble isolation	-
Relevant electrical parts	• Imaging unit/C,M,Y,K • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reinstall the imaging unit.
2. Check the connector between the imaging unit/C-relay CN5-BASEB CN14E for proper connection and correct as necessary. (C2411)
3. Check the connector between the imaging unit/M-relay CN8-BASEB CN14E for proper connection and correct as necessary. (C2412)
4. Check the connector between the imaging unit/Y-relay CN7-BASEB CN14E for proper connection and correct as necessary. (C2413)
5. Check the connector between the imaging unit/K-relay CN6-BASEB CN14E for proper connection and correct as necessary. (C2414)
6. Check CPUB for proper installation and correct as necessary.
7. Replace the corresponding imaging unit.
8. Replace CPUB.
9. Replace BASEB.

3.8.5 C2551, C2553, C2555, C2557

Contents

Trouble type	• C2551: Abnormally low toner density detected cyan TCR sensor • C2553: Abnormally low toner density detected magenta TCR sensor • C2555: Abnormally low toner density detected yellow TCR sensor • C2557: Abnormally low toner density detected black TCR sensor
Rank	B
Trouble detection condition	When sampling data is determined in TC ratio calculation control, TCR sensor output is lower than a predetermined value for a predetermined number of times in a row even though there is toner in the toner cartridge.
Trouble isolation	-
Relevant electrical parts	• Imaging unit/C,M,Y,K • Toner supply motor/YM (M4) • Toner supply motor/CK (M5) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Perform image troubleshooting procedure if image density is low.
2. Reinstall the imaging unit.
3. Check the connector between the imaging unit/C-relay CN5-BASEB CN14E for proper connection and correct as necessary. (C2551)
4. Check the connector between the imaging unit/M-relay CN8-BASEB CN14E for proper connection and correct as necessary. (C2553)
5. Check the connector between the imaging unit/Y-relay CN7-BASEB CN14E for proper connection and correct as necessary. (C2555)

6. Check the connector between the imaging unit/K-relay CN6-BASEB CN14E for proper connection and correct as necessary. (C2557)
7. Check the connector between M4-BASEB CN13E for proper connection and correct as necessary.
8. Check the connector between M5-BASEB CN13E for proper connection and correct as necessary.
9. Check CPUB for proper installation and correct as necessary.
10. M4, M5 operation check
    - Control signal: BASEB CN13E-1 to 4 (M4), BASEB CN13E-5 to 8 (M5)
    - Location of electrical component: 4-C
11. Replace the corresponding imaging unit.
12. Replace CPUB.
13. Replace BASEB.

3.8.6 C2552, C2554, C2556, C2558

Contents

Trouble type	• C2552: Abnormally high toner density detected cyan TCR sensor • C2554: Abnormally high toner density detected magenta TCR sensor • C2556: Abnormally high toner density detected yellow TCR sensor • C2558: Abnormally high toner density detected black TCR sensor
Rank	B
Trouble detection condition	TC ratio in the imaging unit, which is determined by toner replenishing amount control mechanism, is a predetermined value or more for a given number of times consecutively.
Trouble isolation	-
Relevant electrical parts	• Imaging unit/C,M,Y,K • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reinstall the imaging unit.
2. Check the connector between the imaging unit/C-relay CN5-BASEB CN14E for proper connection and correct as necessary. (C2552)
3. Check the connector between the imaging unit/M-relay CN8-BASEB CN14E for proper connection and correct as necessary. (C2554)
4. Check the connector between the imaging unit/Y-relay CN7-BASEB CN14E for proper connection and correct as necessary. (C2556)
5. Check the connector between the imaging unit/K-relay CN6-BASEB CN14E for proper connection and correct as necessary. (C2558)
6. Check CPUB for proper installation and correct as necessary.
7. Replace the corresponding imaging unit.
8. Replace CPUB.
9. Replace BASEB.

3.8.7 C2559, C255A, C255B, C255C

Contents

Trouble type	• C2559: Cyan TCR sensor adjustment failure • C255A: Magenta TCR sensor adjustment failure • C255B: Yellow TCR sensor adjustment failure • C255C: Black TCR sensor adjustment failure
Rank	B
Trouble detection condition	TCR sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.
Trouble isolation	-
Relevant electrical parts	• Imaging unit/C,M,Y,K • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reinstall the imaging unit.
2. Check the connector between the imaging unit/C-relay CN5-BASEB CN14E for proper connection and correct as necessary. (C2559)
3. Check the connector between the imaging unit/M-relay CN8-BASEB CN14E for proper connection and correct as necessary. (C255A)
4. Check the connector between the imaging unit/Y-relay CN7-BASEB CN14E for proper connection and correct as necessary. (C255B)
5. Check the connector between the imaging unit/K-relay CN6-BASEB CN14E for proper connection and correct as necessary. (C255C)
6. Check CPUB for proper installation and correct as necessary.
7. Replace the corresponding imaging unit.
8. Replace CPUB.
9. Replace BASEB.

3.8.8 C2561, C2562, C2563, C2564

Contents

Trouble type	• C2561: Cyan TCR sensor failure • C2562: Magenta TCR sensor failure • C2563: Yellow TCR sensor failure • C2564: Black TCR sensor failure
Rank	B
Trouble detection condition	• Alarm signals for each TCR sensor is detected more than the predetermined number of times. • This detection is used for detecting disconnection of TCR sensor connector.
Trouble isolation	-

Relevant electrical parts	• Imaging unit/C,M,Y,K • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reinstall the imaging unit.
2. Check the connector between the imaging unit/C-relay CN5-BASEB CN14E for proper connection and correct as necessary. (C2561)
3. Check the connector between the imaging unit/M-relay CN8-BASEB CN14E for proper connection and correct as necessary. (C2562)
4. Check the connector between the imaging unit/Y-relay CN7-BASEB CN14E for proper connection and correct as necessary. (C2563)
5. Check the connector between the imaging unit/K-relay CN6-BASEB CN14E for proper connection and correct as necessary. (C2564)
6. Check CPUB for proper installation and correct as necessary.
7. Replace the corresponding imaging unit.
8. Replace CPUB.
9. Replace BASEB.

3.8.9 C2650

Contents

Trouble type	C2650: Main backup media access error
Rank	C
Trouble detection condition	• The error was found when reading out the data. • The re-written data, which has been read out, checked and founded as error, is read out again and found as error. • The error was found when reading out the counter value. • The main body detects that the backup board is not mounted.
Trouble isolation	-
Relevant electrical parts	• Backup board (ERB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between ERB CN1-BASEB CN20E for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace CPUB.
4. Replace BASEB.
5. Replace ERB.
   1. Replace the current ERB with a new one.
   2. Replace the following components with new ones.
   When the transfer belt unit, transfer roller and the fusing unit have been replaced with new ones, perform [Service Mode] -> [Counter] -> [Life] -> [New Release].
      - Imaging unit
      - Transfer belt unit
      - Fusing unit
      - Transfer roller
      - Feed roller, pick-up roller, separation roller (including options)
      - Separation pad
      - Toner filter
   3. Turn ON the main power switch and check to see that warm-up is started.
   Make sure that trouble codes other than C2650 or improper IU/TC placement is not detected.
   4. Make the specified readjustments.
6. If the above actions do not solve the problem, contact OLI.

3.8.10 C2A21, C2A22, C2A23, C2A24

Contents

Trouble type	• C2A21: Toner cartridge/C new release failure • C2A22: Toner cartridge/M new release failure • C2A23: Toner cartridge/Y new release failure • C2A24: Toner cartridge/K new release failure
Rank	C
Trouble detection condition	The status with the new unit is not cleared after the new toner cartridge is set.
Trouble isolation	-
Relevant electrical parts	• Toner cartridge/C,M,Y,K • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reinstall the toner cartridge.
2. Clean the connection between the toner cartridge and the main body if dirty.
3. Check the connector between the toner cartridge/C-relay CN102-BASEB CN11E for proper connection and correct as necessary. (C2A21)
4. Check the connector between the toner cartridge/M-relay CN101-BASEB CN11E for proper connection and correct as necessary. (C2A22)
5. Check the connector between the toner cartridge/Y-relay CN100-BASEB CN11E for proper connection and correct as necessary. (C2A23)
6. Check the connector between the toner cartridge/K-relay CN103-BASEB CN11E for proper connection and correct as necessary. (C2A24)
7. Check CPUB for proper installation and correct as necessary.

8. Replace the corresponding toner cartridge.
9. Replace CPUB.
10. Replace BASEB.

3.9 C3###

3.9.1 C3201, C3202

Contents

Trouble type	• C3201: Fusing motor failure to turn • C3202: Fusing motor turning at abnormal timing
Rank	B
Trouble detection condition	• C3201: The control circuit detects motor failure to turn while the motor is turning. • C3202: The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Fusing motor (M3) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M3-BASEB CN17E for proper connection and correct as necessary.
2. Check the loading status of the fusing unit drive, and correct the error as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. M3 load check
   - Check code: 45
   - Multi code: 1, 2, 3
   - Control signal: BASEB CN17E-6 to 10
   - Location of electrical component: 1-C
5. Replace M3.
6. Replace CPUB.
7. BASEB F19E conduction check
8. Replace BASEB.

3.9.2 C3425

Contents

Trouble type	C3425: Fusing warm-up trouble
Rank	A
Trouble detection condition	• Detected temperature of the heating roller temperature sensor (TEMS) does not go up a given range of temperature even after a lapse of given period of time at warm up. • The temperature detected by the heating roller temperature sensor (TEMS) does not shift from the pre-standby state even after the lapse of a predetermined period of time after the completion of warm-up.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • Heating roller temperature sensor (TEMS) • DC power supply (DCPS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN3-BASEB CN10E for proper connection and correct as necessary.
4. Check the connector between the fusing unit-relay CN2-DCPS CN2 for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. Replace the fusing unit.
7. Replace CPUB.
8. Replace BASEB.
9. DCPS F102 or FU181 conduction check.
10. Replace DCPS.

3.9.3 C3722, C3725

NOTE

- **Before parts replacement, do not carry out “trouble resetting by the trouble reset key”. If the trouble resetting is carried out, abnormal heating may occur and smoke may be emitted.**

Contents

Trouble type	• C3722: Fusing abnormally high temperature detection (Edge of the heating roller) • C3725: Fusing abnormally high temperature detection (Main of the heating roller)
Rank	A
Trouble detection condition	• C3722: Detected temperature of the heating roller thermistor/Edg (TH1) goes beyond a given temperature for a given period of time consecutively.

	• C3725: Detected temperature of the heating roller temperature sensor (TEMS) goes beyond a given temperature for a given period of time consecutively.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • C3722: Heating roller thermistor/Edg (TH1) • C3725: Heating roller temperature sensor (TEMS) • DC power supply (DCPS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN3-BASEB CN10E for proper connection and correct as necessary.
4. Check the connector between the fusing unit-relay CN2-DCPS CN2 for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. Replace the fusing unit.
7. Replace CPUB.
8. Replace BASEB.
9. Replace DCPS.

3.9.4 C3726, C3731

NOTE

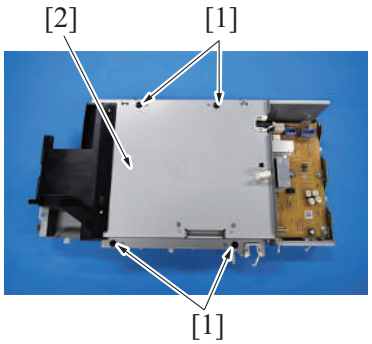
- **Before parts replacement, do not carry out "trouble resetting by the trouble reset key". If the trouble resetting is carried out, abnormal heating may occur and smoke may be emitted.**

Contents

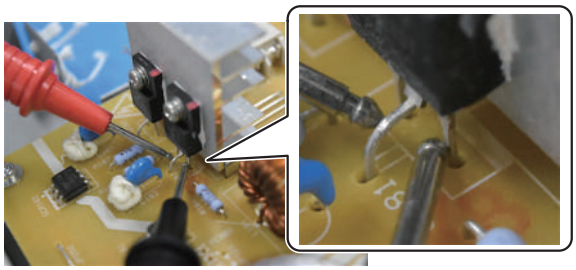
Trouble type	• C3726: Fusing abnormally high temperature detection (Center of the heating roller) • C3731: Fusing abnormally high temperature detection (hard protector)
Rank	A
Trouble detection condition	• When conduction check is carried out for the triac on the board of the DC power supply (DCPS) and an abnormality is confirmed. • C3726: Detected temperature of the heating roller thermistor/Ctr (TH2) goes beyond a given temperature for a given period of time consecutively. • C3731: The hard protector signal malfunction is detected for a predetermined continuous period of time or more.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • C3731: Heating roller thermistor/Edg (TH1) • C3731: Heating roller temperature sensor (TEMS) • Heating roller thermistor/Ctr (TH2) • DC power supply (DCPS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check DCPS.
   1) Remove DCPS.
   2) Remove four screws [1], and remove the plate [2].



   3) Adjust the tester range to the resistant value (Ω), and place the test pin on the center and right terminals of the three terminals of Q181 (triac) on DCPS.



4) When “O.F” appears on the tester, the DCPS can be judged as good part. For other indications, replace DCPS.



2. Check the fusing unit for correct installation (whether it is secured in position).
3. Check the open/close operation of the right door.
4. Check the connector between the fusing unit-relay CN3-BASEB CN10E for proper connection and correct as necessary.
5. Check the connector between the fusing unit-relay CN2-DCPS CN2 for proper connection and correct as necessary.
6. Check CPUB for proper installation and correct as necessary.
7. Replace the fusing unit.
8. Replace CPUB.
9. Replace BASEB.

3.9.5 C3825, C3826

Contents

Trouble type	• C3825: Fusing abnormally low temperature detection (Main of the heating roller) • C3826: Fusing abnormally low temperature detection (Center of the heating roller)
Rank	A
Trouble detection condition	• C3825: The heating roller temperature sensor (TEMS) continues to detect a temperature lower than a predetermined one for a predetermined period of time. • C3826: The heating roller thermistor/Ctr (TH2) continues to detect a temperature lower than a predetermined one for a predetermined period of time.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • C3825: Heating roller temperature sensor (TEMS) • C3826: Heating roller thermistor/Ctr (TH2) • DC power supply (DCPS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN3-BASEB CN10E for proper connection and correct as necessary.
4. Check the connector between the fusing unit-relay CN2-DCPS CN2 for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. Replace the fusing unit.
7. Replace CPUB.
8. Replace BASEB.
9. DCPS F102 or FU181 conduction check.
10. Replace DCPS.

3.9.6 C3922, C3925, C3926

Contents

Trouble type	• C3922: Fusing sensor wire breaks detection (Edge of the heating roller) • C3925: Fusing sensor wire breaks detection (Main of the heating roller) • C3926: Fusing sensor wire breaks detection (Center of the heating roller)
Rank	A
Trouble detection condition	• C3922: The maximum value and minimum value of detected temperature of the heating roller thermistor/Edg (TH1) is compared after a lapse of given time from starting of warm up and the gap between the value of maximum and minimum is below or above given temperatures.

	• C3925: The maximum value and minimum value of detected temperature of the heating roller temperature sensor (TEMS2) is compared after a lapse of given time from starting of warm up and the gap between the value of maximum and minimum is below or above given temperatures. • C3926: The maximum value and minimum value of detected temperature of the heating roller thermistor/Ctr (TH2) is compared after a lapse of given time from starting of warm up and the gap between the value of maximum and minimum is below or above given temperatures.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • C3922: Heating roller thermistor/Edg (TH1) • C3925: Heating roller temperature sensor (TEMS) • C3926: Heating roller thermistor/Ctr (TH2) • DC power supply (DCPS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN3-BASEB CN10E for proper connection and correct as necessary.
4. Check the connector between the fusing unit-relay CN2-DCPS CN2 for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. Replace the fusing unit.
7. Replace CPUB.
8. Replace BASEB.
9. DCPS F102 or FU181 conduction check.
10. Replace DCPS.

3.9.7 C392B

Contents

Trouble type	C392B: Fusing sensor wire breaks detection (difference of temperature)
Rank	A
Trouble detection condition	The difference between the temperature corrected by the heating roller thermistor/Edg (TH1) and the temperature detected by the heating roller thermistor/Ctr (TH2) exceeds a predetermined value.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • Heating roller thermistor/Edg (TH1) • Heating roller thermistor/Ctr (TH2) • DC power supply (DCPS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN3-BASEB CN10E for proper connection and correct as necessary.
4. Check the connector between the fusing unit-relay CN2-DCPS CN2 for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. Replace the fusing unit.
7. Replace CPUB.
8. Replace BASEB.
9. DCPS F102 or FU181 conduction check.
10. Replace DCPS.

3.10 C4###

3.10.1 C4091

Contents

Trouble type	C4091: Engine communication error
Rank	C
Trouble detection condition	Communication with the CTL is interrupted for one min. or longer during a stabilization sequence.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reboot the machine.
2. Replace CPUB.
3. Replace BASEB.

3.10.2 C40A2, C40A3, C40A4, C40A5, C40A6, C40C3, C40C5

Contents

Trouble type	• C40A2: Mechanical controller PF communication data error • C40A3: Mechanical controller PF transmission timeout • C40A4: Mechanical controller PF communication pulse error • C40A5: QSPI communication clock switching error • C40A6: Mechanical controller ASIC communication error • C40C3: CTL PF transmission timeout 1 • C40C5: CTL PF transmission timeout 2
Rank	C
Trouble detection condition	A CPU communication error is detected.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace CPUB.
5. BASEB F15E and PTC2E conduction check
6. Replace BASEB.

3.10.3 C4101

Contents

Trouble type	C4101: Polygon motor rotation trouble
Rank	B
Trouble detection condition	• The polygon motor fails to turn stably even after the lapse of a given period of time after activating and changing rotation speed the polygon motor. • Motor lock signal detects HIGH for a given period time consecutively during the polygon motor is rotating.
Trouble isolation	-
Relevant electrical parts	• PH unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between the PH unit-BASEB CN5E for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Polygon motor load check
   - Check code: 32
   - Multi code: 1, 3
4. Replace the PH unit.
5. Replace CPUB.
6. Replace BASEB.

3.10.4 C4501

Contents

Trouble type	C4501: Laser malfunction
Rank	B
Trouble detection condition	• SOS signal is not detected even after the lapse of a given period of time after starting the laser output. • SOS signal is not detected for a given period of time during printing or IDC sensor adjustment.
Trouble isolation	-
Relevant electrical parts	• PH unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between the PH unit-BASEB CN13 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the PH unit.
4. Replace CPUB.
5. Replace BASEB.

3.11 C5###

3.11.1 C5102, C5103

Contents

Trouble type	• C5102: Main motor failure to turn

	• C5103: Main motor turning at abnormal timing
Rank	B
Trouble detection condition	• C5102: The control circuit detects motor failure to turn while the motor is turning. • C5103: The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Main motor (M1) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M1-BASEB CN17E for proper connection and correct as necessary.
2. Check the loading status of the main drive, and correct the error as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. M1 load check
   - Check code: 40
   - Multi code: 1, 2
   - Control signal: BASEB CN17E-1 to 5
   - Location of electrical component: 1-C
5. Replace M1.
6. Replace CPUB.
7. BASEB F18E conduction check
8. Replace BASEB.

3.11.2 C5357

Contents

Trouble type	C5357: Machine cooling fan failure to turn
Rank	B
Trouble detection condition	The fan lock signal remains HIGH for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Machine cooling fan (FM1) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM1-relay CN23-BASEB CN19E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. FM1 load check
   - Check code: 42
   - Multi code: 1, 2
   - Control signal: BASEB CN19E-4 (REM), BASEB CN19E-6 (LOCK)
   - Location of electrical component: 9-C
5. Replace FM1.
6. Replace CPUB.
7. Replace BASEB.

3.11.3 C5360

Contents

Trouble type	C5360: Clean unit fan failure to turn (When CU-202 or CU-204 is installed) (Europe models only)
Rank	B
Trouble detection condition	The fan lock signal remains HIGH for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Exhaust fan/1 (FM1) • Exhaust fan/2 (FM2) • Exhaust fan/3 (FM3) • Clean unit drive board (CUDB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between CUDB CN1-relay CN35-BASEB CN25E for proper connection and correct as necessary.
2. Check the connector between FM1-relay CN101-CUDB CN2 for proper connection and correct as necessary.
3. Check the connector between FM2-relay CN102-CUDB CN2 for proper connection and correct as necessary.
4. Check the connector between FM3-relay CN103-CUDB CN2 for proper connection and correct as necessary.
5. Check the fan for possible overload and correct as necessary.
6. Check CPUB for proper installation and correct as necessary.
7. FM1 load check
   - Check code: 42
   - Multi code: 9, 10
   - Control signal: CUDB CN2-1 (REM), CUDB CN2-3 (LOCK)
   - Location of electrical component: 27-L

8. FM2 load check
   - Check code: 42
   - Multi code: 9, 10
   - Control signal: CUDB CN2-4 (REM), CUDB CN2-6 (LOCK)
   - Location of electrical component: 28-L
9. FM3 load check
   - Check code: 42
   - Multi code: 9, 10
   - Control signal: CUDB CN2-7 (REM), CUDB CN2-9 (LOCK)
   - Location of electrical component: 28-L
10. Replace the defective fan. (FM1 / FM2 / FM3)
11. Replace CUDB.
12. Replace CPUB.
13. Replace BASEB.

3.11.4 C5372

Contents

Trouble type	C5372: MFP control board CPU temperature failure
Rank	C
Trouble detection condition	Temperature failure of CPU on the CPU board was detected.
Trouble isolation	-
Relevant electrical parts	• CPU cooling fan (FM3) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM3-BASEB CN17 for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. FM3 operation check
   - Control signal: BASEB CN17-1 to 2
   - Location of electrical component: 21-I
5. Replace CPUB.
6. BASEB ICP1 conduction check
7. Replace BASEB.

3.11.5 C5501

Contents

Trouble type	C5501: AC signal abnormality
Rank	C
Trouble detection condition	The zero cross signal is not input.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • DC power supply (DCPS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the connector between DCPS CN6-BASEB CN1E for proper connection and correct as necessary.
3. Check the connector between the fusing unit-relay CN2-DCPS CN2 for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace the fusing unit.
6. Replace CPUB.
7. Replace BASEB.
8. Replace DCPS.

3.11.6 C5601

Contents

Trouble type	C5601: Engine control malfunction
Rank	C
Trouble detection condition	Engine control malfunction is detected with port monitor control.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Rewrite the firmware.
3. Replace CPUB.

4. Replace BASEB.

3.11.7 C5604

Contents

Trouble type	C5604: PH configuration fault
Rank	C
Trouble detection condition	A disagreement in PH unit configuration is detected.
Trouble isolation	-
Relevant electrical parts	• PH unit • Base board (BASEB)

Procedure

1. Check the type of the installed PH unit and replace it if it is a wrong one.
2. Check the connectors on BASEB for proper connection and correct as necessary.
3. Replace BASEB.

3.11.8 C5605, C5606

Contents

Trouble type	• C5605: Engine communication data error • C5606: Engine transmission timeout
Rank	C
Trouble detection condition	A communication error is detected between CPUs.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace CPUB.
5. Replace BASEB.

3.11.9 C5610

Contents

Trouble type	C5610: PH LD drive communication error
Rank	C
Trouble detection condition	• LD drive write data and read data disagree with each other a predetermined number of consecutive times. • Different PH unit is installed.
Trouble isolation	-
Relevant electrical parts	• PH unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reboot the machine.
2. Check the connector between the PH unit-BASEB CN13 for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace the PH unit.
5. Replace CPUB.
6. Replace BASEB.

3.11.10 C5620

Contents

Trouble type	C5620: Mechanical controller WDT error
Rank	C
Trouble detection condition	Communication error is detected in mechanical controller ASIC.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.

4. Replace CPUB.
5. Replace BASEB.

3.11.11 C5701

Contents

Trouble type	C5701: Power supply malfunction
Rank	C
Trouble detection condition	A condition is detected in which no power is being supplied to the base board (BASEB).
Trouble isolation	-
Relevant electrical parts	• Front door sensor (PS1) • Right door sensor (PS2) • Front door switch (SW2) • Right door switch (SW5) • DC power supply (DCPS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between PS1, PS2-BASEB CN16E for proper connection and correct as necessary.
2. Check the connector between SW2, SW5-relay CN36-DCPS CN3 for proper connection and correct as necessary.
3. Check the connector between DCPS CN4-BASEB CN3E for proper connection and correct as necessary.
4. Check the connector between DCPS CN6-BASEB CN1E for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. Replace CPUB.
7. BASEB F5E conduction check
8. Replace BASEB.
9. Replace DCPS.

3.12 C6###

3.12.1 C6001

Contents

Trouble type	C6001: DF related configuration error 1
Rank	C
Trouble detection condition	Inconsistency in the configuration with the installed DF is detected on the main body.
Trouble isolation	-
Relevant electrical parts	• DF control board (DFCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the type of the installed DF and replace it if it is a wrong one.
2. Check to see the [Service mode] -> [System 2] -> [ADF Settings] is correct. It corrects, when a model is different.
3. Check the connector between DFCB CN9-BASEB CN6E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace DFCB.
6. Replace CPUB.
7. Replace BASEB.

3.12.2 C6002

Contents

Trouble type	C6002: DF related configuration error 2
Rank	C
Trouble detection condition	Inconsistency in the configuration with the installed DF is detected on the main body.
Trouble isolation	-
Relevant electrical parts	• DF control board (DFCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the type of the installed DF and replace it if it is a wrong one.
2. Correct the harness connection between DFCB CN9-BASEB CN6E if faulty.
3. Check CPUB for proper installation and correct as necessary.

3.12.3 C6102

Contents

Trouble type	C6102: Drive system home sensor malfunction
Rank	B

Trouble detection condition	• The scanner home sensor (PS21) is unable to detect the scanner located at its home position. • The scanner home sensor (PS21) is unable to detect a scanner even when the scanner motor (M9) has been driven to move the scanner over the maximum travelling distance. • The scanner home sensor (PS21) detects the scanner when the scanner has moved the maximum travelling distance from the position, at which it blocks the scanner home sensor (PS21).
Trouble isolation	Scanner
Relevant electrical parts	• Scanner home sensor (PS21) • Scanner motor (M9) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Correct or change the scanner drive (pulley, gear, belt) if it is faulty.
2. Correct the scanner motor set screw if loose.
3. Adjust [Image Position: Leading Edge] and [Sub Scan Zoom Adj.].
4. Check the connector between M9-BASEB CN9E for proper connection and correct as necessary.
5. Check the connector between PS21-BASEB CN8E for proper connection and correct as necessary.
6. Check CPUB for proper installation and correct as necessary.
7. PS21 I/O check, sensor check
   - Control signal: BASEB CN8E-6 (ON)
   - Location of electrical component: 23-K
8. M9 operation check
   - Control signal: BASEB CN9E-1 to 4
   - Location of electrical component: 22-K
9. Replace CPUB.
10. BASEB F10E or F16E conduction check.
11. Replace BASEB.

3.12.4 C6704

Contents

Trouble type	C6704: Image input time out
Rank	C
Trouble detection condition	Image data is not input from the scanner to the CPU board (CPUB).
Trouble isolation	Scanner
Relevant electrical parts	• CIS module (IR CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Memory Bus Check] -> [Scanner -> Memory], and conduct the memory bus function.
2. Check the connector between IR CIS-BASEB CN6 for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace IR CIS.
5. Replace CPUB.
6. Replace BASEB.

3.12.5 C6751

Contents

Trouble type	C6751: CCD clamp/gain adjustment failure
Rank	B
Trouble detection condition	• The adjustment value is 0 or 255 during a CCD clamp adjustment. • The peak value of the output data is 64 or less during a CCD gain adjustment.
Trouble isolation	Scanner
Relevant electrical parts	• CIS module (IR CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between IR CIS-BASEB CN6 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Check for possible extraneous light and correct as necessary.
4. Replace IR CIS.
5. Replace CPUB.
6. Replace BASEB.

3.12.6 C6752

Contents

Trouble type	C6752: ASIC clock input error (front side)
Rank	C

Trouble detection condition	When starting the machine, verification on reading and writing the predetermined value for CPU (image processing section) on CPU board (CPUB) was conducted, and verification failure was detected.
Trouble isolation	Scanner
Relevant electrical parts	• CIS module (IR CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between IR CIS-BASEB CN6 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace IR CIS.
4. Replace CPUB.
5. Replace BASEB.

3.12.7 C6753

Contents

Trouble type	C6753: ASIC clock input error (back side)
Rank	C
Trouble detection condition	When starting the machine, verification on reading and writing the predetermined value for CPU (image processing section) on CPU board (CPUB) was conducted, and verification failure was detected.
Trouble isolation	Scanner
Relevant electrical parts	• DF CIS module (DF CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between DF CIS-BASEB CN5 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the DF CIS module assy.
4. Replace CPUB.
5. Replace BASEB.

3.12.8 C6754, C6755

Contents

Trouble type	• C6754: CIS clamp adjustment failure • C6755: CIS gain adjustment failure
Rank	B
Trouble detection condition	• C6754: After the gain adjustment is performed at the start-up, the CIS clamp adjustment value is too high or too low. • C6755: After the gain adjustment is performed at the start-up, the peak value of the output data is lower than a given value.
Trouble isolation	Scanner
Relevant electrical parts	• DF CIS module (DF CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between DF CIS-BASEB CN5 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Check for possible extraneous light and correct as necessary.
4. Clean the back side reading glass and the shading sheet if dirty.
5. Replace the DF CIS module assy.
6. Replace CPUB.
7. Replace BASEB.

3.12.9 C6756

Contents

Trouble type	C6756: CIS power-supply voltage malfunction
Rank	C
Trouble detection condition	Power is not supplied to CIS after the lapse of a given period of time after the main power switch or power key is turned ON or the machine recovers from the sleep mode.
Trouble isolation	-
Relevant electrical parts	• Scanner flat cable • CIS module (IR CIS) • DC power supply (DCPS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between IR CIS-BASEB CN6 for proper connection and correct as necessary.
2. Check the connector between BASEB CN2E-DCPS CN5 for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace the scanner flat cable.
5. Replace IR CIS.
6. Replace CPUB.
7. Replace BASEB.
8. Replace DCPS.

3.12.10 C6902, C6903, C6912, C6913

Contents

Trouble type	• C6902: Bus check NG1-1 • C6903: Bus check NG1-2 • C6912: Bus check NG2-1 • C6913: Bus check NG2-2
Rank	C
Trouble detection condition	• C6902, C6903: When bus check (front side) detects an error. • C6912, C6913: When bus check (back side) detects an error.
Trouble isolation	-
Relevant electrical parts	• CIS module (IR CIS) • DF CIS module (DF CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between IR CIS-BASEB CN6 for proper connection and correct as necessary.
2. Check the connector between DF CIS-BASEB CN5 for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace CPUB.
5. Replace BASEB.

3.12.11 C6F01, C6F02, C6F03, C6F04, C6F05, C6F06, C6F07, C6F08, C6F09, C6F0A, C6FDC, C6FDD

Contents

Trouble type	• C6F01: Scanner sequence trouble 1 • C6F02: Scanner sequence trouble 2 • C6F03: Scanner sequence trouble 3 • C6F04: Scanner sequence trouble 4 • C6F05: Scanner sequence trouble 5 • C6F06: Scanner sequence trouble 6 • C6F07: Scanner sequence trouble 7 • C6F08: Scanner sequence trouble 8 • C6F09: Scanner sequence trouble 9 • C6F0A: Scanner sequence trouble 10 • C6FDC: Scanner sequence trouble DC • C6FDD: Scanner sequence trouble DD
Rank	• C6F01 to C6F0A: C • C6FDC, C6FDD: B
Trouble detection condition	The original transport interval becomes shorter than the predetermined value due to an original transport control error in original reading in DF.
Trouble isolation	Scanner
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • DF control board (DFCB)

Procedure

1. Correct the cable connection between BASEB CN6E-DFCB CN9 if faulty.
2. Check CPUB for proper installation and correct as necessary.
3. Replace DFCB.
4. Replace CPUB.
5. Replace BASEB.

3.13 C7###

3.13.1 C7111

Contents

Trouble type	C7111: Tray 1 lift-up motor failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	Tray 1

Relevant electrical parts	• Tray 1 lift-up motor (M6) • Base board (BASEB)

Procedure

1. Check the connector between M6-BASEB CN19E for proper connection and correct as necessary.
2. Check the connector of M6 for proper drive coupling and correct as necessary.
3. M6 conduction check
   - Control signal: BASEB CN19E-7 to 8
   - Location of electrical component: 10-C
4. Replace M6.
5. Replace BASEB.

3.13.2 C7131

Contents

Trouble type	C7131: Toner supply motor/CK failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner supply motor/CK (M5) • Base board (BASEB)

Procedure

1. Check the connector between M5-BASEB CN13E for proper connection and correct as necessary.
2. Check the connector of M5 for proper drive coupling and correct as necessary.
3. M5 conduction check
   - Control signal: BASEB CN13E-5 to 8
   - Location of electrical component: 4-C
4. Replace M5.
5. Replace BASEB.

3.13.3 C7133

Contents

Trouble type	C7133: Toner supply motor/YM failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner supply motor/YM (M4) • Base board (BASEB)

Procedure

1. Check the connector between M4-BASEB CN13E for proper connection and correct as necessary.
2. Check the connector of M4 for proper drive coupling and correct as necessary.
3. M4 conduction check
   - Control signal: BASEB CN13E-1 to 4
   - Location of electrical component: 4-C
4. Replace M4.
5. Replace BASEB.

3.13.4 C7201

Contents

Trouble type	C7201: Tray 1 paper feed clutch failure
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	Tray 1
Relevant electrical parts	• Tray 1 paper feed clutch (CL3) • Base board (BASEB)

Procedure

1. Check the connector between CL3-relay CN44-BASEB CN22E for proper connection and correct as necessary.
2. Check the connector of CL3 for proper drive coupling and correct as necessary.
3. CL3 conduction check
   - Control signal: BASEB CN22EA-1 (ON)
   - Location of electrical component: 12-C
4. Replace CL3.
5. Replace BASEB.

3.13.5 C7206

Contents

Trouble type	C7206: Bypass tray paper feed clutch failure
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Bypass tray paper feed clutch (CL2) • Base board (BASEB)

Procedure

1. Check the connector between CL2-relay CN46-BASEB CN23E for proper connection and correct as necessary.
2. Check the connector of CL2 for proper drive coupling and correct as necessary.
3. CL2 conduction check
   - Control signal: BASEB CN23E-10 (ON)
   - Location of electrical component: 9-K
4. Replace CL2.
5. Replace BASEB.

3.13.6 C720A

Contents

Trouble type	C720A: Registration clutch failure
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Registration clutch (CL4) • Base board (BASEB)

Procedure

1. Check the connector between CL4-relay CN45-BASEB CN22E for proper connection and correct as necessary.
2. Check the connector of CL4 for proper drive coupling and correct as necessary.
3. CL4 conduction check
   - Control signal: BASEB CN22EA-3 (ON)
   - Location of electrical component: 12-C
4. Replace CL4.
5. Replace BASEB.

3.13.7 C720B

Contents

Trouble type	C720B: 1st transfer pressure clutch failure
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• 1st transfer pressure clutch (CL1) • Base board (BASEB)

Procedure

1. Check the connector between CL1-relay CN13-BASEB CN18E for proper connection and correct as necessary.
2. Check the connector of CL1 for proper drive coupling and correct as necessary.
3. CL1 conduction check
   - Control signal: BASEB CN18E-4 (ON)
   - Location of electrical component: 2-C
4. Replace the main drive unit.
5. Replace BASEB.

3.13.8 C720D

Contents

Trouble type	C720D: ADU transport clutch failure
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• ADU transport clutch (CL5) • Base board (BASEB)

Procedure

1. Check the connector between CL5-relay CN47-BASEB CN23E for proper connection and correct as necessary.
2. Check the connector of CL5 for proper drive coupling and correct as necessary.
3. CL5 conduction check

- Control signal: BASEB CN23E-12 (ON)
- Location of electrical component: 9-K

4. Replace CL5.
5. Replace BASEB.

3.13.9 C720E

Contents

Trouble type	C720E: ADU forward rotation clutch failure
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• ADU forward rotation clutch (CL6) • Base board (BASEB)

Procedure

1. Check the connector between CL6-relay CN11-BASEB CN18E for proper connection and correct as necessary.
2. Check the connector of CL6 for proper drive coupling and correct as necessary.
3. CL6 conduction check
   - Control signal: BASEB CN18E-6 (ON)
   - Location of electrical component: 2-C
4. Replace CL6.
5. Replace BASEB.

3.13.10 C720F

Contents

Trouble type	C720F: ADU reverse rotation clutch failure
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• ADU reverse rotation clutch (CL7) • Base board (BASEB)

Procedure

1. Check the connector between CL7-relay CN39-BASEB CN18E for proper connection and correct as necessary.
2. Check the connector of CL7 for proper drive coupling and correct as necessary.
3. CL7 conduction check
   - Control signal: BASEB CN18E-8 (ON)
   - Location of electrical component: 3-C
4. Replace CL7.
5. Replace BASEB.

3.13.11 C7243

Contents

Trouble type	C7243: Exit path switch solenoid failure
Rank	C
Trouble detection condition	After starting the solenoid, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Exit path switch solenoid (SD1) • Base board (BASEB)

Procedure

1. Check the connector between SD1-relay CN12-BASEB CN18E for proper connection and correct as necessary.
2. Check the connector of SD1 for proper drive coupling and correct as necessary.
3. SD1 conduction check
   - Control signal: BASEB CN18E-10 (ON)
   - Location of electrical component: 3-C
4. Replace SD1.
5. Replace BASEB.

3.13.12 C7311

Contents

Trouble type	C7311: Machine cooling fan failure
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Machine cooling fan (FM1) • Base board (BASEB)

Procedure

1. Check the connector between FM1-relay CN23-BASEB CN19E for proper connection and correct as necessary.
2. Check the connector of FM1 for proper drive coupling and correct as necessary.
3. FM1 conduction check
   - Control signal: BASEB CN19E-4 (REM), BASEB CN19E-6 (LOCK)
   - Location of electrical component: 9-C
4. Replace FM1.
5. Replace BASEB.

3.13.13 C7312

Contents

Trouble type	C7312: Toner suction fan failure
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner suction fan (FM2) • Base board (BASEB)

Procedure

1. Check the connector between FM2-relay CN10-BASEB CN18E for proper connection and correct as necessary.
2. Check the connector of FM2 for proper drive coupling and correct as necessary.
3. FM2 conduction check
   - Control signal: BASEB CN18E-12 (REM), BASEB CN18E-14 (LOCK)
   - Location of electrical component: 3-C
4. Replace FM2.
5. Replace BASEB.

3.13.14 C7502

Contents

Trouble type	C7502: Tray 1 upper limit sensor failure
Rank	C
Trouble detection condition	The tray 1 upper limit sensor (PS7) does not change even after the lapse of a predetermined period of time after tray 1 is opened and closed, after C0202 (Tray 1 feeder up/down abnormality) is detected.
Trouble isolation	Tray 1
Relevant electrical parts	• Tray 1 upper limit sensor (PS7) • Base board (BASEB)

Procedure

1. Check the connector between PS7-BASEB CN22E for proper connection and correct as necessary.
2. Replace PS7.
3. Replace BASEB.

3.13.15 C7601

Contents

Trouble type	C7601: Power line A1 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Main motor (M1) • Base board (BASEB)

Procedure

1. BASEB F18E conduction check
2. Check the connector between M1-BASEB CN17E for proper connection and correct as necessary.
3. M1 load check
   - Check code: 40
   - Multi code: 1, 2
   - Control signal: BASEB CN17E-1 to 5
   - Location of electrical component: 1-C
4. Replace M1.
5. Replace BASEB.

3.13.16 C7602

Contents

Trouble type	C7602: Power line A2 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.

Trouble isolation	-
Relevant electrical parts	• Color motor (M2) • Base board (BASEB)

Procedure

1. BASEB F20E conduction check
2. Check the connector between M2-BASEB CN17E for proper connection and correct as necessary.
3. M2 load check
   - Check code: 41
   - Multi code: 1, 2
   - Control signal: BASEB CN17E-11 to 15
   - Location of electrical component: 1-C
4. Replace M2.
5. Replace BASEB.

3.13.17 C7604

Contents

Trouble type	C7604: Power line A4 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Fusing motor (M3) • Base board (BASEB)

Procedure

1. BASEB F19E conduction check
2. Check the connector between M3-BASEB CN17E for proper connection and correct as necessary.
3. M3 load check
   - Check code: 45
   - Multi code: 1, 2, 3
   - Control signal: BASEB CN17E-6 to 10
   - Location of electrical component: 1-C
4. Replace M3.
5. Replace BASEB.

3.13.18 C7605

Contents

Trouble type	C7605: Power line A5 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• High voltage unit (HVPS) • Base board (BASEB)

Procedure

1. BASEB F6E conduction check
2. Check the connector between HVPS-BASEB CN4E for proper connection and correct as necessary.
3. Replace HVPS.
4. Replace BASEB.

3.13.19 C7607

Contents

Trouble type	C7607: Power line A7 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• 1st transfer pressure clutch (CL1) • Bypass tray paper feed clutch (CL2) • Tray 1 paper feed clutch (CL3) • Registration clutch (CL4) • ADU transport clutch (CL5) • ADU forward rotation clutch (CL6) • ADU reverse rotation clutch (CL7) • Exit path switch solenoid (SD1) • Base board (BASEB)

Procedure

1. BASEB F4E conduction check
2. Check the connector between CL1-relay CN13-BASEB CN18E for proper connection and correct as necessary.

3. Check the connector between CL2-relay CN46-BASEB CN23E for proper connection and correct as necessary.
4. Check the connector between CL3-relay CN44-BASEB CN22E for proper connection and correct as necessary.
5. Check the connector between CL4-relay CN45-BASEB CN22E for proper connection and correct as necessary.
6. Check the connector between CL5-relay CN47-BASEB CN23E for proper connection and correct as necessary.
7. Check the connector between CL6-relay CN11-BASEB CN18E for proper connection and correct as necessary.
8. Check the connector between CL7-relay CN39-BASEB CN18E for proper connection and correct as necessary.
9. Check the connector between SD1-relay CN12-BASEB CN18E for proper connection and correct as necessary.
10. CL1 conduction check
    - Control signal: BASEB CN18E-4 (ON)
    - Location of electrical component: 2-C
11. CL2 conduction check
    - Control signal: BASEB CN23E-10 (ON)
    - Location of electrical component: 9-K
12. CL3 conduction check
    - Control signal: BASEB CN22E<A>-1 (ON)
    - Location of electrical component: 12-C
13. CL4 conduction check
    - Control signal: BASEB CN22E<A>-3 (ON)
    - Location of electrical component: 12-C
14. CL5 conduction check
    - Control signal: BASEB CN23E-12 (ON)
    - Location of electrical component: 9-K
15. CL6 conduction check
    - Control signal: BASEB CN18E-6 (ON)
    - Location of electrical component: 2-C
16. CL7 conduction check
    - Control signal: BASEB CN18E-8 (ON)
    - Location of electrical component: 3-C
17. SD1 conduction check
    - Control signal: BASEB CN18E-10 (ON)
    - Location of electrical component: 3-C
18. Replace the main drive unit. (CL1)
19. Replace CL2.
20. Replace CL3.
21. Replace CL4.
22. Replace CL5.
23. Replace CL6.
24. Replace CL7.
25. Replace SD1.
26. Replace BASEB.

3.13.20 C760A

Contents

Trouble type	C760A: Power line A10 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	• Tray 2 • Tray 3
Relevant electrical parts	• PC control board (PCCB) • Base board (BASEB)

Procedure

1. BASEB F8E conduction check
2. Check the connector between PCCB CN1-relay CN24-BASEB CN21E for proper connection and correct as necessary.
3. Replace PCCB.
4. Replace BASEB.

3.13.21 C760F

Contents

Trouble type	C760F: Power line A15 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Clean unit drive board (CUDB) • Base board (BASEB)

Procedure

1. BASEB F11E conduction check
2. Check the connector between CUDB CN1-relay CN35-BASEB CN25E for proper connection and correct as necessary.
3. Replace CUDB.
4. Replace BASEB.

3.13.22 C7613

Contents

Trouble type	C7613: Power line A19 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Machine cooling fan (FM1) • Toner suction fan (FM2) • Base board (BASEB)

Procedure

1. BASEB F2E conduction check
2. Check the connector between FM1-relay CN23-BASEB CN19E for proper connection and correct as necessary.
3. Check the connector between FM2-relay CN10-BASEB CN18E for proper connection and correct as necessary.
4. Replace FM1.
5. Replace FM2.
6. Replace BASEB.

3.13.23 C7615

Contents

Trouble type	C7615: Power line A20 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• PH unit • Base board (BASEB)

Procedure

1. BASEB F3E conduction check
2. Check the connector between the PH unit-BASEB CN5E for proper connection and correct as necessary.
3. Replace the PH unit.
4. Replace BASEB.

3.13.24 C7616

Contents

Trouble type	C7616: Power line A21 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Toner supply motor/YM (M4) • Toner supply motor/CK (M5) • Base board (BASEB)

Procedure

1. BASEB F5E conduction check
2. Check the connector between M4-BASEB CN13E for proper connection and correct as necessary.
3. Check the connector between M5-BASEB CN13E for proper connection and correct as necessary.
4. Replace M4.
5. Replace M5.
6. Replace BASEB.

3.13.25 C7631

Contents

Trouble type	C7631: Supply power line 1 error
Rank	C
Trouble detection condition	All of the fuse detection units of the same supply power line (24V10) detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• DC power supply (DCPS) • Base board (BASEB)

Procedure

1. BASEB F1E, F2E, F3E, F4E conduction check
2. Check the connector between DCPS CN4-BASEB CN3E for proper connection and correct as necessary.
3. Check the connector between DCPS CN6-BASEB CN1E for proper connection and correct as necessary.
4. Replace DCPS.
5. Replace BASEB.

3.13.26 C7632

Contents

Trouble type	C7632: Supply power line 2 error
Rank	C
Trouble detection condition	All of the fuse detection units of the same supply power line (24V21) detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• DC power supply (DCPS) • Base board (BASEB)

Procedure

1. BASEB F5E, F6E, F20E conduction check
2. Check the connector between DCPS CN4-BASEB CN3E for proper connection and correct as necessary.
3. Check the connector between DCPS CN6-BASEB CN1E for proper connection and correct as necessary.
4. Check the connector between SW2, SW5-relay CN36-DCPS CN3 for proper connection and correct as necessary.
5. Replace DCPS.
6. Replace BASEB.

3.13.27 C7633

Contents

Trouble type	C7633: Supply power line 3 error
Rank	C
Trouble detection condition	All of the fuse detection units of the same supply power line (24V20) detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• DC power supply (DCPS) • Base board (BASEB)

Procedure

1. BASEB F8E, F11E, F18E, F19E conduction check
2. Check the connector between DCPS CN4-BASEB CN3E for proper connection and correct as necessary.
3. Check the connector between DCPS CN6-BASEB CN1E for proper connection and correct as necessary.
4. Check the connector between SW2, SW5-relay CN36-DCPS CN3 for proper connection and correct as necessary.
5. Replace DCPS.
6. Replace BASEB.

3.14 C8###

3.14.1 C8302

Contents

Trouble type	C8302: DF cooling fan trouble
Rank	B
Trouble detection condition	The lock signal continues to detect H during a given time while the DF cooling fan motor (FM4) is spinning.
Trouble isolation	DF
Relevant electrical parts	• DF cooling fan motor (FM4) • DF control board (DFCB)

Procedure

1. Check the connector between FM4-relay CN112-DFCB CN4 for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. FM4 load check
   - Check code: 60
   - Multi code: 113
   - Control signal: DFCB CN4-5 (REM), DFCB CN4-7 (LOCK)
   - Location of electrical component: 22-X
4. Replace FM4.
5. Replace DFCB.

3.14.2 C8401

Contents

Trouble type	C8401: Data flash failure
Rank	C
Trouble detection condition	Data flash does not access normally.
Trouble isolation	DF
Relevant electrical parts	DF control board (DFCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.

2. Check the connectors on DFCB for proper connection and correct as necessary.
3. Rewrite the firmware.
4. Replace DFCB.

3.14.3 C8402

Contents

Trouble type	C8402: Multi feed detection board failure (When UK-P19 is installed)
Rank	C
Trouble detection condition	When the main power switch ON or when the original is being conveyed, the AD value there is no paper loaded state is out of the predetermined range.
Trouble isolation	DF
Relevant electrical parts	• Multi feed detection board/TX (MFDB/TX) • Multi feed detection board/RX (MFDB/RX) • DF control board (DFCB)

Procedure

1. Check the connector between MFDB/TX CN111-relay CN114-DFCB CN1 for proper connection and correct as necessary.
2. Check the connector between MFDB/RX CN110-relay CN115-DFCB CN1 for proper connection and correct as necessary.
3. MFDB/TX operation check
   - Control signal: DFCB CN1-6
   - Location of electrical component: 23-X
4. MFDB/RX operation check
   - Control signal: DFCB CN1-3
   - Location of electrical component: 23-X
5. MFDB/TX ICP1 conduction check
6. Replace MFDB/TX.
7. Replace MFDB/RX.
8. Replace DFCB.

3.14.4 C8403

Contents

Trouble type	C8403: Initial data failure
Rank	C
Trouble detection condition	No initial data available for the shading repair function is stored in the storage board (STRGB) and the CPU board (CPUB).
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Select [Service Mode] -> [ADF] -> [Shading Repair] -> [Init. Data Input] and perform the function.
2. Check STRGB for proper installation and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace STRGB.
5. Replace CPUB.
6. Replace BASEB.

3.15 C9###

3.15.1 C9401, C9402

Contents

Trouble type	• C9401: CIS LED lighting failure (front side) • C9402: CIS LED lighting abnormally (front side)
Rank	B
Trouble detection condition	• C9401: At the CIS gain adjustment, the machine detected that the output of the CIS LED is lower than the specified value. • C9402: The average output value of the CIS LED with the scanner at its standby position is a predetermined value or more at the end of a scan job.
Trouble isolation	Scanner
Relevant electrical parts	• Flat cable • CIS module (IR CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between IR CIS-BASEB CN6 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the flat cable.

4. Replace IR CIS.
5. Replace CPUB.
6. Replace BASEB.

3.15.2 C9403, C9404

Contents

Trouble type	• C9403: CIS LED lighting failure (back side) • C9404: CIS LED lighting abnormally (back side)
Rank	B
Trouble detection condition	• C9403: At the CIS gain adjustment, the machine detected that the output of the CIS LED is lower than the specified value. • C9404: After a scan job is completed, the machine detected that the average output of the CIS LED is greater than the specified value.
Trouble isolation	Scanner
Relevant electrical parts	• Flat cable • DF CIS module (DF CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between DF CIS-BASEB CN5 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the flat cable.
4. Replace the DF CIS module assy.
5. Replace CPUB.
6. Replace BASEB.

3.15.3 C9701

Contents

Trouble type	C9701: Front side reading device cable break detection
Rank	A
Trouble detection condition	The cable between the CIS module (IR CIS) and the base board (BASEB) is break.
Trouble isolation	Scanner
Relevant electrical parts	• Flat cable • CIS module (IR CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between IR CIS-BASEB CN6 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the flat cable.
4. Replace IR CIS.
5. Replace CPUB.
6. Replace BASEB.

3.15.4 C9702

Contents

Trouble type	C9702: Back side reading device cable break detection
Rank	A
Trouble detection condition	The cable between the DF CIS module (DF CIS) and the base board (BASEB) is break.
Trouble isolation	Scanner
Relevant electrical parts	• Flat cable • DF CIS module (DF CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between DF CIS-BASEB CN5 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the flat cable.
4. Replace the DF CIS module assy.
5. Replace CPUB.
6. Replace BASEB.

3.16 CA###

3.16.1 CA051, CA052, CA053

Contents

Trouble type	• CA051: Standard controller configuration failure • CA052: Controller hardware error • CA053: Controller start failure
Rank	C
Trouble detection condition	• CA051: The controller of the CPU board (CPUB) is faulty. • CA052: A controller hardware error is detected in the network interface. • CA053: A controller start failure is detected in the controller interface.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.17 CB###

3.17.1 B0##

Error code	Category	Contents of error	Solution
B001	Fax board error	Fax board error 1 (fax ROM checksum error)	• Pull out and insert the connector of fax board to check its installation. • If the trouble is not yet corrected, hardware of the fax board may be defective. Replace the fax board in such a case.
B002		Fax board error 2 (DPRAM check error)	
B004	Installation issues	Fax board DipSw setting error	Check if the line for which "Set" is selected from the [Service Mode] -> [System 2] -> [Option Board Status] screen matches the DipSW settings for specifying a line on the fax board.
B005	Installation issues	No fax board is installed. Mistake in installation. Defective HW.	• Connect the fax board of the line for which "Set" is selected from the [Service Mode] -> [System 2] -> [Option Board Status] screen. • Disconnect and then connect the connector of fax board to check its installation. • Check if the USB connector of the fax board falls off. • Replace the power code. • Use the latest FW. • Replace the fax board. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B006	USB I/F error	USB connection is interrupted	• Turn OFF and ON the main power switch. • Disconnect and then connect the connector of fax board to check its installation. • Check if the USB connector of the fax board falls off. • Replace the power code. • Use the latest FW. • Replace the fax board. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B051		Fax board mount failure line 1	• Pull out and insert the connector of fax board to check its installation. • If the trouble is not yet corrected, check if the fax (circuit 1) is set to [Unset] on the [Service Mode] -> [System 2] -> [Option board Status]. • If it is set to [Unset], set to [Set].
B052		Fax board mount failure line 2	• Pull out and insert the connector of fax board to check its installation. • If the trouble is not yet corrected, check if the fax (circuit 2) is set to [Unset] on the [Service Mode] -> [System 2] -> [Option board Status]. • If it is set to [Unset], set to [Set].

3.17.2 B11#

Error code	Category	Contents of error	Solution
B110	MFP soft error	Program control error (instance acquisition error)	• Turn OFF and ON the main power switch. • Use the latest FW. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B111		Configuration space initialization NG	
B112		Semaphore control error	

Error code	Category	Contents of error	Solution
B113		I/F error among tasks	
B114		Message queue generation error	
B115		I/F error with fax (I/F error between main body and fax)	• Pull out and insert the connector of fax board to check its installation. • Use the latest FW. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B116		Communication error between controller and fax board	
B117		ACK waiting timeout error	
B118		Receiving undefined frame	
B119		DMA transfer error	

3.17.3 B12#

Error code	Category	Contents of error	How to correct
B120	Fax board soft error	Soft error	• Turn OFF and ON the main power switch. • Use the latest FW. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B122	Fax board error	Modem-DAA initialize error	• Turn OFF and ON the main power switch. • Use the latest FW. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output]. • Replace the fax board.
B123		Modem-DAA power save recovery error	
B125		ISW failure of SubCPU	
B126	Fax board soft error	Timeout of suspension process (Codec control)	• Turn OFF and ON the main power switch. • Use the latest FW. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B127		Timeout of suspension process (communication control)	
B128		Timeout of suspension process (line control)	

3.17.4 B13#

Error code	Category	Contents of error	Solution
B130	Fax board soft error	I/F error with main body (fax soft error)	• Turn OFF and ON the main power switch. • Use the latest FW. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B131		I/F error with main body (reception frame error)	
B132		I/F error with main body (reception frame header error)	
B133		I/F error with main body (232C I/F sequence error)	
B134		I/F error with main body (sequence error)	
B135		I/F error with main body	
B136		ACK waiting timeout	
B137		I/F error with main body (RESET reception from main body)	

3.17.5 B14#

Error code	Category	Contents of error	Solution
B140	Fax board soft error	MSG I/F error with JC	• Turn OFF and ON the main power switch. • Use the latest FW. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B141		Fax soft error (received unexpected command)	
B142		Fax soft error (received undefined command)	
B143		Fax soft error (command frame length error)	
B144		Fax soft error (parameter length error)	
B145		Fax soft error (received undefined parameter)	
B146		Fax soft error (command/response sequence error)	
B147	Fax board error	IC initialization error (IC failure)	Replace the fax board.

3.17.6 B15#

Error code	Category	Contents of error	Solution
B150	MFP soft error	Program control error (instance acquisition error)	• Turn OFF and ON the main power switch. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output]. • Clear fax jobs by formatting the fax files. • Use the latest FW. • Disconnect and then connect the connector of the base board. • Execute self-diagnosis for all items. • Try replacing parts. Memory, storage and base board
B151		Job start error	
B152		Doc access error	
B153		Program control error (logic error)	
B154		Program control error (table control error)	

3.17.7 B16#

Error code	Category	Contents of error	Solution
B160	MFP soft error	Program control error (instance acquisition error)	• Turn OFF and ON the main power switch. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output]. • Clear fax jobs by formatting the fax files. • Use the latest FW. • Disconnect and then connect the connector of the base board. • Execute self-diagnosis for all items. • Try replacing parts. Memory, storage and base board
B161		Timeout error	
B162		Program control error (interface error)	
B163		Program control error (sequence error)	
B164		Semaphore acquisition/ release error	
B165		Program control error (table control error)	
B166		Reception resource check error	
B167	Image processing error	Sending image access error (image acquisition error)	
B168		Receiving image access error (image storage error)	
B169		Sending image access error (image deletion error)	

3.17.8 B17#

Error code	Category	Contents of error	Solution
B170	MFP soft error	Program control error (table control error)	• Turn OFF and ON the main power switch. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output]. • Use the latest FW. • Disconnect and then connect the connector of the base board. • Execute self-diagnosis for all items. • Try replacing parts. Memory, storage and base board
B171		Program control error (instance acquisition error)	
B172		Timeout error	
B173		Program control error (interface error)	
B174		Semaphore acquisition/ release error	
B175		Observer registration error	
B176	Memory allocation error	Unable to secure domain for header (TTI) image generation	
B177	Image processing error	Header (TTI) image generation error	
B178		Receiving job generation error	
B179		Sequence control error (line command error/mismatched status, mismatched event)	

3.17.9 B18#

Error code	Category	Contents of error	How to correct
B185	Receiving data error	Receiving data size logic error (Receiving data are not multiples of dotline)	• Turn OFF and ON the main power switch. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output]. • Use the latest FW. • Disconnect and then connect the connector of the base board. • Execute self-diagnosis for all items. • Try replacing parts. Memory, storage and base board
B186	Memory allocation error	Unable to secure domain for receiving image	
B187	Image processing error	Receiving image conversion error	
B188	MFP soft error	Program control error (table control error)	

3.17.10 B19#

Error code	Category	Contents of error	Solution
B190	USB I/F error	USB sending error	• Turn OFF the main power switch, and turn it ON again after a check of the USB connection. • Use the latest FW.
B191		USB sending error	

Error code	Category	Contents of error	Solution
B192		Error retry 5 sec. T.O (No response or other errors)	• Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B193		No response due to detach of USB	
B194		Error retry 3 sec. T.O (main body status error)	
B195		Attach not detected for 1 min. after recovery from sleep when receiving	
B196		Detach not detected for 1 min. when shifting to sleep	• Turn OFF and ON the main power switch. • Use the latest FW. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B197		USB I/F error during formatting when main power switch ON	• Turn OFF the main power switch, and turn it ON again after a check of the USB connection. • Use the latest FW. • Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].
B198		Attach not detected for 1 min. after recovery from sleep at the time other than receiving	

3.18 CC###

3.18.1 CC002

Contents

Trouble type	CC002: Vendor internal error
Rank	C
Trouble detection condition	Error occurs inside the vendor.
Trouble isolation	-
Relevant electrical parts	• Vendor • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Check the connector between the vendor-BASEB CN30E for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace CPUB.
5. Replace BASEB.
6. Replace the vendor.

3.18.2 CC151

Contents

Trouble type	CC151: ROM contents error upon startup (MSC)
Rank	C
Trouble detection condition	A fault is detected in a sequence of ROM contents check of the CPU board (CPUB) during starting.
Trouble isolation	-
Relevant electrical parts	• Backup board (ERB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the ROM version.
2. Rewrite the firmware.
3. Check the connector between ERB CN1-BASEB CN20E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace ERB.
   1. Replace the current ERB with a new one.
   2. Replace the following components with new ones.
   When the transfer belt unit, transfer roller and the fusing unit have been replaced with new ones, perform [Service Mode] -> [Counter] -> [Life] -> [New Release].
      - Imaging unit
      - Transfer belt unit
      - Fusing unit
      - Transfer roller
      - Feed roller, pick-up roller, separation roller (including options)
      - Separation pad
      - Toner filter
   3. Turn ON the main power switch and check to see that warm-up is started.
   Make sure that trouble codes other than C2650 or improper IU/TC placement is not detected.
   4. Make the specified readjustments.
6. Replace CPUB.

7. Replace BASEB.

3.18.3 CC152

Contents

Trouble type	CC152: ROM contents error upon startup (IR)
Rank	C
Trouble detection condition	A fault is detected in a sequence of ROM contents check of the CPU board (CPUB) during starting.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the ROM version.
2. Rewrite the firmware.
3. Check CPUB for proper installation and correct as necessary.
4. Replace CPUB.
5. Replace BASEB.

3.18.4 CC156

Contents

Trouble type	CC156: DF ROM error
Rank	C
Trouble detection condition	Upgrade of the firmware has not been successful.
Trouble isolation	-
Relevant electrical parts	DF control board (DFCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace DFCB.

3.18.5 CC163

Contents

Trouble type	CC163: ROM contents error (PRT)
Rank	C
Trouble detection condition	The wrong model of firmware is detected in the engine during the initial connection to the engine is being checked.
Trouble isolation	-
Relevant electrical parts	• Backup board (ERB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Rewrite the firmware.
2. Replace CPUB.

   NOTE

   ▪ **When taking the above steps, check whether CPUB is defective or not without replacing the ERB.**

   1. Turn OFF the main power switch and replace the current CPUB with a new one.
   2. Update the firmware.
   3. After completing the firmware update, turn OFF and ON the main power switch and check to see that warm-up is started.
   4. When the trouble cannot be solved, reinstall the removed CPUB to the original board.
3. Replace BASEB.
4. If the above actions do not solve the problem, contact OLI.

3.18.6 CC164

Contents

Trouble type	CC164: ROM contents error (MSC)
Rank	C
Trouble detection condition	• The wrong model of firmware is detected in the CPU board when the main power switch is turned ON. • The machine type information (Machine, Type) registered to the machine differs from the actual machine type.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the ROM version.
2. Check the machine type information registered and reenter as necessary.
   For details the machine information, see “Entering the machine type information”.
3. Rewrite the firmware.
4. Replace CPUB.
5. Replace STRGB.
6. Replace BASEB.
7. If the above actions do not solve the problem, contact OLI.

3.18.7 CC170, CC171, CC172, CC173, CC174, CC180, CC181, CC182, CC183, CC184, CC185, CC186

Contents

Trouble type	• CC170: Dynamic link error during starting (AP0) • CC171: Dynamic link error during starting (AP1) • CC172: Dynamic link error during starting (AP2) • CC173: Dynamic link error during starting (AP3) • CC174: Dynamic link error during starting (AP4) • CC180: Dynamic link error during starting (LDR) • CC181: Dynamic link error during starting (IBR) • CC182: Dynamic link error during starting (IID) • CC183: Dynamic link error during starting (IPF) • CC184: Dynamic link error during starting (IMY) • CC185: Dynamic link error during starting (SPF) • CC186: Dynamic link error during starting (OAP)
Rank	C
Trouble detection condition	A dynamic link error occurs in the program on the CPU board due to an insufficient memory space available, a ROM fault, or other reason when the main power switch is turned ON.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. If the trouble code "C-C180" has occurred, check to install the appropriate loadable device driver for an authentication unit which is installed to the MFP.
   When the appropriate loadable device driver is not installed, reinstall the appropriate loadable device driver.
2. Check CPUB for proper installation and correct as necessary.
3. Replace CPUB.
4. Replace BASEB.
5. If the above actions do not solve the problem, contact OLI.

3.18.8 CC190

Contents

Trouble type	CC190: Outline font load error
Rank	C
Trouble detection condition	An error occurred while loading the outline font.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] and perform the function.
4. Replace STRGB.
5. Replace CPUB.
6. Replace BASEB.

3.18.9 CC191

Contents

Trouble type	CC191: Setting parameter load error (LDR)
Rank	C
Trouble detection condition	Upon startup, the processing of the loadable device driver setting data file failed. • RAM disk file creation failed. • Reading from the flash ROM failed. • An error occurred in API of the authentication module.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
2. Check CPUB for proper installation and correct as necessary.
3. Reinstall the loadable device driver.
4. Rewrite the firmware.
5. Replace CPUB.
6. Replace BASEB.

3.18.10 CC211

Contents

Trouble type	CC211: Authentication device general error
Rank	C
Trouble detection condition	When using the authentication device, authentication data is not to meet the specifications.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.

3.18.11 CC212

Contents

Trouble type	CC212: User validation error
Rank	C
Trouble detection condition	• An error occurred while validating the user authentication information. • The loadable device driver is not successfully installed.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. When this trouble code is generated after installing the loadable device driver, check to see if there is any file other than loadable device driver in USB memory used. If there is any file, reinstall the loadable device driver.
2. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.
5. Re-register the user authentication information.
6. Replace the authentication unit.

3.18.12 CC213

Contents

Trouble type	CC213: User registration error/Card information setting error
Rank	C
Trouble detection condition	• IC card advanced settings data is not correct when starting-up the authentication device. • Authentication information data is not correct when starting-up the authentication device. • IC card advanced settings data is not correct when setting the IC card advanced settings. • Authentication information data is not correct when setting the IC card advanced settings. • IC card advanced settings data is not correct when registering the authentication information. • Authentication information data is not correct when registering the authentication information. • IC card advanced settings data is not correct when editing the authentication information. • Authentication information data is not correct when editing the authentication information.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.
4. Reset the authentication settings. (card type, IC card advanced settings, and etc.)
5. Re-register the user authentication information.

3.18.13 CC214

Contents

Trouble type	CC214: User information deletion error
Rank	C
Trouble detection condition	The deletion of the user information is uncompleted.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.

3.18.14 CC216

Contents

Trouble type	CC216: Acquisition failure of the number of trials/Initialize error of number of authentication
Rank	C
Trouble detection condition	An error occurred during user authentication using optional authentication unit AU-102.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.
4. Reset the number of authentication trials.

3.18.15 CC301

Contents

Trouble type	CC301: Authentication customize data error
Rank	B
Trouble detection condition	• The master authentication customize data is corrupted upon startup. • Registration of authentication customize data in the main body has failed upon startup.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Reinstall the authentication customize data.
3. Rewrite the firmware.
4. Replace CPUB.
5. Replace BASEB.

3.18.16 CC302

Contents

Trouble type	CC302: Authentication customize data version mismatch error
Rank	B
Trouble detection condition	The authentication customize data version is later than the firmware version of the machine.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Rewrite the main body firmware with the latest one and reinstall the authentication customize data.
3. Replace CPUB.
4. Replace BASEB.

3.18.17 CCC00

Contents

Trouble type	CCC00: Public user account track information error
Rank	B
Trouble detection condition	At the first time of startup, the nonvolatile status is reset incompletely due to any trouble (such as a shut off of the main power).
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Replace STRGB.
2. Replace CPUB.
3. Replace BASEB.

3.19 CD###

3.19.1 CD002

Contents

Trouble type	CD002: JOB RAM save error
Rank	C
Trouble detection condition	The error in save of job data to the memory / storage and its read error are detected.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] -> [Logical Format] and perform the function.
4. Replace STRGB.
5. Replace CPUB.
6. Replace BASEB.

3.19.2 CD004, CD00F

Contents

Trouble type	• CD004: Storage access error (connection failure) • CD00F: Storage data transfer error
Rank	C
Trouble detection condition	• CD004: Unable to communicate between the storage and CPU board (CPUB). • CD00F: Data transfer from the storage is faulty.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace STRGB.
4. Replace CPUB.
5. Replace BASEB.

3.19.3 CD010

Contents

Trouble type	CD010: Storage unformat
Rank	C
Trouble detection condition	Unformatted storage is connected.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.

3. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] and perform the function.
4. Replace STRGB.
5. Replace CPUB.
6. Replace BASEB.

3.19.4 CD011

Contents

Trouble type	CD011: Storage out of specifications mounted
Rank	C
Trouble detection condition	A storage that falls outside the specifications is connected.
Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

1. Check the storage specifications.
2. Replace STRGB.

3.19.5 CD012

Contents

Trouble type	CD012: Mount error due to storage being unformatted
Rank	C
Trouble detection condition	• The storage is not logically formatted after the whole data in the storage has been deleted by overwriting. • The storage that has replaced an old one is not logically formatted.
Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

1. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] -> [Logical Format] and perform the function. Then, rewrite the firmware.
2. Replace STRGB.

3.19.6 CD030

Contents

Trouble type	CD030: Storage management information reading error
Rank	C
Trouble detection condition	The machine fails to read administrative information data saved in the storage.
Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] -> [Logical Format] and perform the function.
3. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] -> [Physical Format] and perform the function.
4. Replace STRGB.

3.19.7 CD041, CD042, CD043, CD044, CD045, CD046

Contents

Trouble type	CD041, CD042, CD043, CD044, CD045, CD046: Storage command execution error
Rank	C
Trouble detection condition	The error occurred inside the storage.
Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

1. Check the storage specifications.
2. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] and perform the function.
3. Replace STRGB.

3.19.8 CD047, CD048, CD049, CD04A, CD04B

Contents

Trouble type	CD047, CD048, CD049, CD04A, CD04B: Storage SCSI library error
Rank	C
Trouble detection condition	The error occurred inside the storage.
Trouble isolation	-

Relevant electrical parts	Storage board (STRGB)

Procedure

1. Check the storage specifications.
2. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] and perform the function.
3. Replace STRGB.

3.19.9 CD050

Contents

Trouble type	CD050: Storage recovery timeout
Rank	C
Trouble detection condition	The storage fails to recover from the power save mode within the predetermined period of time.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] and perform the function.
4. Replace STRGB.

3.19.10 CD072

Contents

Trouble type	CD072: Second-hand Storage board or second-hand CPU board installed
Rank	C
Trouble detection condition	The storage board (STRGB) or CPU board (CPUB) used on other MFPs is installed.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB)

Procedure

1. Replace the board with the new STRGB andCPUB.
   Or, reuse the original STRGB and CPUB.

3.19.11 CD073

Contents

Trouble type	CD073: Storage type is different
Rank	C
Trouble detection condition	When the installed storage and the configured storage are different.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • microSD

Procedure

1. Check the storage type settings and correct if the wrong storage is set.

3.19.12 CD110

Contents

Trouble type	CD110: Wireless LAN destination initialization error
Rank	C
Trouble detection condition	When an initialization error occurred on the settings of the wireless LAN in the upgrade kit (UK-221).
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Check the UK-221 connector for proper connection and correct as necessary.
2. Rewrite the firmware.
3. Replace UK-221.

3.19.13 CD201, CD202, CD203

Contents

Trouble type	• CD201: File memory mounting error • CD202: Memory capacity discrepancy • CD203: Memory capacity discrepancy 2

Rank	C
Trouble detection condition	CD201: • The file memory is not mounted. • The file has any abnormality.
	CD202: • File memory capacity on the CPU board (CPUB) is not enough. • File memory capacity necessary for duplex printing is not enough.
	CD203: File memory capacity on the CPU board (CPUB) is not enough.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.19.14 CD211, CD212

Contents

Trouble type	• CD211: PCI-SDRAM DMA operation failure • CD212: Compression/extraction timeout detection
Rank	C
Trouble detection condition	• CD211: Hardware related to the transfer of memory image of the CPU board (CPUB) fails to respond. • CD212: Hardware related to the BTC compression function of the CPU board (CPUB) fails to respond.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.19.15 CD241, CD242

Contents

Trouble type	• CD241: Encryption ASIC setting error • CD242: Encryption ASIC mounting error
Rank	C
Trouble detection condition	• CD241: Initialization error of the encrypted ASIC is detected during the machine is starting. • CD242: The faulty of the installation of encrypted ASIC is detected during the machine is starting.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Check BASEB connector for proper connection and correct as necessary.
3. Replace CPUB.
4. Replace BASEB.

3.19.16 CD261

Contents

Trouble type	CD261: USB hub board failure
Rank	C
Trouble detection condition	• When a failure is detected in USB hub board included in the local interface kit. • Non-standard USB device is connected.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • USB hub board (USBHB: EK-P08 or EK-P09)

Procedure

1. Check the operation with another USB device.
2. Check USBHB for proper connection and correct as necessary.
3. Replace USBHB.
4. Replace CPUB.
5. Replace BASEB.

3.19.17 CD262

Contents

Trouble type	CD262: Extension network adapter installation error
Rank	C
Trouble detection condition	• When the 2nd network card settings is set to “Set” but the upgrade kit (UK-221) is not installed. • Upgrade Kit (UK-221) is faulty.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Check the settings of [Service Mode] -> [Network Settings] -> [2nd Network Setting] -> [2nd network card settings].
2. Check the UK-221 connector for proper connection and correct as necessary.
3. Rewrite the firmware.
4. Replace UK-221.

3.19.18 CD2D1

Contents

Trouble type	CD2D1: VLAN setting configuration error
Rank	B
Trouble detection condition	At start up of the MFP, the reception condition of VLAN setting activation is not satisfied.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • Backup board (ERB)

Procedure

1. Check if all VLAN setting reception conditions are satisfied.

- If the IC card reader is connected, the LDD of AU-201S has been installed.
- The software SW12 (bit1) has been set to "PKI unsupported" (0x00). (PKI mode setting unavailable)
- Service Mode -> [Billing Setting] -> [Management Function Choice] is set to "Unset".
- "TCP/IP" of Utility -> [Administrator] -> [Network] -> [TCP/IP Setting] -> [TCP/IP Setting1] is set to "ON”.
- "Network I/F Configuration” of Utility -> [Administrator] -> [Network] -> [Network I/F Configuration] is set to other than "Wireless Only”.

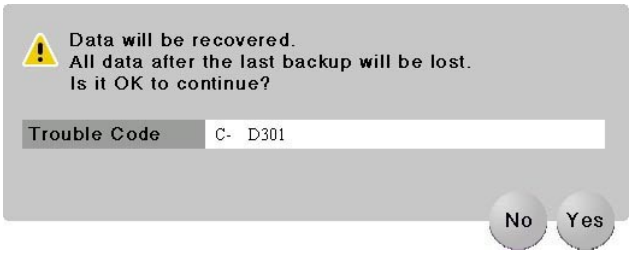
3.19.19 CD3##

Contents

Trouble type	CD3##: Nonvolatile data error
Rank	C
Trouble detection condition	CD3##: Abnormality is detected by the abnormal check of each nonvolatile data.
Trouble isolation	-

Action

1. Touch [Recover Data] displayed at the lower right portion on the trouble screen.
2. A screen confirming whether to recover data appears.



3. Select [Yes].
4. The screen will be shifted to the data restoration screen to perform data restoration.
   NOTE
   - **When the restoration is performed in a short time, data restoration screen may not be displayed.**
5. Check the message which indicates that the data restoration was successfully conducted. Turn OFF the main power switch and turn it ON again more than 10 seconds after.
   NOTE
   - **In case it failed to restore data, return to the trouble code screen.**

NOTE

- **Nonvolatile data backup will be automatically performed every hour. Backup can also be performed manually with the following setting. [Service Mode] -> [Enhanced Security] -> [Memory Data Backup]**

3.19.20 CD313

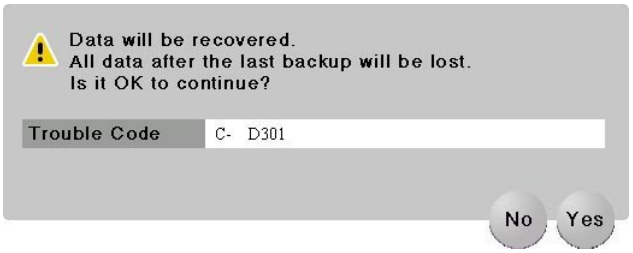
Contents

Trouble type	CD313: TPM key data error
Rank	C

Trouble detection condition	A fault occurs in the TPM key data.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Touch [Recover Data] displayed at the lower right portion on the trouble screen.
2. A screen confirming whether to recover data appears.



3. Select [Yes].
4. The screen will be shifted to the data restoration screen to perform data restoration.
   NOTE
   - **When the restoration is performed in a short time, data restoration screen may not be displayed.**
5. Check the message which indicates that the data restoration was successfully conducted. Turn OFF the main power switch and turn it ON again more than 10 seconds after.
   NOTE
   - **In case it failed to restore data, return to the trouble code screen.**
6. Replace the current TPMB with a new one.
7. Replace the current CPUB with a new one.
8. Replace the current BASEB with a new one.

NOTE

- **Nonvolatile data backup will be automatically performed every hour. Backup can also be performed manually with the following setting. [Service Mode] -> [Enhanced Security] -> [Memory Data Backup]**

3.19.21 CD38E

Contents

Trouble type	CD38E: Nonvolatile data save error (SPI-Flash)
Rank	C
Trouble detection condition	The "ISW download flag" saved in the SPI-Flash has an illegal value.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Rewrite the firmware.
2. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.

3.19.22 CD390

Contents

Trouble type	CD390: Nonvolatile data checksum error
Rank	C
Trouble detection condition	C-D390 code is normally shown when the CPU board (CPUB) is replaced with a new one.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Wait until “Recover Data” appears. (MFP will reboot maximum 2 times by itself, it may take 5 minutes.) Touch the “Recover Data” button and follow the instructions that appear on the control panel to restore (backup) data.

3.19.23 CD391

Contents

Trouble type	CD391: Nonvolatile data save error (Storage)
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	-

Procedure

NOTE

- **Contact the responsible people of OLI before taking some countermeasures.**

3.19.24 CD392

Contents

Trouble type	CD392: Nonvolatile data save error (EEPROM)
Rank	C
Trouble detection condition	The backup board (ERB) is replaced with a new one.
Trouble isolation	-
Relevant electrical parts	Backup board (ERB)

Procedure

1. Replace the following components with new ones.
   Configure [New Release] in Service Mode before replacing the image transfer belt unit, transfer roller and the fusing unit.
   - Imaging unit
   - Transfer belt unit
   - Fusing unit
   - Transfer roller
   - Feed roller, pick-up roller, separation roller (including options)
   - Separation pad
   - Toner filter
2. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
3. Set the various setting values in the service mode again.
4. If the above actions do not solve the problem, contact OLI.

3.19.25 CD3B1, CD3B3, CD3B4, CD3B5

Contents

Trouble type	• CD3B1: DB server startup failure • CD3B3: DB access failure • CD3B4: No DB definition file • CD3B5: DB definition file error
Rank	C
Trouble detection condition	• CD3B1: When starting the MFP, PostgreSQL server startup has not been successful. • CD3B3: When starting the MFP, SQL DB access fails in PostgreSQL server startup processing. • CD3B4: When starting the MFP, SQL DB definition file does not exist in PostgreSQL server startup processing. • CD3B5: When starting the MFP, there is an error in SQL DB definition file in PostgreSQL server startup processing.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Rewrite the firmware.
3. Replace CPUB.
4. Replace BASEB.

3.19.26 CD3C0

Contents

Trouble type	CD3C0: New board detection
Rank	C
Trouble detection condition	The board is replaced with a new one.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Wait until “Recover Data” appears. (MFP will reboot maximum 2 times by itself, it may take 5 minutes.) Touch the “Recover Data” button and follow the instructions that appear on the control panel to restore (backup) data.

3.19.27 CD401, CD402, CD403, CD404, CD405, CD406, CD407, CD411, CD412, CD413

Contents

Trouble type	• CD401: NACK command incorrect • CD402: ACK command incorrect • CD403: Checksum error • CD404: Receiving packet incorrect • CD405: Receiving packet analysis error • CD406: ACK receiving timeout • CD407: Retransmission timeout • CD411: Touch panel board error

	• CD412: Touch panel type mismatch • CD413: Electrostatic touch panel operation mode error
Rank	C
Trouble detection condition	When abnormality is found in the communication of controller.
Trouble isolation	-
Relevant electrical parts	• Control panel • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check whether there is a strong electromagnetic noise source near the main body.
2. Check the connector between the control panel-BASEB CN7 for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace CPUB.
5. Replace BASEB.

3.19.28 CD601, CD602, CD603

Contents

Trouble type	CD601, CD602, CD603: Trouble related to security
Rank	-
Trouble detection condition	-
Trouble isolation	-

Procedure

1. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch. If the above actions do not solve the problem, contact OLI.

3.19.29 CD701, CD702, CD703

Contents

Trouble type	• CD701: Mechanical controller flash ROM writing error • CD702: Mechanical controller flash ROM device error • CD703: FW download communication fault
Rank	C
Trouble detection condition	CD701: A mechanical controller flash ROM writing sequence is interrupted in its mid-operation due to, for example, power being shut off.
	CD702: An erase error or other device fault occurs during mechanical controller flash ROM writing.
	CD703: Irregular data is received during FW downloading. • Places are changed in the order of write completion pulses. • A write completion pulse is received for a memory for which binary writing is not permitted. • Final checksum mismatch in FW download • Two-minute timeout (no response from CTL, the number of transfer data items less than the specified)
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace CPUB.
5. Replace BASEB.

3.19.30 CDC##

Contents

Trouble type	CDC##: Trouble related to security
Rank	-
Trouble detection condition	-
Trouble isolation	-

Procedure

NOTE

- **Contact the responsible people of OLI before taking some countermeasures.**

3.19.31 CDF50, CDF70, CDFA0 Contents

Trouble type	• CDF50: ASIC image version failure • CDF70: ASIC image access failure • CDFA0: ASIC image error
Rank	C
Trouble detection condition	Communication error is detected between the CPU board (CPUB) and the CIS module (IR CIS).
Trouble isolation	-
Relevant electrical parts	• CIS module (IR CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between IR CIS-BASEB CN6 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace IR CIS.
5. Replace CPUB.
6. Replace BASEB.

3.19.32 CDF51, CDF71, CDFA1

Contents

Trouble type	• CDF51: ASIC image version failure (back side) • CDF71: ASIC image access failure (back side) • CDFA1: ASIC image error (back side)
Rank	C
Trouble detection condition	Communication error is detected between the CPU board (CPUB) and the DF CIS module (DF CIS).
Trouble isolation	-
Relevant electrical parts	• DF CIS module (DF CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between DF CIS-BASEB CN5 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace the DF CIS module assy.
5. Replace CPUB.
6. Replace BASEB.

3.20 CE###

3.20.1 CE001, CE003, CE004, CE005, CE006, CE007, CE009, CE011

Contents

Trouble type	• CE001: Abnormal message queue • CE003: Task error • CE004: Event error • CE005: Memory access error • CE006: Header access error • CE007: DIMM initialize error • CE009: Memory resource shortage error • CE011: Config. file access error at startup of FW
Rank	C
Trouble detection condition	CPU board (CPUB) is faulty.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.20.2 CE002

Contents

Trouble type	CE002: Message and method parameter failure
Rank	C
Trouble detection condition	CPU board (CPUB) is faulty.

Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and turn it ON again, and conduct the following setting. [Service Mode] -> [System 1] -> [Initialization] -> [Clear All Data].
2. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] and perform the function.
3. Replace STRGB.
4. Replace CPUB.
5. Replace BASEB.

3.20.3 CE013

Contents

Trouble type	CE013: Virus scan engine startup failure (8 GB storage)
Rank	C
Trouble detection condition	When the virus scan settings are effective, change from storage board (STRGB) to microSD (8GB).
Trouble isolation	-
Relevant electrical parts	microSD

Procedure

1. Reboot the machine.
2. To disable Virus Scan Functions.
3. Remove the microSD and replace the STRGB.

3.20.4 CE014

Contents

Trouble type	CE014: Virus scan engine startup failure (storage error)
Rank	C
Trouble detection condition	The file or data that is necessary to start the virus scan has been lost.
Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

1. Reboot the machine. (MFP will reboot maximum 2 times by itself.)
2. Replace STRGB.

3.20.5 CE101

Contents

Trouble type	CE101: Browser finish detected
Rank	C
Trouble detection condition	• The browser is automatically recovered (restarted) after the main body detected that the browser (separate process) has stopped with fault. • When the “Malfunction finish is detected over predetermined number of times” or “the browser task process is except in idle (printing, etc.)”.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.20.6 CE201

Contents

Trouble type	CE201: Transmission operation log storage fault
Rank	C
Trouble detection condition	When the transmission log storage failed, it repeats retrial until transmission operation log is stored. The trouble is detected when the retrial failed for predetermined number of times.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.

2. Replace CPUB.
3. Replace BASEB.

3.20.7 CE202

Contents

Trouble type	CE202: PDL interpreter error
Rank	C
Trouble detection condition	An error inside the CPU board (CPUB) is detected during converting the PDL information.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] -> [Logical Format] and perform the function.
3. Select [System 1] -> [Initialization] -> [Clear All Data] and perform the function.
4. Replace CPUB.
5. Replace BASEB.

3.20.8 CE203

Contents

Trouble type	CE203: Unrecoverable error
Rank	C
Trouble detection condition	An error does not recover even after an auto recovery.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] -> [Logical Format] and perform the function.
3. Select [System 1] -> [Initialization] -> [Clear All Data] and perform the function.
4. Update the firmware.
5. Perform the self-diagnostic function.
6. Replace CPUB.
7. Replace BASEB.

3.20.9 CE204

Contents

Trouble type	CE204: SIP / T.38 library loading failure
Rank	C
Trouble detection condition	Installed an illegal library of SIP/T.38.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Install a legal library of LK-117.

3.20.10 CE301, CE302, CE303, CE304, CE305

Contents

Trouble type	• CE301: Referring incorrect memory • CE302: Incorrect command • CE303: Finished due to error inside Qt library • CE304: Finished due to error outside Qt library • CE305: Program forced to stop
Rank	C
Trouble detection condition	• When performing treatment (program) to the firmware controlling the MFP controller, a malfunction is detected when the control sequence went abnormal. • In almost cases, when the control sequence goes abnormal in certain conditions and on certain timing, it results in malfunction.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. When the trouble code "C-E301" occurs, check that if the combination of the version of the MFP firmware and the version of the installed authentication unit loadable device driver is proper.
   If the combination of the MFP firmware and the loadable device driver is improper, install the latest MFP firmware, then install the latest loadable device driver.
2. Execute [Self-diag. (Full)].
   For details, see “Troubleshooting using Self-diag. (Full)”.
3. If the diagnosis result of [Self-diag. (Full)] is OK, since no hardware parts related troubles occur, retrieve the “Machine Management List” and send inquiries to OLI also with the information.
   For details, see “List Output”.

3.20.11 CED01

Contents

Trouble type	CED01: The authentication application information does not exist in the storage in the enhanced server authentication state.
Rank	C
Trouble detection condition	With “Enhanced Server Authentication” set, no authentication application registration information is found in the storage.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF and ON the main power switch.
2. Check STRGB for proper installation and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] -> [Logical Format] and perform the function.
5. Replace STRGB.
6. If the above actions do not solve the problem, contact OLI.

3.20.12 CEEE1, CEEE3

Contents

Trouble type	• CEEE1: CPU board (MSC) malfunction • CEEE3: Base board (ENG) malfunction
Rank	• CEEE1: C • CEEE3: A
Trouble detection condition	• CEEE1: CPU board is faulty. • CEEE3: Base board is faulty.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.20.13 CEEE2

Contents

Trouble type	CEEE2: Scanner section malfunction
Rank	A
Trouble detection condition	A scanner part is faulty.
Trouble isolation	-
Relevant electrical parts	CIS module (IR CIS)

Procedure

1. Replace IR CIS.

3.21 CF### (Abort code)

- The machine displays an abort code (CF###) on the control panel as it becomes unable to process tasks properly through its software control.
- When the system program is aborted, check the electrical component, unit, option, and connection relating to the specific type of the abort condition.

3.21.1 CFA##

Contents

Trouble type	CFA##: Abort code
Rank	C
Trouble detection condition	• When performing treatment (program) to the firmware controlling the MFP controller, a malfunction is detected when the control sequence went abnormal. • In almost cases, when the control sequence goes abnormal in certain conditions and on certain timing, it results in malfunction.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Execute [Self-diag. (Full)].
   For details, see “ L.4 TROUBLESHOOTING USING SELF-DIAG. (FULL)”.
2. If the diagnosis result of [Self-diag. (Full)] is OK, since no hardware parts related troubles occur, retrieve the “Machine Management List” and send inquiries to OLI also with the information.
   For details, see “ I.12 List Output”.

3.21.2 CFB##

Contents

Trouble type	CFB##: Abort code
Rank	C
Trouble detection condition	• When performing treatment (program) to the firmware controlling the MFP controller, a malfunction is detected when the control sequence went abnormal. • In almost cases, when the control sequence goes abnormal in certain conditions and on certain timing, it results in malfunction.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Execute [Self-diag. (Full)].
   For details, see “ L.4 TROUBLESHOOTING USING SELF-DIAG. (FULL)”.
2. If the diagnosis result of [Self-diag. (Full)] is OK, since no hardware parts related troubles occur, retrieve the “Machine Management List” and send inquiries to OLI also with the information.
   For details, see “ I.12 List Output”.

3.21.3 CFC##

Contents

Trouble type	CFC##: Abort code
Rank	C
Trouble detection condition	• When performing treatment (program) to the firmware controlling the MFP controller, a malfunction is detected when the control sequence went abnormal. • In almost cases, when the control sequence goes abnormal in certain conditions and on certain timing, it results in malfunction.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Execute [Self-diag. (Full)].
   For details, see “ L.4 TROUBLESHOOTING USING SELF-DIAG. (FULL)”.
2. If the diagnosis result of [Self-diag. (Full)] is OK, since no hardware parts related troubles occur, retrieve the “Machine Management List” and send inquiries to OLI also with the information.
   For details, see “ I.12 List Output”.

3.21.4 CFD##

Contents

Trouble type	CFD##: Abort code
Rank	C
Trouble detection condition	• When performing treatment (program) to the firmware controlling the MFP controller, a malfunction is detected when the control sequence went abnormal. • In almost cases, when the control sequence goes abnormal in certain conditions and on certain timing, it results in malfunction.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Execute [Self-diag. (Full)].

For details, see “ L.4 TROUBLESHOOTING USING SELF-DIAG. (FULL)”.
2. If the diagnosis result of [Self-diag. (Full)] is OK, since no hardware parts related troubles occur, retrieve the “Machine Management List” and send inquiries to OLI also with the information.
For details, see “ I.12 List Output”.

3.21.5 CFE##

Contents

Trouble type	CFE##: Abort code
Rank	C
Trouble detection condition	• When performing treatment (program) to the firmware controlling the MFP controller, a malfunction is detected when the control sequence went abnormal. • In almost cases, when the control sequence goes abnormal in certain conditions and on certain timing, it results in malfunction.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Execute [Self-diag. (Full)].
For details, see “ L.4 TROUBLESHOOTING USING SELF-DIAG. (FULL)”.
2. If the diagnosis result of [Self-diag. (Full)] is OK, since no hardware parts related troubles occur, retrieve the “Machine Management List” and send inquiries to OLI also with the information.
For details, see “ I.12 List Output”.

3.21.6 CFF##

Contents

Trouble type	CFF##: Abort code
Rank	C
Trouble detection condition	• When performing treatment (program) to the firmware controlling the MFP controller, a malfunction is detected when the control sequence went abnormal. • In almost cases, when the control sequence goes abnormal in certain conditions and on certain timing, it results in malfunction.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Execute [Self-diag. (Full)].
For details, see “ L.4 TROUBLESHOOTING USING SELF-DIAG. (FULL)”.
2. If the diagnosis result of [Self-diag. (Full)] is OK, since no hardware parts related troubles occur, retrieve the “Machine Management List” and send inquiries to OLI also with the information.
For details, see “ I.12 List Output”.

4. TROUBLESHOOTING USING SELF-DIAG. (FULL)

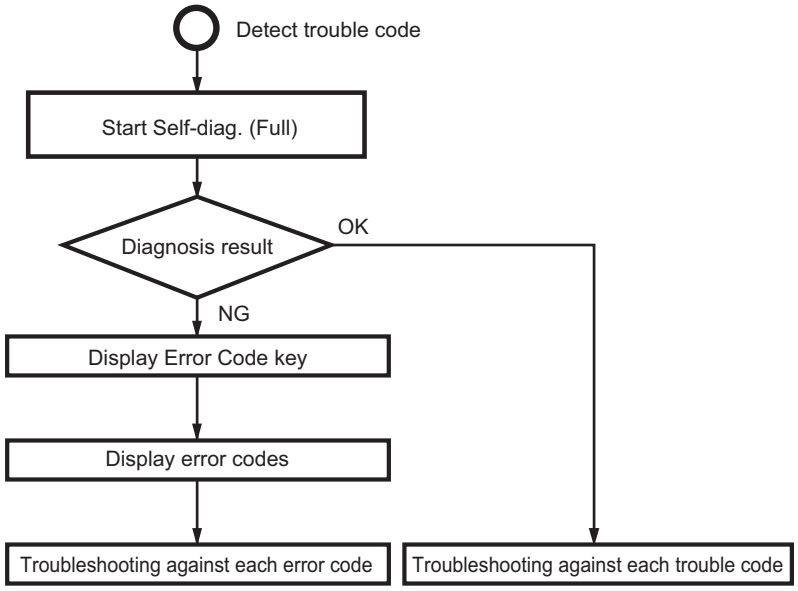
4.1 Overview of Self-diag. (Full) function

- If a trouble code occurs or the machine cannot operate normally due to defects of the control system hardware parts, by executing the "Self-diag. (Full)", the defective areas on the control system hardware parts can be identified.
- The reason for troubles is broadly divided into the control system hardware trouble and the firmware trouble, and it is difficult to identify where the trouble occurs with the trouble code.
  In the "Self-diag. (Full)", two functions are provided, the one diagnoses if troubles occur on the control system hardware, and the other one detects defective parts and displays the "error code" corresponding to the defective parts on the control panel.

NOTE

- **Before replacing the control system hardware parts like the base board, make sure to execute the "Self-diag. (Full)".**

Self-diag. (Full) flow for a trouble code



4.2 Self-diag. (Full) Procedure

1. When a trouble code is displayed, turn OFF the main power switch after the MFP is stopped.
2. Execute the Self-diag. (Full). For details of the method for executing the Self-diag. (Full), refer to I.13.12.2 Self-diag. (Full).
3. After completing the Self-diag. (Full), the diagnosis result will be displayed for each item. (OK/NG)
4. If [OK] is displayed for all items, turn OFF the main power switch.
5. If [NG] is included in the diagnosis result, after completing the diagnosis for all items, the [Error Code] key is displayed.
6. Touch the [Error Code] key to display the [Error Code].
7. Check the displayed [Error Code], then turn OFF the main power switch, and disconnect power cord from the outlet.
8. Refer to the Service Manual [Error Code List], and perform the troubleshooting against each error code.
   NOTE
   - **Perform the troubleshooting in the sequence from step 1 of "Corrective action procedure" against each item while checking that if each trouble has been resolved. Do not perform the troubleshooting against all troubles at once.**
   - **If no error code is displayed, perform the troubleshooting against each trouble code in "Trouble Code" displayed in step 1.**
9. Even if no [NG] is displayed (no trouble is reproduced) after executing the troubleshooting against each error code or the Self-diag. (Full), execute the "Self-diag. (Full)" again, and make sure that all troubles on each device have been resolved.

4.2.1 Auto Execution of Self-diag. (Full)

- Set the [Switch NO.163] to [00000010] at [Bit assignment] and [02] at [HEX assignment] in [Service Mode] -> [System 2] -> [Software Switch Setting], so that the "Self-diag. (Full)" can be executed automatically when a "trouble code" occurred.
  Refer to [Service Mode] -> [State Confirmation] -> [Self-diag. (Full)].

4.2.2 Error code resetting procedures

1. Stop the machine with the Error Code screen being displayed.
2. Turn OFF the main power switch. After waiting 10 seconds, turn ON the main power switch again.
3. Reboot the machine.

NOTE

- **If the error has not been resolved, the trouble code will reappear after rebooting the machine.**

4.3 Error Code List

Error code	Target device	Diagnosis item	Reason of error	Relevant electrical parts
E1-1	NVMeSSD	Device recognition	Engagement failure Mounting failure	Storage board (STRGB) CPU board (CPUB)
E1-2		R/W check	STRGB error (data failure)	Storage board (STRGB)
E1-3		S.M.A.R.T diag.	STRGB error (data failure)	Storage board (STRGB)
E1-4		MFP FW checksum	STRGB error (data failure)	MFP firmware
E1-5		Partition check	STRGB error (data failure)	Storage board (STRGB)
E3-1	I2C	TPM	Connection failure Parts defect	TPM board (TPMB) CPU board (CPUB) Base board (BASEB)
E3-2		AUDIO (control)	Connection failure Parts defect	CPU board (CPUB) Base board (BASEB)
E3-3		PS-CPU	Connection failure Parts defect	CPU board (CPUB) Base board (BASEB)
E4-1	System/image memory	WORK0 (Main memory ch.A)	Engagement failure Mounting failure DRAM failure	CPU board (CPUB)
E4-2		WORK1 (Main memory ch.B)	Engagement failure Mounting failure DRAM failure	CPU board (CPUB)
E5-1	Various USB devices	IRIS0	Connection failure Parts defect	CPU board (CPUB)
E5-2		USB3.0-HUB chip (base board)	Connection failure Parts defect	CPU board (CPUB) Base board (BASEB)
E5-3		USB2.0-HUB chip (base board)	Connection failure Parts defect	Base board (BASEB)
E5-4		USB device HUB chip (USB hub board)	Connection failure Parts defect	USB hub board (USBHB) Base board (BASEB)
E5-5		DAC-IC	Connection failure Parts defect	USB hub board (USBHB)
E5-7		FAX board (line 1)	Connection failure Parts defect	FAX board (FAXB) Base board (BASEB)
E5-11		Upgrade kit (UK-221)	Connection failure Parts defect	Wireless LAN board (WLANB) Base board (BASEB)
E5-12		Authentication unit	Connection failure Parts defect	Authentication unit Base board (BASEB)
E6-1	CIS module	I/P image bus check (front side)	Image bus failure	CIS cable CIS module (IR CIS) CPU board (CPUB) Base board (BASEB)
E6-2		Line RAM comparison (front side)	CIS sensor failure	CIS module (IR CIS)
E7-1	DF CIS module	I/P image bus check (back side)	Image bus failure	CIS cable DF CIS module (DF CIS) CPU board (CPUB) Base board (BASEB)
E7-2		Line RAM comparison (back side)	CIS sensor failure	DF CIS module (DF CIS)
E8-1	DF control board	MINET communication check	ADF microcomputer communication failure	Connection cable DF control board (DFCB) CPU board (CPUB) Base board (BASEB)
E11-1	CPU board	Compress/exp check	S800 error	CPU board (CPUB)
E11-2		O/P image bus check	S800 error	CPU board (CPUB)
E12-1	PCIe	PCIe device check IRIS(0)	PCIe device error	CPU board (CPUB)
E12-2		PCIe device check IRIS(1)		CPU board (CPUB)
E12-3		PCIe device check NVMeSSD		Storage board (STRGB) CPU board (CPUB)

Troubleshooting against multiple error codes

Error code	Action
E1-1, E5-1, E12-1, E12-3	Execute E12-1.
E4-1, E4-2, E11-1, E11-2	Execute E4-1.

4.4 E1-1

Contents

Error code	E1-1
Target device	NVMeSSD
Diagnosis item	Device recognition
Reason of error	Engagement failure Mounting failure
Relevant electrical parts	Storage board (STRGB) CPU board (CPUB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of STRGB if faulty.
3. Correct the mounting of CPUB if faulty.
4. Replace STRGB.
5. Replace CPUB.

4.5 E1-2

Contents

Error code	E1-2
Target device	NVMeSSD
Diagnosis item	R/W check
Reason of error	STRGB error (data failure)
Relevant electrical parts	Storage board (STRGB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of STRGB if faulty.
3. Replace STRGB.

4.6 E1-3

Contents

Error code	E1-3
Target device	NVMeSSD
Diagnosis item	S.M.A.R.T diag.
Reason of error	STRGB error (data failure)
Relevant electrical parts	Storage board (STRGB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of STRGB if faulty.
3. Replace STRGB.

4.7 E1-4

Contents

Error code	E1-4
Target device	NVMeSSD
Diagnosis item	MFP FW checksum
Reason of error	STRGB error (data failure)
Relevant electrical parts	MFP firmware

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Perform re-installation of the firmware.

4.8 E1-5

Contents

Error code	E1-5
Target device	NVMeSSD
Diagnosis item	Partition check

Reason of error	STRGB error (data failure)
Relevant electrical parts	Storage board (STRGB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of STRGB if faulty.
3. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] -> [Logical Format] and perform the function.
4. Replace STRGB.

4.9 E3-1

Contents

Error code	E3-1
Target device	I2C
Diagnosis item	TPM
Reason of error	Connection failure Parts defect
Relevant electrical parts	TPM board (TPMB) CPU board (CPUB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of TPMB if faulty.
3. Correct the mounting of CPUB if faulty.
4. Correct the mounting of BASEB or the connection of connectors if faulty.
5. Replace TPMB.
6. Replace CPUB.
7. Replace BASEB.

4.10 E3-2

Contents

Error code	E3-2
Target device	I2C
Diagnosis item	AUDIO (control)
Reason of error	Connection failure Parts defect
Relevant electrical parts	CPU board (CPUB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace CPUB.
5. Replace BASEB.

4.11 E3-3

Contents

Error code	E3-3
Target device	I2C
Diagnosis item	PS-CPU
Reason of error	Connection failure Parts defect
Relevant electrical parts	CPU board (CPUB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace CPUB.
5. Replace BASEB.

4.12 E4-1, E4-2

NOTE

- **When executing the Self-diag. (Full) after the trouble code (CE301, CE304) is displayed, the self-diagnosis may not complete. In that case, finish the Self-diag. (Full) forcibly, and perform the troubleshooting against each trouble code.**
- **Turning OFF the main power switch will finish the Self-diag. (Full) forcibly.**

Contents

Error code	E4-1, E4-2	
Target device	System/image memory	
Diagnosis item	E4-1	WORK0 (Main memory ch.A)
	E4-2	WORK1 (Main memory ch.B)
Reason of error	Engagement failure Mounting failure DRAM failure	
Relevant electrical parts	CPU board (CPUB)	

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Replace CPUB.

4.13 E5-1

Contents

Error code	E5-1
Target device	Various USB devices
Diagnosis item	IRIS0
Reason of error	Connection failure Parts defect
Relevant electrical parts	CPU board (CPUB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Replace CPUB.

4.14 E5-2

Contents

Error code	E5-2
Target device	Various USB devices
Diagnosis item	USB3.0-HUB chip (base board)
Reason of error	Connection failure Parts defect
Relevant electrical parts	CPU board (CPUB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace CPUB.
5. Replace BASEB.

4.15 E5-3

Contents

Error code	E5-3
Target device	Various USB devices
Diagnosis item	USB2.0-HUB chip (base board)
Reason of error	Connection failure Parts defect
Relevant electrical parts	Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.

2. Correct the mounting of BASEB or the connection of connectors if faulty.
3. Replace BASEB.

4.16 E5-4

Contents

Error code	E5-4
Target device	Various USB devices
Diagnosis item	USB device HUB chip (USB hub board)
Reason of error	Connection failure Parts defect
Relevant electrical parts	USB hub board (USBHB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of USBHB or the connection of connectors if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace USBHB.
5. Replace BASEB.

4.17 E5-5

Contents

Error code	E5-5
Target device	Various USB devices
Diagnosis item	DAC-IC
Reason of error	Connection failure Parts defect
Relevant electrical parts	USB hub board (USBHB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of USBHB or the connection of connectors if faulty.
3. Replace USBHB.

4.18 E5-7

Contents

Error code	E5-7	
Target device	Various USB devices	
Diagnosis item	E5-7	FAX board (line 1)
Reason of error	Connection failure Parts defect	
Relevant electrical parts	FAX board (FAXB) Base board (BASEB)	

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of the FAX board or the connection of connectors if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace the FAX board.
5. Replace BASEB.

4.19 E5-11

Contents

Error code	E5-11
Target device	Various USB devices
Diagnosis item	Upgrade kit (UK-221)
Reason of error	Connection failure Parts defect
Relevant electrical parts	Wireless LAN board (WLANB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.

2. Correct the mounting of the upgrade kit (UK-221) or the connection of connectors if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace WLANB.
5. Replace BASEB.

4.20 E5-12

Contents

Error code	E5-12
Target device	Various USB devices
Diagnosis item	Authentication unit
Reason of error	Connection failure Parts defect
Relevant electrical parts	Authentication unit Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting and connection of the authentication unit if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace the authentication unit.
5. Replace BASEB.

4.21 E6-1, E6-2

Contents

NOTE

- **When executing the Self-diag. (Full) after the trouble code (C6###, C91##) is displayed, the self-diagnosis may not complete. In that case, finish the Self-diag. (Full) forcibly, and perform the troubleshooting against each trouble code.**
- **Turning OFF the main power switch will finish the Self-diag. (Full) forcibly.**

Error code	E6-1, E6-2	
Target device	CIS module	
Diagnosis item	E6-1	I/P image bus check (front side)
	E6-2	Line RAM comparison (front side)
Reason of error	E6-1	Image bus failure
	E6-2	CIS sensor failure
Relevant electrical parts	E6-1	CIS cable CIS module (IR CIS) CPU board (CPUB) Base board (BASEB)
	E6-2	CIS module (IR CIS)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of IR CIS or the CIS cable if faulty.
3. Correct the mounting of CPUB if faulty.
4. Correct the mounting of BASEB or the connection of connectors if faulty.
5. Replace the CIS cable.
6. Replace IR CIS.
7. Replace CPUB.
8. Replace BASEB.

4.22 E7-1, E7-2

Contents

NOTE

- **When executing the Self-diag. (Full) after the trouble code (C6###, C91##) is displayed, the self-diagnosis may not complete. In that case, finish the Self-diag. (Full) forcibly, and perform the troubleshooting against each trouble code.**
- **Turning OFF the main power switch will finish the Self-diag. (Full) forcibly.**

Error code	E7-1, E7-2	
Target device	DF CIS module	
Diagnosis item	E7-1	I/P image bus check (back side)
	E7-2	Line RAM comparison (back side)
Reason of error	E7-1	Image bus failure
	E7-2	CIS sensor failure
Relevant electrical parts	E7-1	CIS cable DF CIS module (DF CIS) CPU board (CPUB)

		Base board (BASEB)
	E7-2	DF CIS module (DF CIS)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of DF CIS or the CIS cable if faulty.
3. Correct the mounting of CPUB if faulty.
4. Correct the mounting of BASEB or the connection of connectors if faulty.
5. Replace the CIS cable.
6. Replace the DF CIS module assy.
7. Replace CPUB.
8. Replace BASEB.

4.23 E8-1

Contents

Error code	E8-1
Target device	DF control board
Diagnosis item	MINET communication check
Reason of error	ADF microcomputer communication failure
Relevant electrical parts	Connection cable DF control board (DFCB) CPU board (CPUB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of DFCB or the connection of connectors if faulty.
3. Correct the mounting of CPUB if faulty.
4. Correct the mounting of BASEB or the connection of connectors if faulty.
5. Correct the connection of the connection cable if faulty.
6. Replace the connection cable.
7. Replace DFCB.
8. Replace CPUB.
9. Replace BASEB.

4.24 E11-1, E11-2

Contents

Error code	E11-1, E11-2	
Target device	CPU board	
Diagnosis item	E11-1	Compress/exp check
	E11-2	O/P image bus check
Reason of error	E11-1	S800 error
	E11-2	S800 error
Relevant electrical parts	CPU board (CPUB)	

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Replace CPUB.

4.25 E12-1, E12-2

Contents

Error code	E12-1, E12-2	
Target device	PCIe	
Diagnosis item	E12-1	PCIe device check IRIS(0)
	E12-2	PCIe device check IRIS(1)
Reason of error	PCIe device error	
Relevant electrical parts	E12-1, E12-2	CPU board (CPUB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Replace CPUB.

4.26 E12-3

Contents

Error code	E12-3	
Target device	PCIe	
Diagnosis item	E12-3	PCIe device check NVMeSSD
Reason of error	PCIe device error	
Relevant electrical parts	E12-3	Storage board (STRGB) CPU board (CPUB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of STRGB if faulty.
3. Correct the mounting of CPUB if faulty.
4. Replace STRGB.
5. Replace CPUB.

5. TROUBLESHOOTING WHEN NG IS DISPLAYED ON THE SELF-DIAG. (INDIVIDUAL)

5.1 I2S check

5.1.1 Troubleshooting when NG is displayed for AUDIO (voice)

1. Turn OFF the main power switch, disconnect power cord from the outlet.
2. Correct the mounting of the CPU board if faulty.
3. Correct the mounting of the base board or the connection of connectors if faulty.
4. Replace the CPU board.
5. Replace the base board.

5.2 Various USB Check

5.2.1 Troubleshooting when NG is displayed for Keyboard

1. Turn OFF the main power switch, disconnect power cord from the outlet.
2. Correct the mounting of the keyboard if faulty.
3. Correct the mounting of the USB hub board if faulty.
4. Replace the keyboard.
5. Replace the USB hub board.

5.2.2 Troubleshooting when NG is displayed for USB Memory

1. Turn OFF the main power switch, disconnect power cord from the outlet.
2. Correct the mounting of the USB memory if faulty.
3. Correct the mounting of the USB hub board if faulty.
4. Replace the USB memory.
5. Replace the USB hub board.

5.3 CPU board check

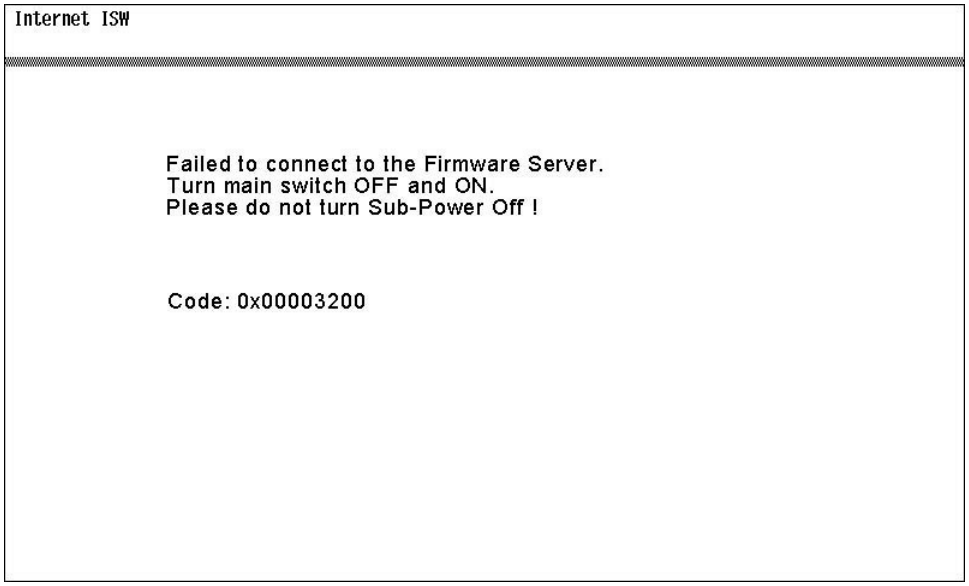
5.3.1 Troubleshooting when NG is displayed for Ping Test

1. Turn OFF the main power switch, disconnect power cord from the outlet.
2. Check, and correct the MFP network settings if faulty.
3. Correct the mounting of the CPU board if faulty.
4. Correct the mounting of the base board or the connection of connectors if faulty.
5. Replace the CPU board.
6. Replace the base board.

6. ERROR CODE FOR THE INTERNET ISW

6.1 Error code list for the Internet ISW

- When a trouble occurred while conducting the Internet ISW and it was not normally connected, the message on the status and the error code will be displayed on the control panel.



NOTE

- **When a code other than the error code list is displayed, contact and inform the error code.**

6.2 0x0#

Error code	Description	Countermeasure
0x00000001	Illegal error on the control	• Check if [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set] is set to “ON”. • Check the status of [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Forwarding Access Setting]. • If the above process does not solve the problem, inform the corresponding error code to the Olivetti.
0x00000010	Parameter error	• Check if [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set] is set to “ON”. • If the above process does not solve the problem, inform the corresponding error code to the Olivetti.
0x00111000	Error concerning the network • Connection has been completed.	• Check the User’s network environment. (LAN cable’s connection) • Check the status of [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Forwarding Access Setting]. • Check to see if the FTP server operates normally.
0x00111001	Error concerning the network • It cannot be connected to the server.	• Check the User’s network environment. • Check to see if the FTP server operates normally. • Check whether the URL of the data transfer server includes http://, ftp://, or the like to specify a protocol in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Forwarding Access Setting].
0x00111100	Error concerning the network • Communication timeout.	
0x00111101	Error concerning the network • Disconnection occurred.	• Check the User’s network environment. • Check to see if the FTP server operates normally.
0x00111110	Error concerning the network • The network is not connected.	
0x00110010	Error concerning the network • Others	
0x00001###	FTP error • Reply code when it failed to be connected.	• Check to see if the FTP server operates normally. • Check the IP address, user’s name, etc.
0x00002###	FTP error • Error reply code for the user command or pass command.	Check to see if the FTP server operates normally.
0x00003###	FTP error • Error reply code for the CWD command.	
0x00004###	FTP error • Error reply code for the TYPE command.	Check to see if the FTP server operates normally.
0x00005###	FTP error	

Error code	Description	Countermeasure
	• Error reply code for the PORT command.	
0x00006###	FTP error • Error reply code for the PASV command.	• Check to see if the FTP server operates normally. • Set the PASV mode to “OFF”, and try it again.
0x00007###	FTP error • Error reply code for the RETR command.	• Check to see if the FTP server operates normally. • Wait for about 30 minutes and try it again.

6.3 0x1#

Error code	Description	Countermeasure
0x10000100	• It cannot be accepted because of the job currently being executed. • ISW being executed by other method.	Wait for the current job to be completed and try it again.
0x10000101	It cannot be accepted because the power key is OFF.	Turn power key ON and try it again.
0x10000102	The Internet ISW is already being executed.	Wait for the current Internet ISW to be completed.
0x10000103	It failed to prohibit the job. (It failed to lock the operation.) -> It failed to lock the job because the operation is already locked with Web Connection, etc.	• Check if [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set] is set to “ON”. • If the above process does not solve the problem, inform the corresponding error code to the Olivetti.
0x10000104	There is no space for firmware data to be downloaded.	
0x10000106	Check sum error	
0x10000107	File access error • The file downloaded has an error. • The header of the file which has been read has an error. • The size of the file to be downloaded is too large. • When it is identified to be the different type of firmware.	Check to see if the downloaded firmware is of the correct type.
0x10000108	The area firmware is stored is destroyed, and another ISW is necessary.	Wait until ISW is automatically executed on MFP side.

6.4 0x2#

Error code	Description	Countermeasure
0x20000000	The temporary error when running the subset • When starting the Internet ISW in a normal program, the rebooting will start and the Internet ISW will be executed with the subset program. During the process by the subset program, it has to be in the “Failed” status unless the Internet ISW is successfully conducted. This code is used temporarily to make it in error status.	Wait until ISW is automatically executed on MFP side.

7. CS REMOTE CARE ERROR CODE

7.1 Troubleshooting for CS Remote Care

If communication is not done properly, check the condition by following the procedures shown below.

1. Shift the screen in the order of [Service Mode] -> [CS Remote] -> [Remote Care].
   At this time, in the cases of initial transmitting / administrator transmitting / maintenance start transmitting / maintenance finish transmitting, the communication result will be displayed at the top of the screen.

NOTE

- **For the communication result, the following message will be displayed based on its success or failure.**

Display of communication result	Cause	How to correct
Communicating	-	-
Communication trouble with the center	Although the machine tries to communicate with the center, there is any trouble and the communication completes unsuccessfully.	See the list of error message and confirm the corresponding point.
Complete successfully	-	-
Modem trouble	Although the machine tries to communicate with the center, there is any trouble in the modem.	• Check if the power of modem in ON. • Check if there is any problem in connection between the modem and the main body.
Busy line	Although the machine tries to communicate with the center, the line to the center is busy.	Communicate with the center again.
No response	Although the machine tries to communicate with the center, there is no response from the center.	• Communicate with the center again. • Check the communication environment of the center side.

7.2 CS Remote Care Operation under Enhanced Security Mode

CS Remote Care can be used even when “ON” is selected in [Administrator] -> [Security] -> [Enhanced Security Mode].
However, to keep the enhanced security level, the following restrictions are accompanied.

- Only SSL communication is available.
- Error occurs if the Center tries to send the following commands.
  - Firmware update command
  - Command of reading and updating account track information
  - Machine settings update command
  - Command of reading and updating Internet ISW setting information

7.3 List of the CS Remote Care error code

7.3.1 When connecting by modem

NOTE

- **When a code other than the ones listed below is displayed, contact OLI and inform the error code.**

Error code	Contents	Solution
0001	The line is busy • Busy detection	Transmit again manually.
0002	Failure of the Modem default setting at transmitting • When the transmission completes with modem initial setting failed	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0003	Timeout of CONNECT at transmitting • No response to ATD	• Transmit again manually. • Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0004	Timeout of response to receiving request • No response to receiving (start) request MSG	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0005	Timeout of CONNECT at receiving • No response to ATA	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0006	Shut down of the data modem line (Host) • Carrier OFF is detected	No solution, because the line is shut down at the host side.
0007	Forced line disconnection of data modem (main body) • The line is forcibly disconnected from the event	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0008	Timeout of start request telegram delivery • Start request telegram is not delivered after line connection	Transmit again manually.
0009	Timeout of finish request telegram delivery • Finish request telegram is not delivered (Start of shut down)	Transmit again manually.
000A	Receiving rejection • Receiving is made when the main body is set to reject receiving.	• Check the setting condition of the host side. • Check the setting condition of the main body side.

Error code	Contents	Solution
000E	Receiving ring buffer full • When receiving ring buffer is full	If the same error is detected several times, turn the modem power OFF and ON.
000F	Transmission ring buffer full • When transmission ring buffer is full	If the same error is detected several times, turn the modem power OFF and ON.
0014	Incorrect transmission data length • When transmission of a data with the length longer than the transmission ring buffer size is requested	If the same error is detected several times, turn the modem power OFF and ON.
0015	Status error (upon modem operation check)	Transmit again manually.
0016	Status error (upon data arrival)	Transmit again manually.
0017	Status error (upon line disconnection)	Transmit again manually.
0019	Center ID error • Center ID of the host is not identical with the one of start request telegram.	• Check center ID setting of the main body side. • Check the setting condition of the host side.
001A	Device ID inconsistency • Device ID of the main body is not identical with the one of start request telegram.	• Check device ID setting of the main body side. • Check the setting condition of the host side.
001B	Device ID unregistered • Request telegram 2 (Constant data transmitting, emergency call) comes from the main body that has not registered device ID yet.	• Check device ID setting of the main body side. • Check the setting condition of the host side.
001C	Grammar error • The specified format is not used in the received reply telegram.	Check the settings for CSRC application.
001D	Impossible to change (Item where change is prohibited) • Host inquires change of the setting of the item not allowed to be changed.	Check the settings for CSRC application.
001E	Impossible to change (during printing) • Setting cannot be changed because the setting change is made during the machine is printing or starts printing.	Try again when the machine is not printing.
001F	Impossible to change (Item where change is prohibited) • Host attempts to write data to the item of which current value has not been read.	Check the settings for CSRC application.
0020	Timeout of telegram delivery • At waiting mode of telegram delivery the machine fails to receive the telegram in a given time.	Try communication again.
0021	Telegram longer than the specified length. • A telegram longer than the specified length is received.	Check the settings for CSRC application.
0022	Transmission phase response NG	Try communication again.
0023	Timeout of transmission phase response MSG	Try communication again.
0024	Incorrect acquisition function of event data	Try communication again.
0025	Timeout of driver transmission check MSG	Try communication again.
0026	An internal inconsistence is detected	Try communication again.
0027	Transmission / receiving collision • Receiving is detecting during transmitting processing	Try communication again.

7.3.2 When connecting by e-mails

NOTE

- **When a code other than the ones listed below is displayed, contact OLI and inform the error code.**

(1) 0###

Error code	Contents	Solution
0###	Transmission error ###: SMTP responding code (hexadecimal) For SMTP responding code, see RFC issued by IETF after converting hexadecimal number into decimal one.	Check the user's SMTP server system settings. • Authentication setting • Authentication ID • Authentication password • Address of the destination where the server is connected

(2) 1###

Error code	Contents	Solution
1030	Machine ID mismatching • Received an e-mail which tells that machine ID mismatches.	• Check the machine ID setting. • Check the machine ID setting on host side.
1050	Grammar error • Received mail did not define the CS Remote Care command (2 digits). • The Type of Subject and the command of attached file are not consistent.	Ask the host to send another mail.

Error code	Contents	Solution
1061	Modifying not allowed • The host sent a command mail that asked modifying data of item where setting change is not allowed.	Ask the host to send another instruction mail for modifying.
1062	Modifying not available due to the copy job currently performing • When informing the host that it cannot be modified due to the copy job currently performing.	Ask the host to send another instruction mail for modifying.
1080	Data length problem • LEN value of TEXT data and actual data length are not consistent.	Ask the host to send another instruction mail for modifying.
1081	Frame No. error • The last frame has not been received. • There are missing frame No.	Check the status of the machine registration on host side, and perform initial transmission as necessary.
1082	Subject Type problem • Received code did not define the Type of Subject.	Ask the host to send another instruction mail for modifying.
1084	Date expired • Expiration date for data modification command has passed.	Ask the host to send another instruction mail for modifying.
1091	Oversized command • Received attached file exceeds the machine's receive buffer size.	Ask the host to send another instruction mail for modifying.
1092	Received an error mail when center setup is not complete	Check the status of the machine registration on host side.
1099	Illegal request • Status not predicted in design is detected.	Check the status of the machine registration on host side, and perform initial transmission as necessary.

(3) 2###

Error code	Contents	Solution
2064	Network is down • LAN cable on main body side is detached.	• Check the connection between main body on the user's side and the network connector. • Check the network environment on the user's side.
206B	Communication from an MFP to the server is disabled due to problems on the server side • LAN cable on the copier side is detached.	• Check the connection between main body on the user's side and the network connector. • Check the network environment on the user's side.
203E	Connection timeout	Check timeout setting.

(4) 3###

Error code	Contents	Solution
3001	POP3_AUTHORIZATION_ERR	Check the user's POP3 server system settings. • Authentication setting • Connection ID • Password • Address of the destination where the server is connected
3002	POP3_TRANSACTION_ERR	
3003	POP3_CONNECT_ERR	
3004	POP3_TIMEOUT_ERR	
3005	POP3_FORMAT_ERR	
3006	POP3_MEMORY_ERR	
3007	POP3_JOBID_ERR	
3008	POP3_NO_DATA_ERR	
3009	POP3_DELETE_FAIL_ERR	
3010	POP3_MAILBOX_FULL	

(5) 4###

Error code	Contents	Solution
4103	During polling from main body, MIO is not active and MFP cannot start communication.	Wait for a while and try transmitting again.
4104	During e-mail transmission from main body to the center, the SMTP channel is not in the "Ready" status and main body cannot send e-mail.	Wait for a while and try transmitting again.
4105	During polling from main body, the POP3 channel is not in the "Ready" status and main body cannot receive e-mail.	Wait for a while and try transmitting again.
4106	During e-mail transmission from main body to the center, MIO is not active and MFP cannot start communication.	Wait for a while and try transmitting again.
41F9	Control error • In the CS Remote Care's internal sequence, message transfer failed.	Turn the main power switch OFF and then ON.
41FA	Control error	Turn the main power switch OFF and then ON.

Error code	Contents	Solution
	• MIO response timed out.	
41FB	Control error • As the file descriptor of the e-mail that MFP receives from MIO is invalid, MFP cannot receive the e-mail.	Turn the main power switch OFF and then ON.
41FC	Control error • During the creation of data to be sent by e-mail, the CS Remote Care's internal status error occurs or the data that need to be sent has not been created.	Turn the main power switch OFF and then ON.
41FD	Control error • During e-mail reception, the parameter sent from MIO to the CS Remote Care is invalid and MFP cannot receive the e-mail.	Turn the main power switch OFF and then ON.
41FE	Control error • After the completion of e-mail transmission, MFP received the transmission completion message from MIO. However, the CS Remote Care's internal status was not the status of transmission completion.	Turn the main power switch OFF and then ON.
41FF	Control error • During e-mail reception, MIO became inactive.	Turn the main power switch OFF and then ON.
4210	Control error • E-mail sent from MIO could not be properly handled in the CS Remote Care.	Turn the main power switch OFF and then ON.

(6) 5###

Error code	Contents	Solution
5###	MIO detects error when sending an attached file.	Check the SMTP server and POP3 server on user side.

(7) 6###

Error code	Contents	Solution
6###	MIO detects error during a sending sequence.	Check the SMTP server and POP3 server on user side.

7.3.3 When connecting by http

NOTE

- **When a code other than the ones listed below is displayed, contact OLI and inform the error code.**

(1) 0###

Error code	Contents	Solution
0###	Transmission error ###: http responding code (hexadecimal) For http responding code, see RFC issued by IETF after converting hexadecimal number into decimal one.	Check the http server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password

(2) 1###

Error code	Contents	Solution
1030	Machine ID mismatching • Received file which tells that machine ID mismatches.	• Check the machine ID setting. • Check the machine ID setting on host side.
1050	Grammar error • Received file did not define the CS Remote Care command (2 digits). • The Type of Subject and the command of file are not consistent.	Check file content.
1061	Modifying not allowed • The host sent a command file that asked modifying data of item where setting change is not allowed.	Ask the host to send another instruction file for modifying.
1062	Modifying not available due to the copy job currently performing • When informing the host that it cannot be modified due to the copy job currently performing.	Ask the host to send another instruction file for modifying.
1080	Data length problem • LEN value of TEXT data and actual data length are not consistent.	Ask the host to send another instruction file for modifying.
1081	Frame No. error • The last frame has not been received. • There are missing frame No.	Check the status of the machine registration on host side.

Error code	Contents	Solution
1082	Subject Type problem • Received code did not define the Type of Subject.	Ask the host to send another instruction file for modifying.
1084	Date expired • Expiration date for data modification command has passed.	Ask the host to send another instruction file for modifying.
1091	Oversized command • Received file exceeds the machine's receive buffer size.	Ask the host to send another instruction file for modifying.
1099	Illegal request • Status not predicted in design is detected.	Contact OLI and inform the error code

(3) 2###

Error code	Contents	Solution
2001	http request result problem • Internal status error	Check the http server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password
2002	http request result problem • File list acquisition result problem	
2003	http request result problem • Request header transmission failure	
2004	http request result problem • Request body transmission failure	
2005	http request result problem • Response header receive response failure	
2006	http request result problem • Response body receive response failure	
2007	http request result problem • Session ID inconsistent	

(4) 3###

Error code	Contents	Solution
3002	http request result problem • Unopened client ID was specified	Check the http server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password
3003	http request result problem • Receive time out occurred	
3004	http request result problem • Receive error occurred. Or wrong request URL was specified.	
3005	http request result problem • Content-Length or receive size exceeded the specified max. transfer size. Message body size was too large.	
3006	http request result problem • Due to reset, process was stopped. Or message body size exceeded the specified max. transfer size.	
3007	http request result problem • Internal error occurred. Or due to internal reset, process was stopped.	
3008	http request result problem • Connection to WebDAV server failed.	
3009	http request result problem • Error occurred during transmission to the WebDAV server.	
3010	http request result problem • Time out occurred during transmission to the WebDAV server.	
3011	http request result problem • Connection to the proxy server failed.	
3012	http request result problem • The proxy server refused CONNECT request.	
3013	http request result problem • The proxy server was set to enabled, but the proxy server host was not set.	
3014	http request result problem • Proxy server authentication failed.	
3015	http request result problem • Other errors were sent from the proxy server.	
3016	http request result problem • Internal error occurred.	
3017	http request result problem • As the device application specified MIO_REQBODY_ERROR, process was stopped.	

(5) 4###

Error code	Contents	Solution
4103	After the main power switch is switched ON, HTTP communication is attempted under the condition where HTTP communication is not ready.	Wait for a while and try transmitting again.
4106	When data is uploaded from main body to the web server, the network connection is not enabled and main body cannot start communication.	Wait for a while and try transmitting again.
41FA	Control error • MIO response timed out.	Turn the main power switch OFF and then ON.

(6) 5###

Error code	Contents	Solution
5###	MIO detects error at file sending.	Check the http server environment.

(7) 6###

Error code	Contents	Solution
6###	MIO detects error during a sending sequence.	Check the http server environment.

(8) 7###

Error code	Contents	Solution
7000	Failure occurs when a certificate for product authentication is acquired from a USB device or Web Connection.	Acquire a new certificate (within 6 days after the issue).

7.3.4 When connecting by Fax modem

Error code	Contents	Solution
T50	Host terminal ID not correct	Check the telephone number set for host.
R80	Serial number received from the host not correct.	Check the status of the machine registration on host side.
R81	Disconnection of writing instruction from host during machine is running.	Wait for a while and try transmitting again.
R82	Disconnection of FAX-CSRC instruction when FAX-CSRC is not allowed.	Check the status of the machine registration on host side.
R83	Host command error.	Contact OLI and inform the error code.
R84	NVRAM writing error.	Contact OLI and inform the error code.

8. CS REMOTE ANALYSIS ERROR CODE

8.1 When connecting by SOAP

NOTE

- **When a code other than the ones listed below is displayed, contact OLI and inform the error code.**

8.1.1 1###

Error code	Contents	Solution
1001	Communication timeout. • Reception time out occurred.	[MFP side] Check the SOAP server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password Check the network environment (whether LAN is disconnected or etc).
		[Server side] Check whether the server has started up or etc.
1002	Command error	Contact OLI and inform the error code

8.1.2 2###

Error code	Contents	Solution
2001	SOAP request result problem • An error occurred.	Check the SOAP server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password
2002	SOAP request result problem • Proxy server authentication failed.	
2003	SOAP request result problem • There isn't support of http version.	
2004	SOAP request result problem • Failed to connect.	
2005	SOAP request result problem • An error occurred while sending.	
2006	SOAP request result problem • Time out occurred while sending.	
2007	SOAP request result problem • An invalid request URL is specified.	
2008	SOAP request result problem • Content-Length or receive size exceeded the specified max. transfer size.	
2009	SOAP request result problem • The size of the message body is too large.	
200A	SOAP request result problem • The proxy server was set to enabled, but the proxy server host was not set.	
200B	SOAP request result problem • The proxy server refused CONNECT request.	
200C	SOAP request result problem • Other errors were sent from the proxy server.	
200D	SOAP request result problem • Connection to the proxy server failed.	
200E	SOAP request result problem • The process is cancelled by an internal reset.	
200F	SOAP request result problem • Other internal error occurred.	
2010	SOAP request result problem • Internal error occurred. (Task start)	
2011	SOAP request result problem • Internal error occurred. (MSG)	
2012	SOAP request result problem • Internal error occurred.	
2013	SOAP request result problem • As the device application specified MIO_REQBODY_ERROR, process was stopped.	

8.1.3 3###

Error code	Contents	Solution
3001 to 3053	SOAP request result problem (MFP side error)	Contact OLI and inform the error code
3054 to 30FE	SOAP request result problem (Server side error)	Contact OLI and inform the error code

8.1.4 4###

Error code	Contents	Solution
4000	Control error	Turn the main power switch OFF and then ON.

8.2 When connecting by http

NOTE

- **When a code other than the ones listed below is displayed, contact OLI and inform the error code.**

8.2.1 0###

Error code	Contents	Solution
0###	Transmission error ###: http responding code (hexadecimal) For http responding code, see RFC issued by IETF after converting hexadecimal number into decimal one.	Check the http server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password

8.2.2 1###

Error code	Contents	Solution
1030	Machine ID mismatching • Received file which tells that machine ID mismatches.	• Check the machine ID setting. • Check the machine ID setting on host side.
1050	Grammar error • Received file did not define the CS Remote Care command (2 digits). • The Type of Subject and the command of file are not consistent.	Check file content.
1061	Modifying not allowed • The host sent a command file that asked modifying data of item where setting change is not allowed.	Ask the host to send another instruction file for modifying.
1062	Modifying not available due to the copy job currently performing • When informing the host that it cannot be modified due to the copy job currently performing.	Ask the host to send another instruction file for modifying.
1080	Data length problem • LEN value of TEXT data and actual data length are not consistent.	Ask the host to send another instruction file for modifying.
1081	Frame No. error • The last frame has not been received. • There are missing frame No.	Check the status of the machine registration on host side.
1082	Subject Type problem • Received code did not define the Type of Subject.	Ask the host to send another instruction file for modifying.
1084	Date expired • Expiration date for data modification command has passed.	Ask the host to send another instruction file for modifying.
1091	Oversized command • Received file exceeds the machine’s receive buffer size.	Ask the host to send another instruction file for modifying.
1099	Illegal request • Status not predicted in design is detected.	Contact OLI and inform the error code

8.2.3 2###

Error code	Contents	Solution
2001	http request result problem • Internal status error	Check the http server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password
2002	http request result problem • File list acquisition result problem	
2003	http request result problem • Request header transmission failure	
2004	http request result problem • Request body transmission failure	
2005	http request result problem • Response header receive response failure	
2006	http request result problem • Response body receive response failure	
2007	http request result problem	

Error code	Contents	Solution
	• Session ID inconsistent	

8.2.4 3###

Error code	Contents	Solution
3002	http request result problem • Unopened client ID was specified	Check the http server system settings. • Authentication setting for address of the destination where the server is connected • Location indicated for a folder • Connection ID • Password
3003	http request result problem • Receive time out occurred	
3004	http request result problem • Receive error occurred. Or wrong request URL was specified.	
3005	http request result problem • Content-Length or receive size exceeded the specified max. transfer size. Message body size was too large.	
3006	http request result problem • Due to reset, process was stopped. Or message body size exceeded the specified max. transfer size.	
3007	http request result problem • Internal error occurred. Or due to internal reset, process was stopped.	
3008	http request result problem • Connection to WebDAV server failed.	
3009	http request result problem • Error occurred during transmission to the WebDAV server.	
3010	http request result problem • Time out occurred during transmission to the WebDAV server.	
3011	http request result problem • Connection to the proxy server failed.	
3012	http request result problem • The proxy server refused CONNECT request.	
3013	http request result problem • The proxy server was set to enabled, but the proxy server host was not set.	
3014	http request result problem • Proxy server authentication failed.	
3015	http request result problem • Other errors were sent from the proxy server.	
3016	http request result problem • Internal error occurred.	
3017	http request result problem • As the device application specified MIO_REQBODY_ERROR, process was stopped.	

8.2.5 4###

Error code	Contents	How to correct
4103	After the main power switch is switched ON, HTTP communication is attempted under the condition where HTTP communication is not ready.	Wait for a while and try transmitting again.
4106	When data is uploaded from main body to the web server, the network connection is not enabled and main body cannot start communication.	Wait for a while and try transmitting again.
41FA	Control error • MIO response timed out.	Turn the main power switch OFF and then ON.

8.2.6 5###

Error code	Contents	Solution
5###	MIO detects error at file sending.	Check the http server environment.

8.2.7 6###

Error code	Contents	Solution
6###	MIO detects error during a sending sequence.	Check the http server environment.

8.2.8 7###

Error code	Contents	Solution
7000	Failure occurs when a certificate for product authentication is acquired from a USB device or Web Connection.	Acquire a new certificate (within 6 days after the issue).

9. FAX ERROR CODE

9.1 The error in the transmission/reception system

- The error in the Txx/Rxx system may be caused under the effect of line noise, etc. even in usual operating condition.
- If the error occurs frequently, output the activity report, fax setting list, protocol trace list, service parameter list, address book list, group list and program list, and acquire detailed information of error status and error conditions from users. After acquiring required information, reports or lists, contact the OLI support desk.

NOTE

- **Extending the timer, the transmission time will get longer, which will affect on the telephone bill to be paid by users. Additionally, for users who use fax frequently, waiting jobs are to be generated.**
- **Timer extension as an action to be taken for line matters must be kept to a minimum. Because there is a risk that defects will occur on other destination users.**

9.2 T0#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T00	Sending (Ph.B)	Unable to detect fax signal (ANSam/CED/DIS) from the remote station by the time of T1 timeout	1. Check if the telephone number of the remote station is used for fax.	-
			2. Turn ON the monitor speaker, and check if the signal from the remote station can be heard.	-
			3. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			4. Extend the DCS retransmission interval. * If no effect is obtained, return the setting.	[Function Parameter]: 000E012D(L1), 000E023D(L2), 000E034D(L3), 000E045D(L4) bit1-0: 00 -> 11
			5. Extend T1 timer. Extend the response waiting time. (only for amount of extended T1 timer) • Increase by +10 seconds. * If no effect is obtained, return the setting.	• [Communication] -> [TIMER1] -> T1 • [Network] -> [Network Setting 2] -> Response Waiting Time
T01	Mixed size transmission (Ph.B')	Unable to detect the DIS (reception ability signal) from the remote station by the time of T1 timeout after it is exchanged to send the different-sized pages (PPS-EOM/MCF exchange)	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Extend T1 timer. Extend the response waiting time. (only for amount of extended T1 timer) • Increase by +10 seconds. * If no effect is obtained, return the setting.	• [Communication] -> [TIMER1] -> T1 • [Network] -> [Network Setting 2] -> Response Waiting Time
			3. If the error occurs on the specific destination, avoid the mixed size transmission. (Due to issues on remote station)	-
T02	Sending (Ph.B)	A DCN is received when the remote station is disconnected first due to T1 timeout and etc.	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Extend the DCS retransmission interval. * If no effect is obtained, return the setting.	[Function Parameter]: 000E012D(L1), 000E023D(L2), 000E034D(L3), 000E045D(L4) bit1-0: 00 -> 11
T03		Protocol error (received unexpected command during DIS waiting)	1. Extend V.21 signals interval. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Function Parameter]: 000E0060 (×1ms)
			2. Extend the DCS retransmission interval. * If no effect is obtained, return the setting.	[Function Parameter]: 000E012D(L1), 000E023D(L2), 000E034D(L3), 000E045D(L4) bit1-0: 00 -> 11
T05		As an analysis result of received DIS signal, the remote station has no reception ability.	1. Place an sufficient interval, and send again. (since the remote station may be unable to receive fax temporarily)	-
			2. It cannot be dissolved by settings, so acquire a log. (since an error may occur on the DIS received from the remote station or altered by exchangers in midway) • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report	-

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T06		A DCN is received when the remote station is disconnected first due to T1 timeout and etc. Example: Training failure Example: CSRC host disconnected first	1. Extend the DCS-TCF delay. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Communication] -> [TIMER1] -> DCS-TCF DELAY
			2. Decrease the transmission beginning speed by two steps.	[Modem/NCU] -> [V17 Send Max Speed] -> TX Max. Speed
			3. Possibility of line defect (Example: FTT occurs frequently on protocol trace list) (One case example) Check all CSRC settings such as device ID, and send again from the initial transmission.)	-
T08		Training failed even at minimum speed (2400 bps)	1. Extend the DCS-TCF delay. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Communication] -> [TIMER1] -> DCS-TCF DELAY
			2. Set the transmission beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> TX Max. Speed
			3. Possibility of line defect (Example: FTT occurs frequently on protocol trace list)	-
T09		Training failed after tried three times Example: The remote station is disconnected first due to T1 timeout and etc.	1. Extend the DCS-TCF delay. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Communication] -> [TIMER1] -> DCS-TCF DELAY
			2. Decrease the transmission beginning speed by two steps.	[Modem/NCU] -> [V17 Send Max Speed] -> TX Max. Speed
			3. Decrease the resolution.	-
			4. Possibility of line defect (Example: FTT occurs frequently on protocol trace list)	-

9.3 T1#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T11	Sending (Ph.D)	Received a DCN instead of the response of post message command (PPS-EOP/MPS/NULL) Example: The remote station is disconnected first since no post message command is detected.	1. Extend the PIX-PMC delay. • Increase by +20 ms. (Example: Assumed that the T.38 Gateway could not analyze signals.) (since the remote station may be disconnected first without receiving anything due to an insufficient post message waiting time) * If no effect is obtained, return the setting.	[Communication] -> [TIMER1] -> PIX-PMC DELAY
			2. Possibility of line defect (Wrong control of signal analysis by exchangers)	-
T12		Protocol error (received unexpected command during waiting response of post message)	Extend the PIX-PMC delay. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Communication] -> [TIMER1] -> PIX-PMC DELAY
T13		Unable to receive response (MCF/PPR) of the post message command (PPS-EOP/MPS/NULL) from the remote station after sending image data Example: The remote station is disconnected first since no image data is detected. Example: The remote station is disconnected first since no post message command is detected.	1. Extend the PIX-PMC delay. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Communication] -> [TIMER1] -> PIX-PMC DELAY
			2. Connect the ground for the MFP or TA.	-
			3. Increase the number of times for resending the post message command.	[Function Parameter]: 000E0127(L1), 000E0237(L2), 000E0347(L3), 000E0457(L4) bit1-0: 00 -> 01
			4. Extend the interval for resending the post message command. * If no effect is obtained, return the setting.	[Function Parameter]: 000E012E(L1), 000E023E(L2), 000E034E(L3), 000E045E(L4) bit1-0 00: 3.0 s 01: 3.5 s 10: 4.0 s 11: 4.5 s
			5. Set the transmission beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> TX Max. Speed
			6. Possibility of line defect (Wrong control of signal analysis by exchangers)	-
T18	Sending (Ph.B)	As an analysis result of received DIS signal, a receive reject notification is received from the remote station. Example: The remote station cannot receive fax temporarily.	1. Place a sufficient time interval, and redial.	-
			2. It cannot be dissolved by settings, so acquire a log. (since an error may occur on the DIS received from the remote station or altered by exchangers in midway) • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report	-

9.4 T2#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T28	Sending (Ph.B)	Timeout of RR/RNR sequence (60 seconds) Example: Since an error occurred during image data processing on the remote station, the MCF (reception check response) cannot be received.	1. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			2. Set the transmission beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> TX Max. Speed
			3. Extend the PIX-PMC delay. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Communication] -> [TIMER1] -> PIX-PMC DELAY
			4. Extend V.21 signals interval. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Function Parameter]: 000E0060 (×1ms)
			5. Possibility of line defect (Wrong control of signal analysis by exchangers)	-

9.5 T3#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T32	Sending (Ph.D)	Unable to send image data even when falling back at the minimum speed Example: Received resending request (PPR) continuously from the remote station	1. Set the transmission beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> TX Max. Speed
			2. Set JBIG of the coding method to OFF.	[Communication] -> [Others] -> Coding Ability
			3. Possibility of line defect (Wrong control of signal analysis by exchangers)	-
T35		Exceeded the maximum frequency of the RR/RNR sequence Example: Since an error occurred during image data processing on the remote station, the MCF (reception check response) cannot be received.	1. Set the transmission beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> TX Max. Speed
			2. Extend V.21 signals interval. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Function Parameter]: 000E0060 (×1ms)
			3. Increase the number of times for resending the post message command.	[Function Parameter]: 000E0127(L1), 000E0237(L2), 000E0347(L3), 000E0457(L4) bit1-0: 00 -> 01
			4. Possibility of line defect (Wrong control of signal analysis by exchangers)	-
T36		A DCN is received when the remote station is disconnected first during RR/RNR sequence continuing. Example: Since an error occurred during image data processing on the remote station	1. Set the transmission beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> TX Max. Speed
			2. Extend V.21 signals interval. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Function Parameter]: 000E0060 (×1ms)
			3. Possibility of line defect (Wrong control of signal analysis by exchangers)	-
T38	F-Code TX	Received unexpected protocol from the remote station during F code polling TX	It cannot be dissolved by settings, so acquire a log. (since an error may occur on the DIS received from the remote station or altered by exchangers in midway) • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report	-

9.6 T4#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T40	Sending	Fax soft error	It cannot be dissolved by settings, so acquire a log. (since an error may occur on the DIS received from the remote station or altered by exchangers in midway) • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	-
T42	Non-ECM sending (Ph.D)	Large amount of error lines in image data on the remote station	1. Check the ECM settings.	[Communication] -> [Others] -> ECM Function
			2. If the ECM function is disabled on the remote station, ask the remote station to enable the ECM function.	-

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
		Example: At time of Non-ECM communication, if the specified amount of error lines is exceeded, PIP/PIN may be received instead of the resending request.	3. Possibility of line defect (Wrong control of signal conversion by exchangers)	-
T43	Sending	Received request for V.21 signal retransmission (CRP) three times continuously Example: The remote station cannot detect retransmission signal.	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Possibility of line defect (example: packet loss, echo, distortion, wrong control of signal conversion by exchanger)	-
T44		Unable to receive image data from the main body	1. Turn OFF and ON the main power switch.	-
			2. Dissolve the high load issues.	-
			3. Acquire a log. • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	-
T48		Mismatched dialed number and the telephone number information (CSI) set on the remote station device when enabling the destination check function. Example: No telephone number (local ID) has been set on the remote station, or the set telephone number is mismatched with the actual fax number.	1. Make the remote station disable the destination check function and receive fax normally, then identify the CSI information from the remote station with the protocol trace list.	-
			2. Ask the remote station to change the telephone number (local ID).	-
			3. Make a study on operation when the destination check setting is disabled.	-

9.7 T5#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T50	CSRC sending	Mismatched host device ID	Reset from the initial transmission.	-
T51	Sending	Fax soft error	1. Turn OFF and ON the main power switch.	-
			2. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			3. If the error reoccurs on the specific remote station, it cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	-
T52		Communication error between fax board and base board	1. Check the connection of the fax board USB cable and the power cord.	-
			2. Turn OFF and ON the main power switch.	-
			3. If the error reoccurs on the specific remote station, it cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	-

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T58	Polling RX	Calling by polling reception, but the remote station does not have polling transmission documents	Ask the remote station to register the polling original.	-

9.8 T6#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T60	Polling TX	Received the polling transmission request (DTC), but no polling transmission original contained in both normal box and bulletin board box	Register the polling transmission original.	-
T61		Received the bulletin board polling transmission request, but there is no transmission original in the bulletin board box	Register the transmission original in the bulletin board box.	-
T62		Received the bulletin board polling transmission request, but the specified bulletin box number is not valid	Inform the remote station of the correct bulletin board number.	-
T68	Polling RX	At polling RX, no selective polling (SEP) function in the remote station	Check the polling RX settings.	-

9.9 T7#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T73	Sending	Fax soft error	1. Dissolve the high load issues.	
			2. Turn OFF V.34 if it is limited to V.34 communication. • For manual input, turn OFF V.34 from Application. • For abbreviated registration, turn OFF V.34 for corresponding abbreviated registration. • If this error occurs frequently, turn OFF V.34 by service.	• - • - • [Communication] -> [Protocol] -> V8/V34 Protocol
			3. Change the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			4. It cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	-
T74		V.34 communication disabled due to line noise	Turn OFF V.34. • For manual input, turn OFF V.34 from Application. • For abbreviated registration, turn OFF V.34 for corresponding abbreviated registration. • If this error occurs frequently, turn OFF V.34 by service.	• - • - • [Communication] -> [Protocol] -> V8/V34 Protocol
T75		V.34 communication disabled due to line noise	Turn OFF V.34. • For manual input, turn OFF V.34 from Application. • For abbreviated registration, turn OFF V.34 for corresponding abbreviated registration. • If this error occurs frequently, turn OFF V.34 by service.	• - • - • [Communication] -> [Protocol] -> V8/V34 Protocol
T76		V.34 communication disabled due to line noise The remote station is disconnected.	1. Turn OFF V.34. • For manual input, turn OFF V.34 from Application. • For abbreviated registration, turn OFF V.34 for corresponding abbreviated registration. • If this error occurs frequently, turn OFF V.34 by service.	• - • - • [Communication] -> [Protocol] -> V8/V34 Protocol

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
			2. Check if an error has occurred on the machine on other end of line first.	-
T77		V.34 communication disabled due to line noise	Turn OFF V.34. • For manual input, turn OFF V.34 from Application. • For abbreviated registration, turn OFF V.34 for corresponding abbreviated registration. • If this error occurs frequently, turn OFF V.34 by service.	• - • - • [Communication] -> [Protocol] -> V8/V34 Protocol
T78		Fax image conversion error	1. Turn OFF and ON the main power switch.	-
			2. Change the resolution.	-
			3. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			4. It cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	-
T79		Fax soft error	1. Change the resolution.	-
			2. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			3. If the error occurs frequently, acquire a log. • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	-

9.10 T8#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T80	Sending (Ph.A)	Telephone line connection error 1. The telephone line is not connected. (Disconnected due to breakage) 2. The telephone line is connected to a digital line. 3. The telephone line is shared with other devices. When it is being used by other devices, the line is detected as disconnection.	1. Check it again for proper connection.	-
			2. Check if the port of the telephone line is exclusively used for analog lines. If it is connected to a digital line, the Dial Tone cannot be heard even when the hand set is in an off-hook state.	-
			3. If it is shared with other devices, set to T81 and redial.	[Function Parameter]: 000E00EE(L1), 000E01FE(L2), 000E030E(L3), 000E041E(L4) bit0: 0 -> 1
T81		At the time of offhook, unable to detect the correct Dial Tone within the specified time • The Dial Tone from the PBX or TA/router is mismatched with the fax destination to be used. • It is too late that the PBX or TA/router sends the Dial Tone.	1. Extend the inter-station timer. (There is a PBX requiring a certain waiting time from the end of the last communication)	[Function Parameter]: 000B0010
			2. If it requires an external transmission, conduct PBX connection settings properly. For intermittent sound, it is most likely in the PBX environment.	-
			3. Extend the Dial Tone waiting time by +2 seconds. There is a PBX from which the Dial Tone is sent too late. For backup, it is desired to record and check.	[Network] -> [Network Settings4/5] -> [Wait Time] PBX DT Wait Time: 000E00AF(L1), 000E01BF(L2), 000E02CF(L3), 000E03DF(L4) ×1s 1st DT Wait Time: 000E00B6(L1), 000E01C6(L2), 000E02D6(L3), 000E03E6(L4) ×1s
			4. Ask the carrier to change the Dial Tone frequency and pattern, or to configure settings in [Network Settings4/5].	[Network] -> [Network Settings4/5] -> [Tone Det. Frequency]
			5. Verify the frequency of Dial Tone. Play each type of sound, search for the close one, then change the detection frequency settings. (The hand set is more useful for check than the MFP monitor speaker.)	-

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
			6. Check the length of the Dial Tone. (For intermittent sound, check of the length regulation with the record is more effective.) (you can also check with the record which is made by the monitor speaker)	-
T82		After dialing, unable to receive fax signal (ANSam/CED) from the remote station	1. Check the destination. (There is a possibility that the remote station is not a fax device.)	-
			2. Extend the response waiting time by +10 ms. * If no effect is obtained, return the setting.	[Network] -> [Network Setting 2] -> Response Waiting Time
			3. Turn ON the monitor speaker, and check if the signal from the remote station can be heard.	-
			4. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
T83		Detected Busy Tone at calling	1. Since the remote station may be on the phone, place a time interval and redial.	-
			2. Check if the input telephone number is correct.	-
			3. Check if the telephone number is valid when being dialed from a telephone.	-
			4. Increase the number of times or the intervals of redial to make a redial soon after the end of busy state.	-
T84		Dial error	1. Input the destination telephone number only continuously to the external button. (Number input error is detected at PBX connection setting.)	-
			2. Turn OFF and ON the main power switch.	-
			3. Replace the fax board.	-
T85		Detected short disconnection (line disconnection) before dialing	Check for any telephone line connection error. A breakage on underfloor wiring may be a possible cause.	-
T86		Dial Tone continued even after dialing	1. Check settings in [Network Settings4/5]. Details can be checked with the record which is made by the monitor speaker or telephone line.	[Network] -> [Network Settings4/5]
			2. Possibility of line defect	-
T89	Sending (control unit)	When the control unit is connected, a capacity shortage occurs during communication (To be determined before start of communication when using a coin vendor)	Check the remaining capacity of the control unit.	-

9.11 T9#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
T90	Sending (line selection)	Data may have been transmitted with no line specified when "No" is selected for TX-Line Auto Switch Setting.	Specify the line to be used to send.	-
T91		Data may have been transmitted with an illegal line specified.	Change the line specification of the abbreviated registration. (Since the abbreviated registration has been imported with an uninstalled line specified, the abbreviated registration must be modified.)	-
T95	Reception	Detected short disconnection (line disconnection) during reception	Check for any telephone line connection error. A breakage on underfloor wiring may be a possible cause.	-

9.12 R0#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R00	Reception (Ph.B)	Unable to detect fax signal (CNG/DCS) from the remote station by the time of T1 timeout	1. Set the Receive Signal Detection Mode to No. of Times.	[Network] -> [Network Setting 1] -> Receive Signal Detection Mode
			2. Set the 1300Hz Detection setting to OFF if possible. (Fax destination: Japan only)	[Network] -> [Network Setting 2] -> 1300Hz Detection
			3. For 1300Hz Detection (JP), connect the ground for the MFP/TA/PBX. (Fax destination: Japan only)	-
			4. Change the setting of 1300Hz detection frequency. (Fax destination: Japan only)	[Function Parameter]: 000E0051 bit1-0: 00 -> 01
			5. Turn ON the monitor speaker, and check if the fax signal from the remote station can be heard. If cannot, it is judged as a wrong number.	-
			6. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			7. Extend T1 timer. Extend the response waiting time. (only for amount of extended T1 timer) • Increase by +10 seconds. * If no effect is obtained, return the setting.	• [Communication] -> [TIMER1] -> T1 • [Network] -> [Network Setting 2] -> Response Waiting Time
			8. Extend the DIS retransmission interval.	[Function Parameter]: 000E0053 -> 4.5 sec (0x2D=00101101)
R01	Mixed size reception (Ph.B')	Unable to detect the DCS (reception ability signal) from the remote station by T1 timeout after received the change instructions (PPS-EOM) of original size or resolution	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Extend T1 timer. Extend the response waiting time. (only for amount of extended T1 timer) • Increase by +10 seconds. * If no effect is obtained, return the setting.	[Communication] -> [TIMER1] -> T1
			3. If the error occurs on the specific destination, ask it to pay attention not to send fax with mixed-size original or incorrect resolution. (Due to issues on remote station)	-
R02	Reception (Ph.B)	A DCN is received when the remote station is disconnected first due to T1 timeout and etc.	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Extend the DIS retransmission interval. * If no effect is obtained, return the setting.	[Function Parameter]: 000E0053 -> 4.5 sec (0x2D=00101101)
R03		Protocol error (received unexpected command during DCS waiting)	1. Extend V.21 signals interval. Increase by +20 ms. * If no effect is obtained, return the setting.	[Function Parameter]: 000E0060 (×1ms)
			2. Extend the DIS retransmission interval to 4.5 seconds. * If no effect is obtained, return the setting.	[Function Parameter]: 000E0053 4.5s=0x2D(00101101)
R04		Unable to identify the analysis result and the communication mode of the received DCS signal	It cannot be dissolved by settings, so acquire a log. (since an error may occur on the DIS received from the remote station or altered by exchangers in midway) • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report	-
R06	Reception (Ph.D)	An image data error in all frames exceeds a predetermined frequency	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Set the reception beginning speed to V.29/V.27ter.	[Modem/NCU] -> [V17 Send Max Speed] -> RX Max. Speed
			3. Possibility of line defect (example: echo, distortion)	-
R07	Reception (Ph.C)	Unable to detect image data	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
		Example: The fax machine is disconnected, or the image data cannot be identified due to a line defect.		• [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Implement test on the CFR return timing with each value. (80ms/100ms/120ms/140ms/160ms/180ms)	[Function Parameter]: 000E005C (×10ms)
			3. Set the reception beginning speed to V.29/V.27ter.	[Modem/NCU] -> [V17 Send Max Speed] -> RX Max. Speed
			4. Connect the ground for the MFP or TA.	-
			5. Possibility of line defect (example: echo, distortion)	-
R08		Signal interrupted while receiving image data Example: The image data terminal cannot be detected and the post message (PPS-EOP/ MPS/NULL) cannot be detected.	1. Check the telephone line.	-
			2. Check the possibility that the job may be deleted from the fax machine.	-
			3. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/ SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			4. Set the reception beginning speed to V.29/V.27ter.	[Modem/NCU] -> [V17 Send Max Speed] -> RX Max. Speed
			5. Possibility of line defect (example: echo, distortion)	-
R09	Reception (Ph.D)	Received the DCN when waiting the post message (PPSEOP/ MPS/NULL) Example: The remote station is disconnected due to exceeded number of times for retransmission (Also occurs after returning the MCF/PPR)	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/ SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Possibility of line defect (example: packet loss, echo, distortion)	-

9.13 R1#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R10	Reception (Ph.D)	Protocol error (received unexpected command during waiting the post message)	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/ SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Extend the PMC-PMR delay. • Increase by +20 ms. * If no effect is obtained, return the setting.	[Communication] -> [TIMER1] -> PIX-PMC DELAY
			3. It cannot be dissolved by settings, so acquire a log. (since an error may occur on the DIS received from the remote station or altered by exchangers in midway) • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report	-
			4. Possibility of line defect	-
R11		Unable to receive the post message (PPS-EOP/MPS/NULL) Example: The remote station is disconnected due to exceeded number of times for retransmission (Also occurs after returning the MCF/PPR)	1. Check if the job is canceled or a communication error occurred on the remote station.	-
			2. Extend the allowable number of times of the post message reception timeout.	[Function Parameter]: 000E0127(L1), 000E0237(L2), 000E0347, 000E0457(L4) bit4: 0 -> 1
			3. Possibility of line defect	-
R12	NonECM reception (Ph.C)	State that unable to receive image data continued for more than 13 seconds Example: The fax machine is disconnected, or the line	1. Enable communication with ECM ON. If ECM has been already set to ON on your machine, request the sending end to do it.	[Communication] -> [Others] -> ECM Function
			2. Set the reception beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> RX Max. Speed

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
		of the fax machine or the remote station is disconnected.		
R18	Reception	Unable to receive fax due to insufficient space in the box	Since either of the following conditions is satisfied, delete the document from each box. • Total number of pages in all boxes • Total number of user boxes • Maximum number of documents in user box • Maximum number of documents in memory RX box • Maximum number of documents in confidential RX box • Maximum number of documents in PC-FAX RX box	-

9.14 R2#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R20	Reception (Ph.A)	The telephone number of the remote station has been registered as a reception rejection address. * Fax destination: Japan only	1. Check the reception rejection address.	-
R21	Reception (Ph.B) Closed network RX	Mismatched password in the closed network RX setting	Check the password.	-
R22		Unable to receive password in the closed network RX setting	Check the settings for the closed network RX.	-
R24	Reception (Ph.D)	Timeout of RR/RNR sequence (120 seconds) Example: The image data conversion or saving does not finish.	1. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			2. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			3. Set the reception beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> RX Max. Speed
			4. Possibility of line defect (example: packet loss, echo, distortion)	-
R25		RR/RNR sequence stopped halfway Example: The machine is disconnected first.	1. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			2. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			3. Set the reception beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> RX Max. Speed
			4. Possibility of line defect (example: packet loss, echo, distortion)	-
R26		Protocol error (received unexpected command for response to RNR)	1. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			2. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			3. Set the reception beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> RX Max. Speed
			4. Possibility of line defect (example: packet loss, echo, distortion)	-
			5. It cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report	-

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R27		A DCN is received when the remote station is disconnected first during RR/RNR sequence continuing. Example: The time of timeout on the fax machine is too short.	1. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			2. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			3. Set the reception beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> RX Max. Speed
			4. Possibility of line defect (example: packet loss, echo, distortion)	-
R28		Incorrect information of PageCnt/BlockCnt specified with the post message command (PPS-EOP/MPS/NULL)	1. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			2. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			3. Set the reception beginning speed to V.29-9600bps.	[Modem/NCU] -> [V17 Send Max Speed] -> RX Max. Speed
			4. Possibility of line defect (example: packet loss, echo, distortion)	-
			5. It cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report	-
R29	Reception (Ph.C)	Timeout due to interruption while receiving image data	1. Increase the timer between frames by +10 seconds. * If no effect is obtained, return the setting.	[Function Parameter]: 000E0016 (×1s)
			2. After the V.17 reception error occurred, configure settings to decrease the constant time capacity on V.29/V.27ter.	[Function Parameter]: 000E0134(L1), 000E0244(L2), 000E0354(L3), 000E0464(L4) bit2: 0 -> 1
			3. Decrease the reception beginning speed to V.29/V.27ter.	[Modem/NCU] -> [V17 Send Max Speed] -> RX Max. Speed
			4. Possibility of line defect (example: packet loss, echo, distortion)	-

9.15 R3#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R33	Polling TX (Ph.B)	DIS is received after switching to Polling TX.	Turn OFF the DTS function.	[Function Parameter]: 000E0052 bit0: 1 -> 0
R34	F code reception (Ph.B)	When performing F-code (confidential/relay) communication, the password information as well as the box number (SUB) are received with PWD but not SID.	Request the machine on sending end to set the password information to SID but not PWD. NOTE) PWD is used for SEP polling.	-
R37	Reception	V.34 communication disabled due to line noise Example: The machine is disconnected first.	1. Turn OFF V.34.	[Communication] -> [Protocol] -> V8/V34 Protocol
			2. Check if an error has occurred on the machine on other end of line first.	-
R38		V.34 communication disabled due to line noise	Turn OFF V.34.	[Communication] -> [Protocol] -> V8/V34 Protocol

9.16 R4#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R40	Reception	Fax soft error	1. Dissolve the high load issues.	-
			2. It cannot be dissolved by settings, so acquire a log. (since an error may occur on the DIS received from the remote station or altered by exchangers in midway)	-

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
			• Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	
R45	NonECM reception (Ph.C)	Timeout due to interruption while receiving image data	1. Check the fax machine for that if a job is canceled or a communication error occurred.	-
			2. Enable communication with ECM. If ECM has been already set to ON on your machine, request the sending end to do it.	[Communication] -> [Others] -> ECM Function
			3. Set 000E000D bit7 to 0 to turn OFF the timer.	-
			4. Possibility of line defect (due to wrong control of signal conversion by exchanger)	-
R49	Reception	DCN is received after CFR has been sent back. Example: The remote station is disconnected due to T1 timeout.	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Possibility of line defect (example: packet loss, echo, distortion)	-

9.17 R5#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R50	NonECM reception	Amount of error lines in image data exceeded specific value when decoding image data (detected from fax board)	1. Enable communication with ECM. If ECM has been already set to ON on your machine, request the sending end to do it.	[Communication] -> [Others] -> ECM Function
			2. Possibility of line defect (example: packet loss, distortion)	-
R51	Reception	Fax soft error	1. Turn OFF and ON the main power switch.	-
			2. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			3. If the error reoccurs on the specific remote station, it cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	-
R52		Communication error between fax board and base board	1. Check the connection of the fax board USB cable and the power cord.	-
			2. Turn OFF and ON the main power switch.	-
			3. If the error reoccurs on the specific remote station, it cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors (including remote station) • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	-

9.18 R6#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R60	NonECM reception	Amount of error lines in image data exceeded specific value (detected from MFP)	1. Enable communication with ECM. If ECM has been already set to ON on your machine, request the sending end to do it.	[Communication] -> [Others] -> ECM Function
			2. Possibility of line defect (example: packet loss, distortion)	-
R63	Reception	Received request for V.21 signal retransmission (CRP) three times continuously Example: The remote station cannot detect retransmission signal.	1. Change the lowest reception sensitivity to -43 dBm. Change the signal transmission level to -15 dBm.	• [Modem/NCU] -> [Level] -> CD/SED ON Level • [Modem/NCU] -> [TxATT] -> PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT
			2. Possibility of line defect (example: packet loss, echo, distortion, wrong control of signal conversion by exchanger)	-

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
			3. Acquire a log. • Protocol trace list for errors • Line information for both fax machine and remote station • Machine management list (CSV save), activity report • Data saved in the storage	-
R67	F code reception (Ph.B)	Although, it has been declared with DIS that there is no SUB reception ability, but a SUB instruction is received.	It cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors • Machine management list (CSV save), activity report	-
R69	Reception	Received an end-of-retransmission (EOR) command from fax machine	1. It cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors • Line information for both fax machine and remote station • Machine management list (CSV save), activity report	-
			2. Possibility of line defect (example: packet loss, echo, distortion)	-

9.19 R7#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R70	Reception (Ph.C)	Error occurred when decoded a JBIG image data	1. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			2. It cannot be dissolved by settings, so acquire a log. • Original (on fax machine if possible) • Protocol trace list for errors • Machine management list (CSV save), activity report	-
R71	NonECM reception (Ph.C)	Amount of edge marks of the image data less that setting value Example: Low account of EOL regarded as RTC	1. Enable communication with ECM. If ECM has been already set to ON on your machine, request the sending end to do it.	[Communication] -> [Others] -> ECM Function
			2. Set the account of EOL regarded as RTC lower.	[Function Parameter]: 000E001B bit2-0: 001 -> 000
R72	Reception	The reception length for a long-sized original exceeded 1000 mm.	1. Ask the fax machine to check that no multiple pages have been read together, and to send it again.	-
			2. Request the fax machine to resend with TTI information while keeping the length within 1000 mm.	-
R73		Fax soft error (modem control)	1. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			2. Turn OFF V.34.	[Communication] -> [Protocol] -> V8/V34 Protocol
R74		Detected HDLC frame error during image data receiving	1. It cannot be dissolved by settings, so acquire a log. • Protocol trace list for errors • Machine management list (CSV save), activity report • Data saved in the storage	-
			2. Possibility of line defect (example: packet loss, echo, distortion)	-
R75		V.34 communication disabled due to line noise	Turn OFF V.34.	[Communication] -> [Protocol] -> V8/V34 Protocol
R76		V.34 communication disabled due to line noise	Turn OFF V.34.	[Communication] -> [Protocol] -> V8/V34 Protocol
R77	Reception (Ph.C)	Fax soft error (image processing)	1. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			2. It cannot be dissolved by settings, so acquire a log. • Original (on fax machine if possible) • Protocol trace list for errors • Machine management list (CSV save), activity report	-
R78		Fax soft error (image processing control)	1. Set the coding method to MH/MR/MMR.	[Communication] -> [Others] -> Coding Ability
			2. It cannot be dissolved by settings, so acquire a log. • Original (on fax machine if possible) • Protocol trace list for errors • Machine management list (CSV save), activity report	-

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R79	Reception	Fax soft error (job control)	It cannot be dissolved by settings, so acquire a log. • Original (on fax machine if possible) • Protocol trace list for errors • Machine management list (CSV save), activity report	-

9.20 R8#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R80	CSRC	Mismatched serial number from the CSRC host	Reset it from the initial transmission.	-
R81		Received an writing instruction from the CSRC host during machine running	Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].	-
R82		Received a FAX-CSRC instruction when FAX-CSRC is not allowed	1. Make line 1 receive the fax.	-
			2. Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].	-
R83		Command error from the CSRC host	Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].	-
R84		NVRAM writing error	Acquire the data saved in the storage from [Service Mode] -> [Debug Settings] -> [Debug Log Output].	-

9.21 R9#

Error code	Category	Contents of error	How to correct	Installation position (Service Mode -> [FAX] -> [Line #])
R93	Reception	Mismatched password for confidential reception box	Inform the fax machine of the correct password, and ask it to rend again.	-
R94		Mismatched relay box password Or, no relay destination found	1. Check the relay destinations (group) in the relay box, and ask the fax machine to send again.	-
			2. Inform the fax machine of the correct password, and ask it to send again.	-
R96		No box specified by SUB for confidential RX, relay RX or PC-FAX RX Or, the relay RX function disabled	1. Check if the box for confidential RX, relay RX or PC-FAX RX has been created.	-
			2. Check if the relay function is disabled. Utility -> [Administrator] -> [Fax Settings] -> [Function Setting] -> [Function ON/OFF Setting] -> Relay RX	-
			3. Contact the fax machine, and ask it to send again with the correct box number.	-
R97		Received an PC-FAX RX indication, but the password mismatched	1. Check the communication password for PC-FAX RX settings.	-
			2. Inform the fax machine of the correct password, and ask it to send again.	-
R99	Others	The machine has issued a reception instruction command before a reception notification is sent from the fax board to the machine.	1. Set the Receive Signal Detection Mode to No. of Times.	[Network] -> [Network Setting 1] -> [Receive Signal Detection Mode]
			2. Distribute and reduce other options of the MFP.	-

9.22 Other

Error code	Category	Contents of error	How to correct
-	Others	When the main body recovers from the sleep mode while receiving a fax, the ring tone is generated more than the set number of times. (2 to 3 times)	This error is avoidable with any one of the following settings. • Set [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Settings] -> [Power Consumption in Sleep Mode] to “Disabled”. • Set [Administrator] -> [Fax Settings] -> [Line Parameter Setting] -> [Number of RX Call Rings] to “0 x”.

10. DIAGNOSTIC CODES

10.1 Outline

- The diagnostic code is a 22-digit hexadecimal code indicating a communication conditions and status.
- The diagnostic code is printed on the activity report.
- The purpose of the diagnostic code is to obtain detailed information of communication results and conditions so as to analyze communication troubles.

NOTE

- **It will be displayed when [Service Mode] -> [FAX] -> [List Output] -> [Report Addition Information] select that Diagnosis Code.**

10.2 Explanation

10.2.1 The diagnostic code

XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)

10.2.2 Information of communication results and conditions

Items	Description							
	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
(1) Types of call out / called	F network (Japan)	PSTN	Dial-in (Japan)	Telephone	Group	One-touch dialing	Abbreviated dialing	Key pad dialing
(2) Communication mode	Sending	Error page resending	Forwarding transmission	Polled transmission	Receiving	Recovery transmission	Called turnaround	Polling RX
(3) Applied function specification	Mixed size transmission All pages/ cover	Frame erasure transmission	Book mode transmission	2in1 transmission	Original size appointing TX	Upside down	Special scanning non standard/ Zfold/Long	(Not used)
(4) One-time communication parameter specification	Timer TX	(Not used)	CSRC	PC-Fax transmission (RX/V2)	V.34 appoint transmission	F-code transmission	ECM specification TX	International mode transmission
(5) Communication type	Relay	Confidential	Manual transmission	Bulletin	Line used (line 1 to 4)			
(6) H_RES specification 1 (HR)	400 dpi	300 dpi	200 dpi	(Not used)	16 pels/mm	(Not used)	8 pels/mm	(Not used)
(7) H_RES specification 2 (HR)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	600 dpi
(8) V_RES specification 1	400 dpi	300 dpi	200 dpi	100 dpi	15.4 l/mm	(Not used)	7.7 l/mm	3.85 l/mm
(9) V_RES specification 2	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	600 dpi
(10) Coding specification	(Not used)	(Not used)	(JPEG)	(JBIG)	MMR	MR	MH	THRU
(11) Original length specification	(Not used)	(Not used)	(Legal)	(Letter)	A3	B4	A4	(Not used)
(12) Original length specification	(Not used)	No limits	(Legal)	(Letter)	(Not used)	B4	A4	(Not used)
(13) Speed specification 0	(Not used)	(Not used)	(Not used)	V.29-96	V.29-72	(Not used)	V.27-48	V.27-24
(14) Speed specification 1	V.17-144	V.17-120	V.17-96	V.17-72	(V.33-144)	(V.33-120)	(V.33-96)	(V.33-72)
(15) Speed specification 2	V.34-192	V.34-168	V.34-144	V.34-120	V.34-96	V.34-72	V.34-48	V.34-24
(16) Speed specification 3	(Not used)	(Not used)	V.34-336	V.34-312	V.34-288	V.34-264	V.34-240	V.34-216
(17) MSLT specification	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	MSLT of resolution shown as vertical RES		
(18) Communication parameter specification	ECM frame size 0: 256 / 1: 64	ECM	DIAG (CSRC)	(BFT)	(BTM)	PWD	SEP	SUB
(19) Remote station coding specification	(Not used)	(Not used)	(JPEG)	(JBIG)	MMR	MR	MH	THRU
(20) Remote station length specification	(Not used)	(Not used)	(Legal)	(Letter)	A3	B4	A4	(Not used)
(21) Remote station length specification	(Not used)	No limits	(Legal)	(Letter)	(Not used)	B4	A4	(Not used)

Items	Description							
	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
(22) Remote station communication	(Not used)	ECM	DIAG (CSRC)	(BFT)	(BTM)	PWD	SEP	SUB

- (Not used): bit is set to 0.

11. NETWORK FAX ERROR CODE

11.1 Error code list of the transmission system

Error code	Category	Contents of error	Redial	Corrective action
N10	Connection error	Server connection error	No	• Check the condition of the other party machine. • Check the network setting of local machine. • Ask the network administrator if the network is operating normally.
N11	Connection error	Connection declined by the other party machine	No	Reception is declined. Check the condition of the other party machine.
N12	Connection error	Disconnection of the line	Yes	Check to see if there occurs any abnormal condition with the network, such as the disconnection of a cable.
N13	Connection error	No response received from the network	No	• Check the condition of the other party machine. • Check the network setting of local machine. • Ask the network administrator if the network is operating normally.
N14	Connection error	Mail delivery error	No	Check the condition of the other party machine. Send it again after waiting for a while.
N15	Remote reset	Connection reset by the other party machine	Yes	Check the condition of the other party machine. Send it again after waiting for a while.
N16	Remote busy	Remote machine is busy	Yes	Check the condition of the other party machine. Send it again after waiting for a while.
N17	LAN access	Communication time out	Yes	Check the condition of the other party machine. Send it again after waiting for a while.
N18	Network error	Network error	No	• Check the each settings. • Check to see if there occurs any abnormal condition with the network, such as the disconnection of a cable. • After turning off and on the main power switch, send it again.
N20	Memory error	Memory overflow	No	• The memory is full. • Check to see if there is any other job being handled. • With the number of transmission sheets reduced or the resolution for read reduced, send it again.
N21	Storage error	Storage error	No	• Storage is full. • Delete unnecessary files. • With the number of transmission sheets reduced or the resolution for read reduced, send it again.
N22	Conversion error	Conversion error	No	After turning off and on the main power switch, send it again.
N25	Memory overflow	Memory overflow	No	• The memory is full. • Check to see if there is any other job being handled. • With the number of transmission sheets reduced or the resolution for read reduced, send it again.
N35	Forward TX	A request for transmission has been received with the NetFAX with the Function Settings OFF. (A request for transfer of the IP address FAX while the IP Address FAX function is being OFF in the service mode.)	No	-
N36		A request has been received for transmission of images that cannot be sent.	No	-

11.2 Error code list of the reception system

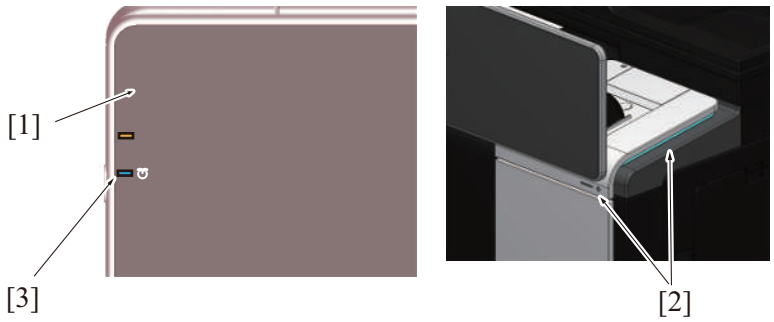
Error code	Category	Contents of error	Corrective action
N50	SMTP reception	SMTP reception error	When the SMTP reception does not start in 60 minutes after connection for an incoming call, this error may be resulted. Ask the sender to send it again.
N51	Decode	In excess of the length specified for reception	Ask the sender to send it again after the length of the text being reduced.
N52	Decode	In excess of the number of pages specified for reception	Ask the sender to send it again after the number of text sheets being reduced.

Error code	Category	Contents of error	Corrective action
N53	Decode	File error	Ask the sender to send it again in a correct file format as shown below. • Internet Fax: TIFF • IP Address Fax: PDF or TIFF
N54	Decode	Decode error	The data has been received in an incorrect format. Ask the sender to send it again in a correct format.

12. PANEL BLACKOUT TROUBLE (BOOT DIAGNOSIS FUNCTION)

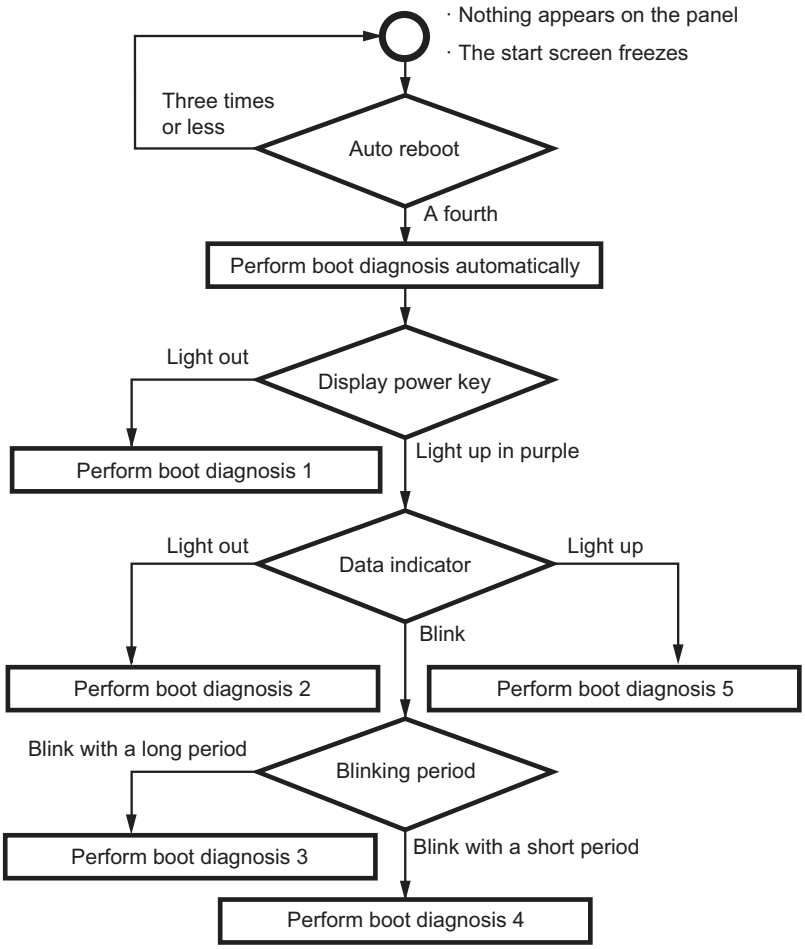
12.1 Boot diagnosis function

- The boot diagnosis is performed when the start screen on the touch panel of the machine freezes or blacks out for some faulty condition.
- The boot diagnosis can be performed automatically to identify a cause of a problem when the machine fails to start properly. (The boot diagnosis can also be performed manually.)
- The result of the boot diagnosis is determined on the basis of the light conditions of "data indicator" and "power key".



[1]	Touch panel	[2]	Data indicator
[3]	Power key	-	-

Boot diagnosis flowchart



12.1.1 Boot diagnosis sequence

1. A fault is detected when the machine is started. (Start screen freezes or blacks out)
2. Auto reboot is performed. (a maximum of three times)
3. The boot diagnosis is performed automatically.
4. After the boot diagnosis is completed, the machine stops in any of the state described in the Boot diagnosis result list.

12.1.2 Manual boot diagnosis procedure

1. Turn OFF the main power switch under the condition in which the start screen freezes or blacks out during the startup sequence.
2. Turn the main power switch on while pressing the power key.
3. After a short beep sound is made once, release the power key and close the front lower door or the front door.
4. The combination of "power key" and "data indicator" displays the result of the boot diagnosis.
5. Check the display combination and turn OFF the main power switch.
6. Perform the procedure according to the result of the boot diagnosis.

12.1.3 Boot diagnosis result list

No.	Power key	Data indicator	Target device	Reason of error	Corrective action procedure
1	Light out	Light out	Control panel unit	• Control panel unit engagement /mounting failure • Control panel unit failure	1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch. 2. Check the control panel unit for proper installation. Correct the mounting of control panel unit if faulty. 3. Reinstall the control panel unit. 4. Replace the cable for the control panel unit. 5. Replace the control panel unit.
2	Light up in purple	Light out	Unable to determine	• Cable breakage • Firmware abnormality	1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch. 2. Check the base board for proper installation. Correct the mounting of control panel unit if faulty. 3. Check the CPU board for proper installation. Correct the mounting of control panel unit if faulty. 4. Replace the cable for the base board. 5. Replace the CPU board. 6. Replace the base board.
3	Light up in purple	Blink (long period)	Memory	On-board memory failure	1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch. 2. Replace the CPU board. 3. Replace the base board.
4	Light up in purple	Blink (short period)	Storage board	• Storage engagement /mounting failure • Storage failure	1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch. 2. Reinstall the storage board. 3. Replace the storage board. 4. Replace the CPU board. 5. Replace the base board.
5	Light up in purple	Light up	Software	Software trouble	1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch. 2. Reinstall the firmware. 3. Reinstall the storage board. 4. Replace the storage board. After that, reinstall the firmware. 5. Replace the CPU board. 6. Replace the base board.

NOTE

- **Perform the troubleshooting in the sequence from step 1 of "Corrective action procedure" against each item while checking that if each trouble has been resolved. Do not perform the troubleshooting against all troubles at once.**

12.1.4 How to reset the boot diagnosis result

1. Turn OFF the main power switch. Wait for 10 sec. or more, and turn ON the main power switch.
   Reboot the machine.
   NOTE
   - **The freeze state is reproduced if the cause of the fault has not been eliminated.**

13. TROUBLES THAT DO NOT DISPLAY THE TROUBLE CODE

13.1 Machine is not energized at all (DCPS operation check)

Contents

Trouble type	Machine is not energized at all
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• Base board (BASEB) • DC power supply (DCPS)

Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is a power voltage supplied across CN1-1 and 2 on DCPS?	7-V	NO	Check the wiring from power outlet to DCPS CN1.
2	Are the fuses on DCPS conducting?	-	NO	Replace DCPS.
3	Is DC5 V being output to CN5-1, 2 on DCPS?	7-S	NO	Replace DCPS.
4	Is DC24 V being output to CN4-3 on DCPS?	9-S	NO	• Check the wiring from the wall BASEB to DCPS. • Replace DCPS. • Replace BASEB.
5	The LED on BASEB is blinking?	-	NO	Replace BASEB.
6	Is DC24 V being output to CN4-6 on DCPS?	9-S	NO	Replace DCPS.

13.2 Fusing heaters do not operate

Contents

Trouble type	Fusing heaters do not operate
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• Right door switch (SW5) • DC power supply (DCPS) • Base board (BASEB) • Fusing unit

Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is a power voltage supplied across CN1-1 and 2 on DCPS? During this time, the right door should be closed.	7-V	NO	Check the wiring from power outlet to DCPS to SW5.
2	Is the power source voltage applied across DCPS CN6?	8-T	YES	Replace the fusing unit.
			NO	• Check the wiring from DCPS CN6 to BASEB CN1E. • Replace DCPS. • Replace BASEB.

13.3 Power is not supplied to DF

Contents

Trouble type	DF is not energized at all
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• DC power supply (DCPS) • DF

Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is DC24 V being output to CN8-4, 5 on DFCB?	23-S	YES	Malfunction in DF.

Step	Check item	Location of electrical component	Result	Action
2	Is DC24 V being output to CN4-3 on DCPS?	9-S	NO	Check the wiring from the wall DCPS to DF.
3	Are the fuses on DCPS conducting?	-	YES	Replace DCPS.
			NO	Malfunction in DF.

13.4 Power is not supplied to option

13.4.1 PF-P20/PF-P27

Contents

Trouble type	Power is not supplied to PF-P20/PF-P27
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• DC power supply (DCPS) • PF-P20/PF-P27

Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is DC24 V being output to CN1-3, 4 on PCCB?	18-S	NO	Malfunction in paper feed unit.
2	Is DC24 V being output to CN4-5 on DCPS?	9-S	NO	Check the wiring from the wall DCPS to BASEB to PCCB.
3	Are the fuses on DCPS conducting?	-	YES	Replace DCPS.
			NO	Malfunction in paper feed unit.

14. OTHER TROUBLE

14.1 Firmware error warning

- Warning message: A firmware error occurred.
- While the enhanced security mode is enabled, if MFP is restarted by turning the main power switch OFF and ON or other operations, self-testing is performed internally. If the self-testing detects firmware error, this warning appears.

Action

1. Set Enhanced Security Mode to “OFF” in Administrator Settings and touch “OK.”
2. Turn OFF and ON the main power switch.
3. Check that the warning screen is not displayed.
4. Rewrite the firmware.
5. Set the Enhanced Security Mode.

14.2 Storage lock password error warning

Detection timing

- Warning message: Reset Storage Lock Password.
- There is a mismatch between the password registered in the storage and that registered in the main body.
- Wrong machine type information is input.

Action

< Checking the machine type information >

NOTE

- **Perform the following steps, if this malfunction occurs when the CPU board is replaced with a new one.**
- **Prepare a USB flash drive in which firmware data is recorded.**

1. Call the firmware update selection screen to the display.
   NOTICE
   - K.2 USB memory
2. Touch [Machine Type Select].
3. Check the setting values of [Machine] and [Type] and enter the correct setting values. For details, see “ F.4.3.3 CPU board (CPUB)”.

< Re-registering the correct Storage Lock Password >

1. Touch Menu.
2. Touch [Utility].
3. Touch [Storage Management].
4. Enter the administrator password and touch [OK].
5. Touch [Storage Lock Password].
6. Enter the currently set Storage Lock Password twice.
7. Touch [END].
8. When the screen that indicates the completion of setting of the Storage Lock Password appears, turn OFF and ON the main power switch.

< Performing Storage Physical Format >

1. Call the Service Mode to the screen.
2. Touch these keys in this order: [State Confirmation] -> [Memory/Storage Adjustment] -> [Format].
3. Touch [Physical Format].
4. Touch [Start].
5. When Physical Format is completed, turn OFF and ON the main power switch.

14.3 Progress bar stops halfway when the main power switch is turned on

- Communication error occurs on the storage board and the CPU board, and the progress bar stops at 25%.

Action

1. Rewrite the firmware.
2. Update Boot Program.
3. Replace the storage board.
4. Replace the CPU board.

14.4 Trouble of time shift

- The date/time of panel/report/fax/CSRC etc. shifts due to the coin battery depletion.

Action

1. Set the time correctly in Time Zone/Date Setting.
   I.3 Time Zone/Date & Time Input mode
2. Set the time correctly in CSRC date setting.
   Set the time correctly on the [Date/Time Setting] screen in [Service Mode] -> [CS Remove] -> [Remote Care] -> [Maintenance/Default Settings] -> [Detail Setting].
3. Turn OFF the main power switch, unplug the power cord, and wait one minute.
4. Plug the power cord and turn ON the main power switch.
5. Check if the time is correct.

<Incorrect time>

In the case that the base board of the coin battery is replaceable

NOTE

- **When replacing the coin battery, be sure to use our specified coin battery (CR2032) (authorized with UL1642).**

1. Remove the coin battery and measure the voltage with a tester.
   F.4.7.5 Coin battery
2. If the value is 2.5V or less, replace with a new coin battery.
3. Take actions again, then check if the time is correct.

In the case that the base board of the coin battery is not replaceable

1. Measure the voltage of the coin battery with a tester.
2. If the value is 2.5V or less, replace the base board.
3. Take actions again, then check if the time is correct.

14.5 Problem that MFP does not Start

- When problems occur that MFP does not start, such as the indicator stays at 25%, reboots after display of 50%, screen is black, use the recovery tool to diagnose the CPU board, storage board, etc., and identify the parts that need to be recovered or replaced.

Action

1. Prepare the data corruption check/recovery tool.
2. Use the data corruption check/recovery tool to make diagnosis.
3. Take actions according to the diagnosis result.

15. TROUBLESHOOTING OF i-Option

15.1 Structure of license management

- The functions available with i-Option can be activated by entering “License code” to the main body.
- License code is issued and controlled by License Management System (LMS).
  To prevent unauthorized use of the license code, each main body is identified individually so that the license code cannot be activated unless it matches with the authorized the main body.

15.2 License management information

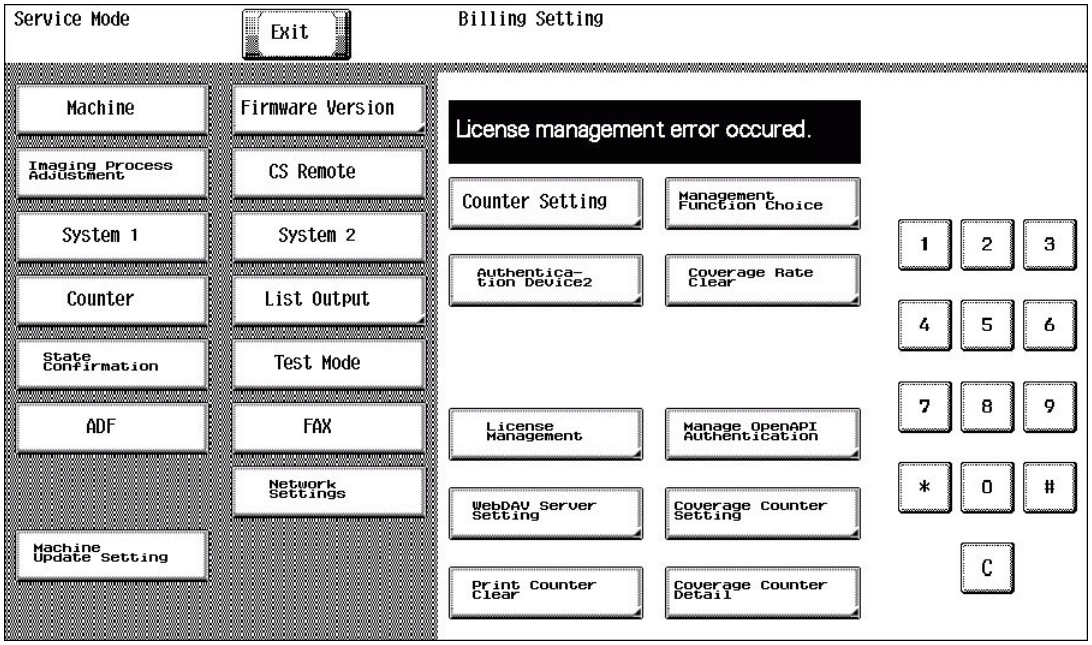
- Since license code needs to identify each main body, it is issued using the serial number of main body and “unique value” that is generated inside the main body.
- The “unique value” is stored to the memory region on the CPU board and at the same time some parts of it are memorized by storage board. The activated function cannot be used unless the both figures conform.
  Since these figures are out of target of [Memory Data Backup], when any trouble occurs at either nonvolatile memory, “License Management Error” is generated due to discordance of the figures.

15.3 Error message

15.3.1 License management error

- When abnormal value is detected in the license management information that is stored to the CPU board or storage board, or some values are detected cleared, warning is issued to let the user know the abnormality.
- The abnormality is detected at the timing of start-up or restart due to any condition.
- When the abnormality is detected, the corresponding i-Option function cannot be used, other ordinal functions, however, such as copy, scanning, print or etc, can be used without interruption. (Error message is displayed on the Service Mode screen.)

(1) Example of error message



(2) Main reasons of trouble

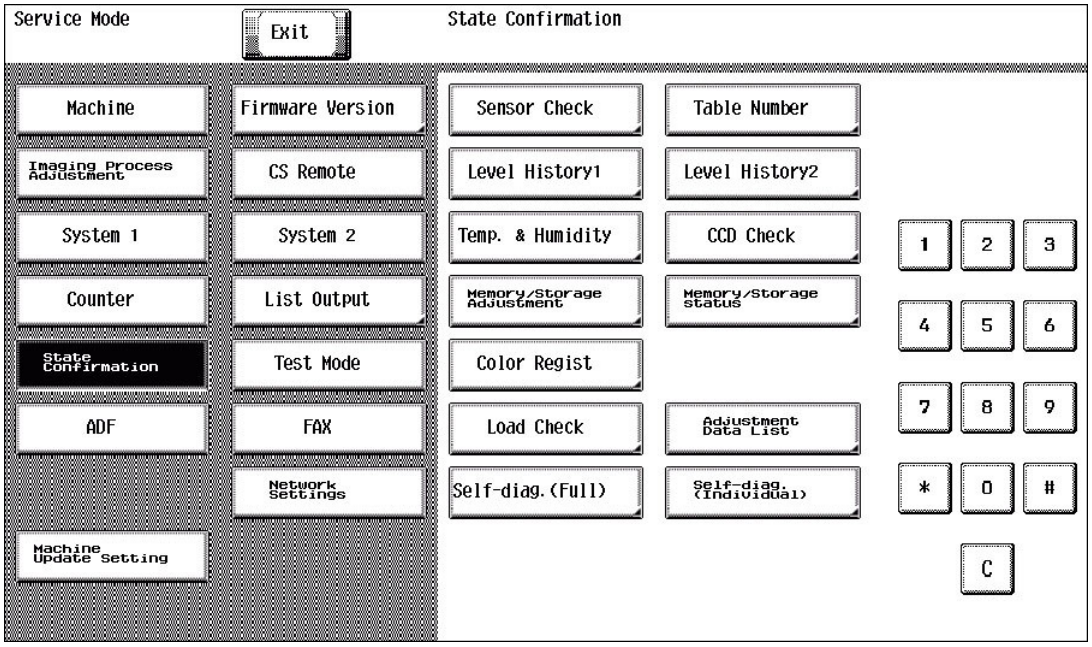
- The following shows the possible trouble factors and their countermeasure.

Board replacement	Action
When CPU board and storage board are replaced with the new ones at the same time.	Install firmware, follow the setup procedure.
When mounting the CPU board of the machine whose function(s) have already been activated and a new storage board.	Install firmware, then restore the data using restore procedure.

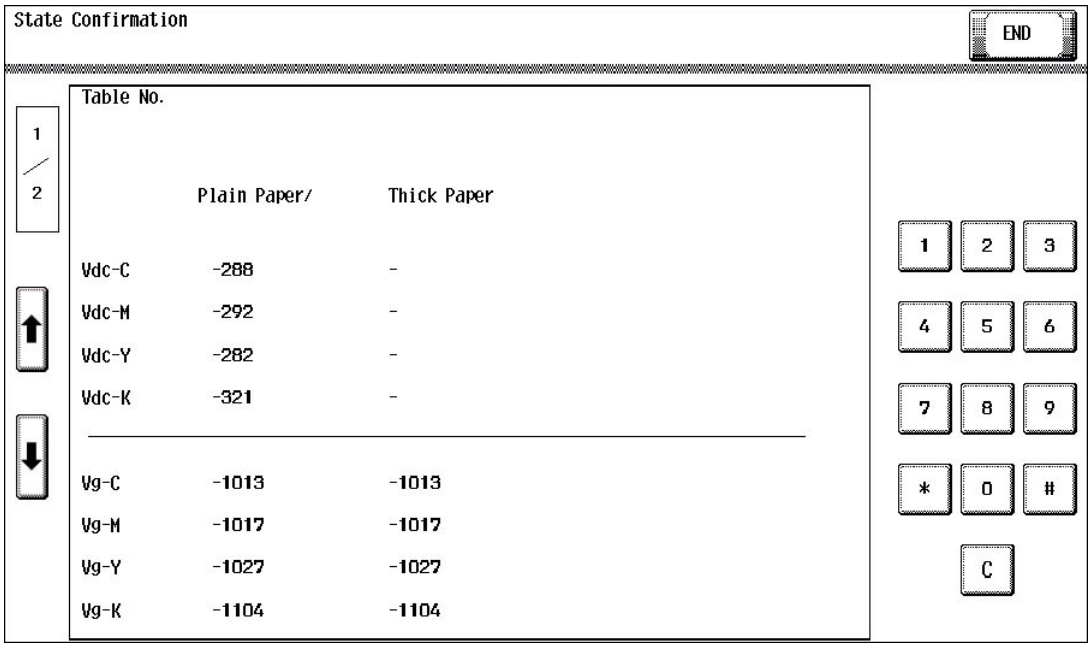
16. IMAGE QUALITY PROBLEM

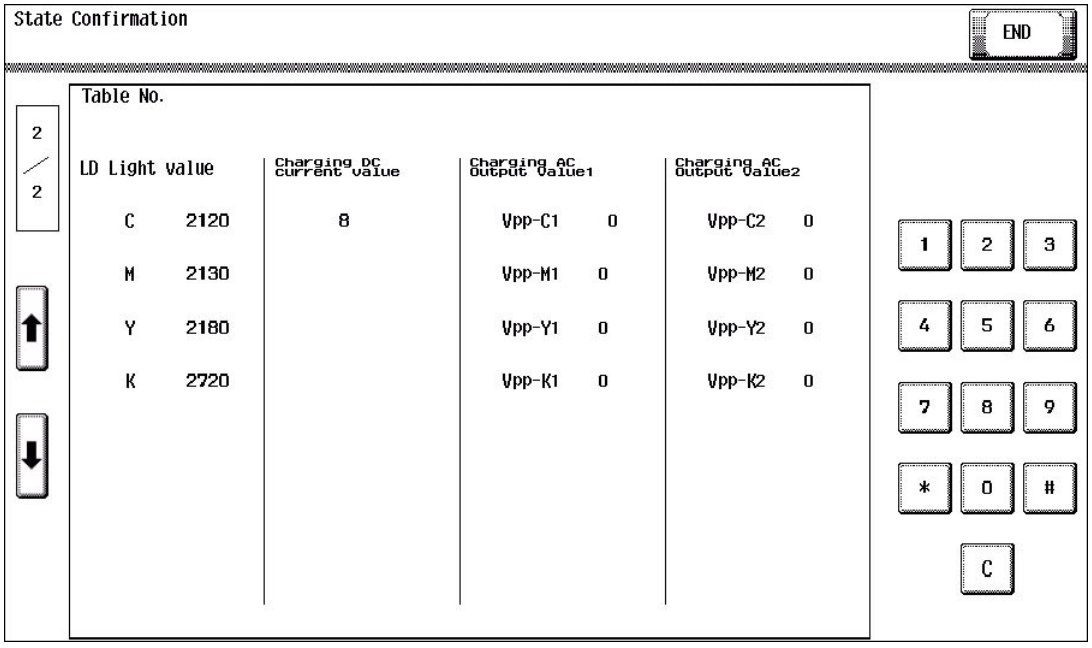
16.1 How to read element data

- As part of troubleshooting procedures, the numeric values set for “State Confirmation” available from “Service Mode” can be used to isolate the cause of the image problem.



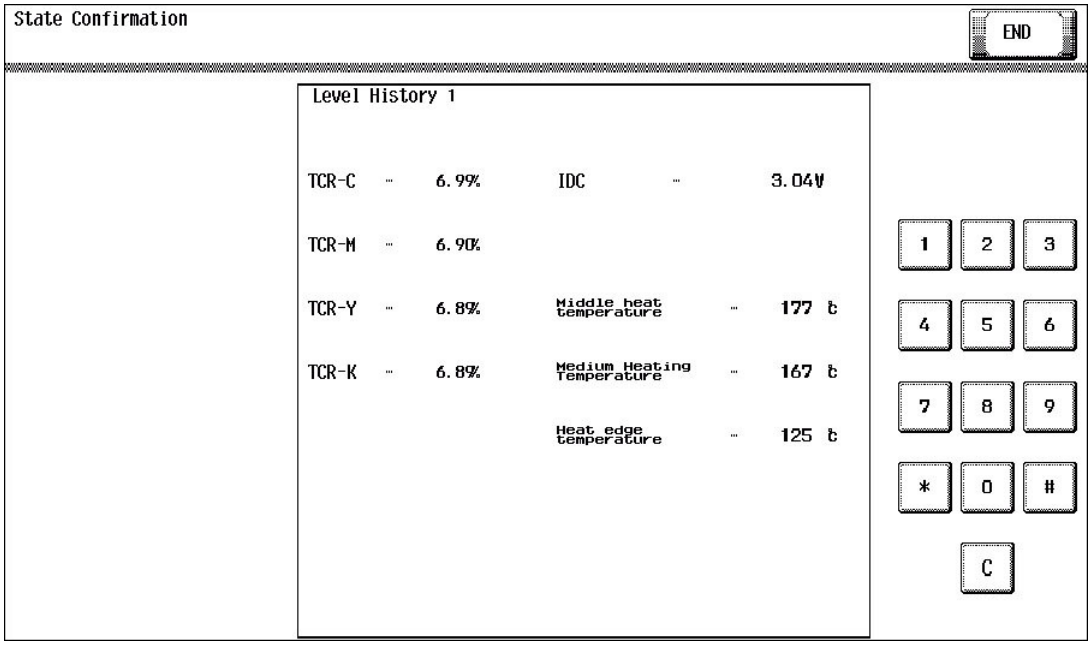
16.1.1 Table Number





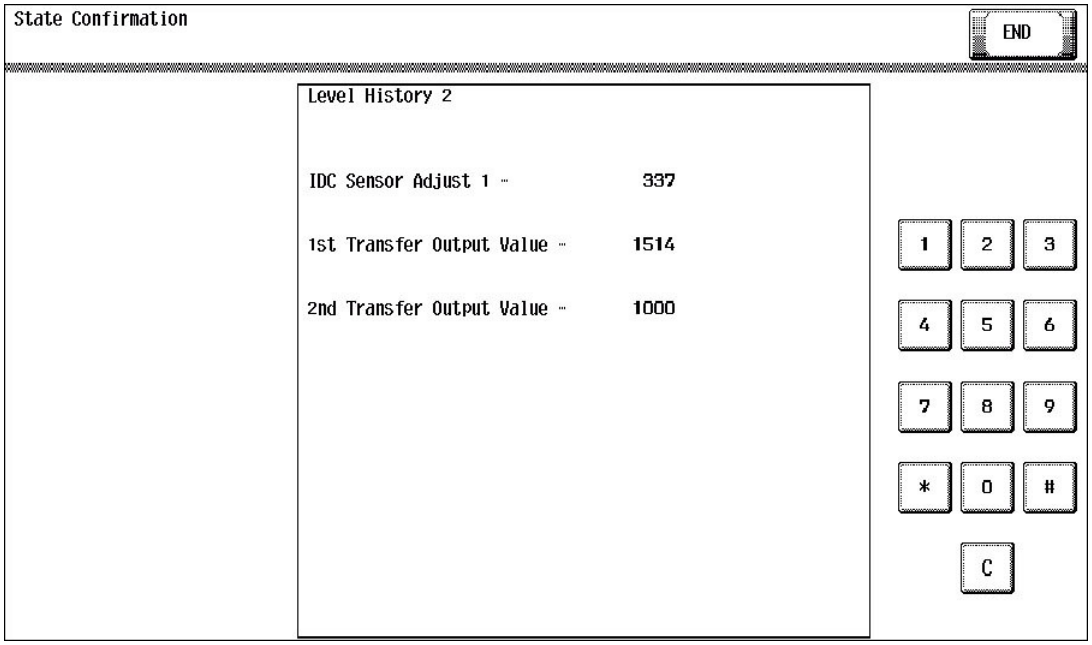
Vdc-C Vdc-M Vdc-Y Vdc-K	• Shows the developing bias value of each color of toner during print image formation. • Standard values: around -800 to 0 • The specific numeric values vary with different imaging units. (The values incorporate corrections to match the proper density after image stabilization.) * As a guide, the image density tends to be higher with large numeric values and lower with small numeric values. • Relevant components: Imaging unit, high voltage unit (HVPS)
Vg-C Vg-M Vg-Y Vg-K	• Shows the grid voltage value of each color of toner during print image formation. • Standard values: around -1600 to 0 • The specific numeric values vary with different imaging units. (The values incorporate corrections to match the proper density after image stabilization.) * As a guide, the image density tends to be higher with large numeric values and lower with small numeric values. • Relevant components: Imaging unit, high voltage unit (HVPS)
LD Light Value (C, M, Y, K)	• Shows the LD light value of each color of toner during print image formation. • Standard values: around 1750 to 3500 * For your information, photoconductor durability tends to be aggravated and fine line width tends to be broader at higher values and characters tend to be faint at lower values. • Relevant components: PH unit, imaging unit
Charging DC current valve	• Shows the DC current value applied to the charging roller of each color of toner during print image formation. • Standard values: around 0 to 150 • Relevant components: Imaging unit, high voltage unit (HVPS)
Charging AC Output Value 1 Vpp-C1 Vpp-M1 Vpp-Y1 Vpp-K1	• Shows the AC voltage value applied to the charging roller of each color of toner during print image formation. • Standard values: 0 (fixed) • Relevant components: Imaging unit, high voltage unit (HVPS)
Charging AC Output Value 2 Vpp-C2 Vpp-M2 Vpp-Y2 Vpp-K2	• Shows the current value applied to the charging roller of each color of toner during print image formation. • Standard values: 0 (fixed) • Relevant components: Imaging unit, high voltage unit (HVPS)

16.1.2 Level History 1



TCR-C TCR-M TCR-Y TCR-K	• Shows the T/C ratio. (in 0.01 % increments) • Standard value: 5 to 8 % • For your information, foggy background tends to occur at higher values and low image densities tend to occur at lower values. • Relevant components: TCR sensor
IDC	• Shows the IDC bare surface output value. (in 0.01 V increments) • It should normally be around 3.0 V. • The output range is 0 V to 3.4 V. • Relevant components: IDC sensor, transfer belt unit
Middle heat temperature Medium Heating Temperature Heat edge temperature	• Shows the temperature of the fusing unit. (in 1 °C increments) • Relevant components: Fusing unit

16.1.3 Level History 2



IDC Sensor Adjust 1	• Shows the IDC intensity adjustment value. • The proper range is 100 to 500. • The value becomes greater as the transfer belt unit has been used more. • Relevant components: IDC sensor, transfer belt unit
1st Transfer Output Value	• Shows the latest 1st transfer output value. • The proper range is 800 to 2600. • Relevant components: Transfer belt unit, High voltage unit (HVPS)
2nd Transfer Output Value	• Shows the latest 2nd transfer output value.

	• The proper range is 330 to 4500. • Relevant components: Transfer belt unit, High voltage unit (HVPS), 2nd transfer roller

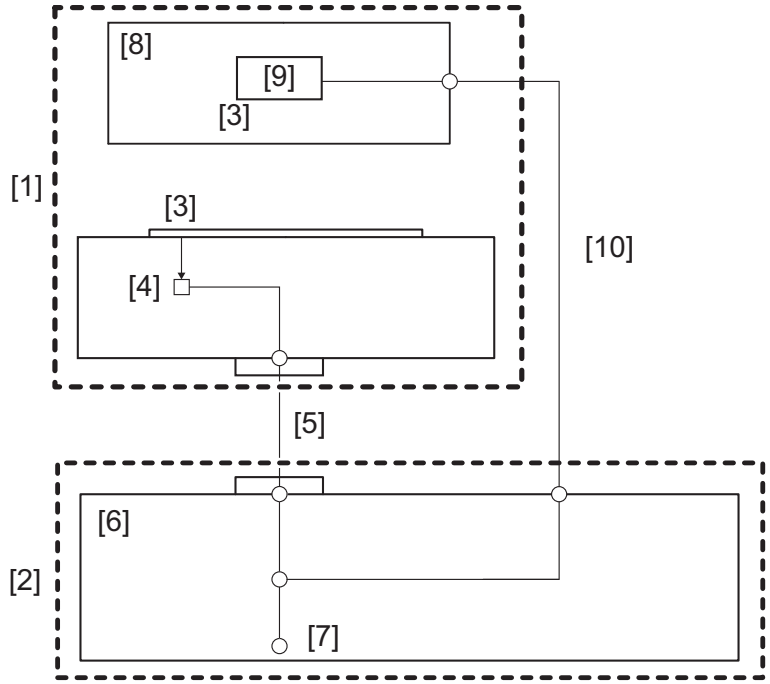
16.2 Troubleshooting procedure overview

16.2.1 Test pattern printing

- Following give an overview of a procedure to isolate a faulty spot of an image trouble using a test pattern.
- A faulty spot that is responsible for an image trouble is isolated by printing a test pattern (Error diffusion) to determine whether an image trouble is evident and determining which color of toner, Y, M, C, or K, has the trouble.

(1) Scanner system image trouble

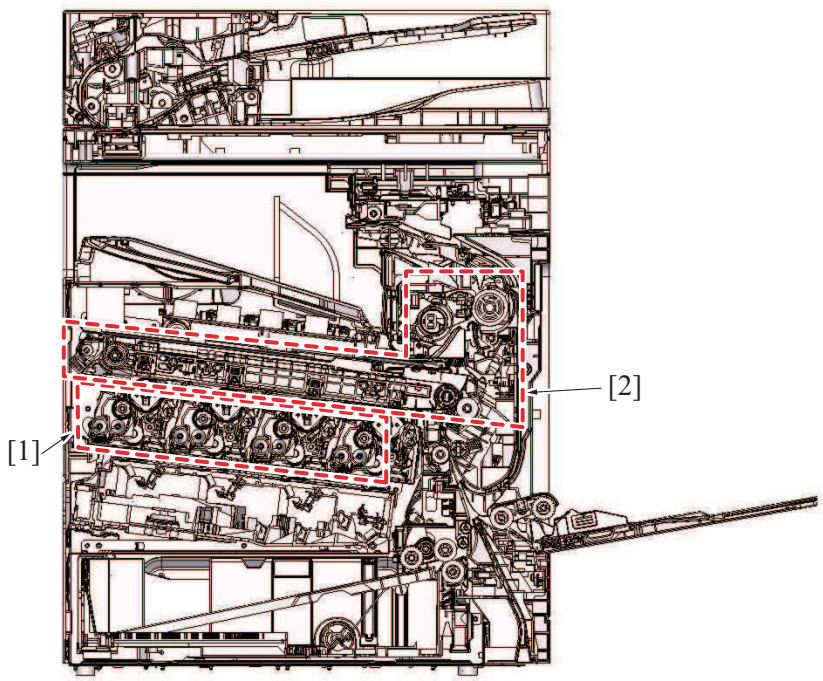
- If an image trouble occurs during a copy cycle, use the image trouble that may be evident on the test pattern printed to determine whether the trouble is attributable to the scanner system or the printer system.
- If no image trouble occurs on a test pattern produced following a print cycle, the image trouble is determined to be attributable to the scanner system.



[1]	Scanner system	[2]	Printer system
[3]	Document scan	[4]	CIS module (IR CIS)
[5]	I/F cable (only front side)	[6]	Base board (BASEB)
[7]	Print output	[8]	DF
[9]	DF CIS module (DF CIS)	[10]	I/F cable (only back side)

(2) Printer system image trouble

- If the image trouble is attributable to the printer system, determine whether the image trouble occurs with one to three colors, or with four colors of Y, M, C, and K.
- If the same image trouble occurs with four colors, the image trouble is determined to be that of the four-color system.



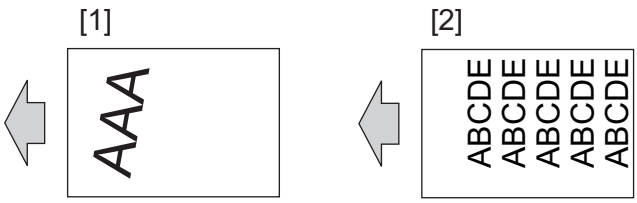
[1]	Faulty spot responsible for an image trouble of the single-to-three-color system	[2]	Faulty spot responsible for an image trouble of the four-color system

16.3 Corrective action procedure

16.3.1 Skewed image/Image deviation

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

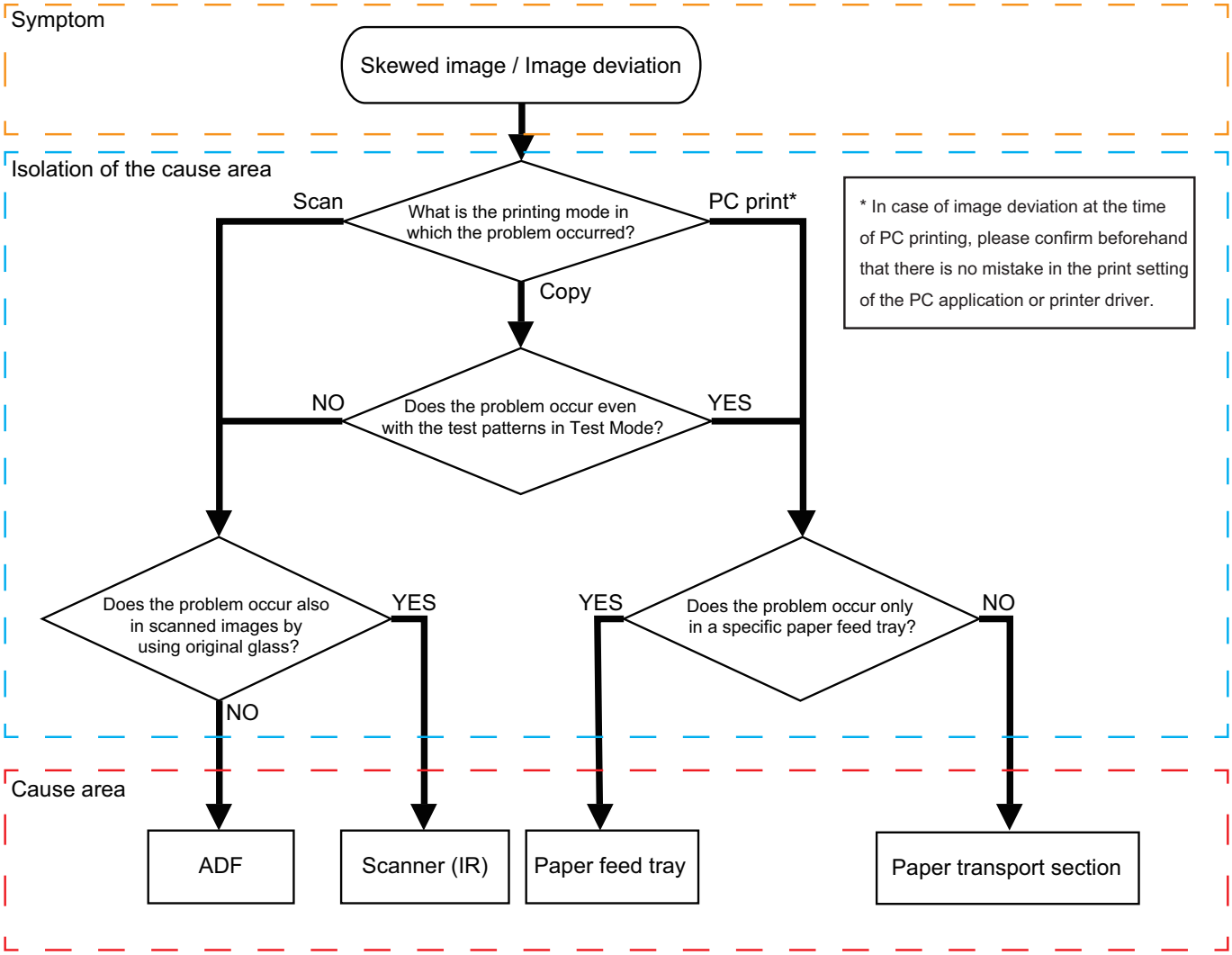


[1]	Skewed image	[2]	Image deviation

(2) Troubleshooting procedure

Flowchart for isolating the cause area

- The figure below is a flowchart for isolating the cause area of image deviation / skewed image (four main cause areas are covered).
- After isolating the cause area according to the flowchart, please perform the troubleshooting described on the next page for each cause area.



Troubleshooting steps for each cause area

NOTE

- **If the problem can not be solved after "(1) First steps of troubleshooting," check "(2) Individual adjustment items".**
- **In "(2) Individual adjustment item," perform adjustment and test according to the manual description procedure of each item.**

< ADF >

(1) First steps of troubleshooting

Step	Contents
1	Check the set position of original and document width guide, and correct it if needed.
2	Check the paper path, and remove any paper pieces or foreign matters.
3	Check each roller for dirt and wear, and clean or replace it if needed.
4	If there is looseness in the screw of the ADF hinge part, fix it and perform the installation settings of ADF.
5	Perform test printing/scanning to check whether the problem has been resolved. If it can not be resolved, confirm "(2) individual adjustment items".

(2) Individual adjustment items

Skewed image	1. I.15.2 Registration Loop Adj.
Image deviation	1. I.15.6 FD-Mag. Adj. (F)
	2. FD-Mag. Adj. (B)

NOTE

- **If the trouble can not be solved by the above adjustment, replace the CIS module (IR CIS).**
- **If there is a problem only on the back side image after the above adjustment, replace the DF CIS module assy.**

< Scanner (IR) >

(1) First steps of troubleshooting

Step	Contents
1	Check the set position of original, and correct it if needed.
2	When using a thick original (like a book), check whether the user strongly presses the document cover/ADF. *The scanner section may not move smoothly due to the excessive pressure, and which may cause image deviation.
3	If original glass is not installed properly, reinstall original glass.

Step	Contents
4	Perform test printing/scanning to check whether the problem has been resolved. If it can not be resolved, confirm "(2) individual adjustment items".

(2) Individual adjustment items

Image deviation	I.5.4 Scan Area

NOTE
- **If the trouble can not be solved by the above adjustment, replace the CIS module (IR CIS).**

< Paper feed tray >

(1) First steps of troubleshooting

Step	Contents
1	Correct the paper settings, if the paper size/type in the tray and the paper settings selected on the machine are not matched.
2	Check the set position of paper or paper length guide / paper width guide, and correct it if needed. * For a paper tray that uses only a specific paper size, it is possible to fix the paper width guide to a specific paper size position by attaching a screw to the screw hole on the paper width guide (back side). It is possible to prevent problems due to wrong paper setting, but be careful as users will not be able to change paper sizes by themselves.
3	Check the paper path and the back side of the tray, and remove any paper pieces or foreign matters.
4	Check each roller for dirt and wear, and clean or replace it if needed.
5	Perform test printing to check whether the problem has been resolved. If it can not be resolved, confirm "(2) individual adjustment items".

(2) Individual adjustment items

Image deviation	I.5.3 Printer Area

NOTE
- **If the trouble can not be solved by the above adjustment, check the Paper transport section.**

< Paper transport section >

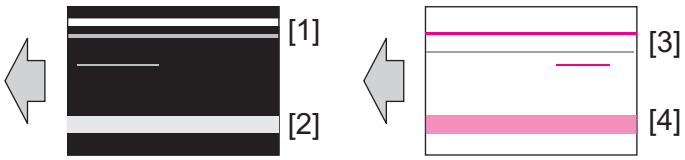
(1) First steps of troubleshooting

Step	Contents
1	Check the set position of paper or paper length guide / paper width guide, and correct it if needed. * For a paper tray that uses only a specific paper size, it is possible to fix the paper width guide to a specific paper size position by attaching a screw to the screw hole on the paper width guide (back side). It is possible to prevent problems due to wrong paper setting, but be careful as users will not be able to change paper sizes by themselves.
2	Check the paper path, transport rollers, and registration section, and remove any paper pieces / foreign matters / paper dust.
3	Perform test printing to check whether the problem has been resolved. If it can not be resolved, confirm "(2) individual adjustment items".

16.3.2 White line 1, White band 1, Color line 1, Color band 1

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	White line	[2]	White band
[3]	Color line	[4]	Color band

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
3	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-	1 to 3 colors	Go to the 1-color troubleshooting procedure.

Step	Section	Check item	Result	Action
		Sided", "CMYK", and "Full Bleed", enter "64" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing to determine which color causes the abnormal image.	4 colors	Go to the 4-color troubleshooting procedure.
			None	Go to scanner troubleshooting procedure.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Service Mode -> Table Number	Select [Service Mode] -> [State Confirmation] -> [Table Number]. The measured value is close to the standard value. • Developing bias: Vdc-C, Vdc-M, Vdc-Y, Vdc-K: close to the standard value of -800 to 0 • Grid voltage: Vg-C, Vg-M, Vg-Y, Vg-K: close to the standard value of -1600 to 0	NO	• Check the high voltage unit and the imaging unit for wiring and connection. • Replace the high voltage unit.
2	Write section	Sharp white line or colored line is blurry.	YES	Clean the PH window.
3	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
4	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (Y: C4, M: C3, C: C2, K: C1).	NO	Clean or correct the terminal.
5	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
6	Photoconductor section	Scratches on photoconductor.	YES	• Clean. • Replace the imaging unit.
7	Photoconductor section	Toner line or dirt on photoconductor. (improper cleaning)	YES	Replace the imaging unit.
8	Photoconductor section	Faint lines evident on the entire surface as if the surface were brushed off.	YES	• Select [Service Mode] -> [Counter] -> [Life] and check the counter value of the Imaging Unit. • Replace the imaging unit having the greatest counter value with a new one. (Not the imaging unit of the color that has developed the lines, but the imaging unit having the greatest counter value)
9	1st transfer section	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
10	1st transfer section	Scratches or dirt on 1st transfer roller.	YES	• Clean. • Replace the transfer belt unit.
11	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace the imaging unit.
			NO	Replace the PH unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper path	There is dirty or foreign matter on paper path.	YES	Check or clean the paper path including the duplex section.
2	Transfer belt unit	Lines that can be removed by cleaning are evident on the transfer belt. (improper cleaning)	YES	• Check or clean the cleaning blade. • Replace the transfer belt unit.
3	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
4	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
5	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.

Step	Section	Check item	Result	Action
6	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
7	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
8	Fusing unit	Scratches on roller, pad, and belt in fusing unit.	YES	Replace the fusing unit.
			NO	• Replace the high voltage unit. • Replace the base board.

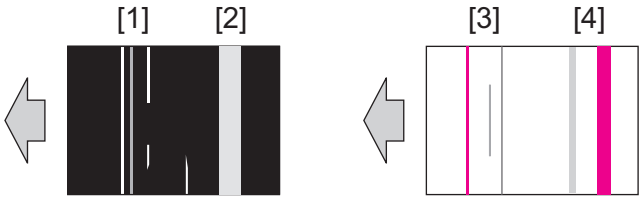
Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	When original glass is being used	A fault occurs in the image read through the original glass.	YES	Go to step 5.
3	When DF is being used: 1st side	A fault occurs in the image read from the 1st side while DF is being used.	YES	Go to step 10.
4	When DF is being used: 2nd side	A fault occurs in the image read from the 2nd side while DF is being used.	YES	Go to step 13.
Main body side_original glass				
5	DF side_ Original pad	Original pad of DF is dirty.	YES	Clean.
6	Original glass	Original glass is dirty.	YES	Clean.
7	End face of original is reproduced as a line	Select [Service Mode] -> [Machine] -> [Scan Area] -> [Scanner Image Side Edge] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
8	Line occurring due to faulty shading	Select [Service Mode] -> [Machine] -> [Scan Area] -> [Image Position: Leading Edge] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
9	Parts along scanning path	Light guide or lens array is dirty.	YES	Clean.
			NO	Replace the CIS module.
Main body side_DF original reading section				
10	Main body side_reading section	Original reading glass of main body is dirty.	YES	Clean.
11	Service Mode -> Read Pos Adj	Select [Service Mode] -> [ADF] -> [Read Pos Adj] and the image trouble is eliminated.	NO	Go to the next step.
12	Parts along scanning path	Light guide or lens array is dirty.	YES	Clean.
			NO	Replace the CIS module.
DF side_original reading section				
13	CIS glass cleaning	CIS glass is dirty.	YES	Clean.
14	CIS reading section	CIS reading section is dirty.	YES	Clean.
15	When DF is being used: 2nd side	Shading correction surface of DF is dirty.	YES	Clean.
			NO	Replace the DF CIS module assy.

16.3.3 White line 2, White band 2, Color line 2, Color band 2

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	White line	[2]	White band
[3]	Color line	[4]	Color band

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.

Step	Section	Check item	Result	Action
2	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
3	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "CMYK", and "Full Bleed", enter "64" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing to determine which color causes the abnormal image.	1 to 3 colors	Go to the 1-color troubleshooting procedure.
			4 colors	Go to the 4-color troubleshooting procedure.
			None	Go to scanner troubleshooting procedure.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Service Mode -> Table Number	Select [Service Mode] -> [State Confirmation] -> [Table Number]. The measured value is close to the standard value. • Developing bias: Vdc-C, Vdc-M, Vdc-Y, Vdc-K: close to the standard value of -800 to 0 • Grid voltage: Vg-C, Vg-M, Vg-Y, Vg-K: close to the standard value of -1600 to 0	NO	• Check the high voltage unit and the imaging unit for wiring and connection. • Replace the high voltage unit.
2	Write section	Sharp white line or colored line is blurry.	YES	Clean the PH window.
3	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
4	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (Y: C4, M: C3, C: C2, K: C1).	NO	Clean or correct the terminal.
5	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
6	Photoconductor section	Scratches on photoconductor.	YES	• Clean. • Replace the imaging unit.
7	Photoconductor section	Toner line or dirt on photoconductor. (improper cleaning)	YES	Replace the imaging unit.
8	1st transfer section	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
9	1st transfer section	Scratches or dirt on 1st transfer roller.	YES	• Clean. • Replace the transfer belt unit.
10	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace the imaging unit.
			NO	Replace the PH unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper path	There is dirty or foreign matter on paper path.	YES	Check or clean the paper path including the duplex section.
2	Transfer belt unit	Lines that can be removed by cleaning are evident on the transfer belt. (improper cleaning)	YES	• Check or clean the cleaning blade. • Replace the transfer belt unit.
3	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
4	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
5	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
6	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.

Step	Section	Check item	Result	Action
7	Fusing unit	Dirt or foreign matter on paper path or separation claw of the fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
8	Fusing unit	Scratches on roller, pad, and belt in fusing unit.	YES	Replace the fusing unit.
			NO	• Replace the high voltage unit. • Replace the base board.

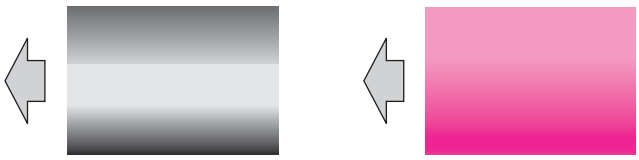
Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	When original glass is being used: Service Mode -> Scan Area	Select [Service Mode] -> [Machine] -> [Scan Area] -> [Image Position: Leading Edge] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
4	When original glass is being used	Original glass or original pad is dirty.	YES	Clean.
			NO	Replace the CIS module.
5	When DF is being used: 1st side	Original reading glass is dirty.	YES	Clean.
			NO	Replace the CIS module.
6	When DF is being used: 2nd side	CIS glass is dirty.	YES	Clean.
			NO	Replace the DF CIS module assy.

16.3.4 Uneven density 1

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	IDC sensor	IDC sensor is dirty.	YES	Clean.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
4	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "CMYK", and "Full Bleed", enter "64" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing and the abnormal image occurs only with one color.	YES	Go to the 1-color troubleshooting procedure.
			NO	Go to the 4-color troubleshooting procedure.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Service Mode -> TCR Level Setting	Select [Service Mode] -> [Imaging Process Adjustment] -> [TCR Level Setting] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
2	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
3	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code).

Step	Section	Check item for the faulty color	Result	Action for the faulty color
				Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
4	Photoconductor section	Dirt, scratches, or foreign matter on the photoconductor.	YES	• Clean. • Replace the imaging unit.
5	1st transfer section	Dirt, scratches, or foreign matter on the 1st transfer roller.	YES	• Clean. • Replace the transfer belt unit.
6	1st transfer section	Faulty pressure/retraction operation of the 1st transfer roller.	YES	• Correct or replace the drive system. • Replace the transfer belt unit.
7	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace the imaging unit.
			NO	• Replace the PH unit. • Replace the high voltage unit.

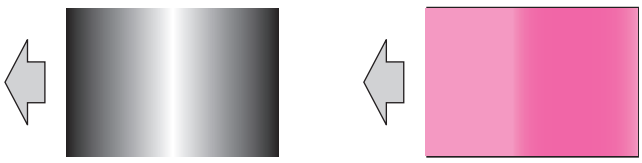
4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
2	Transfer belt unit	Lines that can be removed by cleaning are evident on the transfer belt. (improper cleaning)	YES	• Check and clean the cleaning blade. • Replace the transfer belt unit.
3	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
4	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
5	Transfer belt unit	Transfer belt rotates faultily.	YES	Replace the transfer belt unit.
6	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
7	2nd transfer section	Faulty pressure/retraction operation of the 2nd transfer roller.	YES	• Correct. • Replace the transfer roller unit.
8	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
9	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
10	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the fusing unit. • Replace the high voltage unit. • Replace the base board.

16.3.5 Uneven density 2

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	IDC sensor	IDC sensor is dirty.	YES	Clean.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

Step	Section	Check item	Result	Action
4	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "CMYK", and "Full Bleed", enter "64" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing and the abnormal image occurs only with one color.	YES	Go to the 1-color troubleshooting procedure.
			NO	Go to the 4-color troubleshooting procedure.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	Dirt, scratches, or foreign matter on the photoconductor.	YES	• Clean. • Replace the imaging unit.
4	Photoconductor section	Photoconductor drives faultily.	YES	• Correct. • Replace the imaging unit.
5	1st transfer section	Scratches or dirt on 1st transfer roller.	YES	• Clean. • Replace the transfer belt unit.
6	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace the imaging unit.
			NO	• Replace the PH unit. • Replace the high voltage unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
2	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
3	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
4	Transfer belt unit	Transfer belt rotates faultily.	YES	• Correct. • Replace the transfer belt unit.
5	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
6	2nd transfer section	Faulty pressure/retraction operation of the 2nd transfer roller.	YES	• Correct. • Replace the transfer roller unit.
7	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
8	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
9	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the fusing unit. • Replace the high voltage unit. • Replace the base board.

16.3.6 Faint image, low image density (ID lowering)

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Malfunction code	The maintenance call mark is displayed on the panel.	YES	Perform the relevant troubleshooting procedure corresponding to the malfunction code.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
4	IDC sensor	IDC sensor is dirty.	YES	Clean.
5	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
6	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
7	Image check	• Select [Service Mode] -> [Test Mode] -> [Gradation Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "4 Color", "Full Bleed", and "12 gradations", and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing to determine which color causes the abnormal image.	1 to 3 colors	Go to the 1-color troubleshooting procedure.
			4 colors	Go to the 4-color troubleshooting procedure.
			None	Go to scanner troubleshooting procedure.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Service Mode -> Table Number	Select [Service Mode] -> [State Confirmation] -> [Table Number]. The measured value is close to the standard value. • Developing bias: Vdc-C, Vdc-M, Vdc-Y, Vdc-K: close to the standard value of -800 to 0 • Grid voltage: Vg-C, Vg-M, Vg-Y, Vg-K: close to the standard value of -1600 to 0	NO	• Check the high voltage unit and the imaging unit for wiring and connection. • Replace the high voltage unit.
4	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (Y: C4, M: C3, C: C2, K: C1).	NO	Clean or correct the terminal.
5	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
6	Toner supply section	Faulty connector connection between the toner supply motor (M4, M5) and base board (CN13E).	YES	Reconnect the connector.
7	Service Mode -> TCR data	Select [Service Mode] -> [State Confirmation] -> [Level History 1] and the measured value is correct. TCR-C, TCR-M, TCR-Y, TCR-K: normal value 5 to 8%	NO	Select [Service Mode] -> [Imaging Process Adjustment] -> [Manual Toner Add] and perform the function.
8	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.

Step	Section	Check item for the faulty color	Result	Action for the faulty color
9	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the imaging unit. • Replace the PH unit. • Replace the high voltage unit. • Replace the base board.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
2	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
3	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
4	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the transfer belt unit. • Replace the high voltage unit. • Replace the base board.

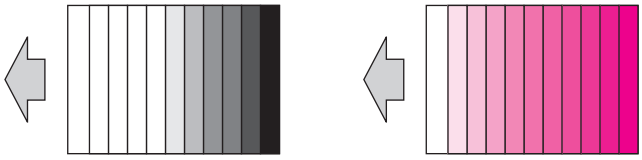
Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
2	When original glass is being used	Original glass or original pad is dirty.	YES	Clean.
3	Parts along scanning path	Light guide or lens array is dirty.	YES	Clean.
4	When DF is being used: 1st side	Original reading glass is dirty.	YES	Clean.
			NO	Replace the CIS module.
5	When DF is being used: 2nd side	• Shading correction surface of DF is dirty. • CIS glass is dirty.	YES	Clean.
			NO	Replace the DF CIS module assy.

16.3.7 Gradation reproduction failure

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Malfunction code	The maintenance call mark is displayed on the panel.	YES	Perform the relevant troubleshooting procedure corresponding to the malfunction code.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Image check	• Select [Service Mode] -> [Test Mode] -> [Gradation Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "CMYK", "Full Bleed", and "12 gradations", and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing to determine which color causes the abnormal image.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

Engine troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH of the color which is responsible for the abnormal image.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller of the color which is responsible for the abnormal image.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	IDC sensor	IDC sensor is dirty.	YES	Clean.
4	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
5	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
6	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
7	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the imaging unit that is responsible for the abnormal image. • Replace the PH unit. • Replace the high voltage unit. • Replace the base board.

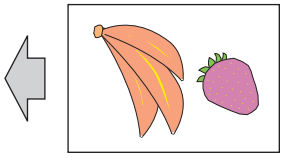
Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	When DF is being used: 2nd side	Shading correction surface of DF is dirty.	YES	Clean.
			NO	Replace the DF CIS module assy.

16.3.8 Color reproducibility error

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Troubleshooting procedure

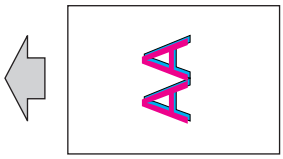
Step	Section	Check item	Result	Action
1	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Expert Adjustment -> PS Designer Settings	Select [Utility] -> [Expert Adjustment] -> [PS Designer Settings] and change the setting, and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	• Select [Service Mode] -> [Test Mode] -> [8 Color Solid Pattern]. Select "SINGLE", "HYPER", "Error diffusion", and "1-Sided", enter "64" for Density, and load tray 2 with A4 paper. This runs a print cycle of 8 colors on one sheet of paper. • Check the image after printing and the abnormal image is evident.	YES	Go to the next step.
5	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
6	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code).

Step	Section	Check item	Result	Action
				Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
7	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
8	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
9	IDC sensor	IDC sensor is dirty.	YES	Clean.
10	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
11	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
12	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
13	Connector connection	Faulty connector connection the high voltage unit (CN1) and base board (CN4E).	YES	Reconnect the connector.
14	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the transfer belt unit. • Replace the high voltage unit. • Replace the base board.

16.3.9 Incorrect color image registration

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Malfunction code	The maintenance call mark is displayed on the panel.	YES	Perform the relevant troubleshooting procedure corresponding to the malfunction code.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
4	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	• Select [Service Mode] -> [Test Mode] -> [8 Color Solid Pattern]. Select "SINGLE", "HYPER", "Error diffusion", and "1-Sided", enter "64" for Density, and load tray 2 with A4 paper. This runs a print cycle of 8 colors on one sheet of paper. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Connector connection	Faulty connector connection the PH unit and base board (CN13).	YES	Reconnect the connector.

Step	Section	Check item	Result	Action
2	Service Mode -> Color Registration Adjustment	Select [Service Mode] -> [Machine] -> [Color Registration Adjustment] and the image trouble is eliminated.	NO	Go to the next step.
3	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the PH unit. • Replace the base board.

Scanner troubleshooting procedure

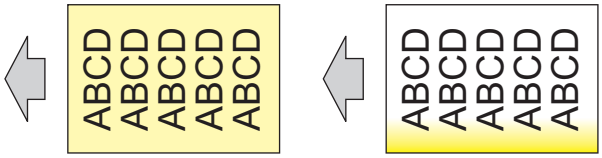
Step	Section	Check item	Result	Action
1	Original	Original contains incorrect color registration.	YES	Change the original.
2	Original Type	Select [Copy setting] -> [Original Type] and change the setting, and the image trouble is eliminated.	NO	Go to the next step.
3	When DF is being used	DF does not lie flat.	YES	Replace DF if it is deformed or hinges are broken.
4	Scanner guide shaft	Foreign matter on scanner guide shaft.	YES	Clean and apply lubricant. *
5	When original glass is being used	Scanner moves smoothly.	YES	Replace the CIS module.
			NO	Replace the scanner motor.
6	When DF is being used: Registration Loop Adj.	Select [Service Mode] -> [ADF] -> [Registration Loop Adj.] and make the necessary adjustment, and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the CIS module.
7	When DF is being used: Paper path	There is dirty on paper path or roller of DF.	YES	Clean.
			NO	Replace the DF CIS module assy.

*: Apply HA-050E to the scanner guide shaft. HA-050E is a product manufactured by SUMICO LUBRICANT CO., LTD.

16.3.10 Foggy background

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Malfunction code	The maintenance call mark is displayed on the panel.	YES	Perform the relevant troubleshooting procedure corresponding to the malfunction code.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
4	Firmware	Update the firmware to the latest version. Slide out the paper cassette, select [Utility] -> [Expert Adjustment] -> [Image Stabilization] -> [Initialize+Image Stabilization] and [Utility] -> [Expert Adjustment] -> [Gradation Adjustment] -> [Image Stabilization].	-	
5	IDC sensor	IDC sensor is dirty.	YES	Clean.
6	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
7	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
8	Service Mode -> Charge Voltage Adjustment	Fog occurs unevenly on the left-hand side with respect to the paper feeding direction. Or fog occurs in part of the paper. The fog is reduced when [Service Mode] -> [Imaging Process Adjustment] -> [Charge Voltage Adjustment] are selected and the setting value is increased.	NO	Return the setting value to the original one and go to the next step.

Step	Section	Check item	Result	Action
9	Service Mode -> Image Background Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Image Background Adj] and [Stabilizer] and the image trouble is eliminated.	NO	Set the fog margin value back to the original one and go to the next step.
10	Image check	• Select [Service Mode] -> [Test Mode] -> [Lattice Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "CMYK", "600dpi", and "Normal", enter "20" for CD width, "20" for FD width, and "255" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing to determine which color causes the abnormal image.	1 to 3 colors	Go to the 1-color troubleshooting procedure.
			4 colors	Go to the 4-color troubleshooting procedure.
			None	Go to scanner troubleshooting procedure.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (Y: C4, M: C3, C: C2, K: C1).	NO	Clean or correct the terminal.
4	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
5	Service Mode -> TCR data	Select [Service Mode] -> [State Confirmation] -> [Level History 1] and the measured value is correct. TCR-C, TCR-M, TCR-Y, TCR-K: normal value 5 to 8%	NO	Select [Service Mode] -> [Imaging Process Adjustment] -> [Manual Toner Add] and perform the function.
6	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
7	Connector connection	Faulty connector connection the high voltage unit (CN1) and base board (CN4E).	YES	Reconnect the connector.
8	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the imaging unit. • Replace the PH unit. • Replace the high voltage unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
2	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
3	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
4	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the transfer belt unit. • Replace the high voltage unit. • Replace the base board.

Scanner troubleshooting procedure

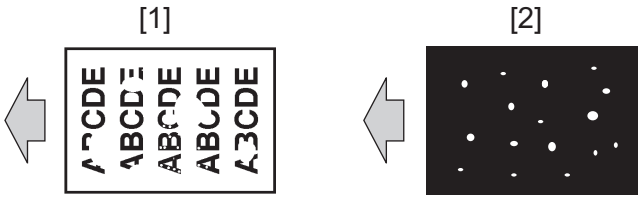
Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	NO	Go to the next step.
3	Basic -> Density	Change the density setting, and the image trouble is eliminated.	NO	Go to the next step.
4	When DF is being used	DF does not lie flat.	YES	Replace DF if it is deformed or hinges are broken.

Step	Section	Check item	Result	Action
5	When original glass is being used	Original glass or original pad is dirty.	YES	Clean.
6	Parts along scanning path	Light guide or lens array is dirty.	YES	Clean.
7	When DF is being used: 1st side	Original reading glass is dirty.	YES	Clean.
			NO	Replace the CIS module.
8	When DF is being used: 2nd side	• Shading correction surface of DF is dirty. • CIS glass is dirty.	YES	Clean.
			NO	Replace the DF CIS module assy.

16.3.11 Void areas, White spots

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Void areas	[2]	White spots

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Use in areas with low atmospheric pressure	Select [Service Mode] -> [Imaging Process Adjustment] -> [Grad/Dev AC Bias V Selection] and change the setting to [ON]. This eliminates the trouble.	NO	Change the setting to [OFF] and go to the next step.
3	IDC sensor	IDC sensor is dirty.	YES	Clean.
4	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
5	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
6	Service Mode -> Charge Voltage Adjustment	The white spots is eliminated when [Service Mode] -> [Imaging Process Adjustment] -> [Charge Voltage Adjustment] are selected and the setting value is increased.	NO	Return the setting value to the original one and go to the next step.
7	Service Mode -> Primary transfer adj.	Select [Service Mode] -> [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj] -> [Primary transfer adj.] and the image trouble is eliminated. * Decrease the setting value for white dots.	NO	Return the setting value to the original one and go to the next step.
8	Service Mode -> 2nd transfer adj.	Select [Service Mode] -> [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj] -> [2nd Transfer Adj.] and the image trouble is eliminated. * Increase or decrease the setting value to find a specific value at which the trouble is eliminated.	NO	Return the setting value to the original one and go to the next step.
9	Service Mode -> TCR Level Setting	Select [Service Mode] -> [Imaging Process Adjustment] -> [TCR level] and set the adjustment value of all colors to "+3". Next, select [Service Mode] -> [Imaging Process Adjustment] -> [Manual Toner Add], select all colors, and press the start key. (This starts a toner replenishing sequence.) Then, select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and perform the function. Then, select [Service Mode] -> [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj.] -> [2nd Transfer Adj.], perform the function, and the image trouble is eliminated. * Increase or decrease the setting value to find a specific value at which the trouble is eliminated.	NO	Return the setting value to the original one and go to the next step.
10	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-	YES	Go to the 1-color troubleshooting procedure.

Step	Section	Check item	Result	Action
		Sided", "CMYK", and "Full Bleed", enter "64" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • If the abnormal image does not recur, change Density to "255" and make a print check. • Check the image after printing and the abnormal image occurs only with one color.	NO	Go to the 4-color troubleshooting procedure.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	Dirt, scratches, or foreign matter on the photoconductor.	YES	• Clean. • Replace the imaging unit.
4	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (Y: C4, M: C3, C: C2, K: C1).	NO	Clean or correct the terminal.
5	Developing section	Toner bristles not even on the developing roller, resulting in a void area.	YES	Replace the imaging unit.
6	1st transfer section	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
7	Connector connection	Faulty connector connection the high voltage unit (CN1) and base board (CN4E).	YES	Reconnect the connector.
8	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the imaging unit. • Replace the PH unit. • Replace the high voltage unit.

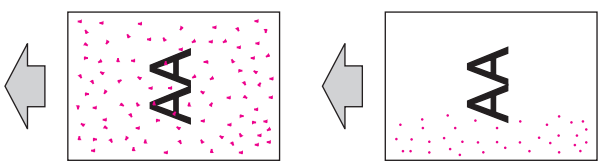
4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
2	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
3	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
4	Connector connection	Faulty connector connection the high voltage unit (CN1) and base board (CN4E).	YES	Reconnect the connector.
5	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the high voltage unit.

16.3.12 Color spot

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.

Step	Section	Check item	Result	Action
2	IDC sensor	IDC sensor is dirty.	YES	Clean.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
4	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	Service Mode -> Charge Voltage Adjustment	Fine colored dots evident on the left-hand side with respect to the paper feeding direction. Or fine color spots are evident on a particular portion in the paper. The color spots are reduced when [Service Mode] -> [Imaging Process Adjustment] -> [Charge Voltage Adjustment] are selected and the setting value is increased.	NO	Return the setting value to the original one and go to the next step.
6	Service Mode -> Transfer Voltage Fine Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj] and the image trouble is eliminated. * Decrease the setting value for color spots.	NO	Return the setting value to the original one and go to the next step.
7	Image check	• Select [Service Mode] -> [Test Mode] -> [Solid Pattern]. Select "SINGLE", "HYPER", "Error diffusion", and "1-Sided", enter "64" for Density, and load tray 2 with A4 paper. This runs a print cycle of 4 colors on one sheet of paper. • Check the image after printing to determine which color causes the abnormal image.	1 to 3 colors	Go to the 1-color troubleshooting procedure.
			4 colors	Go to the 4-color troubleshooting procedure.
			None	Go to scanner troubleshooting procedure.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	Dirt, scratches, or foreign matter on the photoconductor.	YES	• Clean. • Replace the imaging unit.
4	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (Y: C4, M: C3, C: C2, K: C1).	NO	Clean or correct the terminal.
5	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
6	Connector connection	Faulty connector connection the high voltage unit (CN1) and base board (CN4E).	YES	Reconnect the connector.
7	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the imaging unit. • Replace the PH unit. • Replace the high voltage unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
2	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
3	Paper path	There is dirty or foreign matter on paper path.	YES	Check or clean the paper path including the duplex section.
4	Connector connection	Faulty connector connection the high voltage unit (CN1) and base board (CN4E).	YES	Reconnect the connector.
5	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the high voltage unit.

Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.

Step	Section	Check item	Result	Action
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	When original glass is being used	Original glass or original pad is dirty.	YES	Clean.
			NO	Replace the CIS module.
4	When DF is being used: 1st side	Original reading glass is dirty.	YES	Clean.
			NO	Replace the CIS module.
5	When DF is being used: 2nd side	CIS glass is dirty.	YES	Clean.
			NO	Replace the DF CIS module assy.

16.3.13 Blurred image

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
4	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	• Select [Service Mode] -> [Test Mode] -> [Lattice Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "CMYK", "600dpi", and "Normal", enter "10" for CD width, "10" for FD width, and "255" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH of the color which is responsible for the abnormal image.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller of the color which is responsible for the abnormal image.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	Dirt or foreign matter on the photoconductor of the PH of the color which is responsible for the abnormal image.	YES	• Clean. • Replace the imaging unit.
			NO	Replace the PH unit.

Scanner troubleshooting procedure

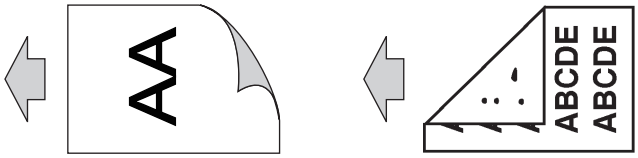
Step	Section	Check item	Result	Action
1	Original	Original is folded, bent, or raised.	YES	Change the original.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	Parts along scanning path	Light guide or lens array is dirty.	YES	Clean.
4	Parts along scanning path	Light guide is tilted.	YES	Replace the CIS module.

Step	Section	Check item	Result	Action
5	When DF is being used	DF does not lie flat.	YES	Replace DF if it is deformed or hinges are broken.
6	When DF is being used: 2nd side	• CIS glass is tilted. • Location of the shading sheet is incorrect.	YES	Replace the DF CIS module assy.

16.3.14 Back marking

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



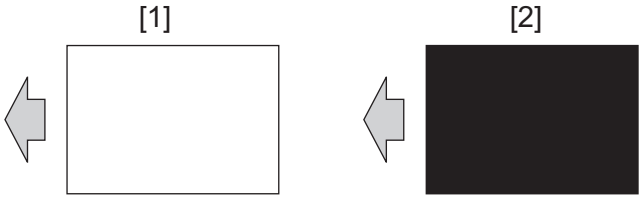
Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
3	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
4	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
5	Fusing unit	Scratches on belt and roller in fusing unit.	YES	Replace the fusing unit.
			NO	Replace the high voltage unit.

16.3.15 Blank copy, Black copy

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Blank copy	[2]	Black copy

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
2	Image check	• Select [Service Mode] -> [Test Mode] -> [Solid Pattern]. Select "SINGLE", "HYPER", "Error diffusion", and "1-Sided", enter "120" for Density, and load tray 2 with A4 paper. This runs a print cycle of 4 colors on one sheet of paper. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.

Step	Section	Check item	Result	Action
2	Transfer belt unit	With the color of toner responsible for the abnormal image, there is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (T1).	NO	Clean or correct the terminal.
3	Photoconductor section	The imaging unit of the color of toner responsible for the abnormal image is installed properly.	NO	Reinstall.
4	Photoconductor section	With the color of toner responsible for the abnormal image, there is a positive contact between the drum charge corona bias application terminals and the high voltage unit connection terminals (Y: C4, M: C3, C: C2, K: C1).	NO	Clean or correct the terminal.
5	Developing section	With the color of toner responsible for the abnormal image, there is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
6	Connector connection	Faulty connector connection the high voltage unit (CN1) and base board (CN4E).	YES	Reconnect the connector.
7	Write section	Faulty connector connection the PH unit and base board (CN13).	YES	Reconnect the connector.
8	Service Mode -> Self-diagnostic	Select [Service Mode] -> [State Confirmation] -> [Self-diag.(Full)] and perform the function. Then, "NG" appears.	YES	Take relevant action corresponding to the check item in which "NG" has appeared.
			NO	• Replace the high voltage unit. • Replace the PH unit. • Replace the base board.

Scanner troubleshooting procedure

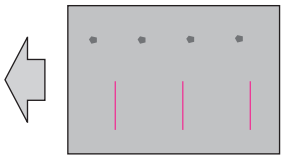
Step	Section	Check item	Result	Action
1	Black copy: Scanner section	Foreign matter on scanner guide shaft.	YES	Clean and apply lubricant. *
2		Scanner moves smoothly.	NO	Replace the scanner motor.
3	• When original glass is being used • When DF is being used: 1st side	None of the terminal pins of the connection cable between the CIS module and the base board (CN6) is bent and a positive connection is made.	NO	Reconnect the connector.
4	• When original glass is being used • When DF is being used: 1st side	Replace the connection cable between the machine and the DF. This eliminates the trouble.	YES	Replace the connection cable.
5	• When original glass is being used • When DF is being used: 1st side	Select [Service Mode] -> [State Confirmation] -> [Self-diag.(Full)] and perform the function. Then, "NG" appears.	YES	Take relevant action corresponding to the check item in which "NG" has appeared.
			NO	• Replace the CIS module. • Replace the base board.
6	When DF is being used: 2nd side	Faulty connector connection the high DF CIS module and base board (CN5).	YES	Reconnect the connector.
7	When DF is being used: 2nd side	Replace the connection cable between the DF CIS module and the base board. This eliminates the trouble.	YES	Replace the connection cable.
8	When DF is being used: 2nd side	Shading correction surface of DF is dirty.	YES	Clean.
9	Service Mode -> Self-diagnostic	Select [Service Mode] -> [State Confirmation] -> [Self-diag.(Full)] and perform the function. Then, "NG" appears.	YES	Take relevant action corresponding to the check item in which "NG" has appeared.
			NO	• Replace the DF CIS module assy. • Replace the base board.

*: Apply HA-050E to the scanner guide shaft. HA-050E is a product manufactured by SUMICO LUBRICANT CO., LTD.

16.3.16 Uneven pitch

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
3	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "CMYK", and "Full Bleed", enter "64" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing and the abnormal image occurs only with one color.	YES	Go to the 1-color troubleshooting procedure.
			NO	Go to the 4-color troubleshooting procedure.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Uneven pitch at 94 mm interval	Dirt, scratches, or foreign matter on the photoconductor.	YES	• Clean. • Replace the imaging unit.
2	Uneven pitch at 50 mm interval	Dirt, scratches, or foreign matter on the developing roller.	YES	• Clean. • Replace the imaging unit.
3	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
4	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
5	Connector connection	Faulty connector connection the high voltage unit (CN1) and base board (CN4E).	YES	Reconnect the connector.
			NO	• Replace the high voltage unit. • Replace the base board.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Uneven pitch	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
2	Uneven pitch at 59 mm interval	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
3	Uneven pitch at 259 mm interval	Dirt, scratches, or foreign matter on the fusing belt.	YES	• Clean. • Replace the fusing unit.
4	Uneven pitch at 100 mm interval	Dirt, scratches, or foreign matter on the fusing pressure roller.	YES	• Clean. • Replace the fusing unit.
5	Paper path	There is dirty or foreign matter on paper path.	YES	Check or clean the paper path including the duplex section.
			NO	• Replace the transfer belt unit. • Replace the high voltage unit. • Replace the base board.

16.3.17 Uneven gloss, Rough gloss

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



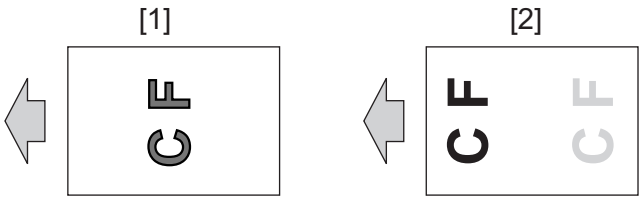
Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "Black(1PC)", and "Full Bleed", enter "255" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident. (rough gloss)	YES	Go to the next step.
3	Service Mode -> Fusing Temperature	Select [Service Mode] -> [Machine] -> [Fusing Temperature] and lower the fusing temperature, and the image trouble is eliminated.	NO	Return the fusing temperature to the original one and go to the next step.
4	Paper exit roller	Faulty pressure operation of the paper exit roller.	YES	Correct.
5	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
6	Fusing unit	Scratches on roller, pad, and belt in fusing unit.	YES	Replace the fusing unit.
			NO	Replace the power supply of fusing.

16.3.18 Poor fusing performance, Offset

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Poor fusing performance	[2]	Offset

Troubleshooting procedure

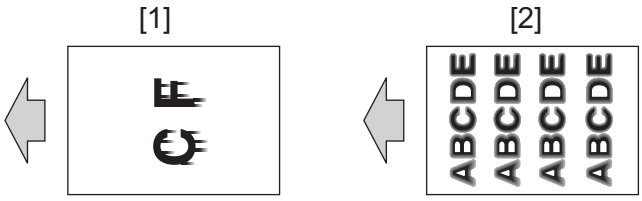
Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Image check: Poor fusing performance	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "Black(1PC)", and "Full Bleed", enter "64" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to the next step.
3	Image check: Poor fusing performance	• Select [Service Mode] -> [System 2] -> [Smart Fusing Control] and select [Prohibit]. • Check the image after printing and the abnormal image is evident.	YES	Return the setting to the original one and go to the next step.
4	Image check: Offset	• Select [Service Mode] -> [Test Mode] -> [Gradation Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "8 Color", "Front Half", and "12 gradations", and load tray 2 with A4 paper. Press the start key. This runs a print cycle.	YES	Go to the next step.

Step	Section	Check item	Result	Action
		• Check the image after printing and the abnormal image is evident.		
5	Service Mode -> Fusing Temperature	Select [Service Mode] -> [Machine] -> [Fusing Temperature] and make the necessary adjustment, and the image trouble is eliminated. * Poor fusing performance: Decrease the setting value * Offset: Increase the setting value	NO	Return the setting value to the original one and go to the next step.
6	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
7	Fusing unit	Scratches on roller, pad, and belt in fusing unit.	YES	Replace the fusing unit.
			NO	Replace the power supply of fusing.

16.3.19 Brush effect, Image bleeding

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Brush effect	[2]	Image bleeding

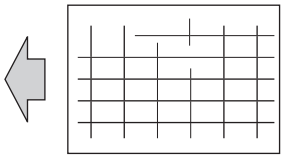
Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
4	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	• Select [Service Mode] -> [Test Mode] -> [Lattice Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "CMYK", "600dpi", and "Normal", enter "10" for CD width, "10" for FD width, and "255" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing and the abnormal image is evident.	YES	Go to the next step.
6	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
7	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
8	Service Mode -> Fusing Temperature	Select [Service Mode] -> [Machine] -> [Fusing Temperature] and make the necessary adjustment, and the image trouble is eliminated. * Increase or decrease the setting value	NO	Return the setting value to the original one and go to the next step.
9	Service Mode -> Fusing Transport Speed	Select [Service Mode] -> [Machine] -> [Fusing Transport Speed] and make the necessary adjustment, and the image trouble is eliminated. * Brush effect: Increase or decrease the setting value * Image bleeding: Decrease the setting value	NO	Return the setting value to the original one and go to the next step.
10	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
11	Fusing unit	Scratches on roller, pad, and belt in fusing unit.	YES	Replace the fusing unit.
			NO	Replace the power supply of fusing.

16.3.20 Blurred fine lines

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Unclear thin line in main scan direction	Select [Service Mode] -> [Machine] -> [LD adjustment] and the image trouble is eliminated.	NO	Return the setting value to the original one and go to the next step.
4	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
5	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
6	Image check	• Select [Service Mode] -> [Test Mode] -> [Lattice Pattern]. Select "SINGLE", "FEET", "1-Sided", "CMYK", "600dpi", and "Normal", enter "3" for CD width, "3" for FD width, and "255" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH of the color which is responsible for the abnormal image.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller of the color which is responsible for the abnormal image.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (No code). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	Dirt or foreign matter on the photoconductor of the PH of the color which is responsible for the abnormal image.	YES	• Clean. • Replace the imaging unit.
4	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
			NO	Replace the PH unit.

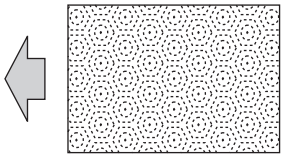
Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is folded, bent, or raised.	YES	Change the original.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	When DF is being used	DF does not lie flat.	YES	Replace DF if it is deformed or hinges are broken.
4	When DF is being used: 1st side	Original reading glass tilts.	YES	Replace the CIS module.
5	When DF is being used: 2nd side	• CIS glass or DF CIS module is tilted. • Location of the shading sheet is incorrect.	YES	Replace the DF CIS module assy.

16.3.21 Moire

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	NO	Go to the next step.
3	Original direction	Change the direction in which the original is placed. This eliminates moire.	YES	Change the original direction.
4	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
5	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
6	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Error diffusion", "1-Sided", "CMYK", and "Full Bleed", enter "64" for Density, and load tray 2 with A4 paper. Press the start key. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Service Mode -> Paper Feed Direction Adj.	Select [Service Mode] -> [Machine] -> [Printer Area] -> [Paper Feed Direction Adj.] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
2	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the PH unit. • Replace the base board.

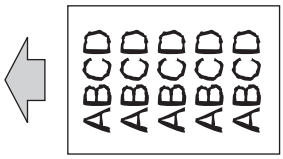
Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	When original glass is being used: Sub Scan Zoom Adj.	Select [Service Mode] -> [Machine] -> [Scan Area] -> [Sub Scan Zoom Adj.] and make the necessary adjustment, and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the CIS module.
2	When DF is being used: 1st side: Feed Zoom	Select [Service Mode] -> [ADF] -> [Feed Zoom] and make the necessary adjustment, and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the CIS module.
3	When DF is being used: 2nd side: FD-Mag. Adj. (B)	Select [Service Mode] -> [ADF] -> [FD-Mag. Adj. (B)] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
4	When DF is being used: 2nd side: Main Scanning Direction Zoom	Select [Service Mode] -> [ADF] -> [Main Scanning Direction Zoom] and make the necessary adjustment, and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the DF CIS module assy.

16.3.22 Distorted image

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



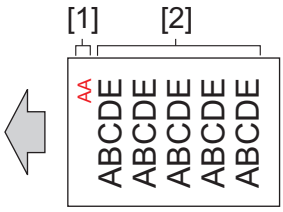
Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Installation state	Machine not installed on a flat site.	YES	Install the machine horizontally.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	When original glass is being used	Original glass not installed properly.	YES	Corrected to the correct position.
			NO	Replace the CIS module.
4	When DF is being used: Distortion on 1st side	CIS module not installed properly.	YES	Corrected to the correct position.
			NO	Replace the CIS module.
5	When DF is being used: Distortion on 2nd side	DF CIS module not installed properly.	YES	Corrected to the correct position.
			NO	Replace the DF CIS module assy.

16.3.23 ACS malfunction

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Color original section	[2]	Black and white original section

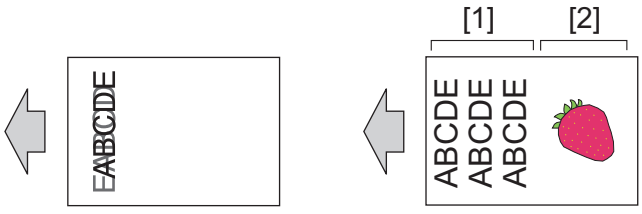
Troubleshooting procedure

Procedure	Section	Check item	Result	Action
1	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
2	Original direction	Change the direction in which the original is placed. This eliminates the trouble.	YES	Change the original direction.
3	Utility -> Auto Color Level Adjustment	Select [Utility] -> [Utility] -> [System Settings] -> [Auto Color Level Adjustment] and the image trouble is eliminated.	YES	Readjust.
			NO	• Change the original direction. • Make the setting according to the type of original. (If the original contains a colored area at its corner, colored area detection NG may result.)

16.3.24 Abnormal image

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Data on the previous page	[2]	Data on the next page

Troubleshooting procedure

Step	Section	Check item	Result	Action
1	When original glass is being used When DF is being used: 1st side	None of the terminal pins of the connection cable between the CIS module and the base board (CN6) is bent and a positive connection is made.	NO	Reconnect the connector.
2	When original glass is being used When DF is being used: 1st side	Replace the connection cable between the CIS module and the base board. This eliminates the trouble.	YES	Replace the connection cable.
			NO	• Replace the CIS module. • Replace the base board.
3	When DF is being used: 2nd side	Faulty connector connection the high DF CIS module and base board (CN5).	YES	Reconnect the connector.
4	When DF is being used: 2nd side	Replace the flat cable between the DF CIS module and the base board. This eliminates the trouble.	YES	Replace the flat cable.
5	Service Mode -> Self-diagnostic	Select [Service Mode] -> [State Confirmation] -> [Self-diag.(Full)] and perform the function. Then, "NG" appears.	YES	Take relevant action corresponding to the check item in which "NG" has appeared.
			NO	• Replace the DF CIS module assy. • Replace the base board.

17. IC PROTECTOR

17.1 Outline

- To increase product safety, this MFP has an IC protector installed in each board. ICP is a component that protects IC.
- If the amount of the current supplied to the electrical parts such as motor exceeds the set level, ICP trips to protect IC from over current.
- The IC is provided with an over current protective function which works when the current exceeds the specified value to protect the IC from over current.
  For an IC that is provided with an over current protective function and being protected, if the problem is solved, the MFP will recover after turning OFF/ON the main power switch without replacing the board.
- The following list contains IC protector installed in each board, related devices, and symptoms when an over current occurs.

17.2 IC protector list

17.2.1 d-Color MF3303/MF3303en/MF4003/MF4003en

(1) Base board

(a) ICP

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1E	FSDB	FS drive board	No operation	-
F2E	FM1	Machine cooling fan	Power line A19 error	C7613
	FM2	Toner suction fan		
F3E	M7	Polygon motor	Power line A20 error	C7615
F4E	CL1	1st transfer pressure clutch	Power line A7 error	C7607
	CL2	Bypass tray paper feed clutch		
	CL3	Tray 1 paper feed clutch		
	CL4	Registration clutch		
	CL5	ADU transport clutch		
	CL6	ADU forward rotation clutch		
	CL7	ADU reverse rotation clutch		
	SD1	Exit path switch solenoid		
F5E	M4	Toner supply motor/YM	Power supply malfunction	C5701
	M5	Toner supply motor/CK		
F6E	HVPS	High voltage unit	Power line A5 error	C7605
F8E	PCCB	PC control board	Power line A10 error	C760A
F10E	PS1	Front door sensor	Front door open display	-
	-	Scanner unit	Drive system home sensor malfunction	C6102
	-	DF		
F11E	M6	Tray 1 lift-up motor	Tray 1 feeder up/down abnormality	C0202
	CUDB	Clean unit drive board	Power line A15 error	C760F
F15E	-	3.3 V DC/DC converter in mechanical controller of base board	Mechanical controller ASIC communication error	C40A6
F16E	-	Scanner unit	Drive system home sensor malfunction	C6102
	-	DF		
F18E	M1	Main motor	Main motor failure to turn	C5102
F19E	M3	Fusing motor	Fusing motor failure to turn	C3201
F20E	M2	Color motor	Color motor failure to turn	C2253
PTC1E	TBSB/Y	Toner cartridge set board/Y	Toner Cartridge Installation Error	-
	TBSB/M	Toner cartridge set board/M		-
	TBSB/C	Toner cartridge set board/C		-
	TBSB/K	Toner cartridge set board/K		-
	TCRS/Y	TCR sensor/Y	Imaging Unit Installation Error	-
	TCRS/M	TCR sensor/M		-
	TCRS/C	TCR sensor/C		-
	TCRS/K	TCR sensor/K		-
PTC2E	-	3.3 V DC/DC converter in mechanical controller of base board	Mechanical controller ASIC communication error	C40A6
ICP1	FM3	CPU cooling fan	MFP control board CPU temperature failure	C5372

(b) IC with over current protective function

ICP No.	Symbol	Target part name	When over current protective function works	
			Symptom in each load	Trouble code and others
IC12	USBHB	USB hub board	No operation	-
IC13	-	Authentication unit	Unable to detect authentication unit "Cannot find the connection with authentication unit. Turn OFF/ON the main power switch after the connection is found." display	-
IC69	IR CIS	CIS module	No operation	-
IC70	IR CIS	CIS module	No operation	-
	DF CIS	DF CIS module	No operation	-
IC73	WLANB	Wireless LAN board	Extension network adapter installation error	CD262
IC76	FAXB	FAX board	FAX board error 5 (No fax board is installed. Mistake in installation. Defective HW.)	CB005
IC77	-	Control panel	Control panel power not turned ON	-
IC79	-	Vendor	Unable to detect vendor "Turn ON the power of the vendor" display	-
IC1E	USBHB	USB hub board	Unable to detect USB memory	-

(2) DC power supply

(a) ICP

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F101	-	DC power supply circuit	No operation	-
FU101				
F102	-	Heater circuit	The heater does not light up	C3425 C3825 C3826 C3922 C3925 C3926 C392B
FU181				

(3) High voltage unit

(a) ICP

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F101	-	• Charging and developing DC circuit • Developing AC circuit • Transfer circuit	Faulty image	-

(4) DF control board

(a) ICP

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	-	3.3 V regulator in the DF control board	No operation	-
ICP2	-	5 V DC/DC converter in DF control board	No operation	-
ICP3	PS19	Document empty sensor	No operation	-

17.2.2 PF-P20/PF-P27

(1) PC control board

(a) ICP

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1	M1	Drive motor	Tray 2 drive motor malfunction	C0103

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
			Tray 3 drive motor malfunction	C0104
			Tray 4 drive motor malfunction	C0108
F2	PCCB	PC control board	Tray 3 drive motor malfunction	C0104
			Tray 4 drive motor malfunction	C0108
			Tray 3 feeder up/down abnormality	C0206
			Tray 4 feeder up/down abnormality	C0208

17.2.3 UK-P19

(1) Multi feed detection board/TX

(a) ICP

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	MFDB/TX	Multi feed detection board/TX	Multi feed detection board failure	C8402

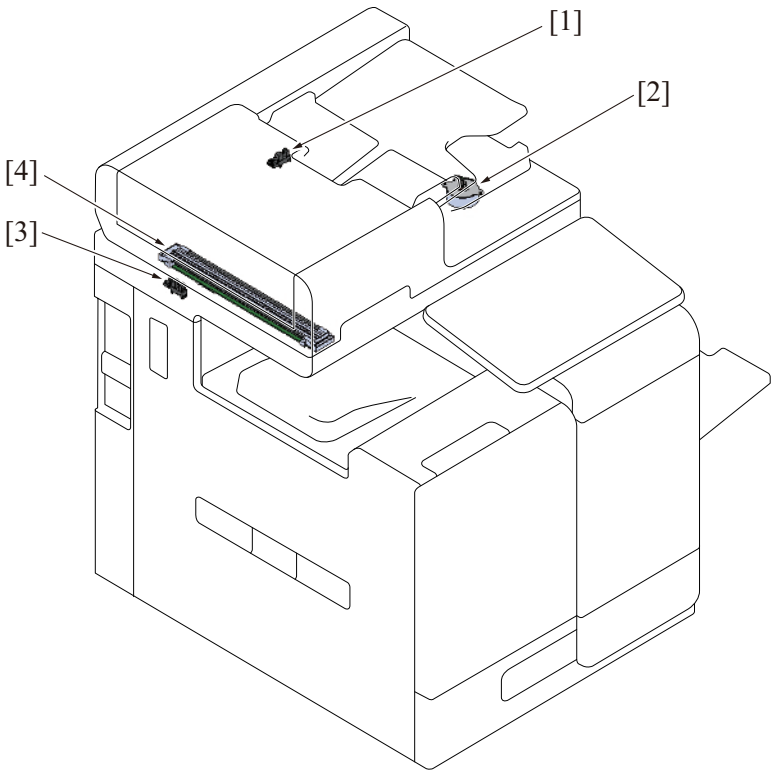
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M PARTS/CONNECTOR LAYOUT DRAWING

1. PARTS LAYOUT DRAWING

1.1 d-Color MF3303/MF3303en/MF4003/MF4003en

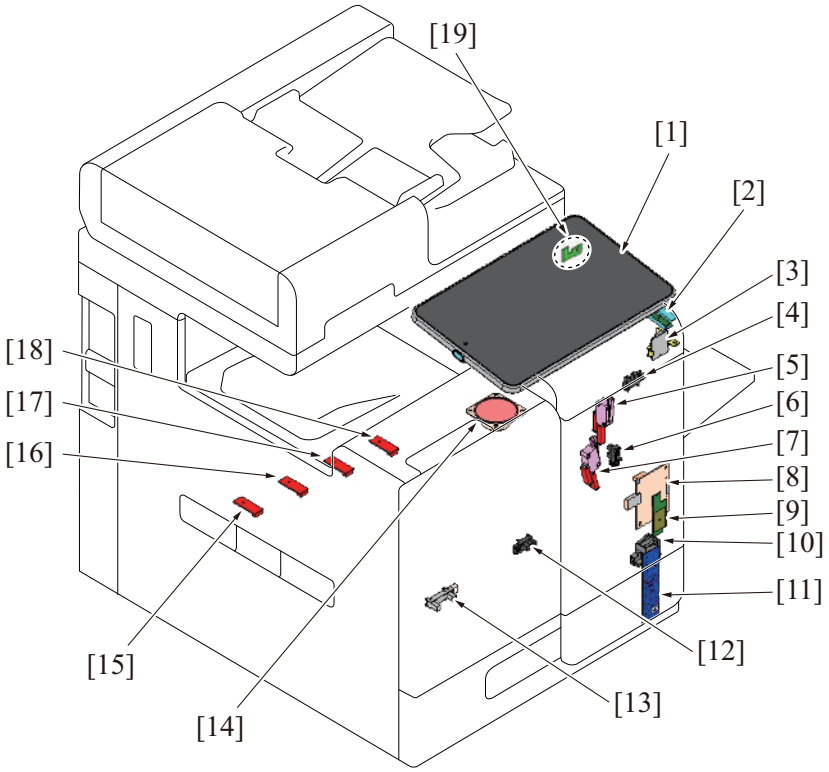
1.1.1 Scanner section



[1]	Angle sensor (PS22)	[2]	Scanner motor (M9)
[3]	Scanner home sensor (PS21)	[4]	CIS module (IR CIS)

1.1.2 Front side section

(1) Board/switch/sensor/others

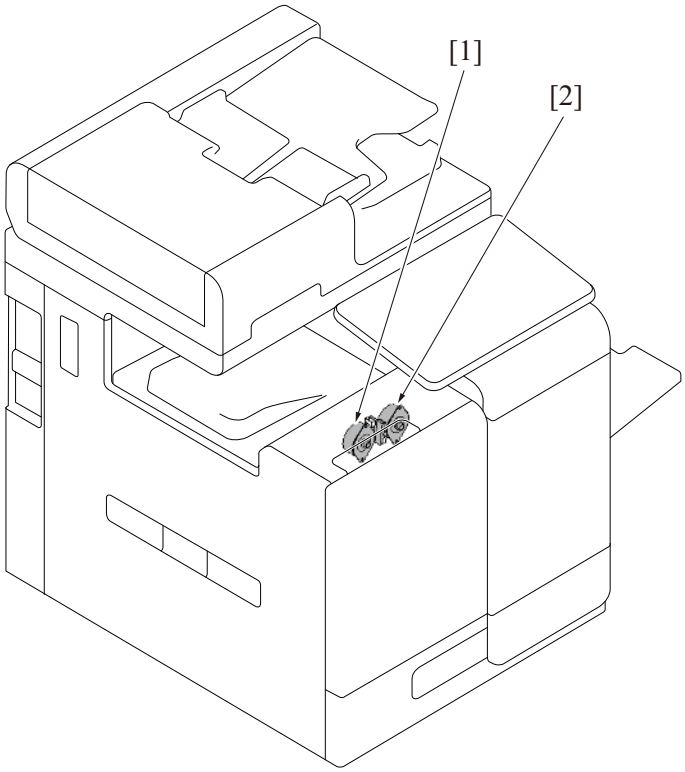


[1]	Control panel unit	[2]	Machine condition monitor board/Edg (MCMB/Edg) *3

[3]	Machine condition monitor board/Fr (MCMB/Fr)	[4]	Front door sensor (PS1)
[5]	Front door switch (SW2)	[6]	Right door sensor (PS2)
[7]	Right door switch (SW5)	[8]	USB hub board (USBHB) *1
[9]	NFC board (NFCB)	[10]	Main power switch (SW1)
[11]	Wireless LAN board (WLANB) *2	[12]	Waste toner bottle set sensor (PS6)
[13]	Waste toner near full sensor (PS15)	[14]	Fax speaker (SP1)
[15]	TCR sensor/Y (TCRS/Y)	[16]	TCR sensor/M (TCRS/M)
[17]	TCR sensor/C (TCRS/C)	[18]	TCR sensor/K (TCRS/K)
[19]	Machine condition monitor board/Edg (MCMB/Edg) *4	-	-

*1: Option
*2: Standard equipment only for North America models.
*3: Only for d-Color MF4003/MF3303
*4: Only for d-Color MF4003en/MF3303en

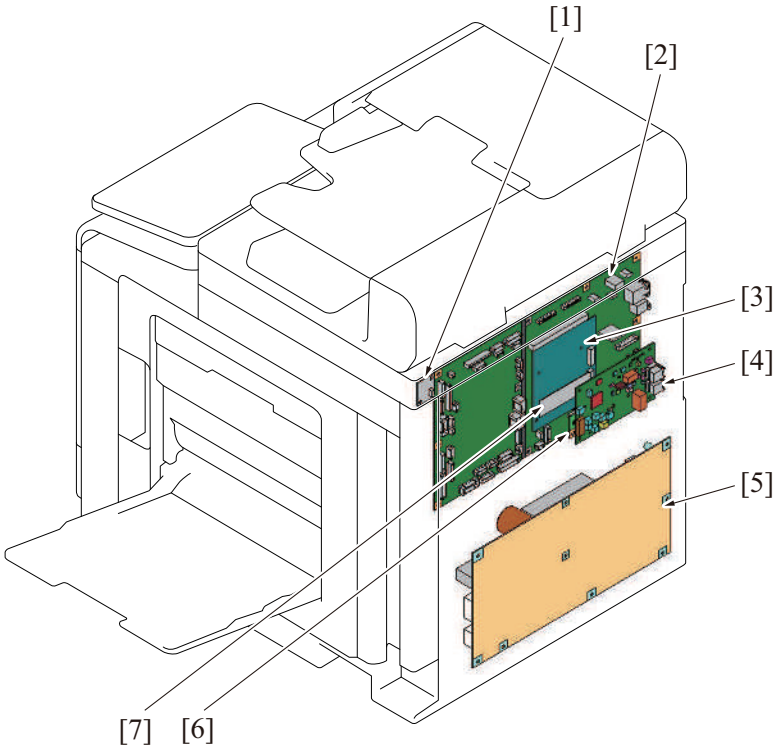
(2) Load



[1]	Toner supply motor/YM (M4)	[2]	Toner supply motor/CK (M5)

1.1.3 Back side

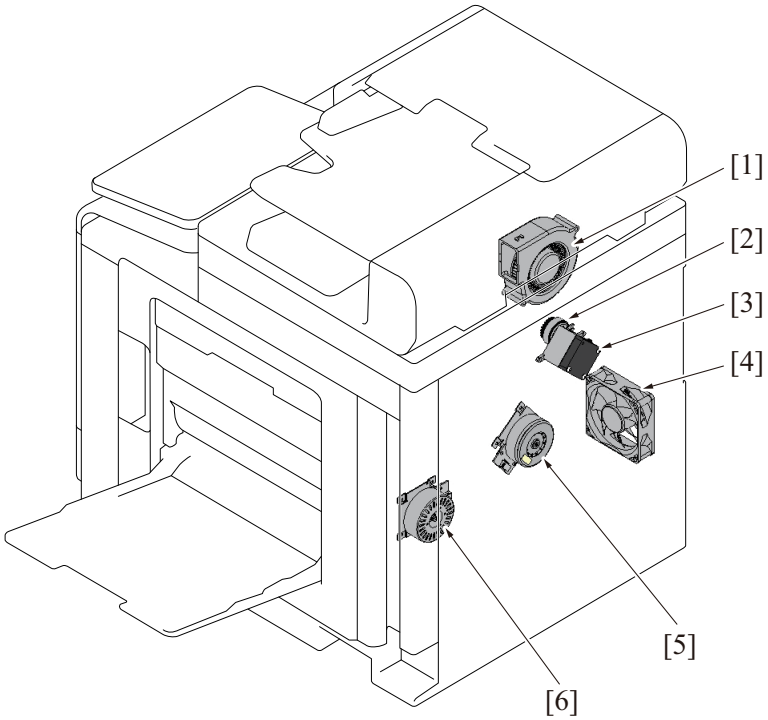
(1) Boards



[1]	Backup board (ERB)	[2]	Base board (BASEB)
[3]	CPU board (CPUB)	[4]	FAX board (FAXB) *
[5]	DC power supply (DCPS)	[6]	TPM board (TPMB)
[7]	Storage board (STRGB)	-	-

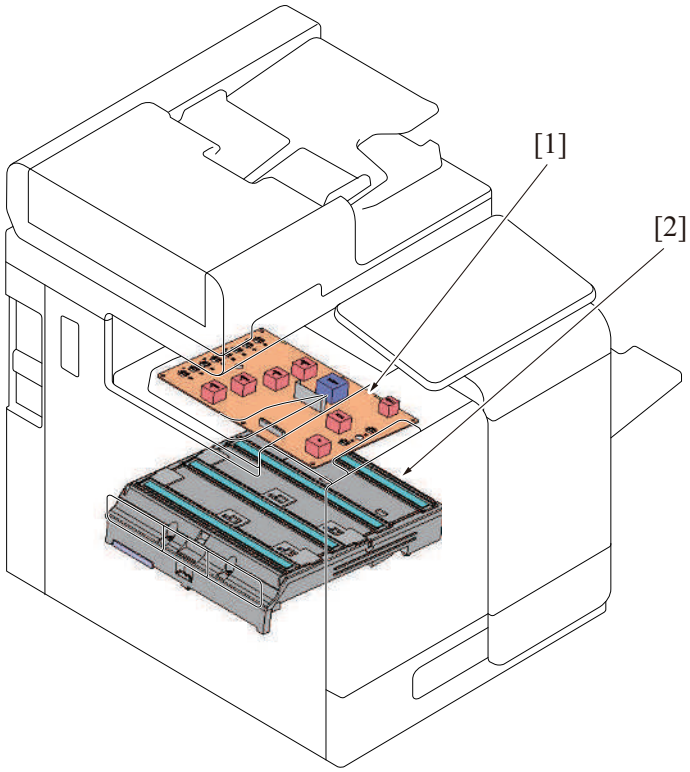
*: Standard equipment of d-Color MF4003/MF4003en only for Japan, North America and Europe models.

(2) Load



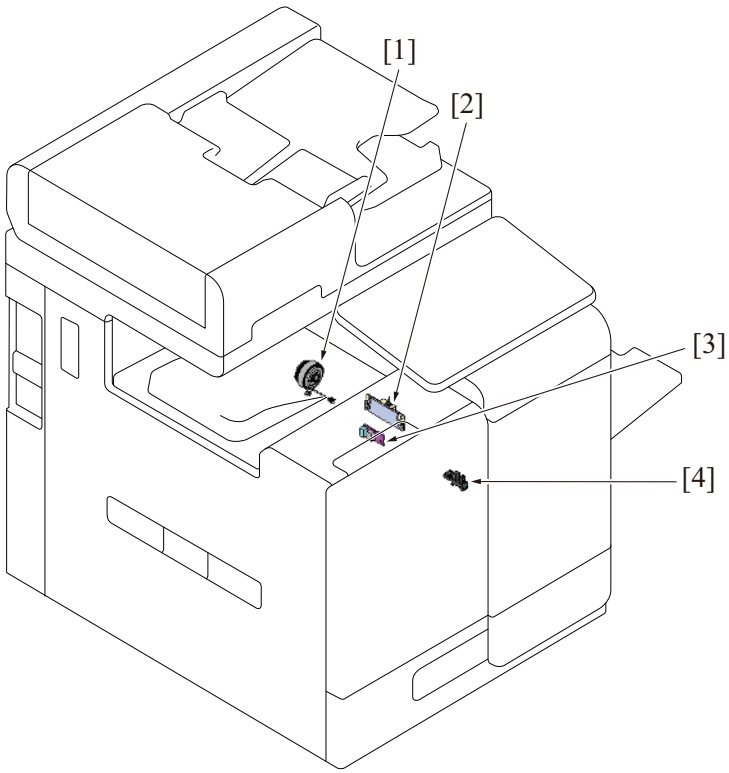
[1]	Toner suction fan (FM2)	[2]	1st transfer pressure clutch (CL1)
[3]	CPU cooling fan (FM3)	[4]	Machine cooling fan (FM1)
[5]	Color motor (M2)	[6]	Main motor (M1)

1.1.4 Left side



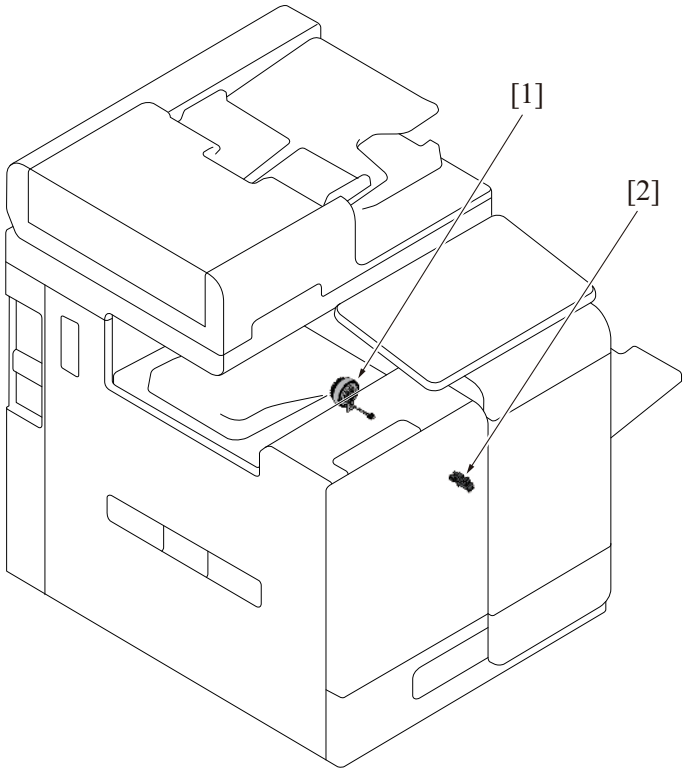
[1]	High voltage unit (HVPS)	[2]	PH unit

1.1.5 Right side



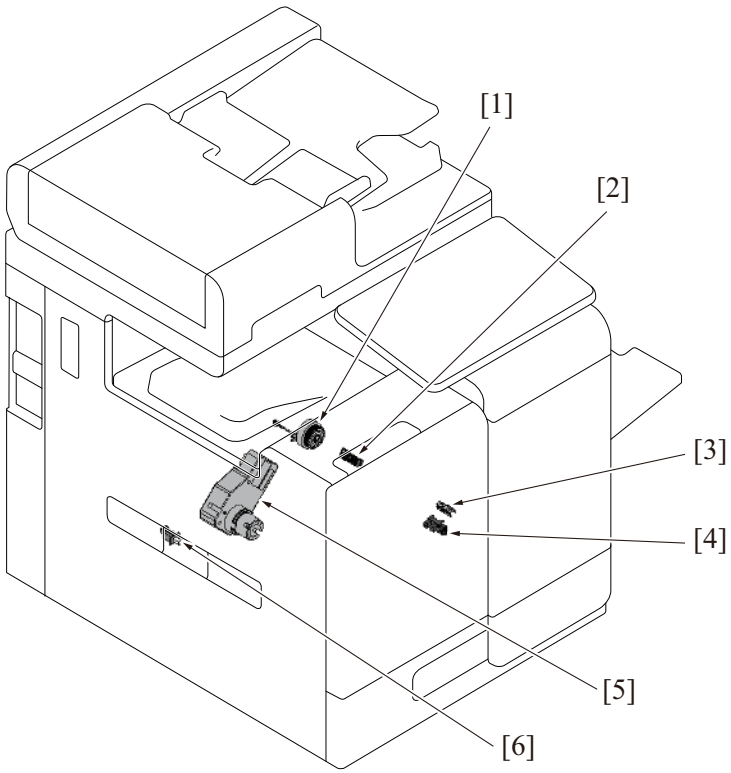
[1]	Registration clutch (CL4)	[2]	IDC sensor (IDCS1)
[3]	Temperature/humidity sensor (TEM/HUMS1)	[4]	Registration sensor (PS9)

1.1.6 Manual bypass tray



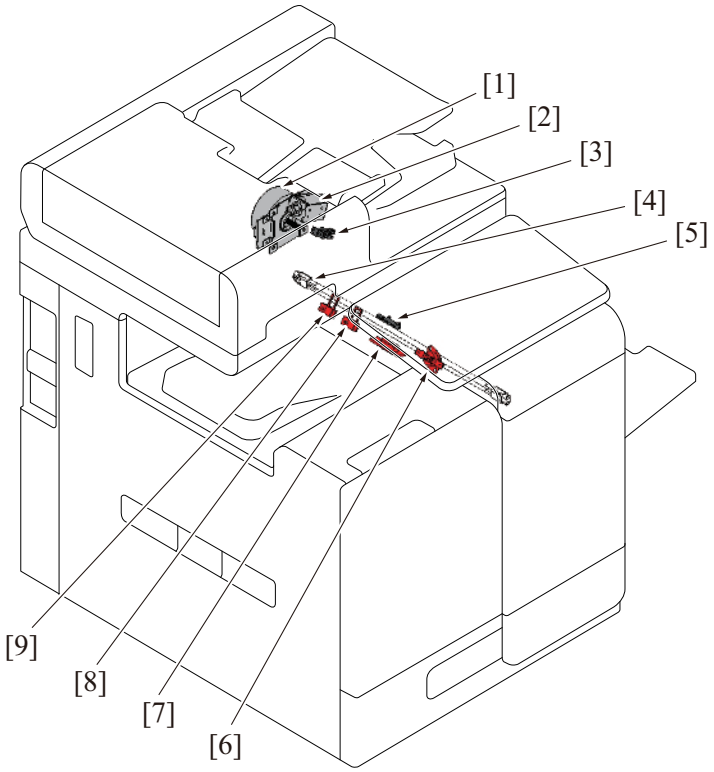
[1]	Bypass tray paper feed clutch (CL2)	[2]	Bypass tray paper empty sensor (PS4)

1.1.7 Tray 1



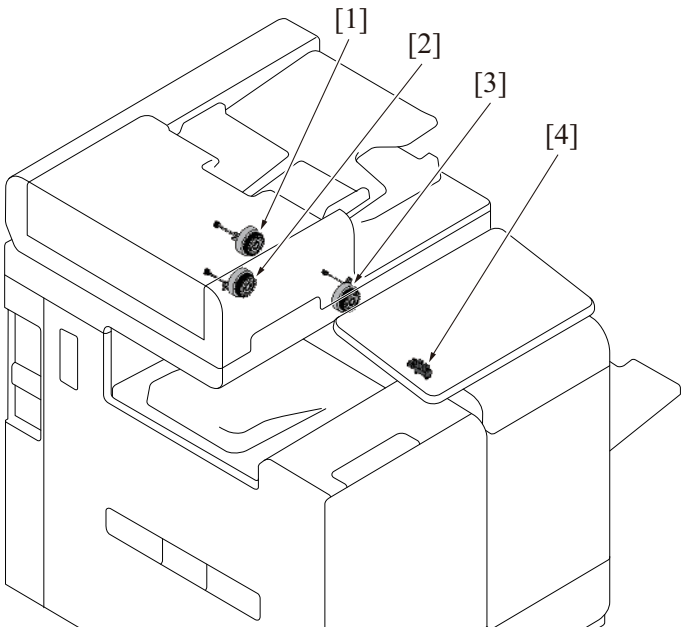
[1]	Tray 1 paper feed clutch (CL3)	[2]	Tray 1 upper limit sensor (PS7)
[3]	Tray 1 paper feed sensor (PS8)	[4]	Tray 1 paper empty sensor (PS5)
[5]	Tray 1 lift-up motor (M6)	[6]	Tray 1 set switch (SW3)

1.1.8 Fusing/paper exit section



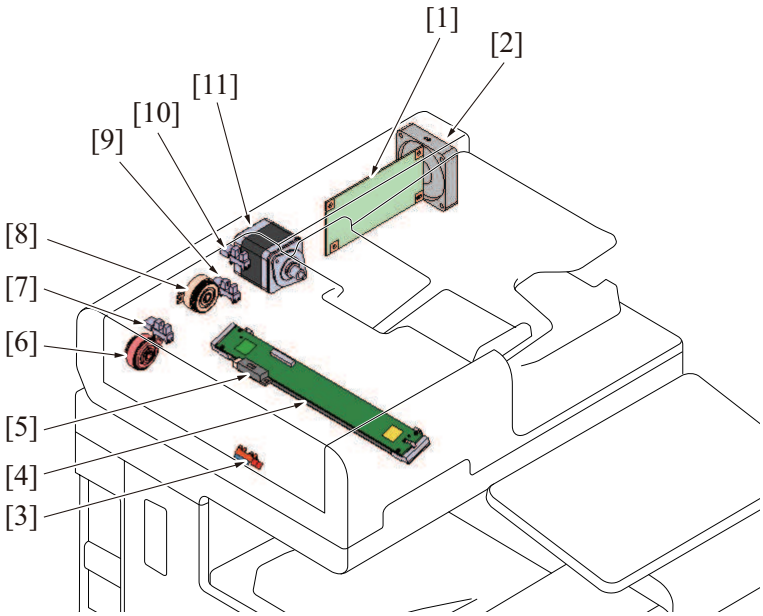
[1]	Fusing motor (M3)	[2]	Exit path switch solenoid (SD1)
[3]	Paper exit sensor (PS13)	[4]	Fusing heater lamp (HL1)
[5]	Fusing loop sensor (PS10)	[6]	Heating roller thermostat (TS1)
[7]	Heating roller temperature sensor (TEMS)	[8]	Heating roller thermistor/Ctr (TH2)
[9]	Heating roller thermistor/Edg (TH1)	-	-

1.1.9 Duplex section



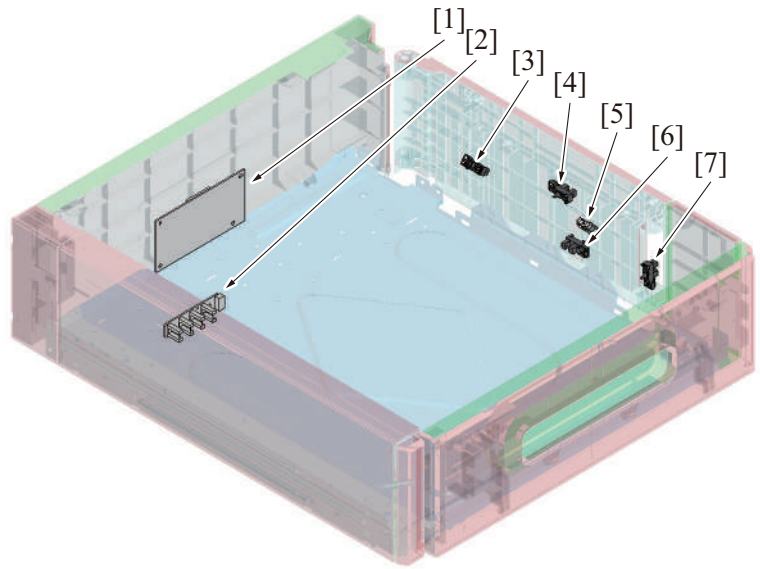
[1]	ADU reverse rotation clutch (CL7)	[2]	ADU forward rotation clutch (CL6)
[3]	ADU transport clutch (CL5)	[4]	ADU transport sensor (PS11)

1.1.10 ADF

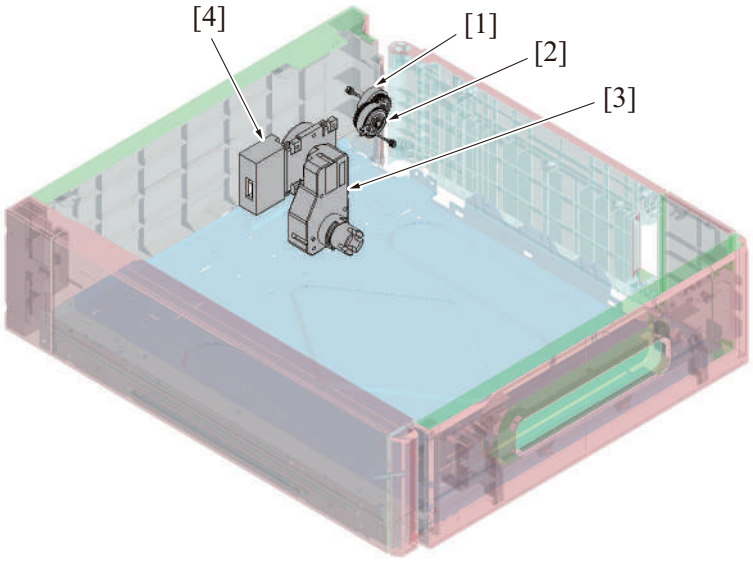


[1]	DF control board (DFCB)	[2]	DF cooling fan (FM4)
[3]	Document before read sensor (PS18)	[4]	DF CIS module (DF CIS)
[5]	After separate sensor (PS16)	[6]	Document registration clutch (CL9)
[7]	Document registration sensor (PS17)	[8]	Document paper feed clutch (CL8)
[9]	Document empty sensor (PS19)	[10]	Upper door sensor (PS20)
[11]	Document main motor (M8)	-	-

1.2 PF-P20/PF-P27

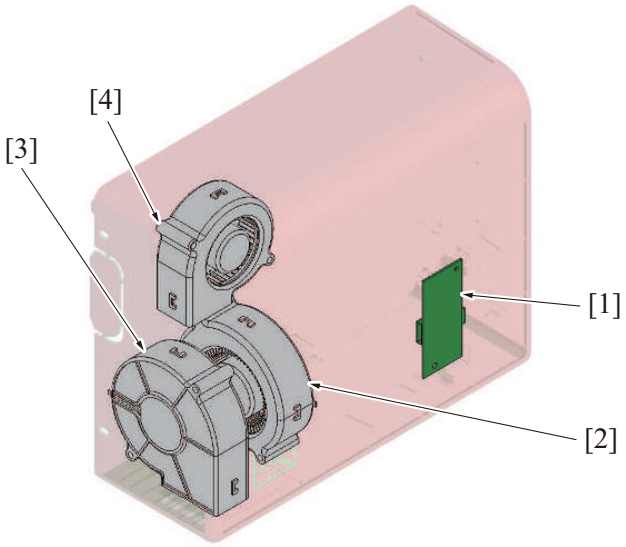


[1]	PC control board assy (PCCB)	[2]	Paper size sensor (PS5)
[3]	Upper limit sensor (PS2)	[4]	Transport sensor (PS6)
[5]	Paper feed sensor (PS3)	[6]	Paper empty sensor (PS1)
[7]	Door sensor (PS4)	-	-



[1]	Transport clutch (CL2)	[2]	Paper feed clutch (CL1)
[3]	Lift-up motor (M2)	[4]	Drive motor (M1)

1.3 CU-202



[1]	Clean unit drive board (CUDB)	[2]	Exhaust fan/2 (FM2)
[3]	Exhaust fan/1 (FM1)	[4]	Exhaust fan/3 (FM3)

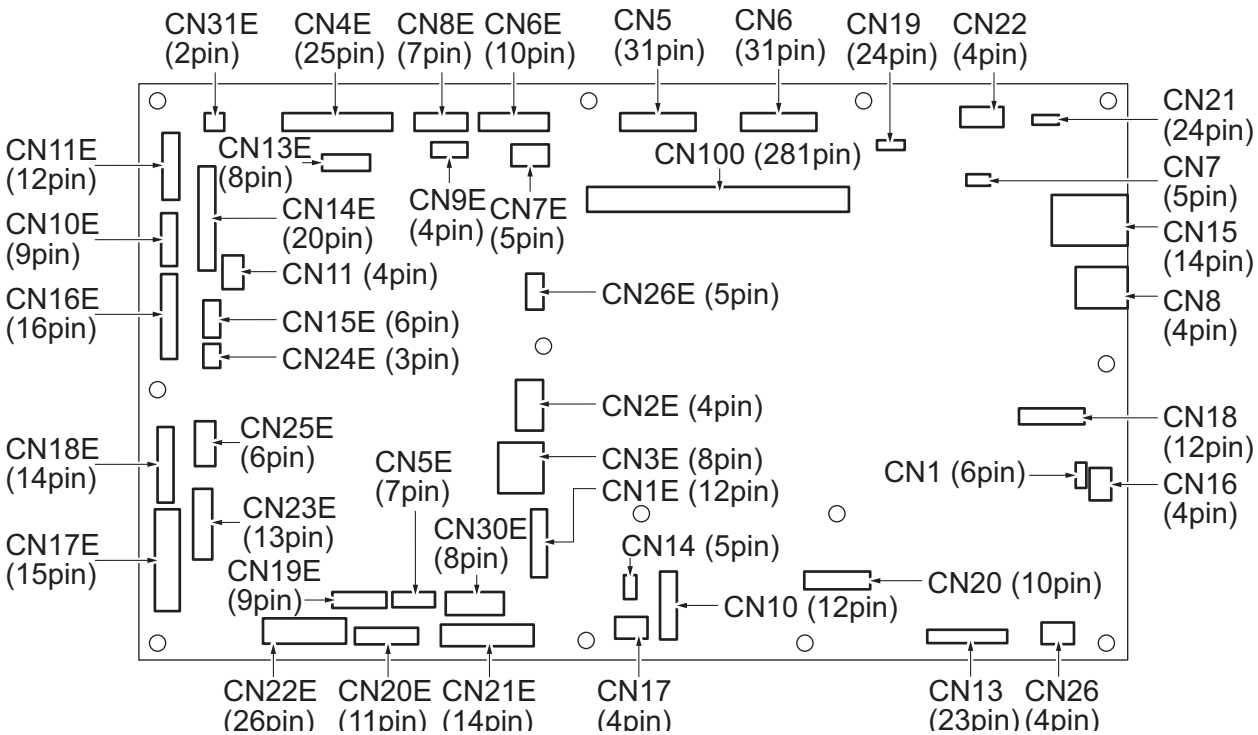
2. CONNECTOR LAYOUT DRAWING

2.1 BOARD CONNECTOR LAYOUT DRAWING

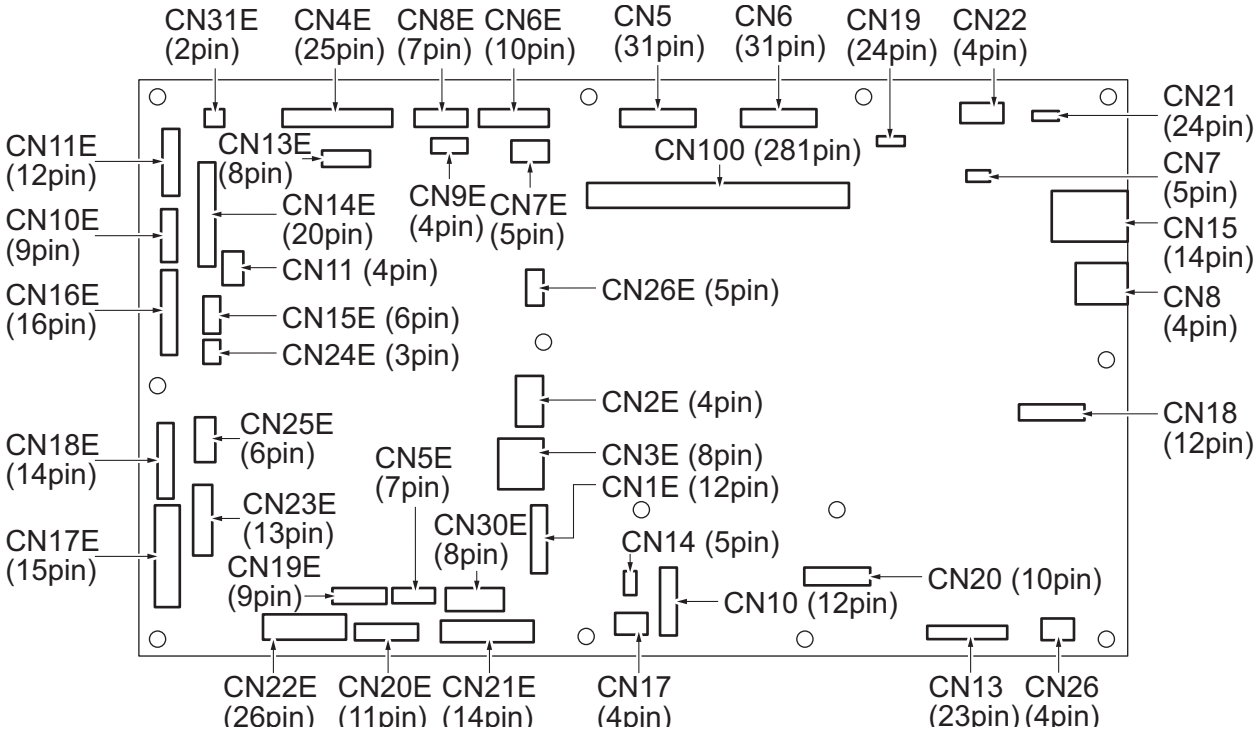
2.1.1 d-Color MF3303/MF3303en/MF4003/MF4003en

(1) Base board (BASEB)

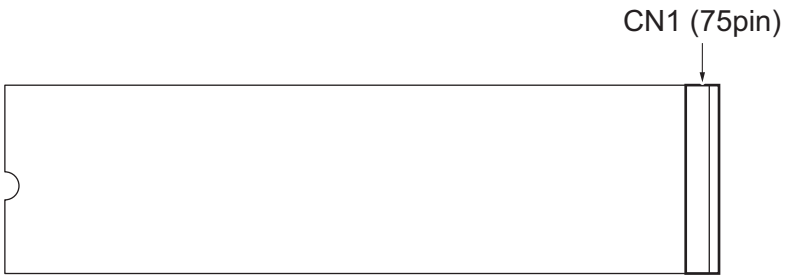
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<d-Color MF4003en/MF3303en>

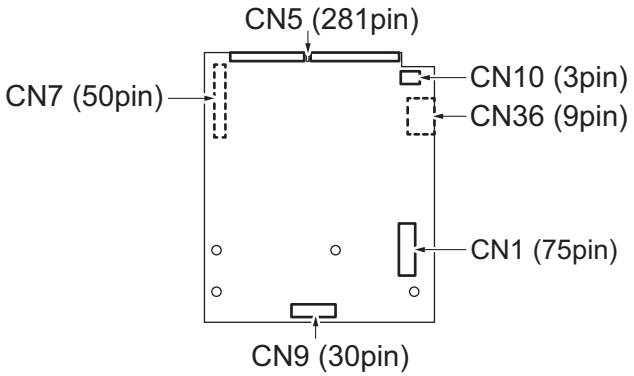


(2) Storage board (STRGB)

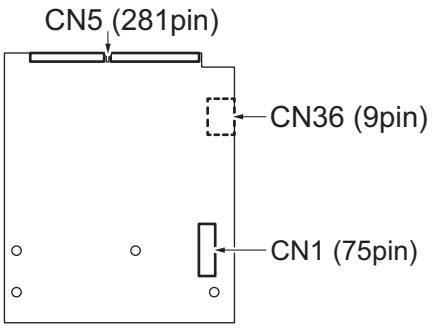


(3) CPU board (CPUB)

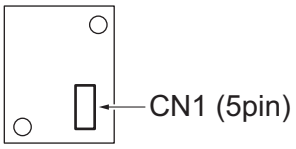
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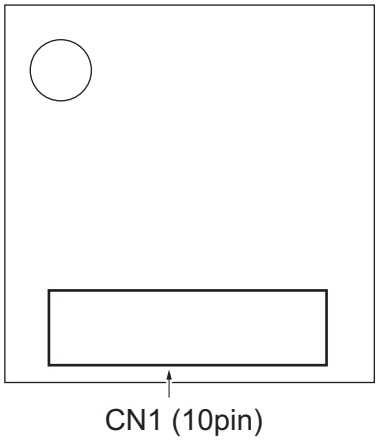
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(4) Backup board (ERB)

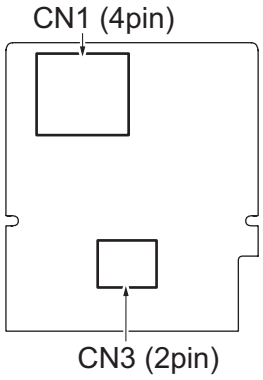


(5) TPM board (TPMB)

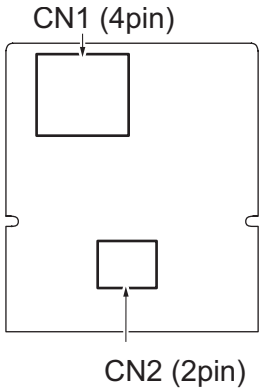


(6) Machine condition monitor board/Fr (MCMB/Fr)

<d-Color MF4003/MF3303>

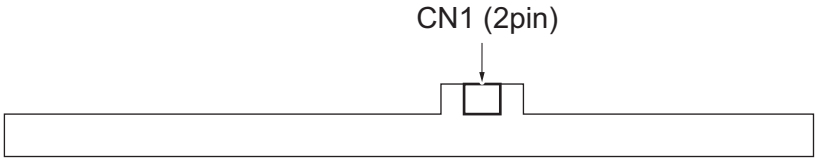


<d-Color MF4003en/MF3303en>

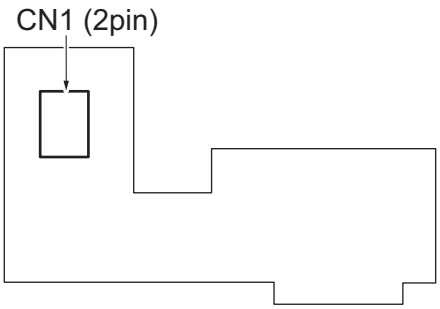


(7) Machine condition monitor board/Edg (MCMB/Edg)

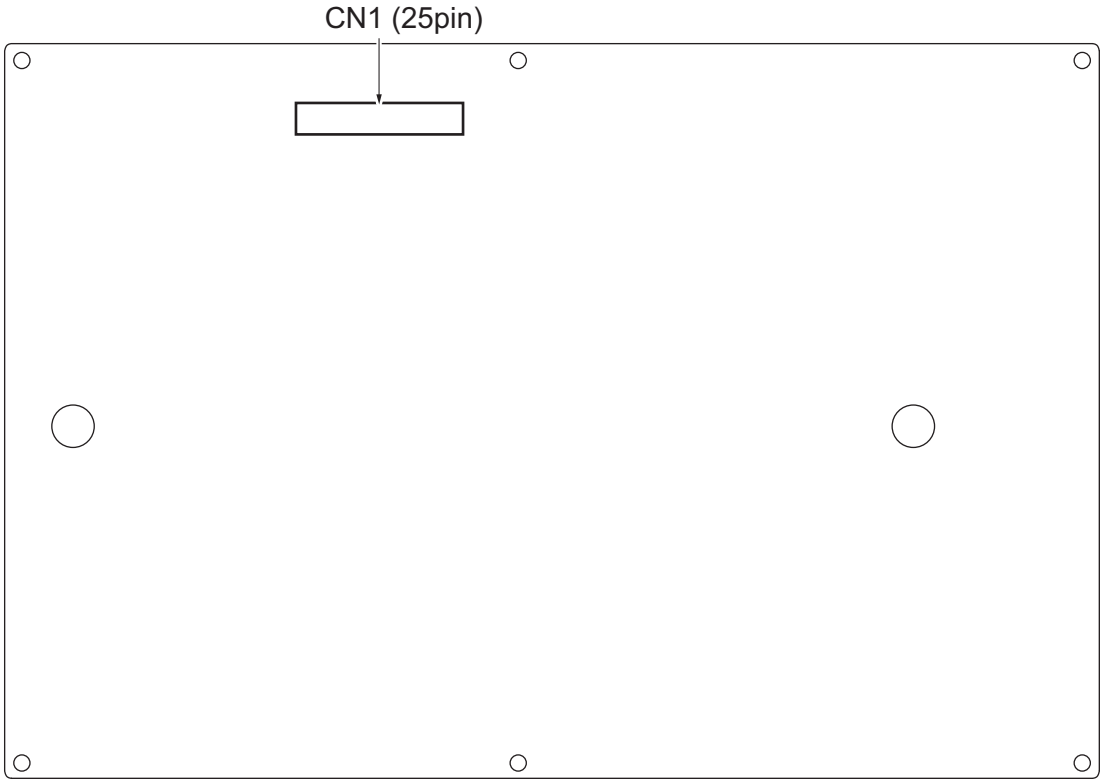
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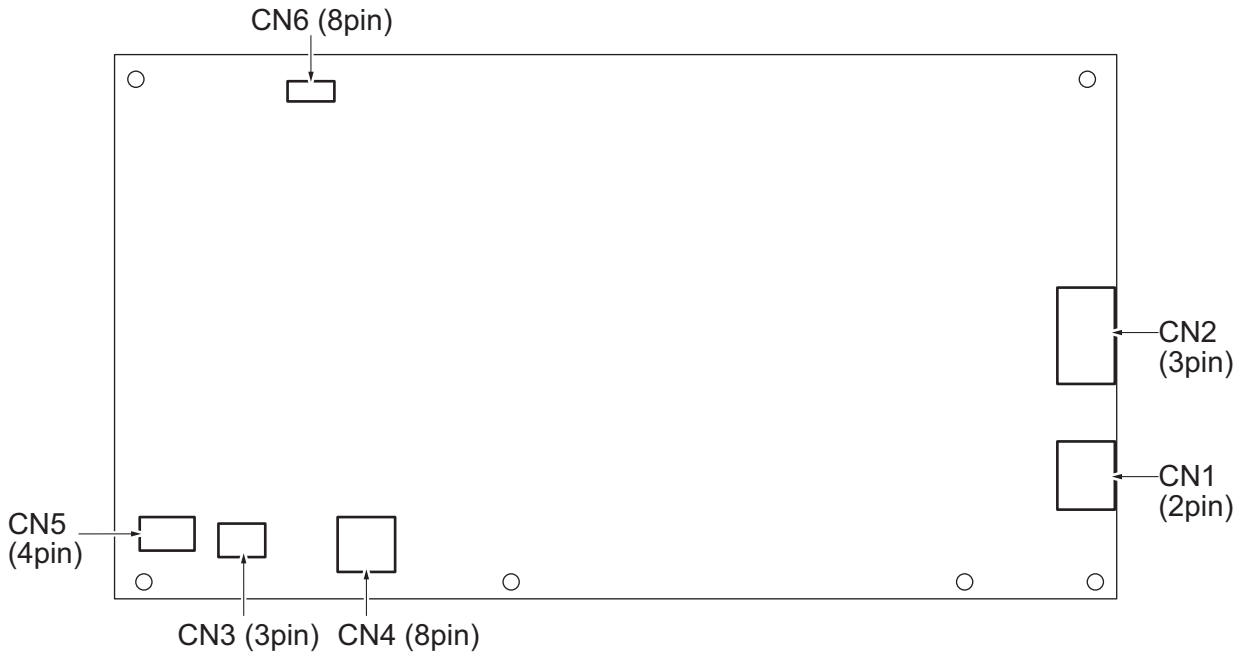
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(8) High voltage unit (HVPS)

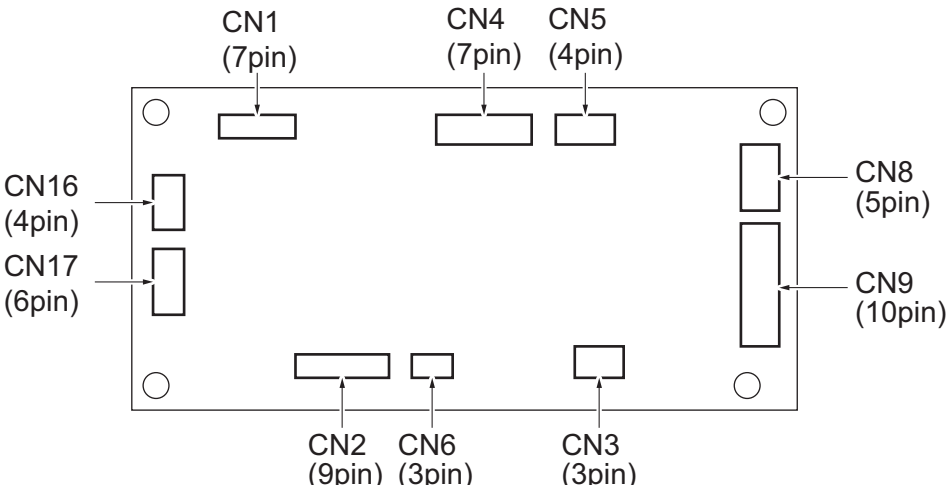


(9) DC power supply (DCPS)

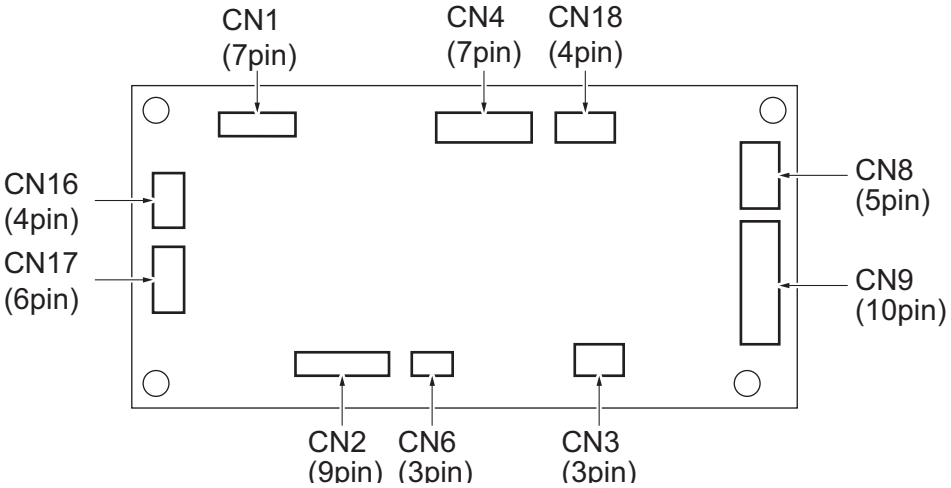


(10) DF control board (DFCB)

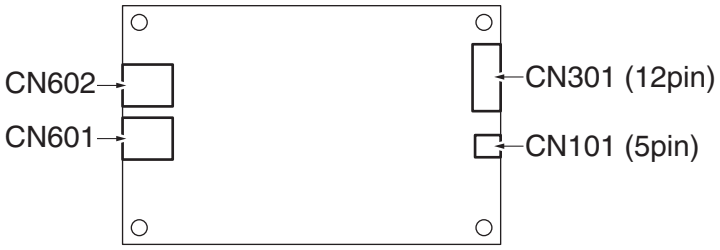
<d-Color MF4003/MF3303>



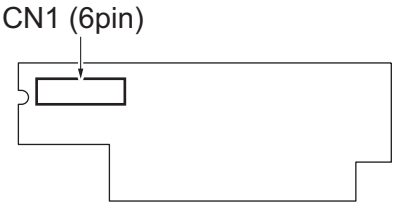
<d-Color MF4003en/MF3303en>



(11) FAX board (FAXB)

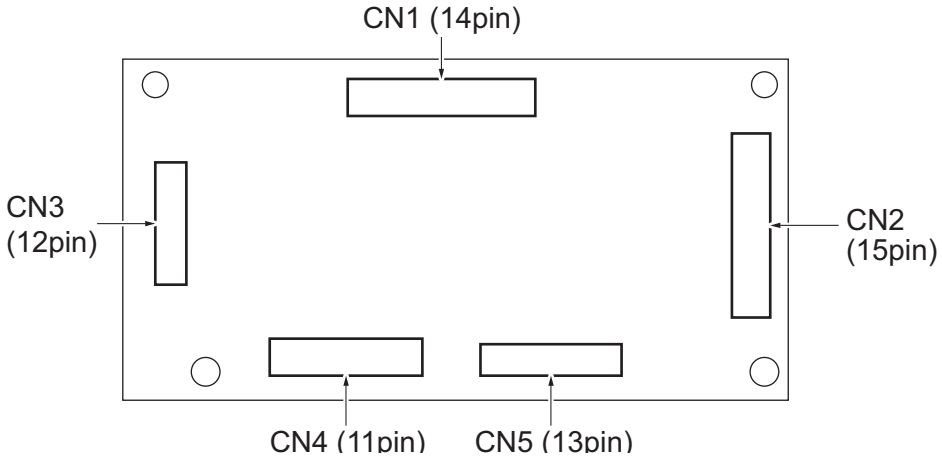


(12) NFC board (NFCB)



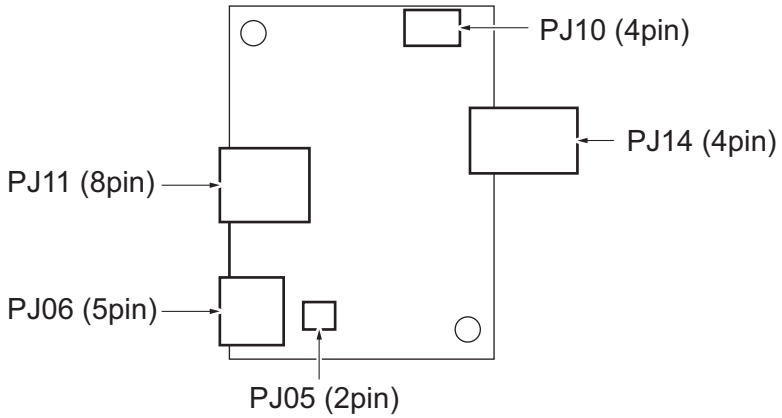
2.1.2 PF-P20/PF-P27

PC control board (PCCB)



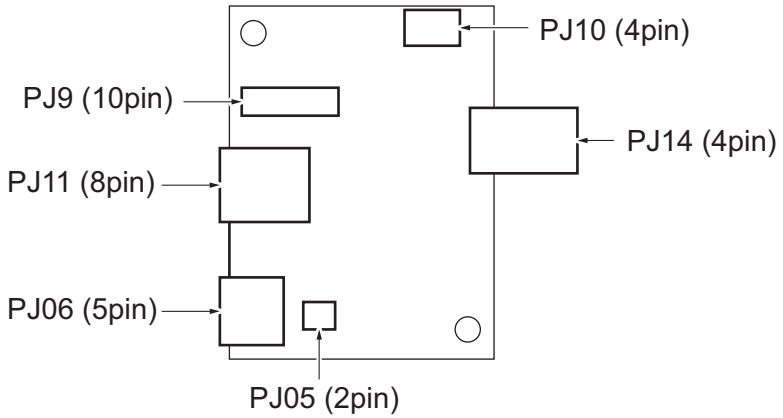
2.1.3 EK-P08

USB hub board (USBHB)



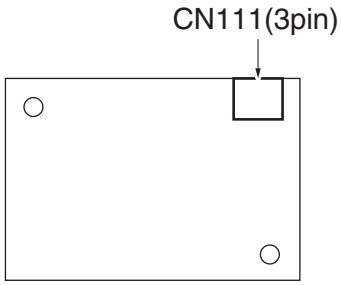
2.1.4 EK-P09

USB hub board (USBHB)

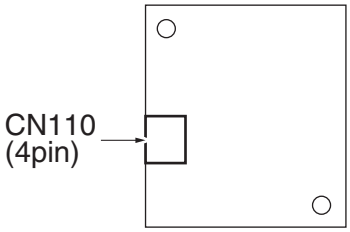


2.1.5 UK-P19

Multi feed detection board/TX (MFDB/TX)

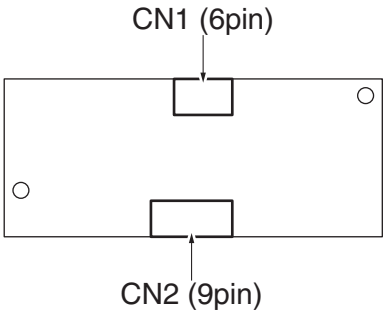


Multi feed detection board/RX (MFDB/RX)



2.1.6 CU-202

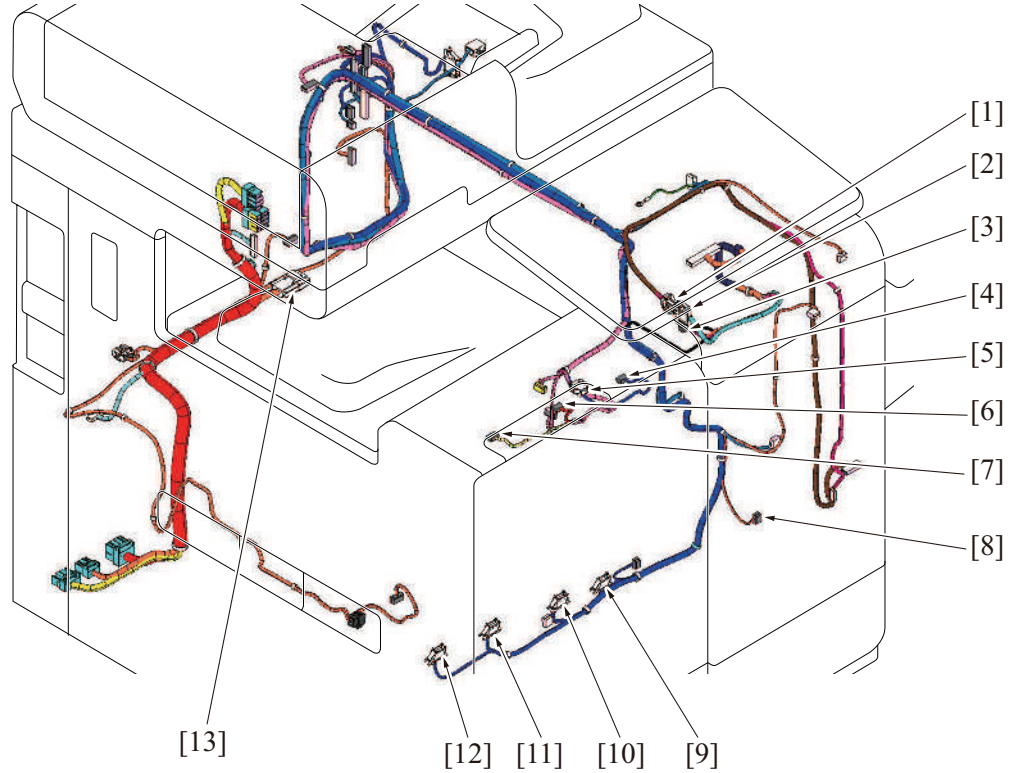
Clean unit drive board (CUDB)



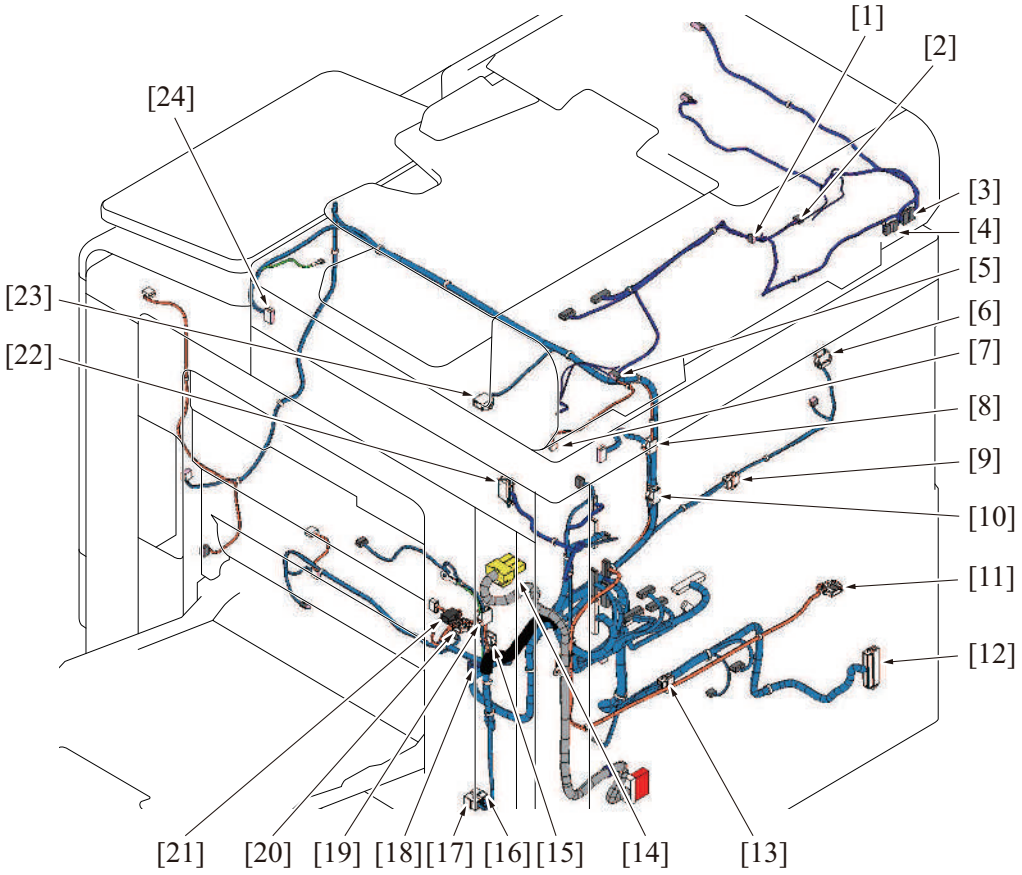
2.2 RELAY CONNECTOR LAYOUT DRAWING

2.2.1 d-Color MF3303/MF3303en/MF4003/MF4003en

(1) Main body



No.	CN No.	Pin	Location	No.	CN No.	Pin	Location
[1]	CN53	6 Pin	2-W	[2]	CN52	10 Pin	2-W
[3]	CN103	3 Pin	11-J	[4]	CN102	3 Pin	10-J
[5]	CN75	2 Pin	4-D	[6]	CN101	3 Pin	10-J
[7]	CN100	3 Pin	10-J	[8]	CN37	3 Pin	11-D
[9]	CN6	5 Pin	7-J	[10]	CN5	5 Pin	7-J
[11]	CN8	5 Pin	8-J	[12]	CN7	5 Pin	8-J
[13]	CN36	2 Pin	9-R	-	-	-	-



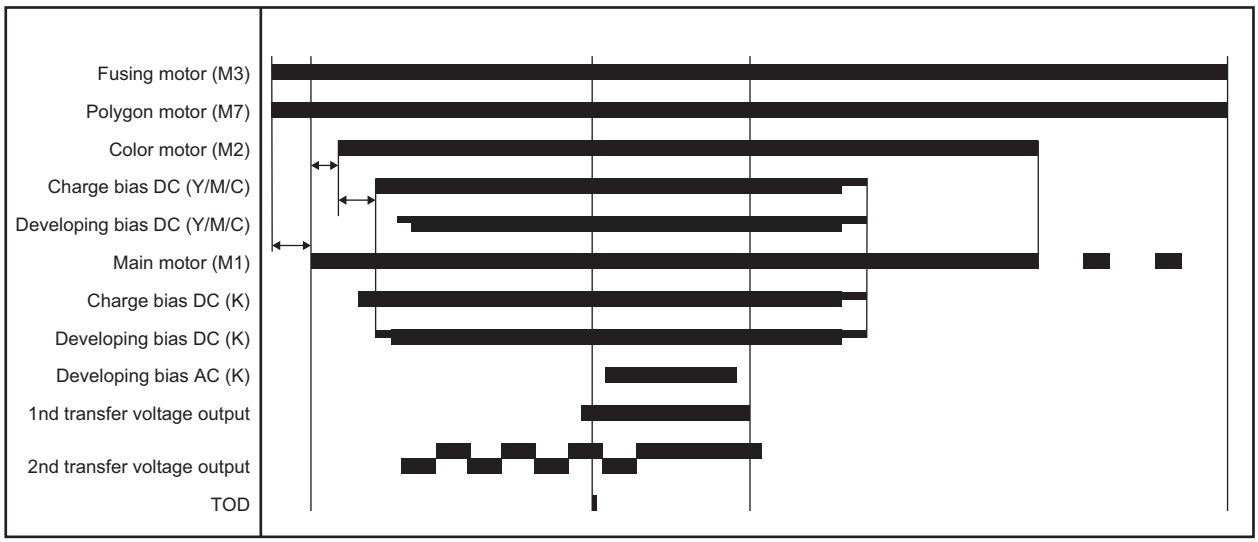
No.	CN No.	Pin	Location	No.	CN No.	Pin	Location
[1]	CN109	2 Pin	22-W	[2]	CN106	2 Pin	22-W
[3]	CN115	4 Pin	23-W	[4]	CN114	3 Pin	23-W
[5]	CN112	3 Pin	22-W	[6]	CN10	3 Pin	3-D
[7]	CN12	2 Pin	3-D	[8]	CN39	2 Pin	3-D
[9]	CN13	2 Pin	2-D	[10]	CN11	2 Pin	2-D
[11]	CN35	6 Pin	28-I	[12]	CN24	14 Pin	13-J
[13]	CN23	3 Pin	9-D	[14]	CN2	3 Pin	5-D
[15]	CN47	2 Pin	9-J	[16]	CN71	3 Pin	8-J
[17]	CN46	2 Pin	9-J	[18]	CN44	2 Pin	12-D
[19]	CN76	3 Pin	9-J	[20]	CN70	4 Pin	14-D
[21]	CN45	2 Pin	12-D	[22]	CN3	9 Pin	5-D
[23]	CN72	3 Pin	11-J	[24]	CN26	5 Pin	12-J

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N TIMING CHART

1. d-Color MF3303/MF3303en/MF4003/MF4003en

1.1 Timing chart when the main power switch is turned ON



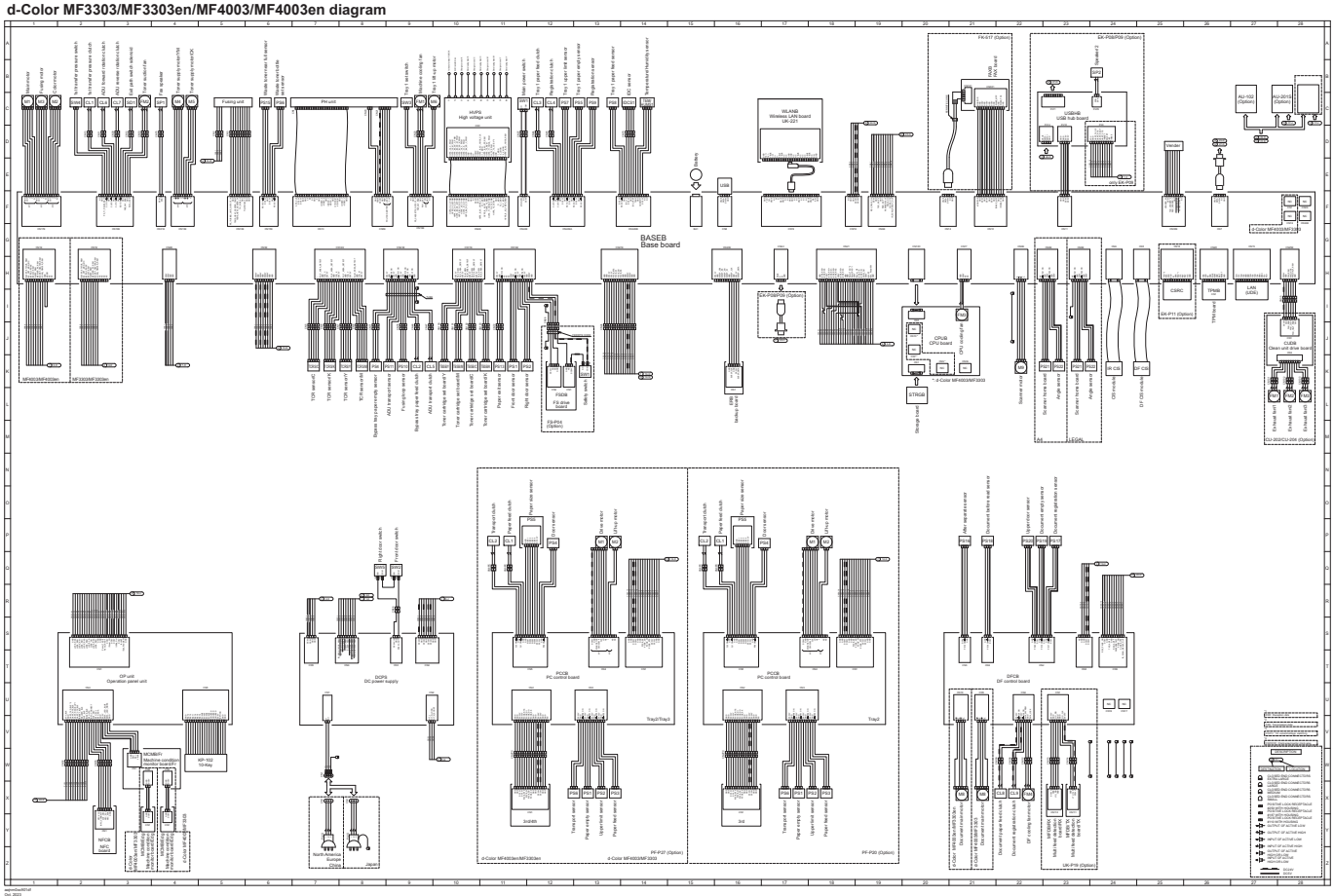
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O WIRING DIAGRAM

1. d-Color MF3303/MF3303en/MF4003/MF4003en

1.1 Main body

d-Color MF3303/MF3303en/MF4003/MF4003en diagram



- d-Color MF3303/MF3303en/MF4003/MF4003en Wiring diagram (aajnm0oc801df.pdf 141KB)
- d-Color MF3303/MF3303en/MF4003/MF4003en Wiring diagram A3 size (1/4) (aajnm0oc811df.pdf 91KB)
- d-Color MF3303/MF3303en/MF4003/MF4003en Wiring diagram A3 size (2/4) (aajnm0oc812df.pdf 84KB)
- d-Color MF3303/MF3303en/MF4003/MF4003en Wiring diagram A3 size (3/4) (aajnm0oc813df.pdf 80KB)
- d-Color MF3303/MF3303en/MF4003/MF4003en Wiring diagram A3 size (4/4) (aajnm0oc814df.pdf 81KB)

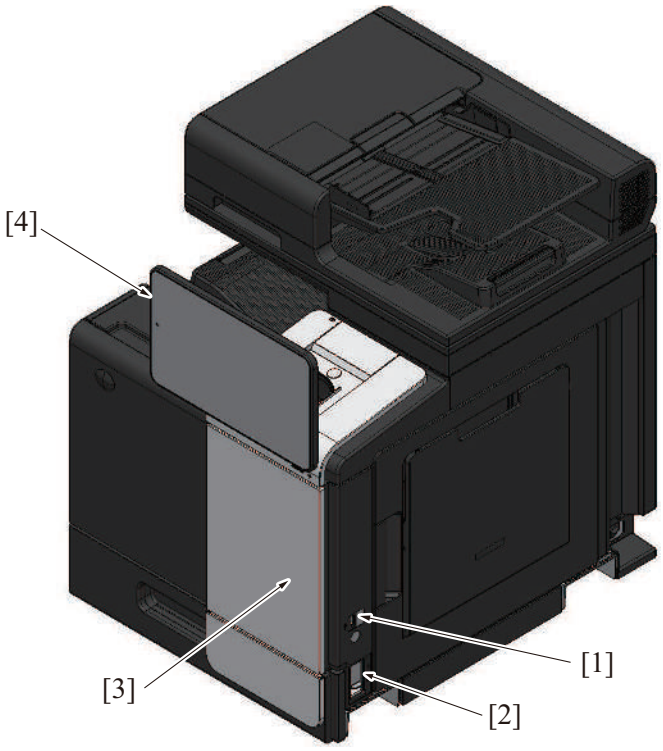
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P THEORY OF OPERATION

1. d-Color MF3303/MF3303en/MF4003/MF4003en

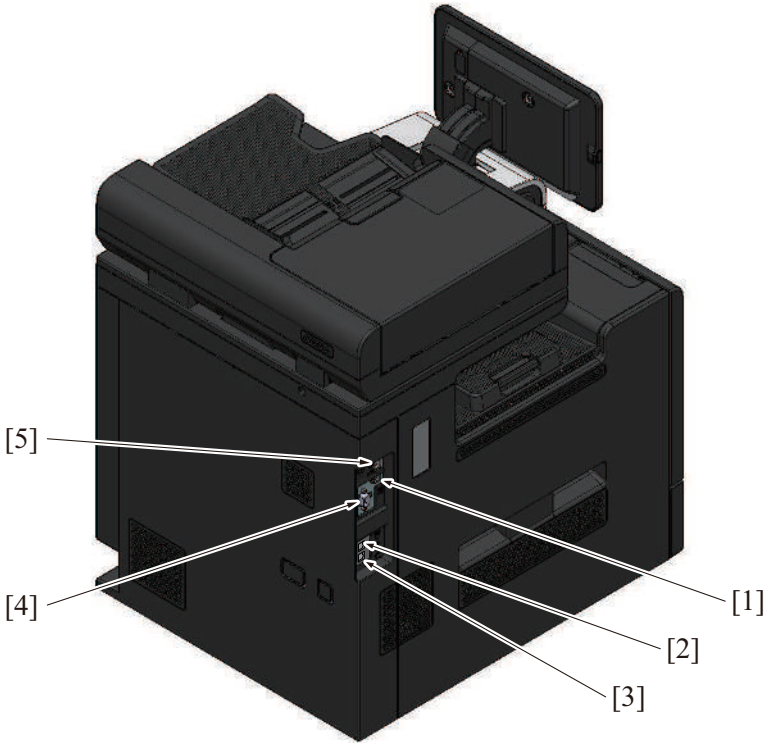
1.1 INTERFACE SECTION

1.1.1 Front side / Right side



[1]	USB port (Type A)	[2]	Main power switch
[3]	Authentication unit (built-in)	[4]	Control panel (10.1-inch TFT color LCD WSVGA, Electrostatic touch panel)

1.1.2 Rear side / left side



[1]	USB port (Type B)	[2]	Line connector (LINE)

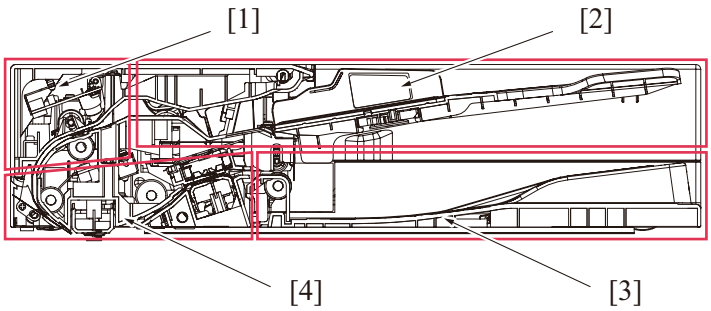
[3]	External telephone connector (TEL)	[4]	CS Remote Care connector for modem connection (RS-232C) *1
[5]	Network port (10 Base-T/100 Base-TX/1000 Base-T)	-	-

- *1: When local interface kit (EK-P11) is mounted.

1.2 AUTOMATIC DOCUMENT FEEDER SECTION

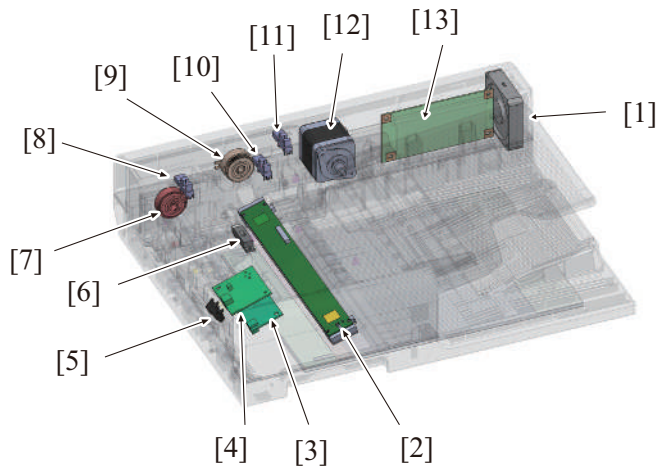
1.2.1 Configuration

(1) Section Configuration



[1]	Registration section	[2]	Paper feed section
[3]	Paper exit section	[4]	Scanner section

(2) Main part configuration

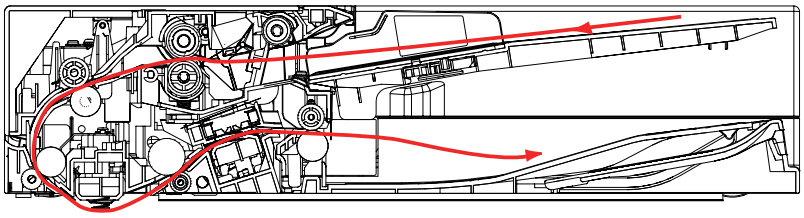


[1]	DF cooling fan (FM4)	[2]	DF CIS module (DFCIS)
[3]	Multi feed detection board/1 (transmitter)	[4]	Multi feed detection board/2 (receiver)
[5]	Document before read sensor (PS18)	[6]	After separate sensor (PS16)
[7]	Document registration clutch (CL9)	[8]	Document registration sensor (PS17)
[9]	Document paper feed clutch (CL8)	[10]	Document empty sensor (PS19)
[11]	Upper door sensor (PS20)	[12]	Document main motor (M8)
[13]	DF control board (DFCB)	-	-

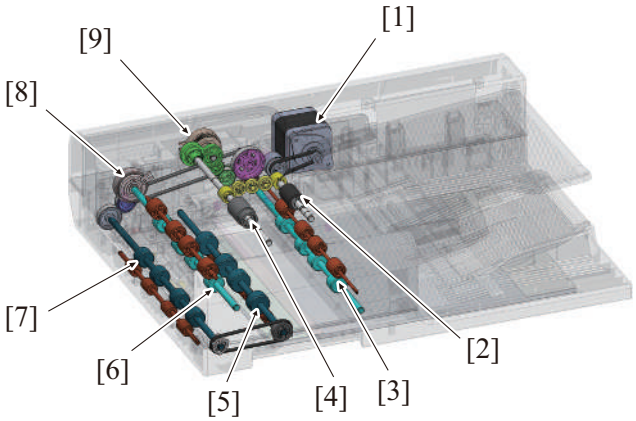
1.2.2 Paper path

(1) Paper path

- When the start key is pressed, the document main motor drive and the pick-up roller feed the original in.
- The original that fed in is transferred to the paper exit tray via the registration roller, document reading roller and document exit roller.



1.2.3 Drive

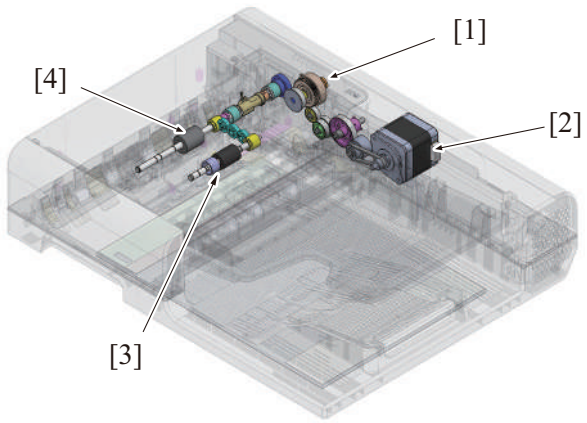


[1]	Document main motor (M8)	[2]	Pick-up roller
[3]	Document exit roller	[4]	Document feed roller
[5]	Document after reading roller	[6]	Registration roller
[7]	Document before reading roller	[8]	Document registration clutch (CL9)
[9]	Document paper feed clutch (CL8)	-	-

1.2.4 Operation

(1) Document feed mechanism

- The document detection sensor detects the original is set.
- Turn ON the start key, the document main motor drives, and the document pick-up roller is pressed down via the document paper feed clutch.
- The rotation of the document pick-up roller and document feed roller feeds the original.
- The pick-up roller transports the original to the document feed roller.
- The rotation of the pick-up roller and the document feed roller drives the document main motor drive via the gear and the document paper feed clutch.

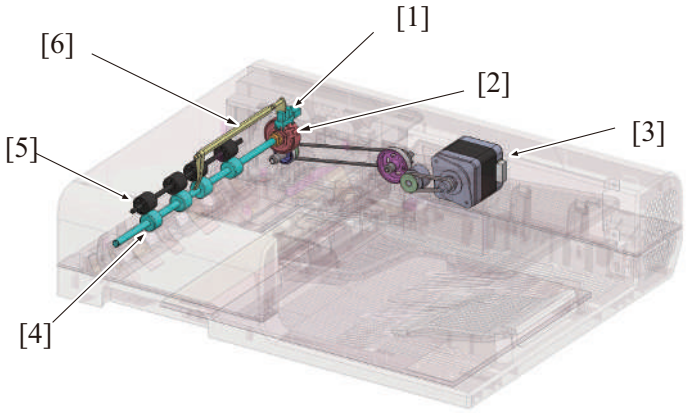


[1]	Document paper feed clutch (CL9)	[2]	Document main motor (M8)
[3]	Pick-up roller	[4]	Document feed roller

(2) Document registration mechanism

- The registration roller rotates and transports the original that is fed in to the document reading position of the main body.

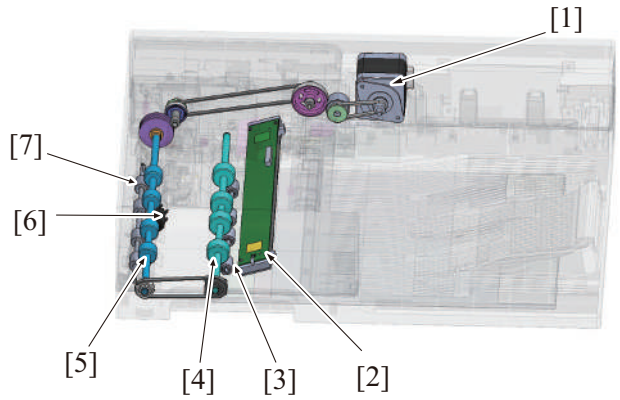
- The original is pressed against the registration roller and registration roll. This forms a loop in the original to thereby correct any skew in the original.
- The rotation of the registration roller drives the document main motor drive via the gear.



[1]	Document registration sensor (PS17)	[2]	Document paper feed clutch (CL8)
[3]	Document main motor (M8)	[4]	Document registration roller
[5]	Document registration roll	[6]	Actuator

(3) Document reading mechanism

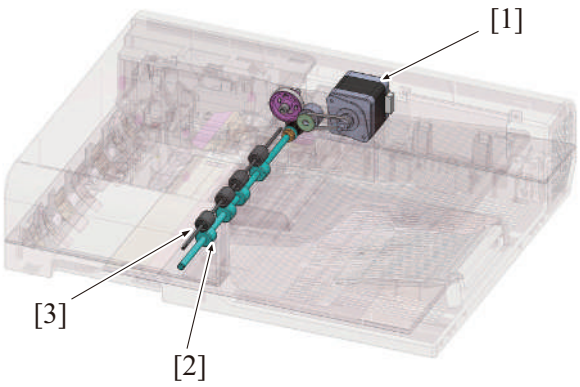
- The document before read roller and document after read roller are driven by the document main motor.
- When reading a 2-sided original, the 2-sided original (the front side and back side) is read at once in one pass of the original.
- The front side of the 2-sided original is read by the scanner unit section of the main body after the leading edge of the original has moved past the document before reading roller.
- The back side of the 2-sided original is read by the DF CIS module after the leading edge of the original has moved past the document after reading roller.



[1]	Document main motor (M8)	[2]	DF CIS module (DFCIS)
[3]	Document after reading roll	[4]	Document after reading roller
[5]	Document before reading roller	[6]	Document before reading sensor (PS18)
[7]	Document before reading roll	-	-

(4) Document exit mechanism

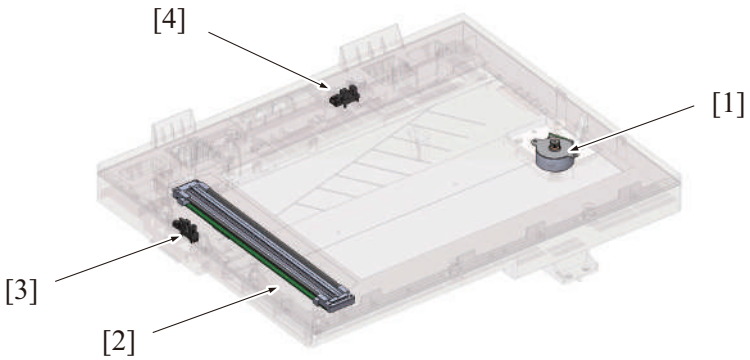
- The paper exit section includes the document exit roller that feeds the original transported from the reading section out onto the document exit tray.
- The document exit sensor roller drives by the document main motor.



[1]	Document main motor (M8)	[2]	Document exit roller
[3]	Document exit roll	-	-

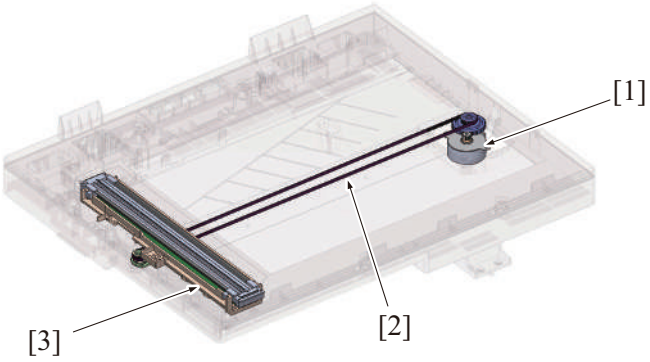
1.3 SCANNER SECTION

1.3.1 Configuration



[1]	Scanner motor (M9)	[2]	CIS module (IR CIS)
[3]	Scanner home sensor (PS21)	[4]	Angle sensor (PS22)

1.3.2 Drive

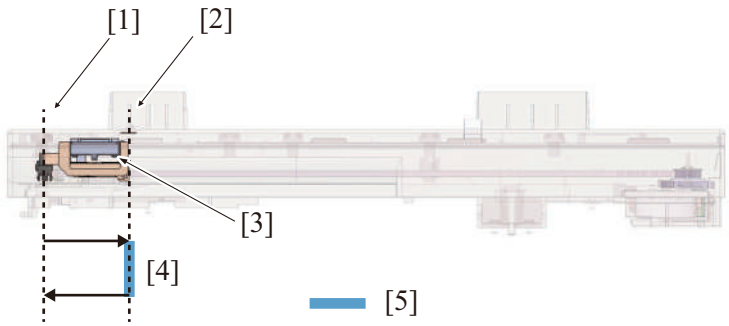


[1]	Scanner motor (M9)	[2]	Drive belt
[3]	CIS module (IR CIS)	-	-

1.3.3 Operation

(1) When the power is ON

1. When the power is turned ON, the CIS moves from the home position to the shading position.
2. The LED of the CIS lights up.
3. The gain value of the CIS output voltage to R, G, and B is adjusted.
4. After adjusting the gain value, a shading correction is performed.
5. The CIS moves in the return direction and stops at the home position.



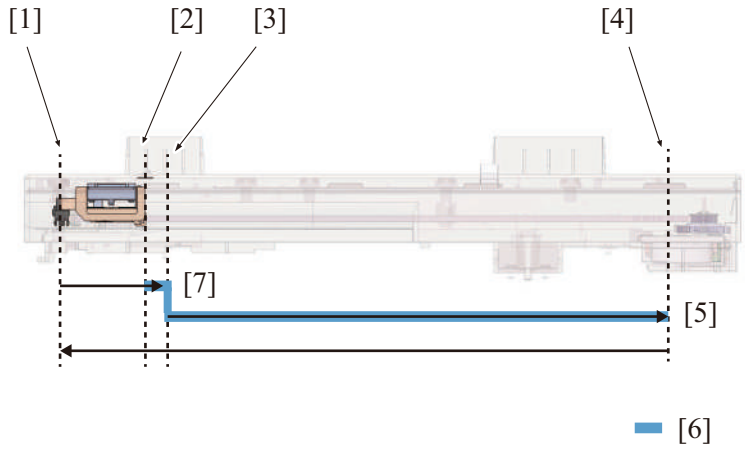
[1]	Home position	[2]	Shading position
[3]	CIS module (IR CIS)	[4]	Shading correction
[5]	The LED turns ON	-	-

(2) Control when the Start key is pressed

(a) Original scanning mode

Original cover mode

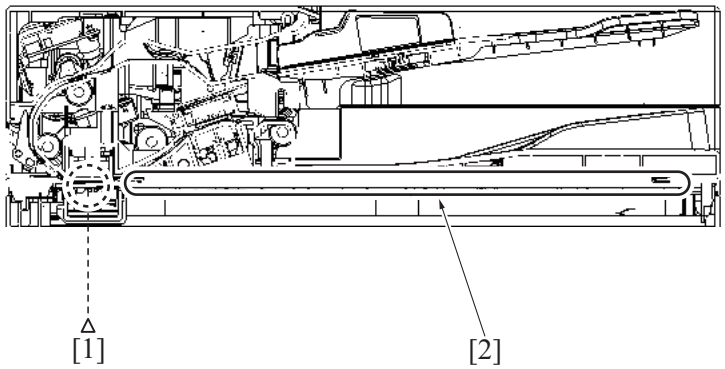
1. Turn ON the start key, the CIS module moves from the home position to the shading position.
2. From the shading position, the CIS module turns ON the LED and moves to the scan start position while performing shading correction.
   - The exposure unit will start reading the original image from the leading edge.
   - The unit will finish reading the image at the trailing edge of the original.
3. The LED will turn OFF when the reading is complete.
4. The CIS module moves from the scan end position to the home position.



[1]	Home position	[2]	Shading position
[3]	Scan start position	[4]	Scan end position
[5]	Read original	[6]	The LED turns ON
[7]	The LED turns ON	-	-

DF mode

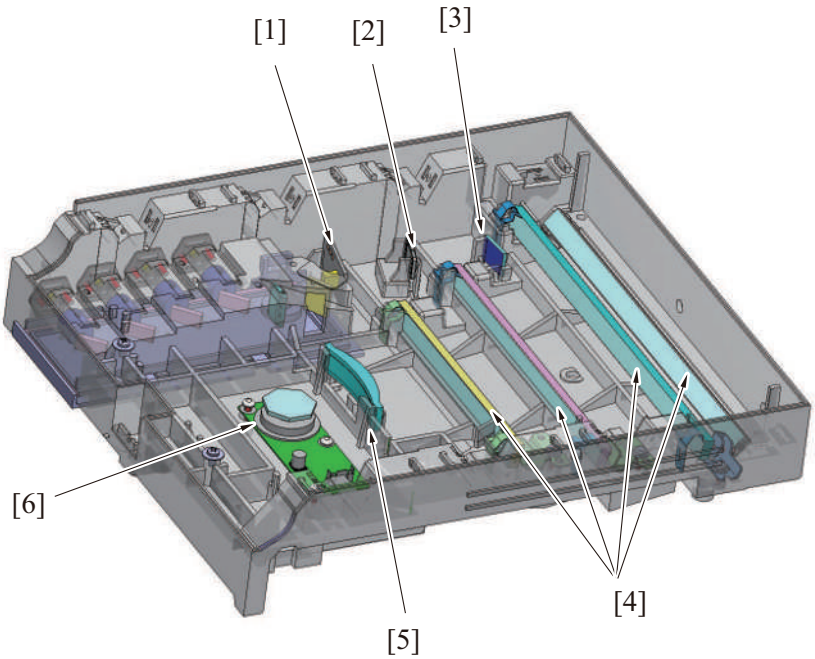
- The original fed by the document feeder will be read at the original DF glass for. The scanner unit will move to the DF original reading position and stops.



[1]	DF original reading position	[2]	Original cover reading position

1.4 WRITE SECTION

1.4.1 Configuration



[1]	SOS sensor	[2]	SOS lens
[3]	SOS mirrors	[4]	Return mirror
[5]	G1 lens	[6]	Polygon motor (M7)

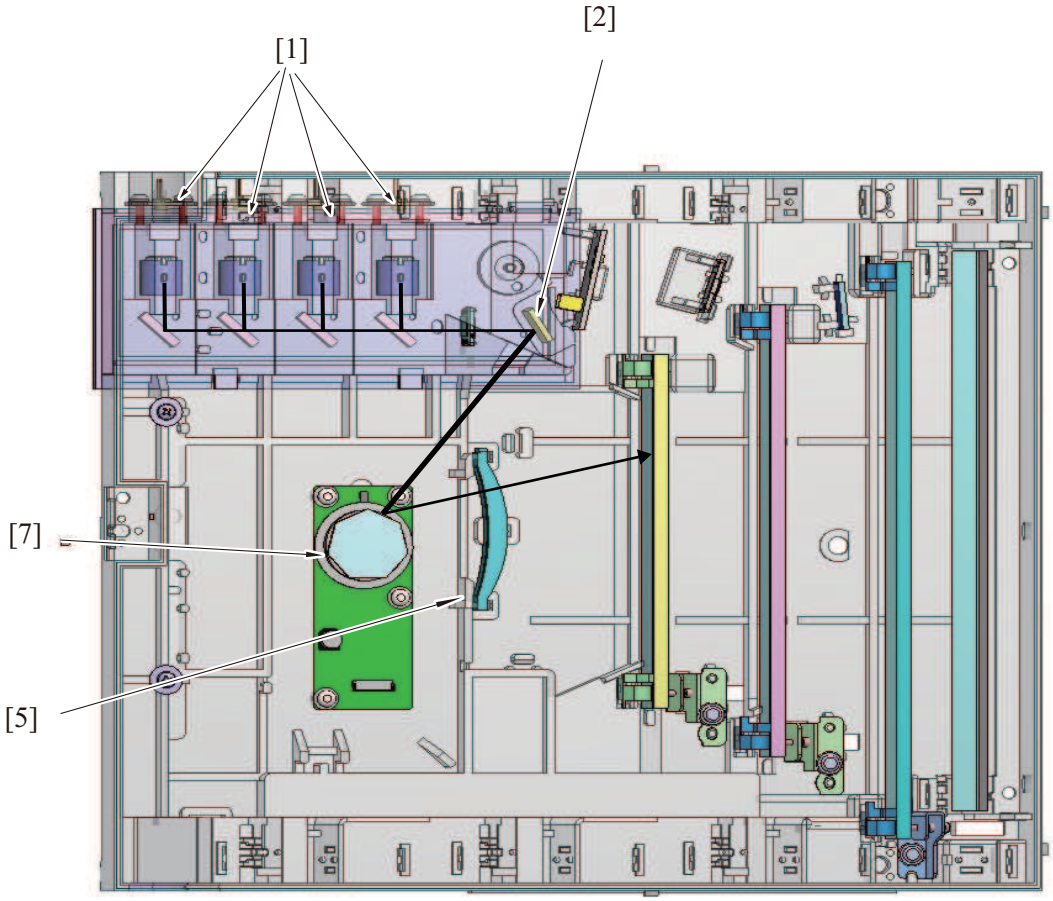
1.4.2 Operation

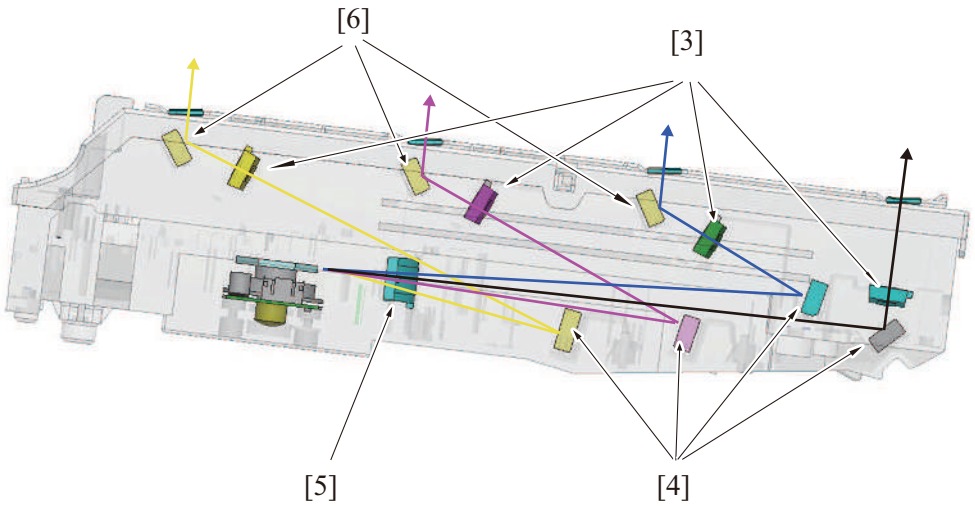
(1) Overview

- A semiconductor laser is provided for each of four different colors. A single polygon motor is used to make a scan.
- Each photoconductor is irradiated with a laser light so that an electrostatic latent image is formed on it.
- All the four colors of photoconductors are irradiated with each laser light simultaneously, which removes minus electric charge remaining on the surface of photoconductors.

(2) Laser exposure process

1. The laser light of each color enters the cylindrical lens via the synthetic mirror and return mirror.
2. At the cylindrical lens, each laser light is condensed in the vicinity of the polygon mirror.
3. Since the angle of incidence for each color of laser light varies, the laser light reflected by the polygon mirror is reflected in a different angle for each color.
4. The condensing angle of each color of laser light is corrected by the G1 lens and then reaches each return mirror.
5. The K laser light is condensed on the photoconductor surface via the G2 lens and return mirror/1. The Y laser light is condensed on the photoconductor surface via the return mirror/1, G2 lens, and return mirror/2. The M laser light is condensed on the photoconductor surface via the return mirror/1, G2 lens, and return mirror/2. The C laser light is condensed on the photoconductor surface via the return mirror/1, G2 lens, return mirror2, and return mirror/3.





[1]	Laser diode	[2]	Return mirror
[3]	G2 lens	[4]	Return mirror/1
[5]	G1 lens	[6]	Return mirror/2
[7]	Polygon motor (M7)	-	-

(3) Laser emission timing

- When a ready signal is detected after the lapse of a given period of time after the print cycle has been started, a laser ON signal is output from the base board.
- The laser ON signal triggers the firing of each laser light, which illuminates the index board via the polygon mirror, G1 lens, index mirror (K), and Index lens. This generates an Index signal.
- This index signal has a function of keeping the same laser light emission timing per every one line in the main scanning direction.
- The index signal is generated with the K laser light only. The laser light emission timing for other colors is determined with reference to K.

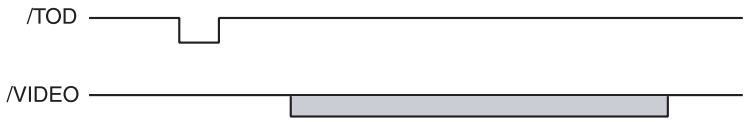
(4) Laser emission area

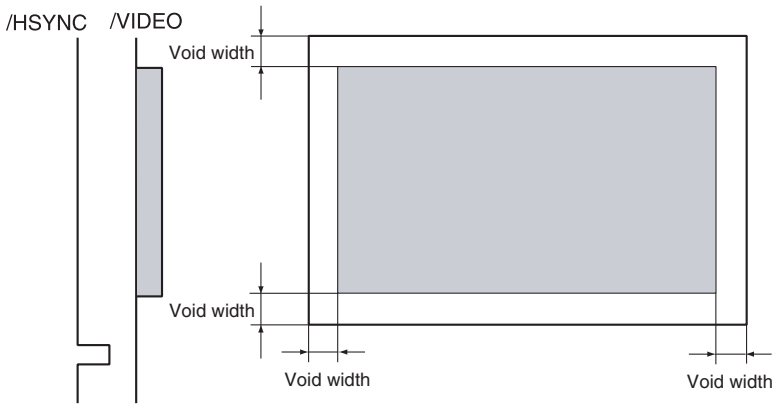
(a) Main scan direction (FD)

- The print start position in the FD direction is determined by the FD print start signal (/HSYNC) that is output from the base board and the width of the paper.
- The laser emission area is determined by the paper size. However, there is a 4.0 mm (copy) /4.2 mm (PC print) wide void area on both the both edges of the paper.

(b) Sub scan direction (CD)

- The print start position in the CD direction is determined by the CD print start signal (/TOD) that is output from the base board and the length of the paper.
- The laser emission area is determined by the paper size. However, there is a 4.0 mm (copy) /4.2 mm (PC print) wide void area on both the both edges of the paper.

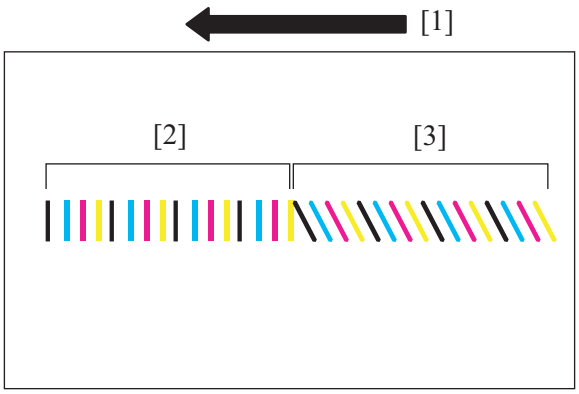




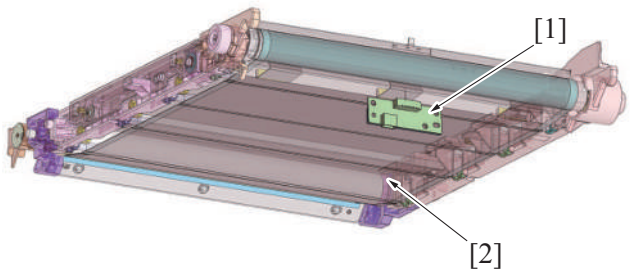
(5) Color registration control (color shift correction) system

(a) Overview of the registration control

- In a tandem engine, each four different color has an independent image reproduction process. Color shift may occur due to accuracy differences of parts in the print head unit. The color registration control system automatically detects color shift and correct color shift in the main and sub scanning directions.
- Color shift is misalignment of the images of three different colors, yellow (Y), magenta (M), and cyan (C), with respect to the image of black (K).
- The color shift detection sequence proceeds as follows. A pattern is produced on the transfer belt. The IDC sensor reads the corresponding pattern. The amount of color shift in each of the sub-scanning and main scanning directions is then calculated and stored in memory.
- The amount of color shift in the sub scanning direction is read from the pattern falling within the sub scanning detection range.
- From data readings, the machine calculates how much the position of each of the different colors should be corrected. Based on the calculated data, the machine controls each dot during image output, thereby correcting the color shift amount.



[1]	Movement direction of the transfer belt	[2]	Detection area for sub scanning direction
[3]	Detection area for main scanning direction	-	-

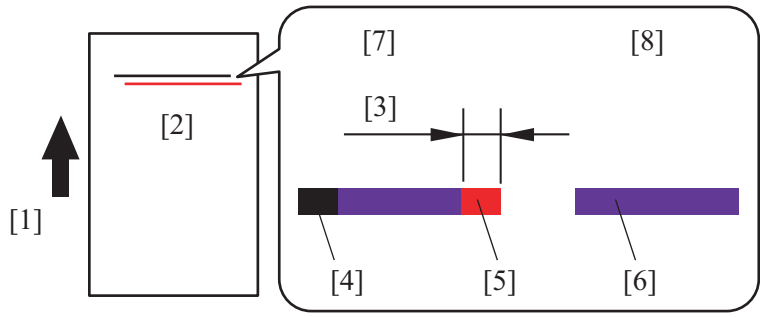


[1]	IDC sensor (IDCS)	[2]	Transfer belt

(b) Correction of color shift in the main scan direction

- If the image of each color (Y, M, C) is misaligned with respect to the image of black (K) in the main scan direction, changing the write start timing in the main scan direction can correct the color shift. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
- Color shift correction control is activated when the image stabilization sequence is started.

* When the image of magenta is misaligned with respect to the image of black (K)

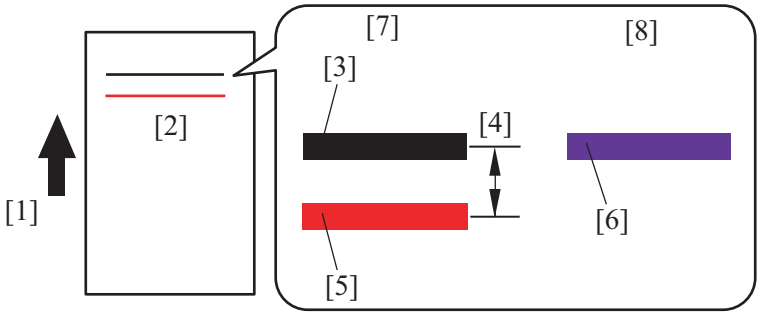


[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Color shift	[4]	Black (K)
[5]	Magenta (M)	[6]	No color shift
[7]	Before correction	[8]	After correction

(c) Correction of color shift in the sub scan direction

- If the image of each color (Y, M, C) is misaligned with respect to the image of black (K) in the sub scan direction, changing the write start timing in the sub scan direction can correct the color shift. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
- Color shift correction control is activated when the image stabilization sequence is started.

* When the image of magenta is misaligned with respect to the image of black (K) in the sub scan direction



[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Black (K)	[4]	Color shift
[5]	Magenta (M)	[6]	No color shift
[7]	Before correction	[8]	After correction

(6) Main scan magnification adjustment

- The main body is mounted with only one IDC sensor and therefore unable to make the main scan magnification adjustment or calculate the skew amount automatically. The main scan magnification adjustment is therefore manually made using the menu on the operation panel.
- The adjustment is necessary when the adjustment value is cleared, such as when the PH unit or the backup board is replaced with a new one.

(7) PH unit temperature detection control

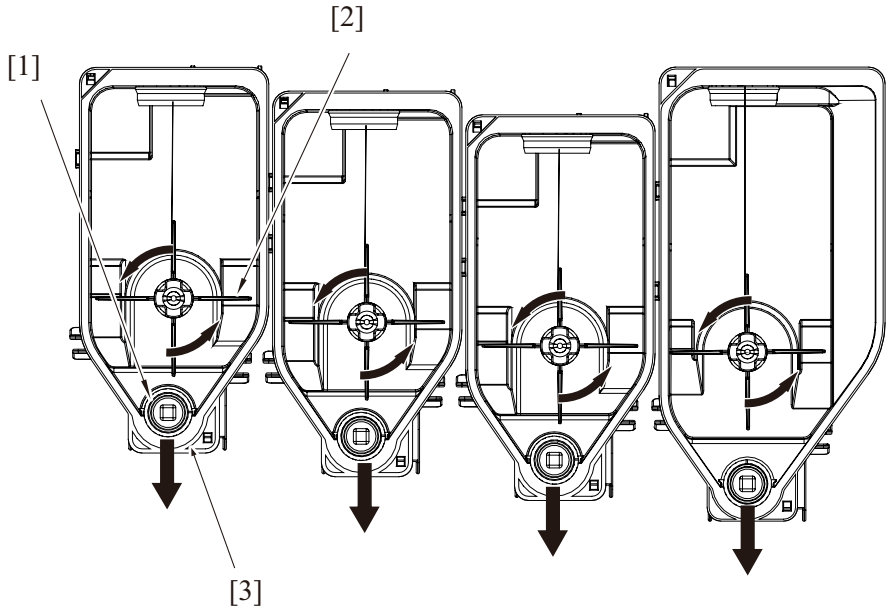
- The temperature inside the PH unit is measured at intervals of 30 sec. by the PH temperature sensor mounted in the PH unit.
- The detected temperature data is recorded to form part of the environmental information data and used for controlling, for example, color registration, 1st transfer output determination, and transfer roller cleaning.

(8) Image processing

- The following image stabilization functions are available as they relate to the write section. For more details, see "Image stabilization control ".
- Laser light intensity correction control
- Color registration correction control (main scan/sub-scan)
- Gamma correction

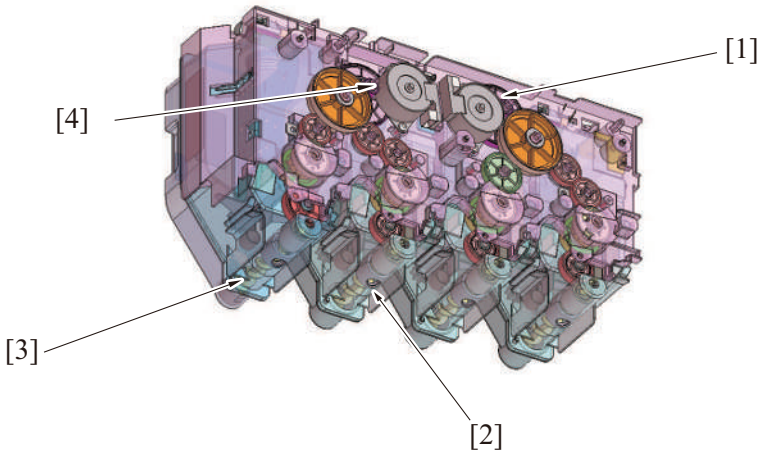
1.5 TONER SUPPLY SECTION

1.5.1 Configuration



[1]	Toner supply screw	[2]	Toner agitating blade
[3]	Toner replenishing port	-	-

1.5.2 Drive

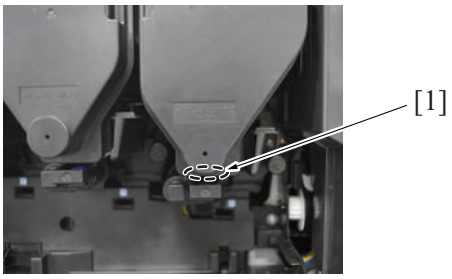


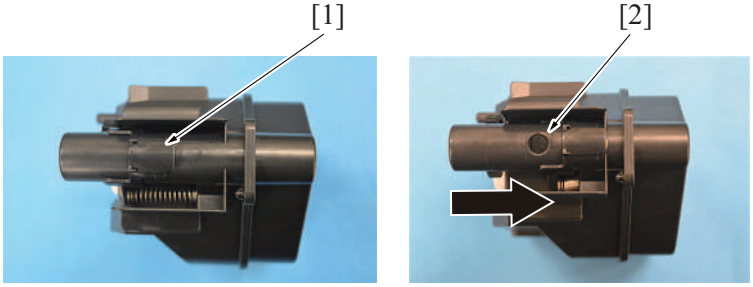
[1]	Toner supply motor/YM (M4)	[2]	Toner replenishing port
[3]	Toner supply screw	[4]	Toner supply motor/CK (M5)

1.5.3 Operation

(1) Toner replenishing port shutter mechanism

- The toner replenishing port is provided with a shutter that prevents toner from being spilled out when the toner cartridge is removed from the main body.
- The shutter is opened and closed in conjunction with the operation of the toner cartridge when being removed and reinstalled.





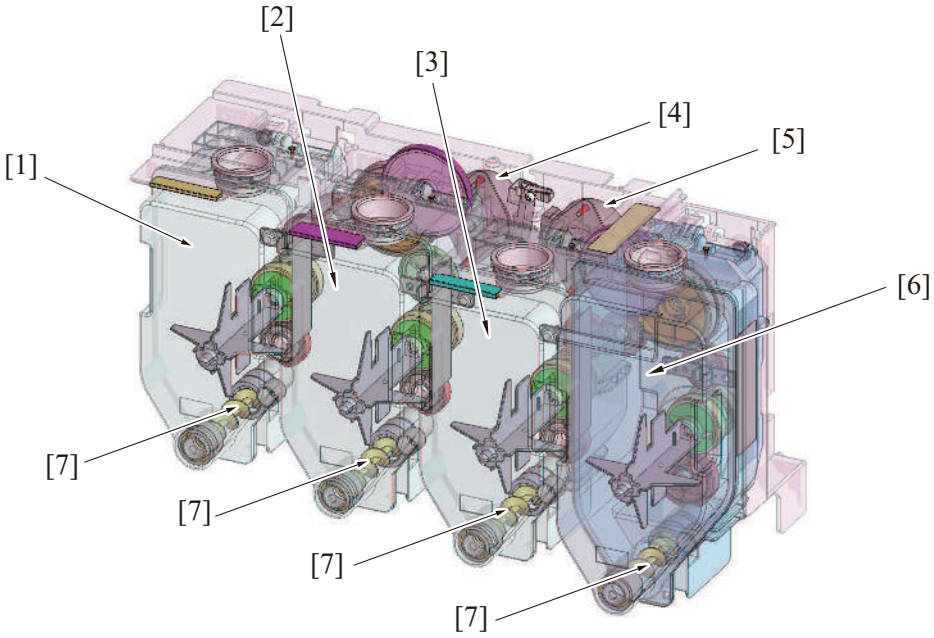
[1]	Shutter	[2]	Toner replenishing port

(2) Toner replenishing mechanism

- The toner is supplied from the toner cartridge to the imaging unit by rotating the toner supply motor.
- The toner supply motor has two types available for YM toner and CK toner, and the motor rotating direction is controlled to switch the type of toner to be supplied to the imaging unit.

Motor rotatory direction	Toner supply motor/YM	Toner supply motor/CK

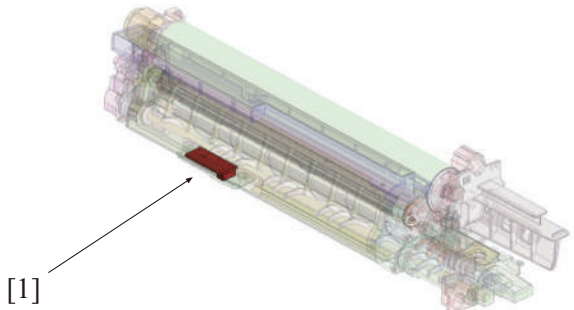
Counterclockwise rotation	Toner Y is supplied	Toner C is supplied
Clockwise rotation	Toner M is supplied	Toner K is supplied



[1]	Toner cartridge/Y	[2]	Toner cartridge/M
[3]	Toner cartridge/C	[4]	Toner supply motor/YM (M4)
[5]	Toner supply motor/CK (M5)	[6]	Toner cartridge/K
[7]	Toner supply screw	-	-

(3) Toner replenishing control

- The toner replenishing time (the amount of toner supplied) during the toner replenishing control is determined based on the TC ratio detected by the TCR sensor (noncontact magnetic type) disposed at the developing section of the imaging unit for each color of toner and the amount of toner to be consumed (estimated) for the image to be printed.
- If replenishing is interrupted by a paper misfeed, the front door opened or closed, or any similar event, the required replenishing time is carried forward to the next replenishing control sequence.
- For details of the TCR sensor, see Toner density control.



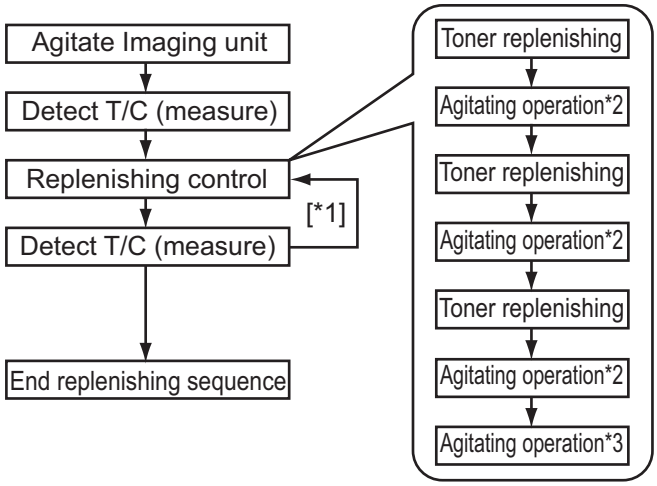
[1]	TCR sensor	-	-

(4) Auxiliary toner replenishing control

- If the T/C ratio detected by the TCR sensor is equal to, or lower than, a predetermined value at the start of a print cycle, initiation of the print cycle is prohibited and the imaging unit is replenished with toner from the toner cartridge until the T/C value reaches the predetermined value.
- The auxiliary toner replenishing control for imaging unit is terminated as soon as the predetermined T/C ratio is recovered. It is also terminated if the auxiliary toner replenishing control for imaging unit is repeated four sets.

(a) Operation flow

- When the auxiliary toner replenishing control is performed, the developing section is agitated, the T/C ratio is calculated by the TCR sensor for each color of toner, and toner is replenished from the toner cartridge.



- *1: If a predetermined T/C is not reached, return to replenishing control (a maximum of 5 times).
- *2: Agitate imaging unit during replenishing
- *3: Agitate imaging unit after replenishing

(5) Toner cartridge detection

- Each toner cartridge contains the toner cartridge set board to detect the toner cartridge set status.
- Accessing the toner cartridge set board with the front door closed or main power on judges that if the toner cartridge is installed or not installed.
- After the toner cartridge has been detected, the main body then determines whether the cartridge is new or not.

NOTE

- **If the toner cartridge is replaced with a used one, the toner remaining amount may not be displayed correctly. Make sure to replace the toner cartridge with a new one.**

(6) Toner near-empty condition detection

(a) Toner near empty detection timing

- Get hold of the remaining amount in the toner cartridge based on the toner supply motor rotating time (accumulated amount of toner supplied) and the T/C ratio detected by the TCR sensor, and judge it as near-empty condition when the toner remaining amount is lower than the toner remaining amount threshold value.

(b) Toner near-empty display

- The warning screen to be displayed when a toner near-empty is detected can be enabled or disabled in the “System 2/ Unit Change” in the Service Mode.
- When the warning screen display is set to “Yes”, the message notifying the user that the toner cartridge needs replacing soon is displayed. (Toner is low. Replace when indicated) Printing can be continued even after the message appears.
- When the warning screen display is set to “No”, the message notifying the user that the toner cartridge needs replacing soon is not displayed. Printing can be continued without having the message displayed.

(c) Resetting the toner near empty conditions

- The toner near-empty condition is reset when a new toner cartridge is detected.
- The toner near-empty condition is reset when it reached toner empty condition.

(d) Toner empty condition resetting timing

- “The main power switch is turned ON”
  “Release in sub power off mode”
  “The front door or the like is opened and closed”
  “When a new toner cartridge is detected”

(7) Toner empty condition detection

- The toner empty condition is determined based on T/C ratio detected by the TCR sensor installed in each color of imaging unit.

(a) Toner empty detection timing

- The machine determines a toner empty condition when the following conditions is detected after a toner near empty condition has been detected. It then gives the message “Toner has been depleted. (snip)” on the operation panel.
  1. The TCR sensor detects a TC ratio that is lower than a predetermined value.

(b) Toner empty display

- The screen mode to be displayed when a toner empty is detected can be selected by specifying the person who replaces the unit in the “System 2/ Unit Change” in the Service Mode.
- When User is selected as the person, the message requesting toner cartridge replacement by user is displayed when a toner empty condition is detected. (Toner has been depleted. Replace the Toner Cartridge according to the instructions.)
- When Service is selected as the person, the message prompting service engineer to replace the toner cartridge is displayed. (Out of toner. Contact your service representative.)

(c) Resetting the toner empty conditions

- The toner empty condition is reset when a new toner cartridge is detected.
- The toner empty condition is reset when “Auxiliary toner replenishing control” is conducted after detecting the toner empty condition and the completed normally.

NOTE

- **“Auxiliary toner replenishing control” is available when Engine FW DipSW “6” is set to “ON.”**

(d) Toner empty condition resetting timing

- The “auxiliary toner replenishing control” is executed under any of the following conditions after a toner empty condition has been detected:
  “When a new toner cartridge is detected,” “When Engine FW DipSW ‘6’ is set to ‘ON’.”

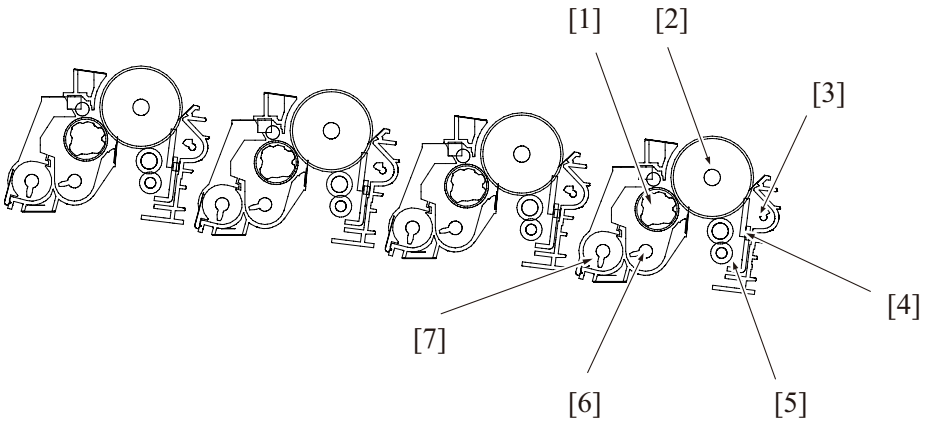
(8) Monochrome prints

- The color print is disabled when any of the C, M, and Y toner cartridges is empty. Monochrome print only is, however, enabled if the K toner cartridge is not empty.
- The monochrome print is also controlled by the ordinary near-empty and empty condition detection methods.

1.6 IMAGING UNIT

1.6.1 Imaging unit (overall configuration)

(1) Configuration

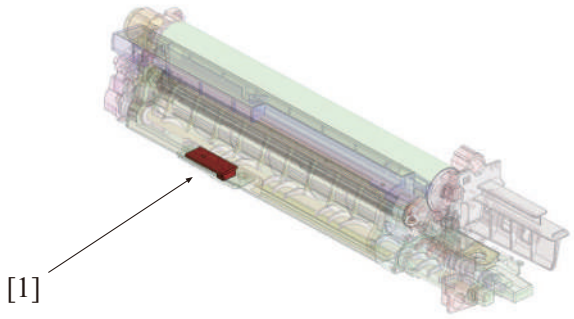


[1]	Developing roller	[2]	Photoconductor
[3]	Waste toner collecting screw	[4]	Cleaning blade
[5]	Charging roller	[6]	Toner supply screw 2
[7]	Toner supply screw 1	-	-

(2) Operation

(a) Imaging unit detection

- The imaging unit of each color of toner is provided with a TCR sensor. The sensor detects different states of the corresponding imaging unit.



[1]	TCR sensor	-	-

NOTE

- **Be sure to replace the imaging unit with a new one that has not been used. A TCR sensor error (trouble code: 25##) may occur if a used imaging unit is installed.**

Unit mounting detection

- The TCR sensor detects the mounting condition of the imaging unit.
- When imaging unit is detected in the mounted condition, control now proceeds to the “new article detection control”.

Detection timing

- The unit mounting detection control is performed under any of the following conditions:

“The main power switch is turned ON (with the front door and right door are closed)”
“The front door or right door is opened and closed with the main power switch in ON position”

Operation when it is detected that no units are mounted

- The message “Imaging Unit Installation Error” appears on the operation panel and the machine prohibits initiation of any new print cycle. The message “Imaging Unit Installation Error” disappears as soon as a imaging unit is mounted.

New article detection

- The TCR sensor detects whether the imaging unit is new or not.

Detection timing

- The new article detection control is performed if it is determined through the “unit mounting detection” control that the imaging unit is correctly mounted in place.

Operation when the imaging unit is determined not to be new

- The new article detection control is terminated.

Operation when the imaging unit is determined to be new

- The TCR sensor automatic adjustment control (calibration) is performed.
- The image stabilization control is performed.
- The life counter of the imaging unit is reset to zero.
- After the above controls are performed, the operation proceeds to the life detection control.
- The result of the new article detection is recorded in the backup board of the main body.
- The life counter is available for the imaging unit of each color. The counter value is recorded in the backup board of the main body.

New release disable mode

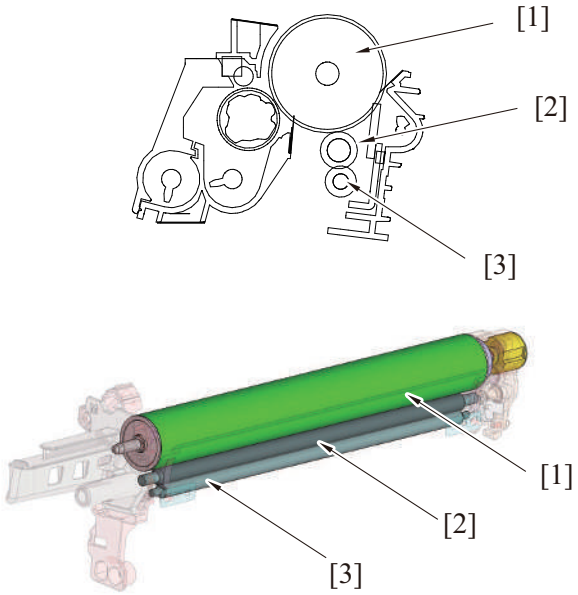
- The new release disable mode is used when a new imaging unit is temporarily used for performing troubleshooting procedures of a machine.
- No new article detection control is performed for the imaging unit when the new release disable mode is used.
- The new release disable mode should be used only for troubleshooting purposes.

NOTE

- **See “ New Release Disable mode ” for more detailed operating precautions.**

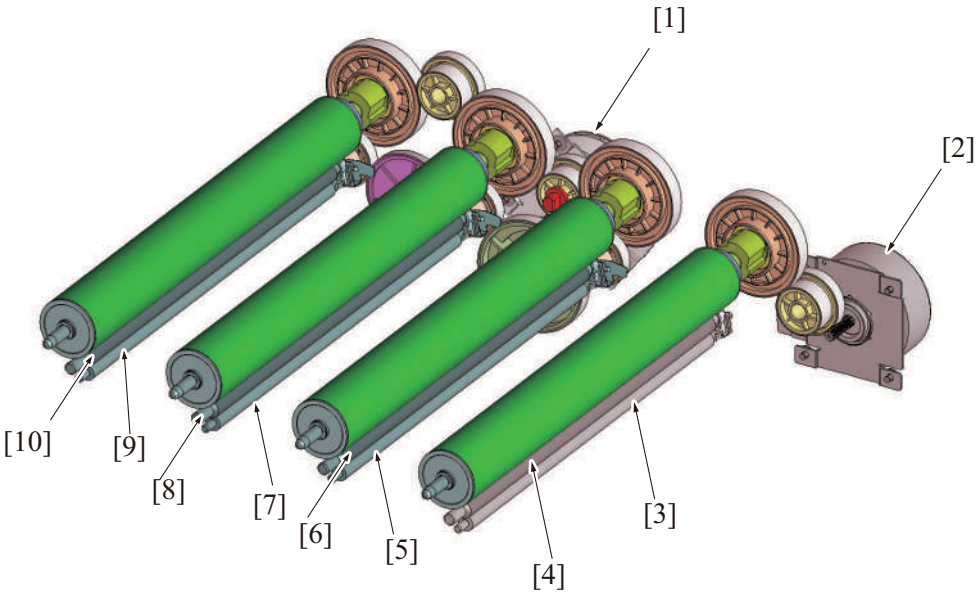
1.6.2 Imaging unit (charge corona)

(1) Configuration



[1]	Photoconductor	[2]	Charging roller
[3]	Cleaning roller	-	-

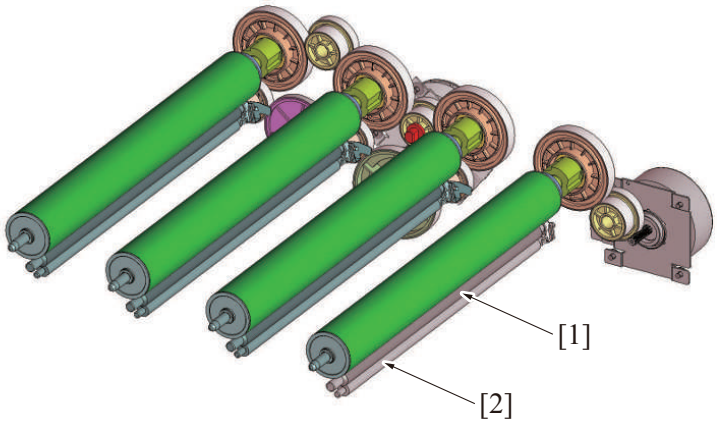
(2) Drive



[1]	Color motor (M2)	[2]	Main motor (M1)
[3]	Cleaning roller/K	[4]	Charging roller/K
[5]	Cleaning roller/C	[6]	Charging roller/C
[7]	Cleaning roller/M	[8]	Charging roller/M
[9]	Cleaning roller/Y	[10]	Charging roller/Y

(3) Operation

(a) Charge mechanism



[1]	Charging roller	[2]	Cleaning roller

Charge roller

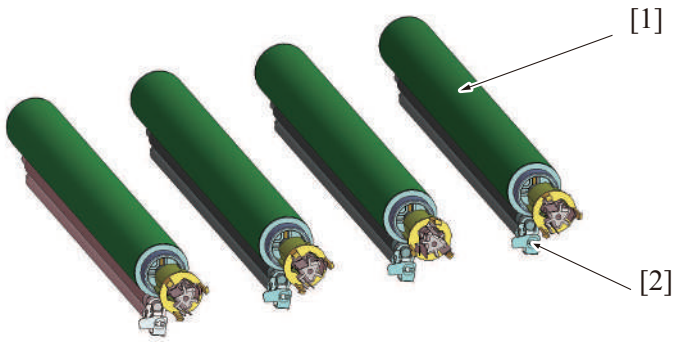
- Charge rollers are used for charging the photoconductor.
- As compared with the charge wire, the charge roller applies a lower voltage and thus produces a smaller amount of ozone. The main body is not therefore mounted with any ozone filter.
- The charge roller is driven to follow the movement of the photoconductor.

Cleaning roller

- The cleaning roller removes toner stick to the charge roller.
- The cleaning roller is driven to follow the movement of the charge roller.

(b) Charge corona control

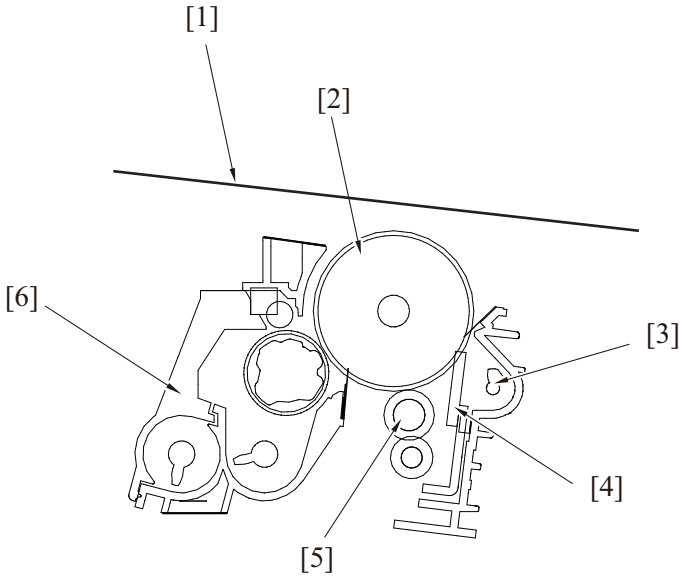
- High voltage DC negative charge is applied to the charge roller. Charge discharged the surface of the photoconductor to become uniformly charged via the charge roller.
- The charge corona voltage supplied from the high voltage unit is applied to the terminal of the charge roller of each color.



[1]	Photoconductor	[2]	Electrostatic charger application terminal

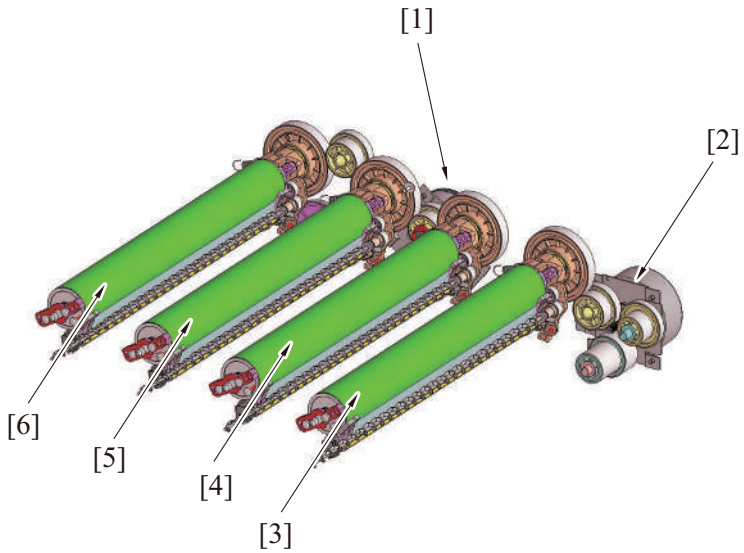
1.6.3 Imaging unit (photoconductor)

(1) Configuration



[1]	Transfer belt	[2]	Photoconductor
[3]	Toner collecting screw	[4]	Cleaning blade
[5]	Charging roller	[6]	Developing section

(2) Drive



[1]	Color PC motor (M2)	[2]	Main motor (M1)
[3]	Photoconductor/K	[4]	Photoconductor/C
[5]	Photoconductor/M	[6]	Photoconductor/Y

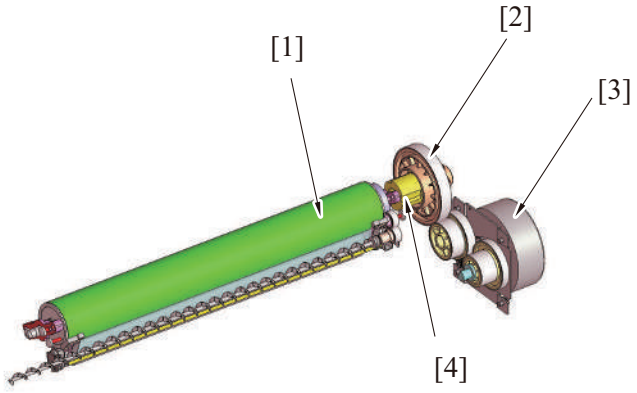
(3) Operation

(a) Photoconductor drive mechanism

- Two independent photoconductor motors (for color and black) are used for the drive mechanism to suppress incorrect color registration and uneven pitch.

Photoconductor/K drive mechanism

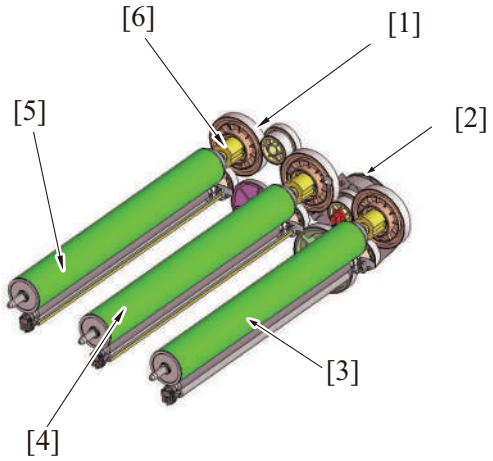
- The main motor drives the photoconductor/K.
- The main motor is the common source that provides drive to manual bypass feed, tray feed, registration roller, transfer belt, and others.
- Drive is transmitted to the photoconductor when the triangular-prism-shaped shaft is engaged with the mating coupling part.



[1]	Photoconductor K	[2]	Photoconductor drive gear/K
[3]	Main motor (M1)	[4]	Coupling

Photoconductor/Y, M, C drive mechanism

- The photoconductors/Y, M, C are driven by the color PC motor.
- Drive is transmitted to each of the photoconductors when the triangular-prism-shaped shaft is engaged with the mating coupling part.

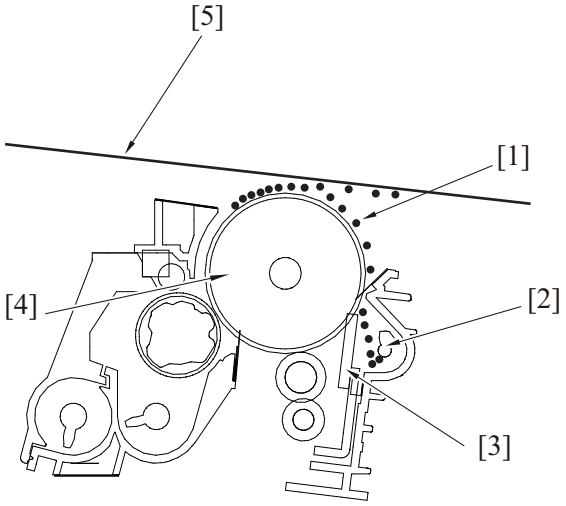


[1]	Color photoconductor gear/Y	[2]	Color PC motor (M2)
[3]	Photoconductor/C	[4]	Photoconductor/M
[5]	Photoconductor/Y	[6]	Coupling

(b) Photoconductor cleaning

- The toner image on the photoconductor is transferred to the transfer belt. (1st transfer) Part of the toner image that is not transferred is left on the surface of the photoconductor. The residual toner is scraped off by the cleaning blade.

- Toner, which has been scraped off the surface of the photoconductor, is conveyed by the toner collecting screw toward to the front of the machine. It is discharged in the waste toner bottle.



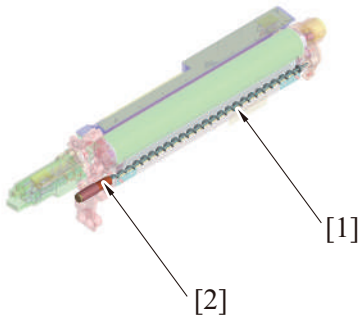
[1]	Waste toner	[2]	Toner collecting screw
[3]	Cleaning blade	[4]	Photoconductor
[5]	Transfer belt	-	-

Cleaning blade

- The cleaning blade is pressed up against the surface of the photoconductor at all times. No cleaning blade retraction mechanism is provided.
- The cleaning blade scrapes residual toner off the surface of the photoconductor as the photoconductor is rotated.
- The toner collecting screw conveys the toner scraped off the surface of the photoconductor.

Toner conveyance/collection mechanism

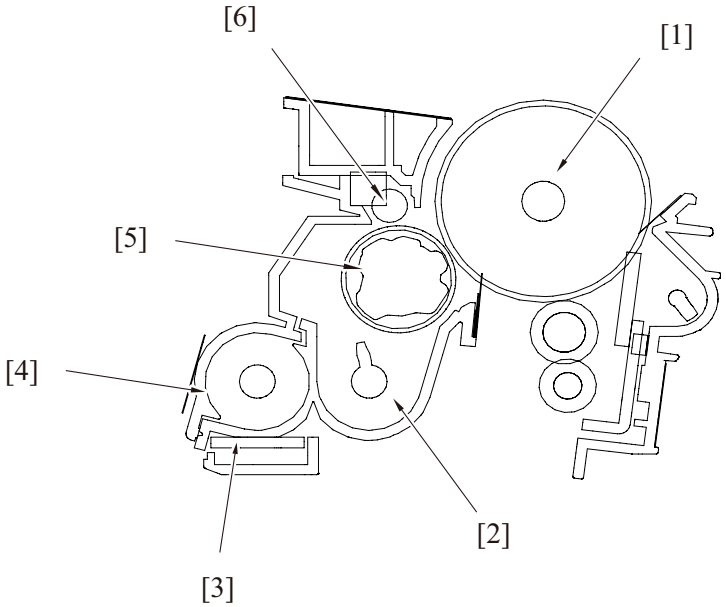
- The toner collecting screw is rotated by the driving force transmitted from the photoconductor. (The toner collecting screw rotates in time with the rotation of the photoconductor.)
- Rotation of the toner collecting screw conveys toner scraped off the surface of the photoconductor toward the front of the machine.
- The toner conveyed to the front of the machine is discharged via the toner collecting port into the waste toner bottle.
- The toner collecting port is provided with a shutter mechanism. Mounting the waste toner bottle pushes the shutter at the toner collecting port, opening the toner collecting port. The shutter is closed by the waste toner bottle removal and prevents the toner spilling from the toner collecting port.



[1]	Toner collecting screw	[2]	Toner collecting port

1.6.4 Imaging unit (developing)

(1) Configuration

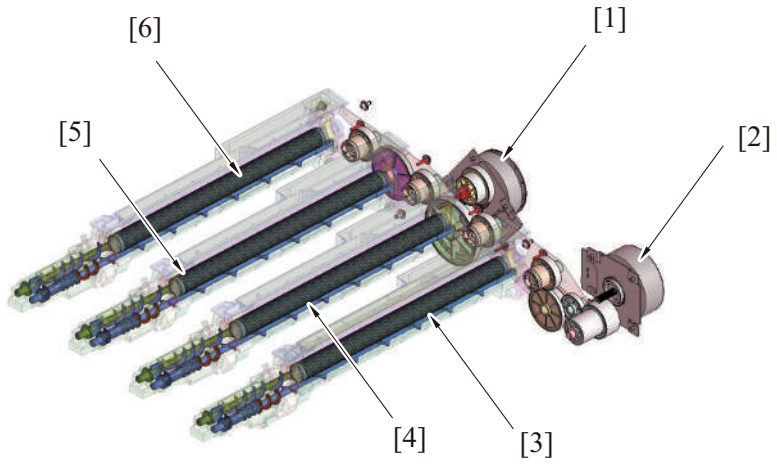


[1]	Photoconductor	[2]	Toner supply screw 2
[3]	TCR sensor	[4]	Toner supply screw 1
[5]	Developing roller	[6]	Doctor shaft regulator

(2) Drive

(a) Developing section/Y, M, C, K drive mechanism

- Rotation of the main motor transmits drive to the developing drive gear, which drives the developing roller/K.
- Rotation of the color PC motor transmits drive to each developing drive gear, which drives the developing rollers/Y/M/C.



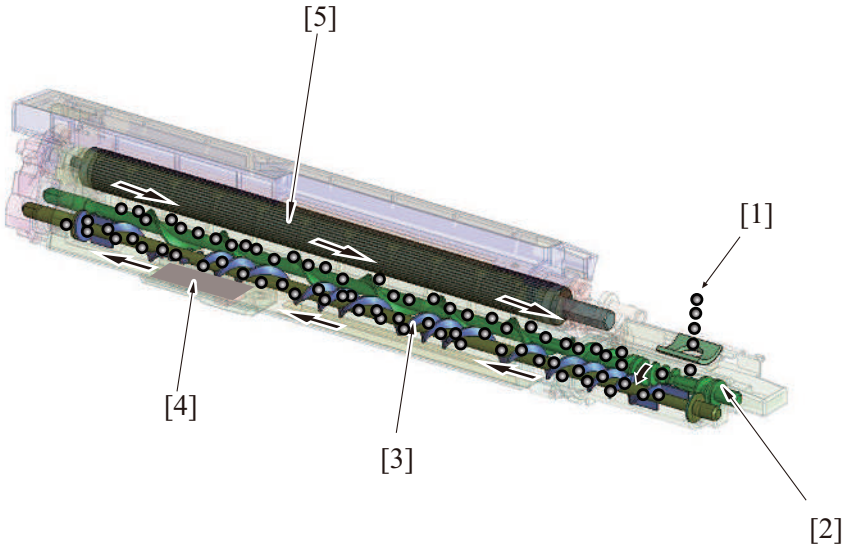
[1]	Color motor (M2)	[2]	Main motor (M1)
[3]	Developing roller/K	[4]	Developing roller/C
[5]	Developing roller/M	[6]	Developing roller/Y

(3) Operation

(a) Developer flow

1. Toner replenished via the toner replenishing port located at the front side of the machine is fed to the toner supply screw 1.
2. The developer is conveyed toward the rear of the unit, while being agitated and electrically charged, by the toner supply screw 1.
3. The TCR sensor installed on the underside of the imaging unit detects toner-to-carrier (T/C) ratio during this time. If the T/C ratio is lower than a predetermined value, toner is replenished.
4. The developer, fed to the rear of the developing unit, is conveyed further onto the toner supply screw 2.
5. The developer fed to the toner supply screw 2 is conveyed onto the developing roller because of the magnetic pole positioning of the developing roller.
6. The doctor blade then controls the height of the developer brush to ensure that the developer on the developing roller levels out.

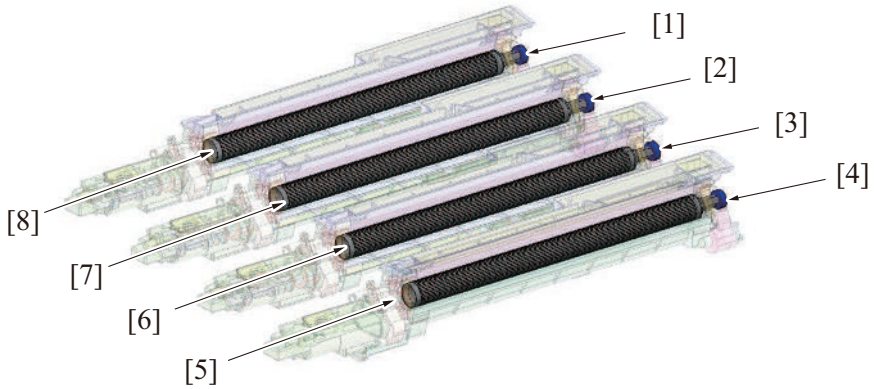
7. Only the toner contained in the developer sticks to the electrostatic latent image on the surface of the photoconductor. The developer that is left on the developing roller is returned to the toner supply screw 2 by the magnetic pole positioning of the developing roller.



[1]	Toner replenishing port	[2]	Toner supply screw 1
[3]	Toner supply screw 2	[4]	TCR sensor
[5]	Developing roller	-	-

(b) Developing bias

- The developing bias voltage (Vdc) is applied to the developing roller so that an adequate amount of toner is attracted onto the surface of the photoconductor.
- In addition to the negative DC component, AC voltage is applied during development to help toner to be attracted more easily to the surface of the photoconductor. This AC component is applied only while development is taking place. At any other timing, only the DC (-) Vdc is applied.
- The developing bias (Vdc) is supplied from high voltage unit.
- The developing bias voltage supplied from the high voltage unit is applied to the developing roller of each color of toner via the conductive bearing.



[1]	Developing bias voltage application terminal/Y	[2]	Developing bias voltage application terminal/M
[3]	Developing bias voltage application terminal/C	[4]	Developing bias voltage application terminal/K
[5]	Developing roller/K	[6]	Developing roller/C
[7]	Developing roller/M	[8]	Developing roller/Y

Service Mode

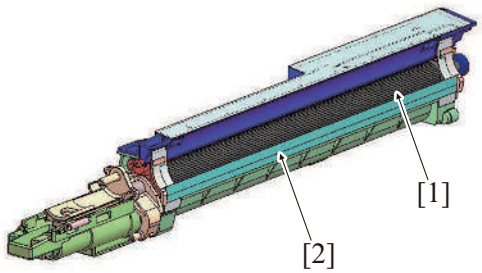
(a)Grad/Dev AC Bias V Selection

- The “Grad/Dev AC Bias V” can be changed by changing the setting of “Imaging Process Adjustment/ Grad/Dev AC Bias V Selection” of the Service Mode. This provides development performance that responds to various types of environment of the users.
- Turning ON the “Grad/Dev AC Bias V Selection” allows the “Grad/Dev AC Bias V” to be decreased down to a voltage value lower than the ordinary specified value.
- With the ordinary specified value set for the “Grad/Dev AC Bias V” in low atmospheric pressure environments, such as at high altitudes, leak could occur, resulting in white dots. Leak, and thus white dots on the image, can be prevented from occurring by lowering the “Grad/Dev AC Bias V”.

- For details of the Service Mode, see “Grad/Dev AC Bias V Selection”.

(c) Toner scattering prevention

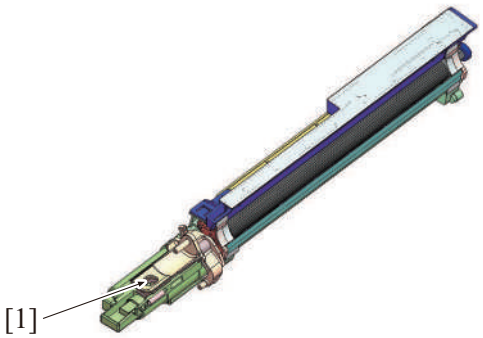
- The toner scattering prevention sheet is installed in an area around the developing roller, functioning to prevent toner from scattering.



[1]	Developing roller	[2]	Toner scattering prevention sheet

(d) Toner replenishing port shutter mechanism

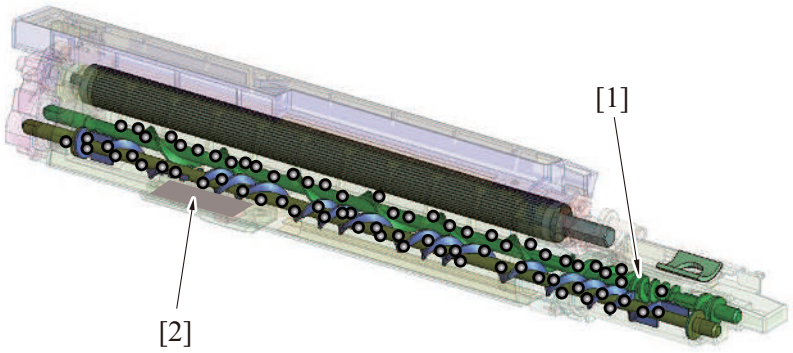
- The toner replenishing port is equipped with a shutter that prevents toner from being spilled out when the imaging unit is removed from the main body.
- The shutter of the toner replenishing port is opened and closed in conjunction with the operation of the toner cartridge when being removed and reinstalled.



[1]	Toner replenishing port	-	-

(e) Toner density control

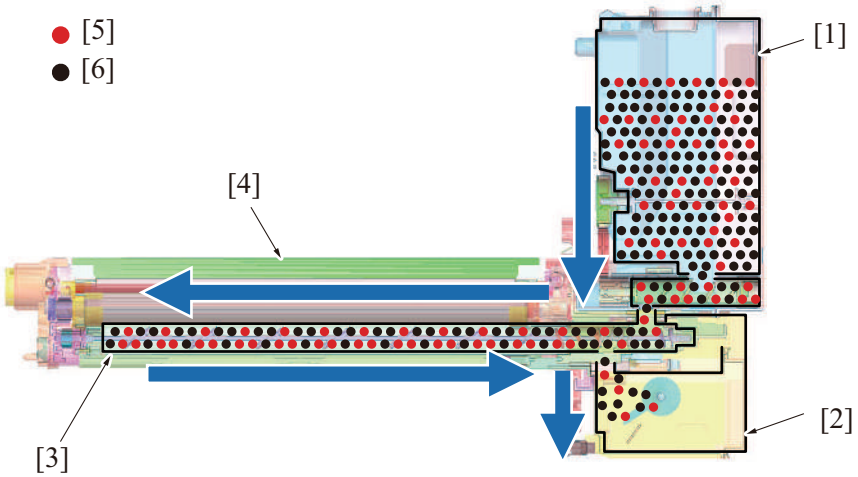
- The TCR sensor is mounted on the underside of each of the developing sections. The TCR sensor for C, M, Y and K is a non-contact magnetic type. Each of these sensors detects toner-to-carrier ratio (T/C) of the developer. The reading is used for determining the amount of toner supplied.
- Only when a new Imaging unit is installed in the machine, an automatic adjustment (calibration) is made of each of these TCR sensors. The automatic adjustment of TCR sensors cannot be done at your own discretion.
- The target T/C ratio is 6.5 ± 1.5%.
- The magnetic permeability (powder density) of the carrier in the developer is measured to determine the T/C.
- The TCR sensor is integrated with the imaging unit. When the TCR sensor is to be replaced with a new one, the entire imaging unit must be replaced.
- For replenishment of toner to the imaging unit, see Toner replenishing control.



[1]	Toner supply screw 1	[2]	TCR sensor

(f) Auto refining developing system

- Replacement of the developer maintains the stabilized image quality for a long period of time.



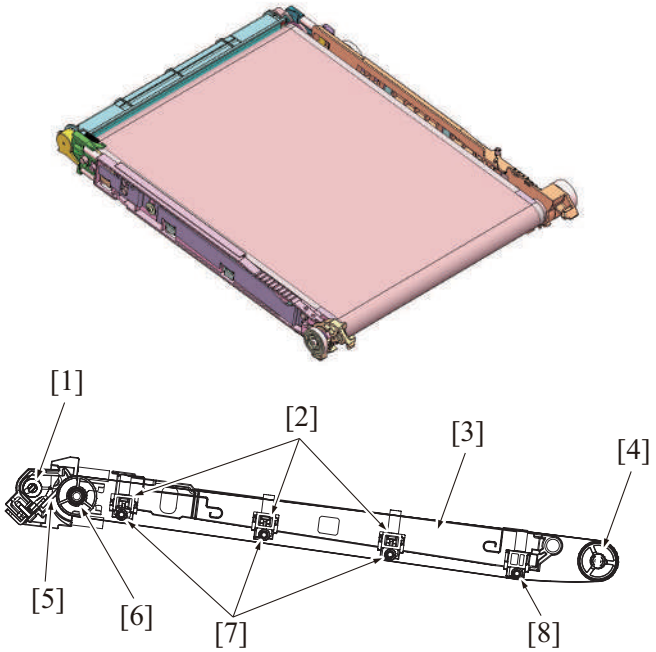
[1]	Toner cartridge/K (Toner + New carrier)	[2]	Waste toner box (discharging the developer)
[3]	Developing chamber (circulates and agitates developer)	[4]	Photoconductor
[5]	Carrier	[6]	Toner

Description

- The toner cartridge is filled with the toner and a small percentage of carrier.
- The fresh carrier is supplied together with the toner to the developing unit.
- When the developer (toner + carrier) circulates in the developing chamber, excessive developer in the developing unit is discharged to the waste toner bottle.
- Replacement of the developer prevents degradation of developer and maintains stabilized image quality for a long period of time.

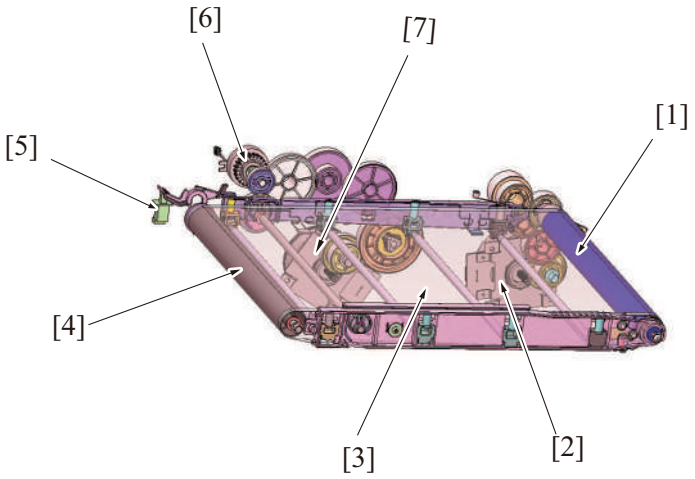
1.7 1ST TRANSFER SECTION

1.7.1 Configuration



[1]	Toner collecting screw	[2]	1st transfer roller drive arm Y/M/C
[3]	Slide plate	[4]	Transfer belt drive roller
[5]	Cleaning blade	[6]	Driven roller
[7]	1st transfer roller Y/M/C	[8]	1st transfer roller K

1.7.2 Drive

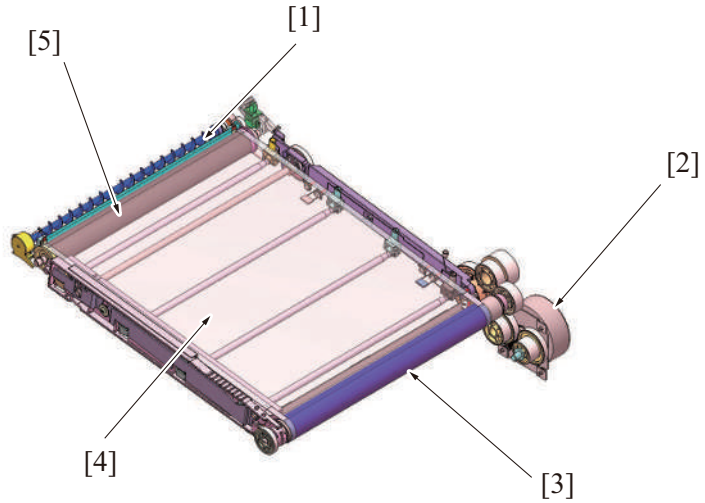


[1]	Transfer belt drive roller	[2]	Main motor (M1)
[3]	Transfer belt	[4]	Driven roller
[5]	1st transfer pressure switch (SW4)	[6]	1st transfer pressure clutch
[7]	Color motor (M2)	-	-

1.7.3 Operation

(1) Transfer belt drive

- The transfer belt drive roller is rotated by the driving force of the main motor.
- Rotation of the transfer belt causes the transfer belt driven roller to rotate. The drive transmission gear located at the transfer belt driven roller rotates the waste toner collecting screw of the cleaning mechanism.



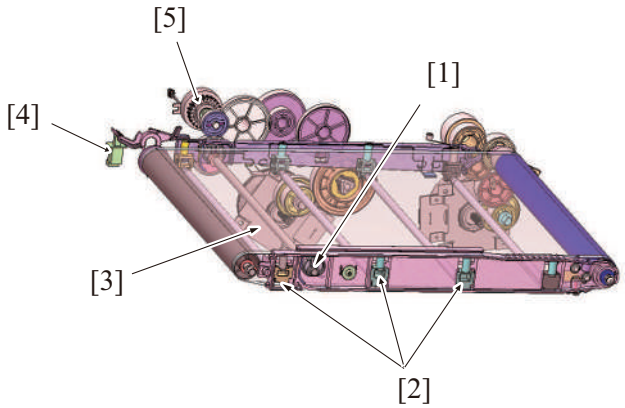
[1]	Waste toner collecting screw	[2]	Main motor (M1)
[3]	Transfer belt drive roller	[4]	Transfer belt
[5]	Transfer belt driven roller	-	-

(2) 1st transfer roller control

- Pressure mechanism is equipped for pressing the 1st transfer rollers (Y, M, C) to inside the transfer belt at the 1st transfer.
- The 1st transfer roller (K) does not have pressure retraction mechanism. The 1st transfer roller (K) always presses the transfer belt to the PC drum (K).

(a) 1st transfer roller pressure

- Rotation of the color motor is transmitted to the pressure cam via the 1st transfer pressure clutch.
- Rotation of the pressure cam moves up and down the slide plate.
- The up/down movement of the slide plate results in the 1st transfer roller drive arm being rotated. The rotation of the 1st transfer roller drive arm lowers the 1st transfer roller (Y, M, C), so that the transfer belt is pressed against the photoconductor.
- When the slide plate moves to the pressure position, the pressure/release detection lever rotates to turn OFF the 1st transfer pressure switch.
- The cam will stop rotating and the siding plate will stop.
- The 1st transfer roller (Y, M, C) will stay being pressed.



[1]	Pressure cam	[2]	1st transfer roller drive arm Y/M/C
[3]	Color motor (M2)	[4]	1st transfer pressure switch (SW4)
[5]	1st transfer pressure clutch (CL1)	-	-

(3) Pressure/retraction control by print mode

- To extend the service life of the PC drum/Y, M, C, the transfer belt is retracted from the color PC drum in the black mode.
- In the black mode, the 1st transfer roller/Y, M, C is retracted and color imaging unit are stopped.
- The 1st transfer roller/K is pressed against the PC drum at all times in both black and color modes.

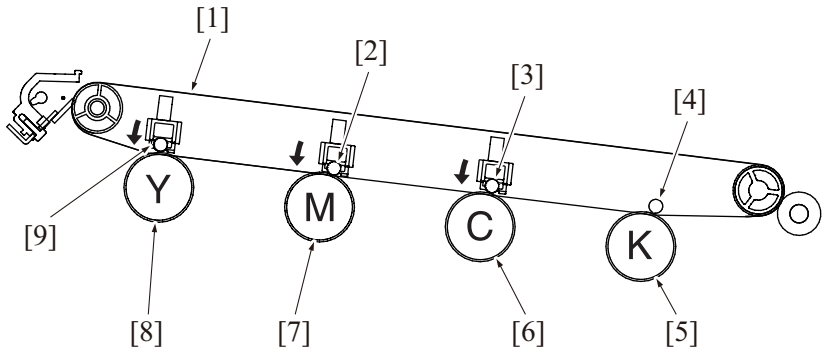
(a) Color mode

- In the color mode, the transfer roller is where the photoconductor is pressed against the transfer belt for all four colors of toner

(b) Black mode

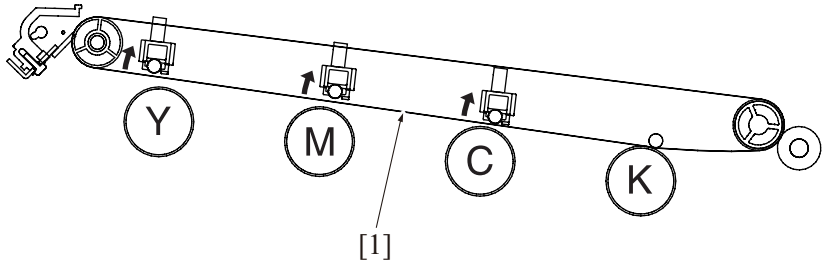
- In the black mode, the transfer roller /Y, M, C is where the photoconductor/Y, M, C leaves the transfer belt, while the transfer roller /K is where the photoconductor/K is pressed against the transfer belt. This allows the photoconductor/Y, M, C to stop rotating in this mode.

Color mode



[1]	Transfer belt	[2]	1st transfer roller/M
[3]	1st transfer roller/C	[4]	1st transfer roller/K
[5]	Photoconductor/K	[6]	Photoconductor/C
[7]	Photoconductor/M	[8]	Photoconductor/Y
[9]	1st transfer roller/Y	-	-

Black mode



[1]	Transfer belt (retraction position)	-	-

(c) ACS mode

ACS mode overview

- When making a copy, any desired copy mode can be selected from the control panel. (Default setting: Auto Color Selection) The auto color mode is called the ACS (Auto Color Selection) mode. (In PC print job, auto color as the setting item in the printer driver corresponds to the ACS.)
- In ACS mode, the machine analyzes the image data of the original scanned by the “scanner section” to determine whether the image data is colored or in black.
- Determining that it is a color original, the machine presses the 1st transfer roller and runs a color print job.
- Determining that it is a black original, the machine retracts the 1st transfer roller and runs a black print job.

Control of 1st transfer roller in ACS mode

- The number of sheets of continuous series of black originals is counted when color originals are changed to black originals.
- Pressure of the 1st transfer roller is controlled according to the number of sheets of continuous series of black originals during a multi-print cycle, thereby achieving both high print productivity and extended service life of consumables.
- “Control of 1st transfer roller in ACS mode” is executed only when a copy is made with “Auto Color” selected from the operation panel. It is not executed when “Full Color”, “Black”, “2 Color”, or “Single Color” is selected.
- The control is executed, for “PC print”, only if the print cycle is run with “Auto Color” selected from the printer driver screen. It is not executed when “Full Color” or “Grayscale” is selected.
- The 1st transfer roller /Y, M, C is in the pressed position (color mode) in its initial state.

NOTE

- **The control of 1st transfer roller in the ACS mode is enabled only after the number of sheets of continuous series of black originals has been counted. It is therefore not an effective control for a copy print job involving only one copy set/stack. The control is effectively operable for the following print jobs: Since on the first copy, the control can be performed only for where the original is read and counted. “Copy print of the second copy set/stack and onward” “Copy print from a registered job” “PC print job”**

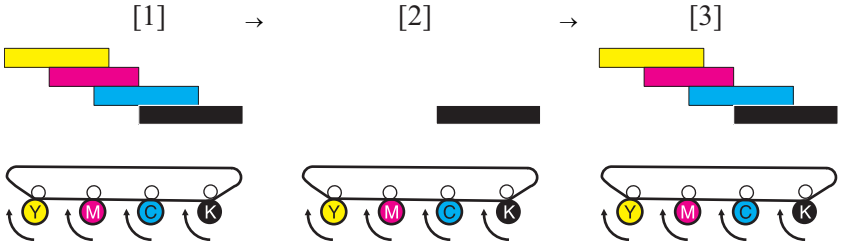
When the number of multi-copies is as specified or under

- ACS control starts counting the number of multi-copies of the black original when switched from the color original to the black original.
- The black printing will start with color mode. (with the 1st transfer roller /Y/M/C being pressed) Developing or transfer does not take place with the color imaging unit (Y, M, C), but, since the transfer belt is pressed, the PC drum and the developing roller are rotated as the transfer belt rotates. An advantage during pressure of the 1st transfer roller/Y, M, C is that the loss time produced as a result of retraction of the 1st transfer roller can be reduced relative to print productivity.

When the number of multi-copies is as specified or over

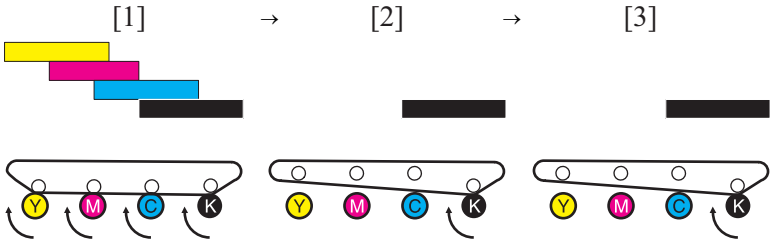
- The black printing will start when the color mode is complete and the 1st transfer roller /Y/M/C is retracted to be switched to the black mode. An advantage during retraction of the 1st transfer roller is that chance of the color imaging unit (Y, M, C) being worn as a result of wasteful rotation can be reduced.

When printing in black with color mode (effecting black printing with the four PC drums rotating)



[1]	Color mode	[2]	Color mode
[3]	Color mode	-	-

Printing after switched to black mode



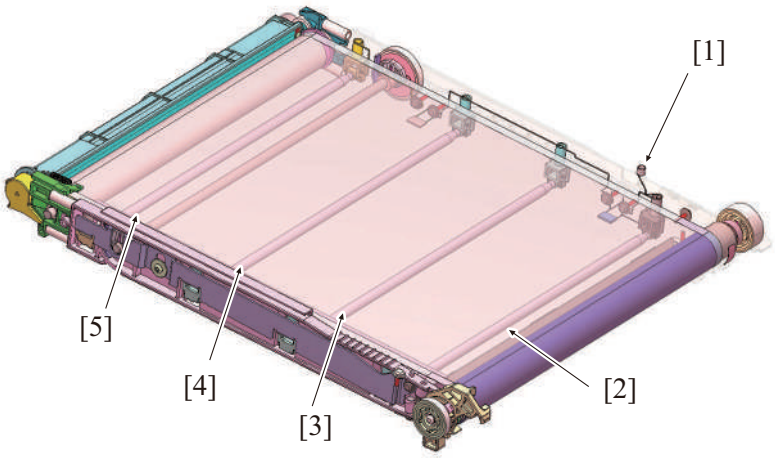
[1]	Color mode	[2]	Black mode
[3]	Black mode	-	-

(d) ACS mode control change with the Engine FW dip SW

- By changing the engine FW dip SW setting, you can change the pressure control of the 1st transfer rollers in ACS mode.
- When the Engine FW Dip SW “25” is set to “1”, the 1st transfer roller’s default position is changed to the “black mode (retracted position).” (When the setting is “0”, the default position of the 1st transfer roller/Y, M, C is at the color mode (pressed position).)
- For users who mainly produce black prints, when “1” is selected, the 1st transfer roller/Y, M, C can be at the retracted position more frequently, which helps to reduce the wearing out of photoconductors caused by unnecessary rotation of color imaging units. The disadvantage of the setting is that the first copy time becomes longer for color print as the 1st transfer roller/Y, M, C is moved from the color mode to the black mode. Reduced productivity of the multi-print cycle could result depending on the condition.

(4) 1st transfer control

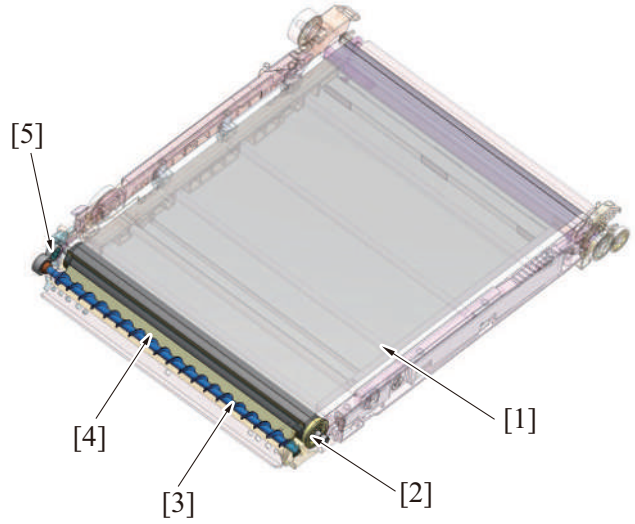
- To transfer the toner image formed on the surface of the photoconductor onto the transfer belt, the transfer current supplied from the high voltage unit is applied to the 1st transfer roller of each color.



[1]	1st transfer voltage application terminal	[2]	1st transfer roller/K
[3]	1st transfer roller/C	[4]	1st transfer roller/M
[5]	1st transfer roller/Y	-	-

(5) Transfer belt cleaning

- The toner image on the surface of the transfer belt is transferred onto the paper. (2nd transfer)
- Part of the toner image is left on the surface of the transfer belt after the 2nd transfer. A cleaning blade is provided on the transfer belt. It functions to remove the residual toner (waste toner).



[1]	Transfer belt	[2]	Transfer belt driven roller
[3]	Waste toner collecting screw	[4]	Cleaning blade
[5]	Drive transmission gear	-	-

(a) Cleaning blade

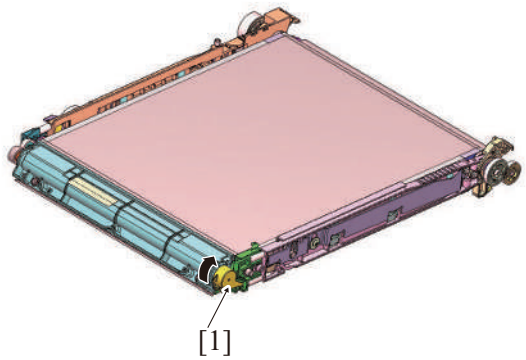
- The cleaning blade, of a fixed blade type, is pressed up against the surface of the transfer belt at all times. No cleaning blade retraction mechanism is provided.
- The waste toner on the surface of the transfer belt is scraped off as the transfer belt is rotated.

(b) Waste toner conveying/collecting mechanism

- Drive for the toner collecting screw comes from the transfer belt driven roller. (The toner collecting screw rotates in time with rotation of the transfer belt.)
- The rotation of the toner collecting screw conveys waste toner scraped off the surface of the transfer belt toward the front of the machine.
- There is a caking-of-toner prevention blade installed. It prevents waste toner from caking at the toner collecting screw section.
- The waste toner is discharged through the toner collecting port into the waste toner bottle.
- The waste toner is disposed of when a waste toner bottle which is detected to be full of waste toner is replaced with a new one and the used waste toner bottle is discarded.

(6) Toner discharge port shutter mechanism

- A shutter mechanism is provided to prevent waste toner from being spilled from the waste toner discharge port when the transfer belt unit is removed and reinstalled.
- The shutter is fitted to the transfer belt unit. When the transfer belt unit is removed, the waste toner discharge port is automatically closed.



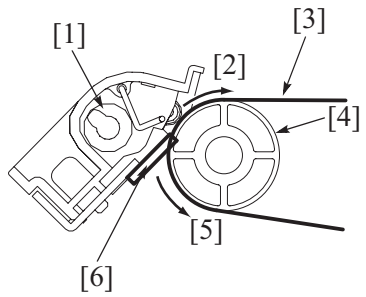
[1]	Shutter	-	-

(7) Cleaning blade foreign matter removal control

- The transfer belt is rotated backward to a small extent and then rotated forward to remove foreign matter (dust, toner, etc.) wedged between the transfer belt and the edge of the cleaning blade.

(a) Operation timing

- The backward rotation control is provided at the completion of every print job.



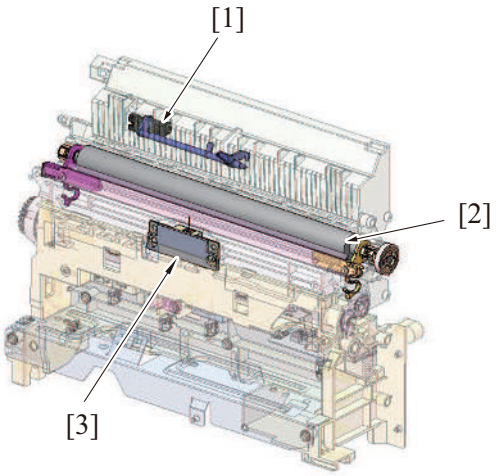
[1]	Toner collecting screw	[2]	Backward rotation
[3]	Transfer belt	[4]	Transfer belt driven roller
[5]	Forward rotation	[6]	Cleaning blade

(8) Transfer belt new article detection

- The transfer belt unit is not provided with any new article detection mechanism. If the transfer belt is replaced with a new one, therefore, “New Release” must be performed in “Counter / Life” of the Service Mode. For detailed operating procedures, see “New Release”.

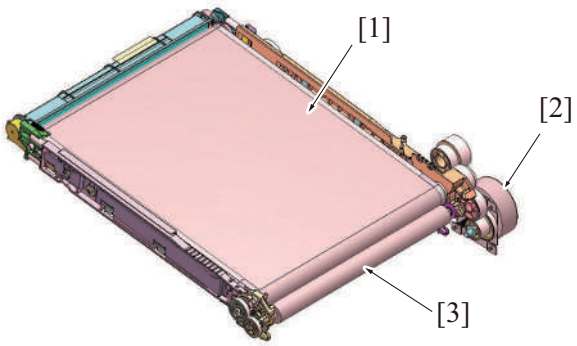
1.8 2ND TRANSFER SECTION

1.8.1 Configuration



[1]	Fusing loop sensor (PS10)	[2]	2nd transfer roller
[3]	IDC sensor (IDCS)	-	-

1.8.2 Drive



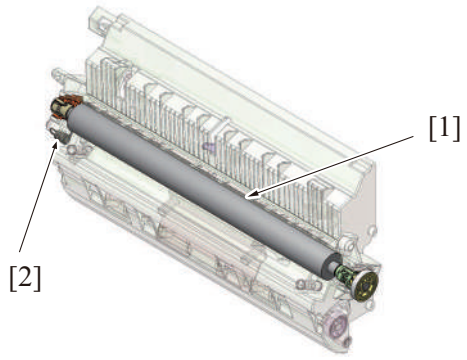
[1]	Transfer belt	[2]	Main motor (M1)
[3]	2nd transfer roller	-	-

1.8.3 Operation

(1) 2nd transfer control

- To transfer the toner image formed on the transfer belt onto the paper, the 2nd transfer voltage supplied from the high voltage unit is applied to the 2nd transfer roller.

- Resistance of the 2nd transfer roller changes with an environmental change, durability, and other factors. To maintain an optimum output voltage, fixed current is passed through the 2nd transfer roller and the voltage being outputted at that time is detected. An appropriate 2nd transfer voltage is determined based on the measured voltage and other information such as “type of paper used”, “temperature and humidity”, “color mode or black mode”, and “1-sided/2-sided”.



[1]	2nd transfer roller	[2]	2nd transfer voltage application terminal

(a) Execution timing

- The 2nd transfer control is executed when a print job is received under any of the following conditions: “Main power switch is turned ON” “Power key is pushed” “The machine exits the sleep mode” “The threshold value of a change in machine interior temperature is exceeded.”

(b) 2nd transfer control during image stabilization control

- In this machine, the 2nd transfer roller does not have a retraction mechanism, so that the transfer belt and 2nd transfer roller are pressed up against each other at all times.
- During image stabilization control, a toner image for adjustment purpose is formed on the surface of the transfer belt. A negative voltage is therefore applied to the 2nd transfer roller during image stabilization control. The amount of toner sticking to the 2nd transfer roller is thereby reduced.

(2) Control of toner application to 2nd transfer roller

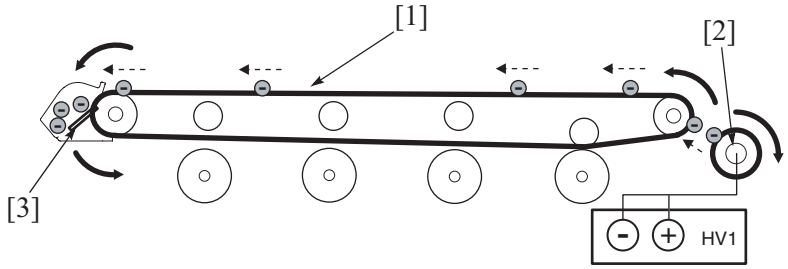
- In this machine, the 2nd transfer roller does not have a retraction mechanism, so that the transfer belt and 2nd transfer roller are pressed up against each other at all times.
- If a new 2nd transfer roller that has replaced an old one is left to stand idle for a long period of time, a substance contained in the new roller sticks to the surface of the transfer belt, which could result in noise in the print image.
- To prevent the substance contained in the 2nd transfer roller from sticking to the transfer belt, Y toner is applied to the surface of a new 2nd transfer roller at the time of replacement. (The Y toner image that corresponds to two complete revolutions of the transfer roller is formed on the surface of the transfer belt and is then transfer red onto the surface of the 2nd transfer roller.)
- The Y toner that is less noticeable is used for the toner to be applied, in consideration of back marking.

(a) Execution timing

- The control is executed when the life counter of the 2nd transfer roller in the service mode is reset to zero.

(3) 2nd transfer roller cleaning

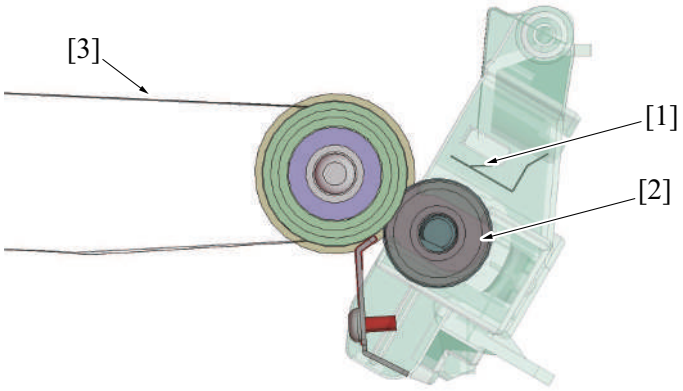
- In order to remove the remaining toner on the 2nd transfer roller, -/+ (DC) charge is applied alternately to transfer the remaining toner on the 2nd transfer roller to the transfer belt. (The number of times that electrical charge is applied to the 2nd transfer roller is different depending on each situation.)
- The cleaning blade then scrapes off the toner on the surface of the transfer belt.



[1]	Transfer belt	[2]	2nd transfer roller
[3]	Cleaning blade	-	-

(4) Paper separation control

- To neutralize any residual potential on the paper which has undergone the 2nd transfer process, there is a charge neutralizing needle mounted on the guide plate after the 2nd transfer roller. There is a resin guide that prevents the electrode from directly contacting the paper.
- The residual potential neutralized by the charge neutralizing needle is grounded via a conductive plate.



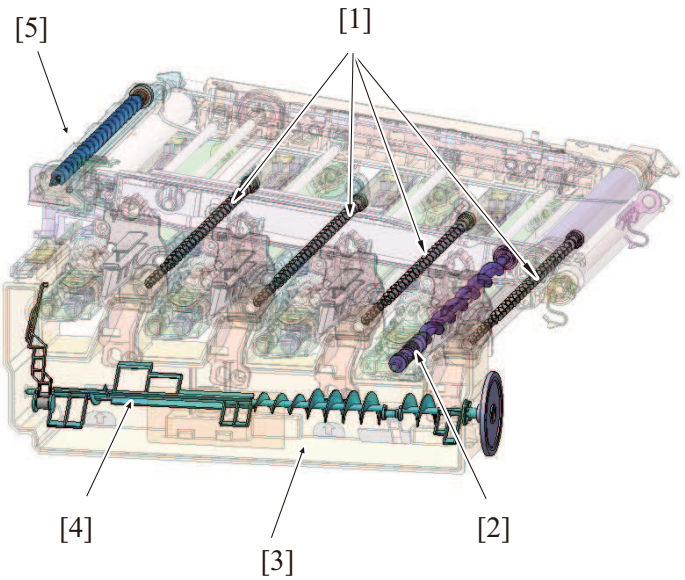
[1]	Charge neutralizing needle	[2]	2nd transfer roller
[3]	Transfer belt	-	-

(5) Transfer roller unit new article detection

- The 2nd transfer roller (hereinafter referred to as the “transfer roller”) is not provided with any new article detection mechanism. If the transfer roller is replaced with a new one, therefore, “New Release” must be performed of the “Transfer Roller Unit” in “Counter/ Life” of the Service Mode.

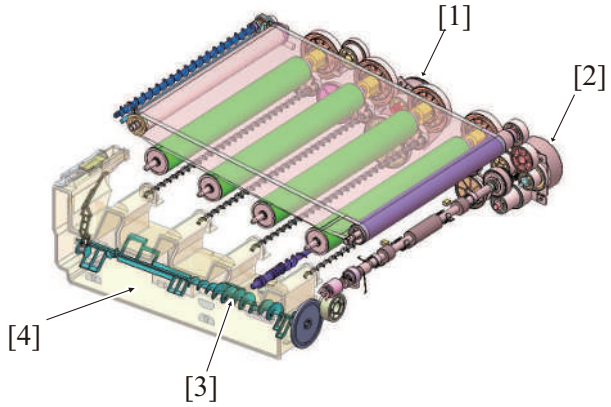
1.9 TONER COLLECTING SECTION

1.9.1 Configuration



[1]	Waste toner collecting screw (Imaging unit/ Y,M,C,K)	[2]	Waste toner supply screw (Imaging unit/ K)
[3]	Waster toner bottle	[4]	Waste toner agitating blade
[5]	Waste toner collecting screw (Transfer belt)	-	-

1.9.2 Drive

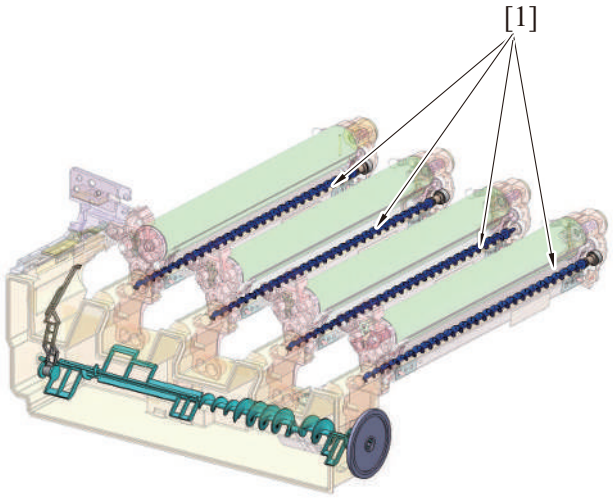


[1]	Color motor (M2)	[2]	Main motor (M1)
[3]	Waste toner agitating blade	[4]	Waster toner bottle

1.9.3 Operation

(1) Waste toner flow at the imaging unit section

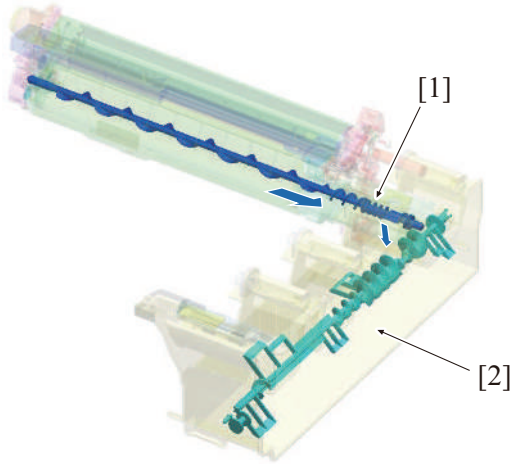
1. Toner scraped off by the cleaning blade in the imaging unit is conveyed to the waste toner discharge port by Waste toner collecting screw.
2. The toner conveyed is stored in the waste toner bottle.



[1]	Waste toner collecting screw	-	-

(2) Waste developer collecting path from the imaging unit/K (developing section)

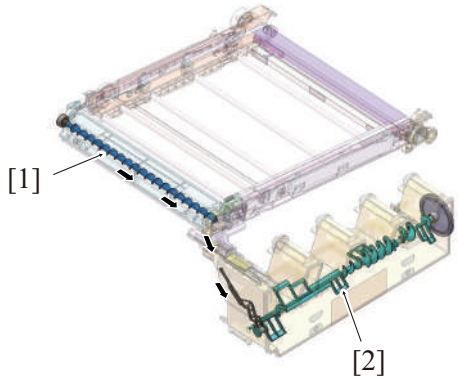
- The waste developer that is collected from the imaging unit/K (developing section) is conveyed to the waste toner bottle via the waste toner supply screw. (For details, see “Auto refining developing system”.)



[1]	Waste toner supply screw (developing unit)	[2]	Waste toner agitating blade

(3) Waste toner flow at transfer belt unit section/2nd transfer section

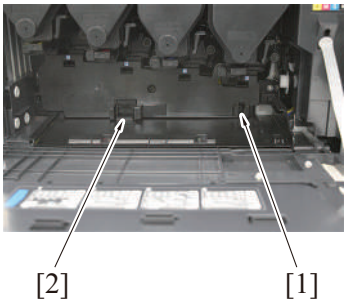
1. Toner scraped off by the cleaning blade provided in the transfer belt unit is collected onto the toner discharge port of the transfer belt unit by the waste toner collecting screw.
2. The waste toner collected is conveyed to the waste toner bottle by the waste toner agitating blade from the toner collecting port that is provided in the middle of the transfer belt unit.



[1]	Waste toner collecting screw	[2]	Waste toner agitating blade

(4) Waste toner bottle-in-position detection mechanism

- The waste toner bottle set sensor detects mounting condition of the waste toner bottle. It prevents the machine from being operated with the waste toner bottle yet to be mounted in place.
- When the waste toner bottle is removed, the waste toner bottle set sensor is unblocked, which causes the machine to determine that the waste toner bottle is yet to be mounted.
- The machine, on determining that the waste toner bottle is yet to be mounted in place, prohibits initiation of a new print cycle.
- When the waste toner bottle is mounted, the waste toner bottle set sensor is blocked, which causes the machine to determine that the waste toner bottle is mounted in place.
- The machine, on determining that the waste toner bottle is mounted in place, resets the waste toner bottle yet-to-be-mounted display, enabling initiation of a new print cycle.



[1]	Waste toner bottle set sensor (PS6)	[2]	Waste toner near full sensor (PS15)

(5) Waste toner bottle full detection

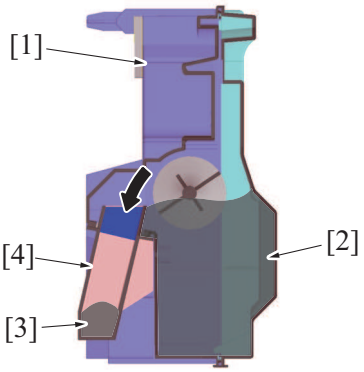
- The waste toner near full sensor provided on the front side is used to determine the amount of waste toner accumulated in the waste toner bottle.

(a) Waste toner near-full

- The toner collecting screw provided in the waste toner bottle conveys waste toner in the bottle onto the central portion of the bottle.
- There is the detection window for detecting a waste toner near-full condition provided at the central portion of the waste toner bottle. When the waste toner conveyed onto the central portion of the bottle exceeds a predetermined height, waste toner spills over the waste toner near-full condition detection section.
- The waste toner near-full condition is determined when the waste toner accumulated in the waste toner full condition detection section blocks the waste toner full sensor for a predetermined time or longer and a predetermined number of paper are printed.

Execution timing

- The waste toner bottle near-full detection control is performed under any of the following conditions:
  “The waste toner bottle set sensor determines that the waste toner box is mounted.”
  “During a print cycle”
  “During execution of image stabilization control”



[1]	Waster toner bottle	[2]	Waste toner
[3]	Waste toner	[4]	Waste toner near-full condition detection window

(b) Waste toner full condition

- When a waste toner near-full condition is detected, the “waste toner full detection counter” is incremented according to the image density information of the print image during each of subsequent print jobs.
- When the waste toner full detection counter reaches a threshold value, the machine determines that there is a waste toner full condition.

Execution timing

- The waste toner bottle full detection control is performed under any of the following conditions:

“The waste toner near full sensor detects a waste toner bottle near-full condition.”
“During a print cycle”
“During execution of image stabilization control”

(c) The number of prints after waste toner near-full detection

Color	Approx. 831 pages
Monochrome	Approx. 2,236 pages

NOTE

- **The number of printed pages represents a value calculated from the toner consumption recorded when the machine is used in the standard job mode. It varies depending on how the user uses the machine.**

(6) Waste toner bottle new article detection

- The waste toner bottle is not provided with any new article detection mechanism. Detection made by the waste toner near full sensor is used for detecting a new waste toner box.
- When the waste toner full display appears, the existing waste toner bottle is replaced with a new one. When the waste toner near full sensor remains unblocked for a predetermined period of time or more, the machine determines that the normal state is recovered (the old waste toner box is replaced with a new one).
- Determining that a new waste toner box has been mounted, the machine resets the waste toner full display, allowing the initiation of a new print cycle.

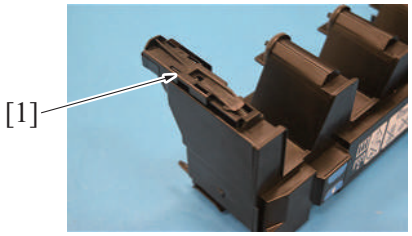
(a) Timing at which to reset the waste toner full display

- The waste toner bottle full detection control is performed under any of the following conditions:

“The waste toner near full sensor detects a waste toner bottle near-full condition.”
“The main power switch is turned ON”
“The front door is closed”

(7) Waste toner spillage prevention shutter

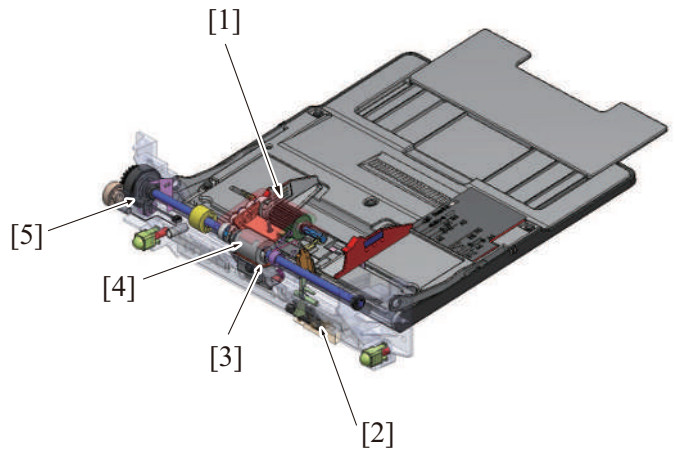
- The toner collecting port for the transfer belt unit is provided with a waste toner spillage prevention shutter that prevents waste toner that is transported from the transfer belt from spilling during removal or reinstallation of the waste toner bottle.
- Inserting the waste toner bottle into its mounting position pushes the shutter at toner collecting port of the waste toner bottle, thus opening the toner collecting port.
- Removing the waste toner bottle allows the shutter spring to close the shutter at the toner collecting port.



[1]	Toner collecting port	-	-

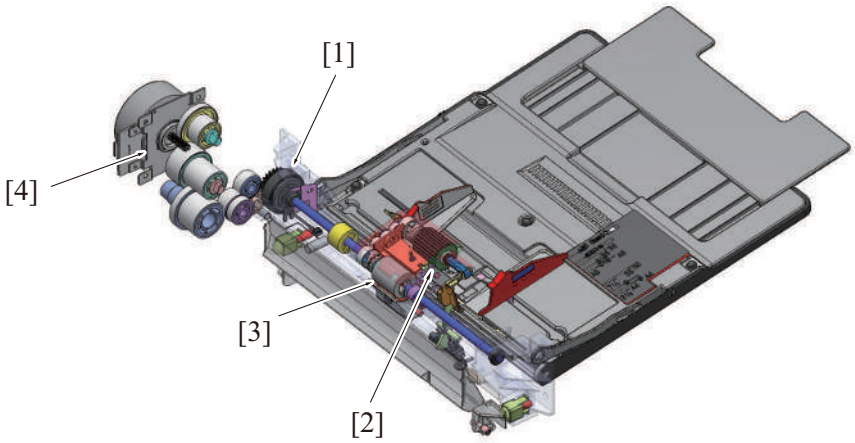
1.10 PAPER FEED SECTION (Manual bypass tray)

1.10.1 Configuration



[1]	Bypass pick-up roller	[2]	Bypass tray paper empty sensor (PS4)
[3]	Manual separation pad	[4]	Manual bypass tray feed roller
[5]	Manual paper feed clutch (CL2)	-	-

1.10.2 Drive

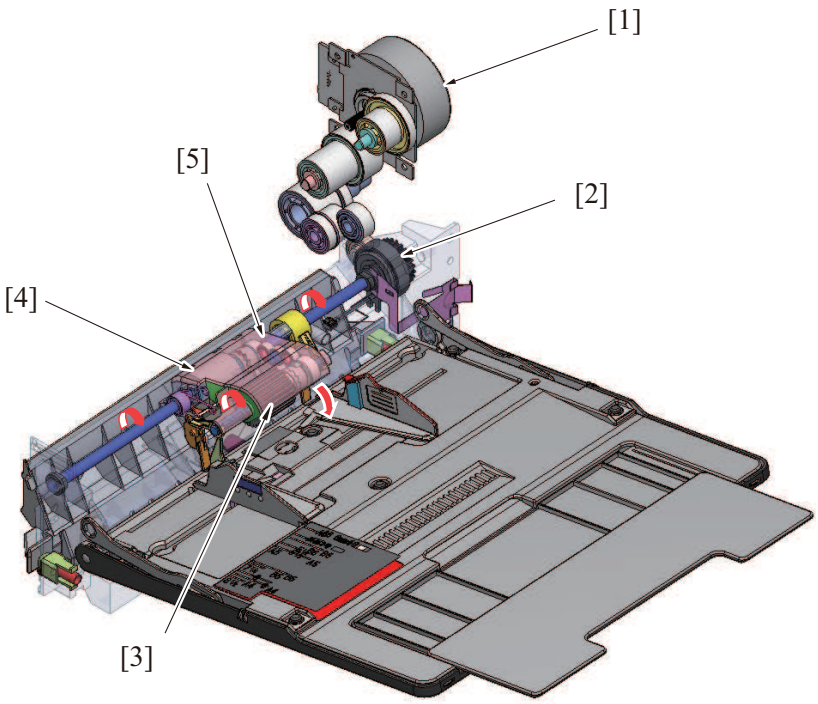


[1]	Manual paper feed clutch (CL2)	[2]	Bypass pick-up roller
[3]	Manual bypass tray feed roller	[4]	Main motor (M1)

1.10.3 Operation

(1) Paper feed control

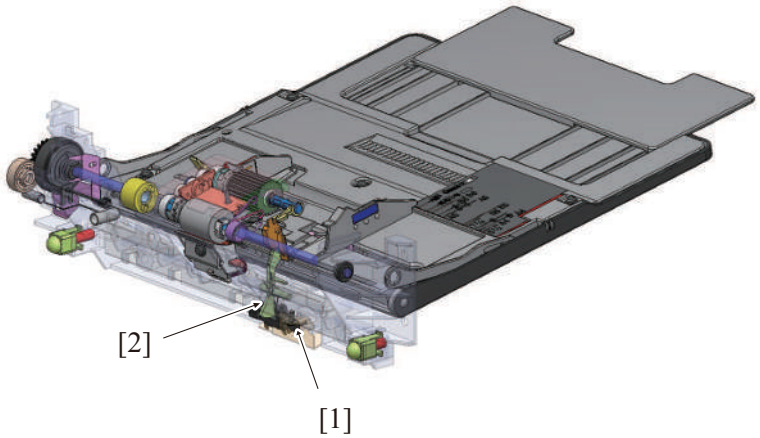
- Rotation of the main motor is transmitted to the manual bypass tray feed roller via the manual paper feed clutch to rotates the roller.
- The rotation shaft of the swing arm mounted on the same shaft as the manual bypass tray feed roller is rotated, so that the bypass pick-up roller is lowered to the feed position.
- The bypass pick-up roller is rotated by a drive gear to thereby feed paper onto the manual bypass tray feed roller.



[1]	Main motor (M1)	[2]	Manual paper feed clutch (CL2)
[3]	Bypass pick-up roller	[4]	Manual bypass tray feed roller
[5]	Swing arm	-	-

(2) Paper empty condition detection control

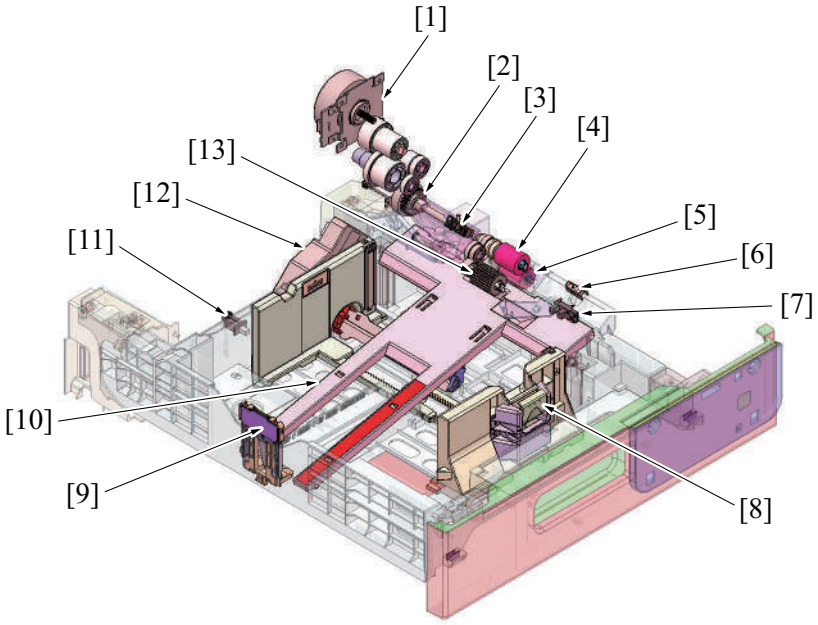
- A paper empty condition is detected when the empty sensor actuator blocks the paper empty sensor.
- No mechanism is provided for detecting a paper near-empty condition.



[1]	Bypass tray paper empty sensor (PS4)	[2]	Actuator

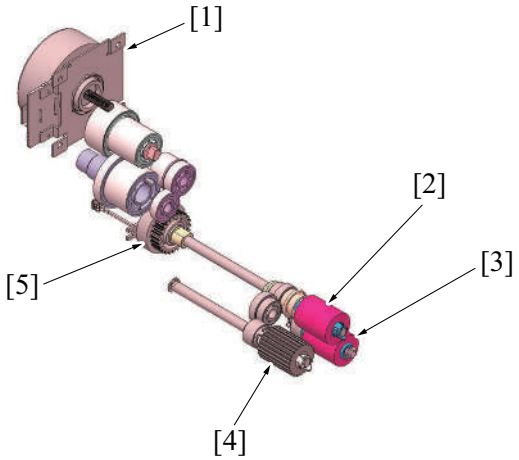
1.11 PAPER FEED SECTION (Tray 1)

1.11.1 Configuration



[1]	Main motor (M1)	[2]	Tray 1 paper feed clutch (CL3)
[3]	Tray 1 upper limit sensor (PS7)	[4]	Feed roller
[5]	Separation roller	[6]	Tray 1 paper feed sensor (PS8)
[7]	Tray 1 paper empty sensor (PS5)	[8]	Edge guide plate
[9]	Trailing edge guide plate	[10]	Paper lift plate
[11]	Tray 1 set switch (SW3)	[12]	Tray 1 lift-up motor (M6)
[13]	Pick-up roller	-	-

1.11.2 Drive



[1]	Main motor (M1)	[2]	Feed roller
[3]	Separation roller	[4]	Pick-up roller
[5]	Tray 1 paper feed clutch (CL3)	-	-

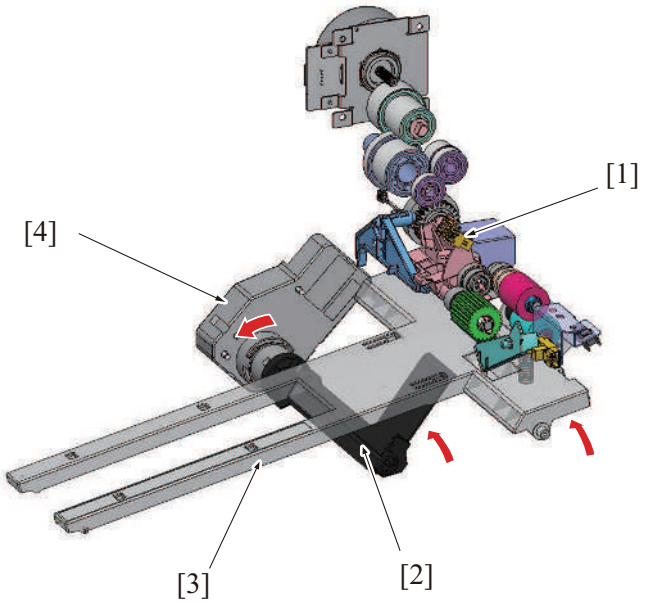
1.11.3 Operation

(1) Up/down control

- Tray 1 and tray 2 are controlled in the same control procedure.

(a) Up operation

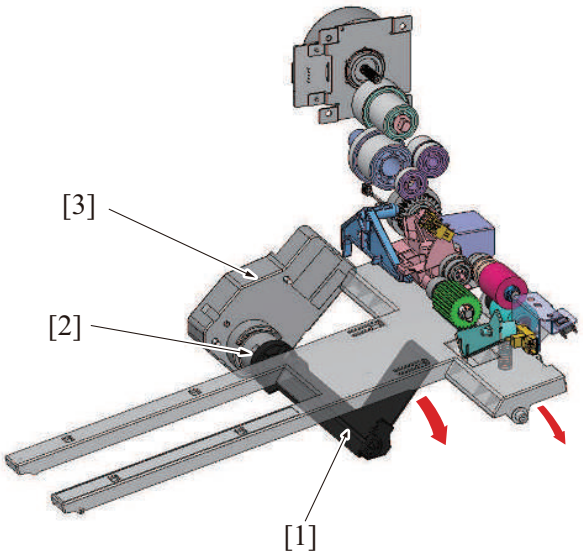
- The paper lift-up lever is located under the paper lift-up plate.
- The drive shaft of the tray 1 lift-up motor is connected to the paper lift-up lever.
- When the drive shaft of the tray 1 lift-up motor rotates, the paper lift-up lever rotates to raise the paper lift-up plate.



[1]	Tray 1 upper limit sensor (PS7)	[2]	Paper lift-up lever
[3]	Paper lift-up plate	[4]	Tray 1 lift-up motor (M6)

(b) Down operation

- When the tray is slid out of the machine, the coupling of the tray 1 lift-up motor and the lift-up plate drive shaft are disconnected from each other.
- When the driving force of the tray 1 lift-up motor is released from the lift-up plate drive shaft, the paper lift-up plate starts lowering by its own weight.



[1]	Paper lift-up lever	[2]	Coupling
[3]	Tray 1 lift-up motor (M6)	-	-

(c) Operation timing

When the tray is slid in

- When the tray is slid into the machine, the tray 1 set switch is blocked. The machine then determines that the tray is slid into position.
- The paper lift-up plate is lowering when the tray is slid out, so that the tray 1 upper limit sensor is unblocked.
- Determining after tray insertion that the tray 1 upper limit sensor is unblocked, the machine lets the tray 1 lift-up motor rotate to start the up operation of the paper lift-up plate.
- When the paper stack is raised to a predetermined height after the paper lift-up plate up operation starts, the tray 1 upper limit sensor is blocked.

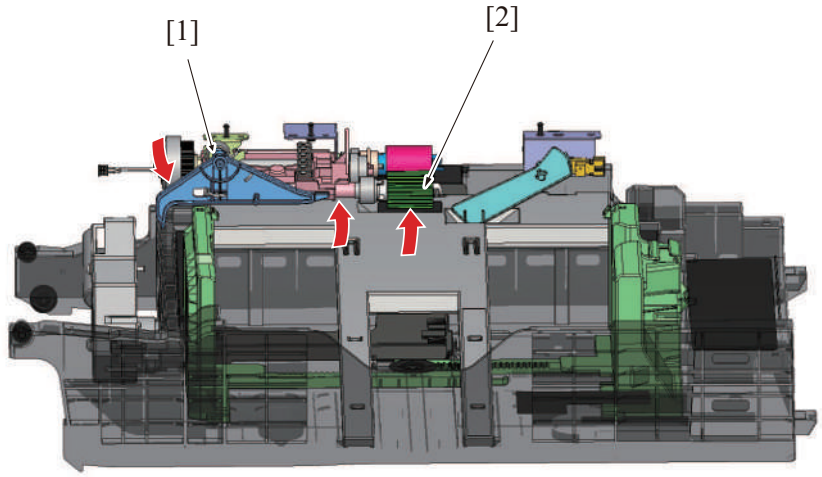
- Determining that the tray 1 upper limit sensor is blocked, the machine stops the tray 1 lift-up motor to complete the up operation of the paper lift-up plate.
- Control is provided to make sure that only one tray performs the up operation at one time.
- If the tray is slid out during the up operation of the paper lift-up plate and accordingly the tray 1 set switch is unblocked, the up operation of the paper lift-up plate is terminated.

During a print cycle

- When the amount of paper decreases as the unit keeps printing, the pick-up roller will gradually come down to unblock the tray 1 upper limit sensor. The tray 1 lift-up motor will rotate again to lift up the paper lift-up plate.
- When the tray 1 upper limit sensor is blocked, the tray 1 lift-up motor will stop to stop lift-up the paper lift-up plate.
- The sequence of these operations is repeated to keep constant the pressure between the pick-up roller and paper stack (paper take-up pressure) regardless of the amount of paper still available for use.

(2) Pick-up roller retract mechanism

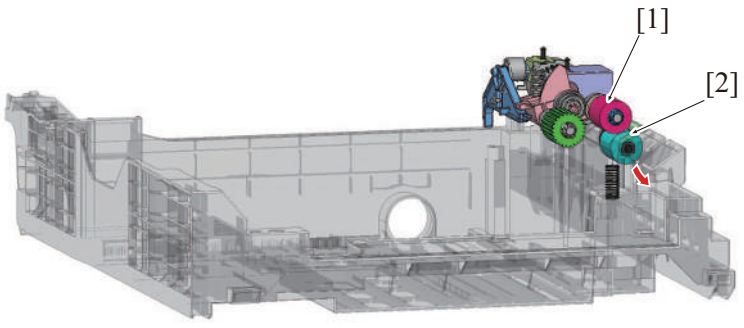
- A mechanism to retract the pick-up roller is provided, in order to avoid damaging stacked paper when the paper feed tray is inserted.
- When the paper feed tray is open, the retraction lever in the back of the machine presses the pick-up roller up to the retract position.
- When the pick-up roller is in the retract position, paper cannot be damaged as the pick-up roller does not make contact with the stacked paper.
- Closing the paper feed tray presses the retraction lever to move the pick-up roller to the a position such that it can supply paper.



[1]	Retraction lever	[2]	Pick-up roller

(3) Separation roller retract mechanism

- When a paper jam occurs and paper is caught between rollers where the feed roller is pressing the separation roller, paper will be left inside the machine through pulling out the paper feed tray. If you insert the paper feed tray in that state, the paper may get torn in pieces which may fall off and scatter inside the machine. It prevents paper from being torn or falling off through retracting the separation roller.
- The separation roller is pressed against the feed roller by spring pressure when the paper feed tray is closed. (Paper feed position)
- Release the paper tray lock, the roller pushdown lever is also released and the separation roller retract lever is pushed down to the retracting position. It releases the paper from the rollers even if it is jammed between the rollers.



[1]	Feed roller	[2]	Separation roller

(4) Paper feed control

- Rotation of the main motor is transmitted through the paper feed clutch to drive the feed roller to take up and feed the paper.
- The paper taken up and fed in is conveyed onto the registration roller.

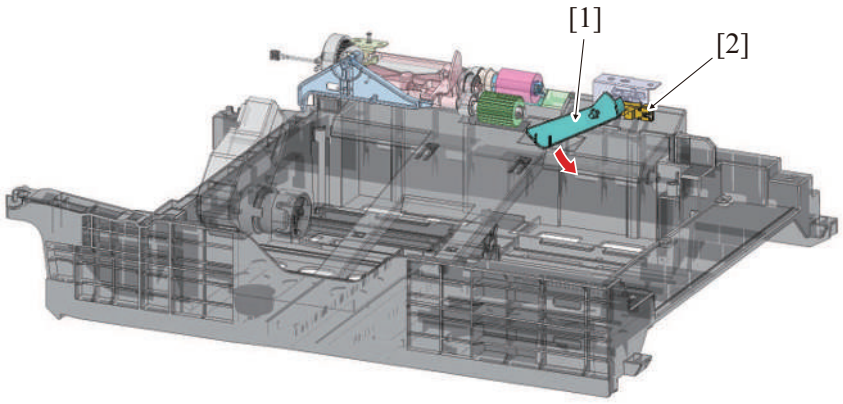
- The paper is pressed against the stationary registration roller so that a loop is formed in the paper. The feed roller is then stopped. The loop thus formed in the paper corrects any mechanical skew in the paper.
- As the trailing edge of the paper reaches a point immediately before the feed roller, the feed roller is stopped.

(5) Paper size detection control

- The main body has no system or mechanism for detecting the paper size. The paper size is therefore specified from the operation panel after the paper is loaded in the main body.
  The length of the paper is detected using the period of time that begins when the registration sensor is activated and ends when it is deactivated, and if it differs from the paper length specified using the operation panel, it will be judged as a size error.

(6) Paper empty condition detection control

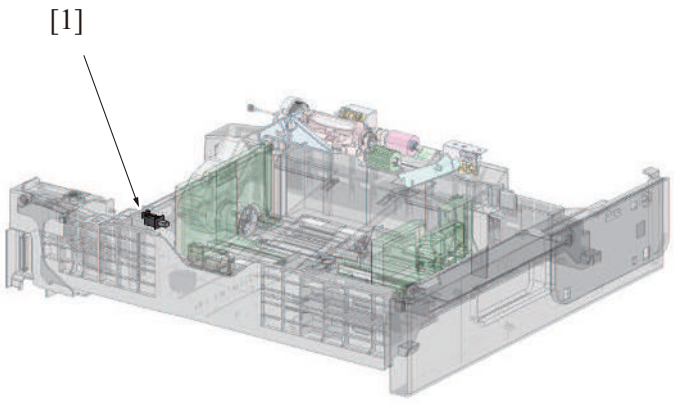
- At time that the paper empty sensor is unblocked, a paper empty condition is detected.
- No mechanism is provided for detecting a paper near-empty condition.



[1]	Empty sensor actuator	[2]	Tray 1 paper empty sensor (PS5)

(7) Tray open/close detection control

- The tray 1 set sensor detects a tray in the open or closed position.



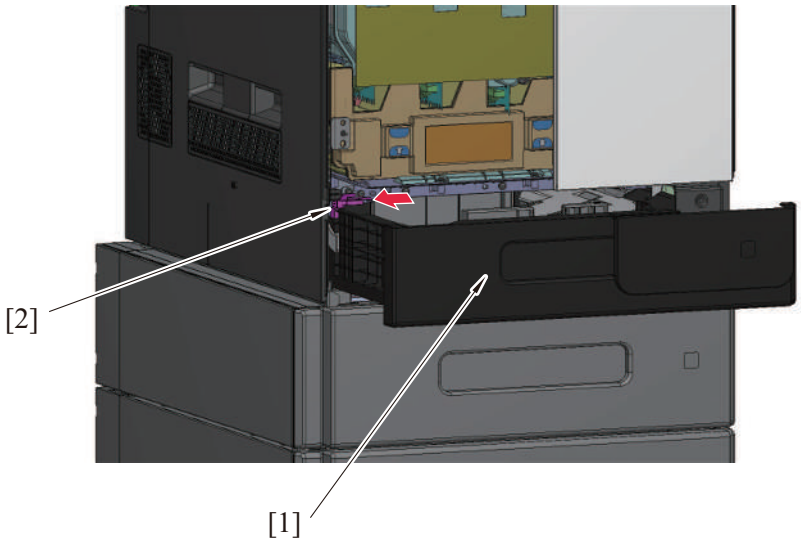
[1]	Tray 1 set switch (SW3)	-	-

(8) Paper misfeed detection control

- If the registration sensor is not activated within a predetermined period of time after a paper feed sequence has been started, the main body determines that there is a paper misfeed. It then gives the message "PAPER EMPTY TRAY 1" on the panel.
- The paper misfeed display can be reset by opening and closing any of the doors.
- Paper refeeding (retry control) is not performed from tray 1 even when a paper jam is resolved.

(9) Paper feed tray stopper release mechanism

- The paper feed tray is equipped with a stopper mechanism.
- When paper is placed, the stopper prevents the paper feed tray from falling off from the machine even if it is pulled out.
- The paper feed tray can be removed if paper is remained inside the machine at the time of handling a paper jam or a misfeed.



[1]	Tray 1	[2]	Tray 1 stopper

(a) Releasing the paper tray stopper

- Press the stopper on its left side, the stopper lock will be released.

(b) Locking the paper tray stopper

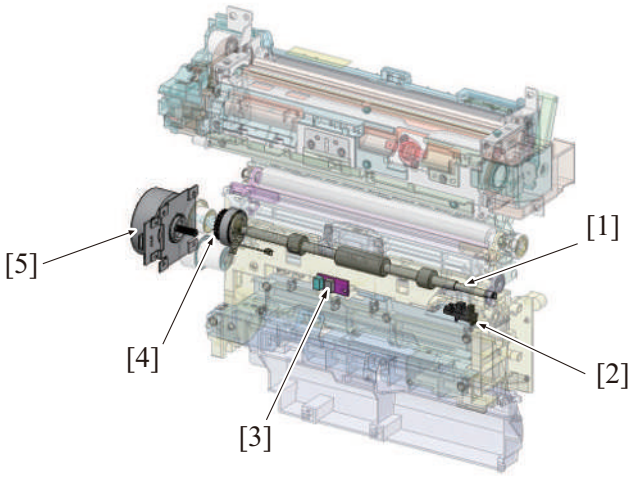
- Press the stopper on its right side, the stopper lock will be locked.

NOTE

- **A mechanism is provided to push and lock the stopper through closing the paper tray to its home position even if you forget to lock it. (Mechanism to prevent forgetting lock)**

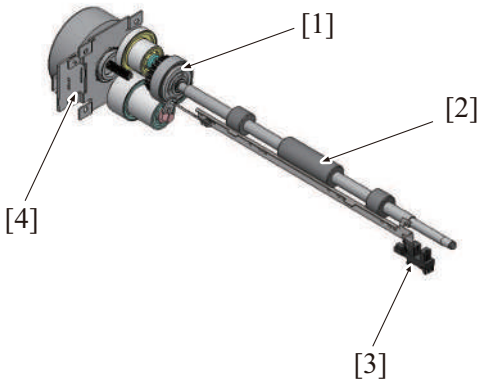
1.12 REGISTRATION SECTION

1.12.1 Configuration



[1]	Registration roller	[2]	Registration sensor (PS9)
[3]	Temperature/humidity sensor (TEM/HUMS)	[4]	Registration clutch (CL4)
[5]	Main motor (M1)	-	-

MF4003en **1.12.2 Drive**

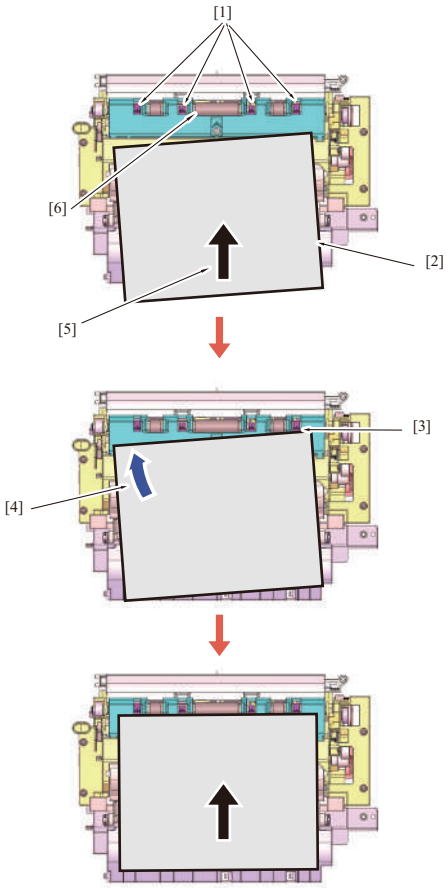


[1]	Registration clutch (CL4)	[2]	Registration roller
[3]	Registration sensor (PS9)	[4]	Main motor (M1)

1.12.3 Operation

(1) Gate registration control

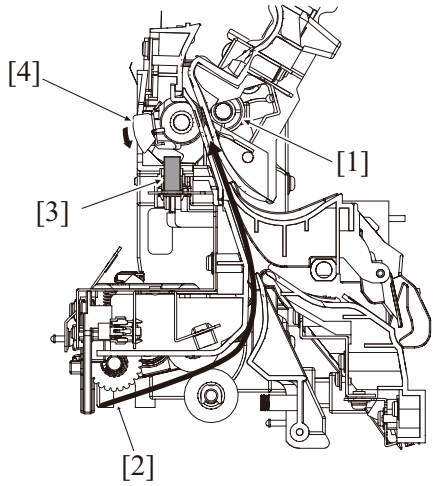
- The paper that is transported from the feed roller contacts the registration gate on the registration roller shaft.
- Pressing the paper against the gate makes the paper level and realizes the skew correction.
- The paper fed in is synchronized with the image before paper conveyance is restarted.



[1]	Registration gate	[2]	Paper
[3]	Point where paper contacting registration gate	[4]	Paper rotating operation
[5]	Paper feed direction	[6]	Registration roller

(a) Paper detection control

- When the paper fed from the feed roller pushes up the actuator of the registration sensor, the sensor is unblocked. The main body then determines that the paper has reached the registration roller.



[1]	Registration roller	[2]	Paper tray (tray 1)
[3]	Registration sensor (PS9)	[4]	Actuator

(2) Paper size error detection control

- To prevent incorrect printed pages, the size of the paper being conveyed is detected using the registration sensor or the PC transport sensor of the optional paper feed unit.
- The length of the paper is detected based on the value calculated using the period of time that begins when the sensor is activated and ends when it is deactivated for each paper source.
- For the paper feed unit, even if the PC transport sensor does not detect a paper size error, the downstream registration sensor makes an error check again.

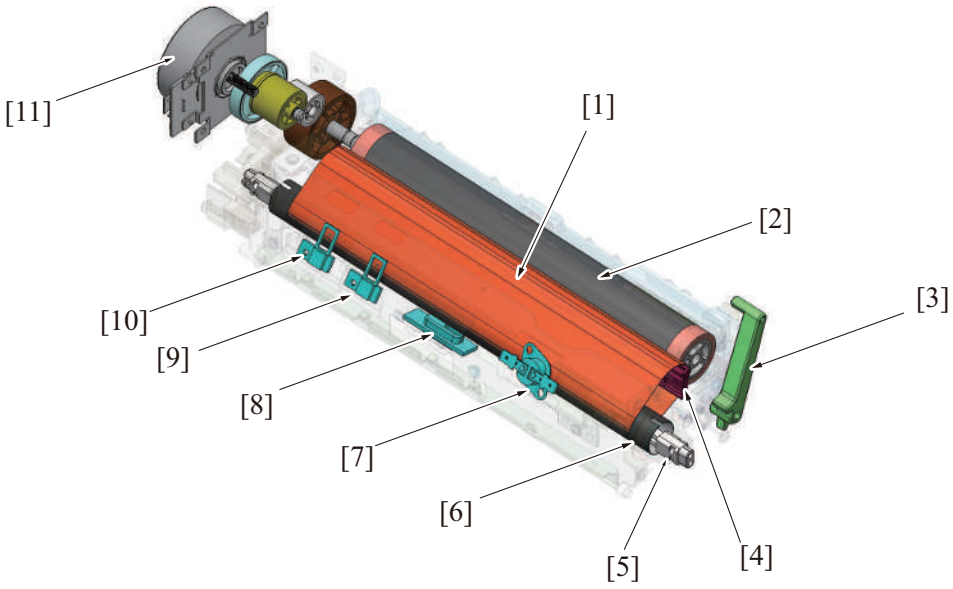
Paper source	Paper length detection sensor	Starting point	Ending point
Manual bypass tray	Registration sensor (PS9)	Registration clutch (CL4): ON	Registration sensor (PS9): OFF
Tray 1	Registration sensor (PS9)	Registration clutch (CL4): ON	Registration sensor (PS9): OFF
Tray 2/3 (PF-P20) (d-Color MF4003/MF3303)	Tray 2 transport sensor (PS6/2) Tray 3 transport sensor (PS6/3)	Tray 2 transport sensor (PS6/2): ON Tray 3 transport sensor (PS6/3): ON	Tray 2 transport sensor (PS6/2): OFF Tray 3 transport sensor (PS6/3): OFF
	Registration sensor (PS9)	Registration clutch (CL4): ON	Tray 2 transport sensor (PS6/2): OFF Tray 3 transport sensor (PS6/3): OFF
Tray 2/3/4 (PF-P27) (d-Color MF4003en/F3303en)	Tray 2 transport sensor (PS6/2) Tray 3 transport sensor (PS6/3) Tray 4 transport sensor (PS6/4)	Tray 2 transport sensor (PS6/2): ON Tray 3 transport sensor (PS6/3): ON Tray 4 transport sensor (PS6/4): ON	Tray 2 transport sensor (PS6/2): OFF Tray 3 transport sensor (PS6/3): OFF Tray 4 transport sensor (PS6/4): OFF
	Registration sensor (PS9)	Registration clutch (CL4): ON	Tray 2 transport sensor (PS6/2): OFF Tray 3 transport sensor (PS6/3): OFF Tray 4 transport sensor (PS6/4): OFF

(3) Temperature/humidity sensor

- The temperature/humidity sensor detects temperature and humidity inside the main body.
- The detected data are used for image stabilization control, ATVC control, and transfer output control.

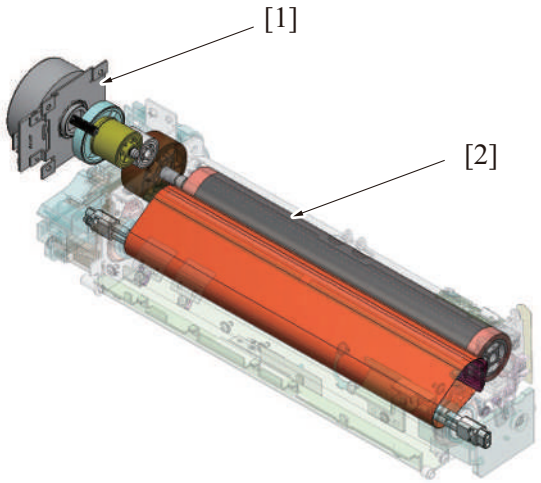
1.13 FUSING SECTION 1.13.1

Configuration



[1]	Fusing belt	[2]	Pressure roller
[3]	Fusing lever	[4]	Fusing pad
[5]	Fusing heater lamp (HL1)	[6]	Heating roller
[7]	Heating roller thermostat (TS1)	[8]	Heating roller temperature sensor (TWMS)
[9]	Heating roller thermistor/Ctr (TH2)	[10]	Heating roller thermistor/Edg (TH1)
[11]	Fusing motor (M3)	-	-

1.13.2 Drive



[1]	Fusing motor (M3)	[2]	Pressure roller

1.13.3 Operation

(1) Fusing speed correction

(a) Fusing loop control

- To prevent double transferred images and brush effects that occur due to a difference in speed between paper transport during image transfer and fusing, a loop is formed in the paper between the 2nd transfer and fusing sections.
- The fusing loop sensor detects the length of the loop formed in the paper between the 2nd transfer section and the fusing roller.
- The fusing motor increases or decreases the fusing speed according to the length of loop in the paper, thereby ensuring that the length of loop falls within a predetermined range.

Fusing loop sensor	Loop amount	Fusing speed
Blocking	Large	Speed-up
Unblocking	Small	Slowdown

Operation timing

- It starts controlling when the front-edge of the paper reaches to the predetermined position before the fusing roller.
- The fusing speed is decelerated so that a loop is formed in the paper between the 2nd transfer roller and the fusing roller.
- When the paper loop amount is large, the fusing loop sensor is unblocked, and the fusing speed is increased.
- When the paper loop amount is small, the fusing loop sensor is blocked, and the fusing speed is decreased.
- The fusing speed is increased or decreased as necessary to make sure that the paper loop amount falls within a predetermined range, thereby absorbing a difference between the fusing speed and image transfer speed.
- The fusing loop control will finish after the trailing of the paper passes the 2nd transfer roller.

Fusing speed adjustment

- If double transferred images or brush effects occur due to inadequate paper loop before fusing, adjust the fusing speed using [Service Mode] -> [Machine] -> [Fusing Transport Speed].

(2) Fusing belt deformation prevention control

- The fusing belt is rotated to prevent the fusing belt from remaining placed on the same side for long periods of time, preventing deformation.
- Prevents uneven gloss due to fusing belt deformation.

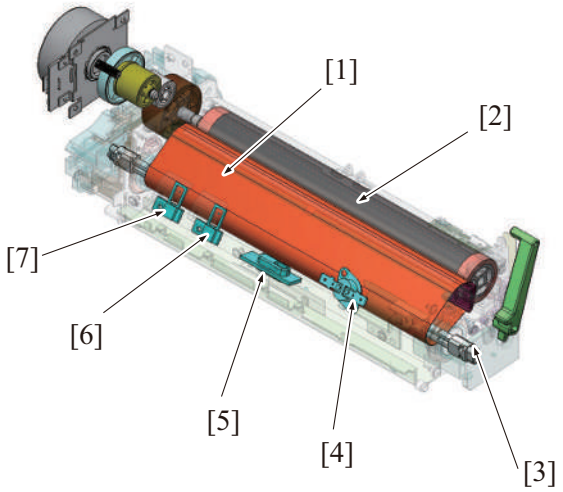
(a) Specific controls

- Select Mode 2 in the Service Mode settings to enable the fusing belt deformation prevention control.
- Configured from [Service Mode] -> [System 2] -> [Fuser roll deform].

Mode	Specific controls
OFF	No control
Mode 1	• When the main body has been in standby mode for 6 hours, the fusing roller is rotated for a specified distance. • When the main body has been in power save mode for 13 days, the fusing roller is rotated for a specified distance. Afterwards, the main body returns to the power save mode.
Mode 2	• Disable

(3) Fusing temperature control

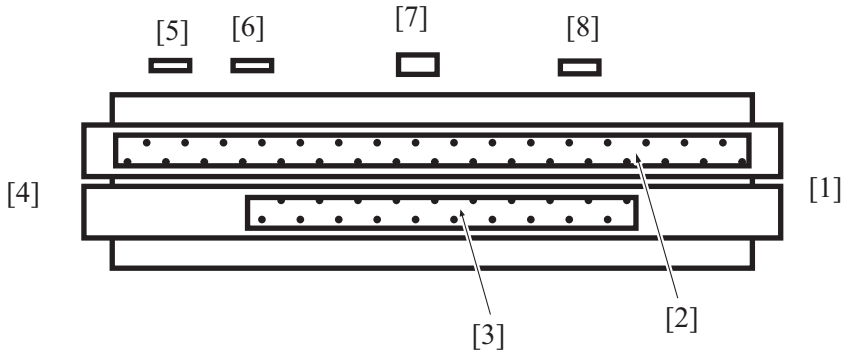
- The fusing temperature control detects the surface temperature of the fusing roller using the fusing temperature sensor and turns the fusing heater lamp ON/OFF.
  When the fusing heater lamp is turned ON, the fusing roller is heated at the specified temperature.



[1]	Fusing belt	[2]	Pressure roller
[3]	Fusing heater lamp (HL1)	[4]	Heating roller thermostat (TS1)
[5]	Heating roller temperature sensor (TEMS)	[6]	Heating roller thermistor/Ctr (TH2)
[7]	Heating roller thermistor/Edg (TH1)	-	-

(a) Fusing heater lamp

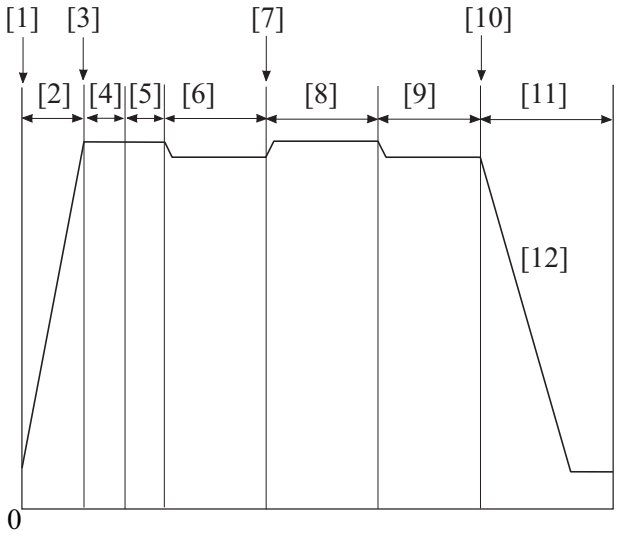
- The heating roller contains a fusing heater lamp assy in it. The fusing heater lamp turns ON to generate heat, which heats the heating roller and fusing belt.
- The fusing heater lamp assy consists of two heaters, each having a unique heating range different from each other.
  - The fusing heater lamp/1 uniformly heats the entire area of the fusing roller.
  - The fusing heater lamp/2 heats only the central portion of the fusing roller.
- The fusing heater lamp is turned ON or OFF according to the width of the paper and the surface temperature of the fusing belt.
  - For a paper width of 148 mm or less, the fusing heater lamp/2 is used to heat the central portion.
  - For a paper width exceeding 148 mm, the surface temperature of the fusing belt is measured and the fusing heater lamp/1 and the fusing heater lamp/2 are alternately turned ON.
  -



[1]	Front of machine	[2]	Fusing heater lamp/1
[3]	Fusing heater lamp/2	[4]	Back of machine
[5]	Heating roller thermistor/Edg (TH1)	[6]	Heating roller thermistor/Ctr (TH2)
[7]	Heating roller temperature sensor (TEMS)	[8]	Heating roller thermostat (TS1)

(b) Temperature control chart

*An example when a machine is warmed up under a normal ambient condition



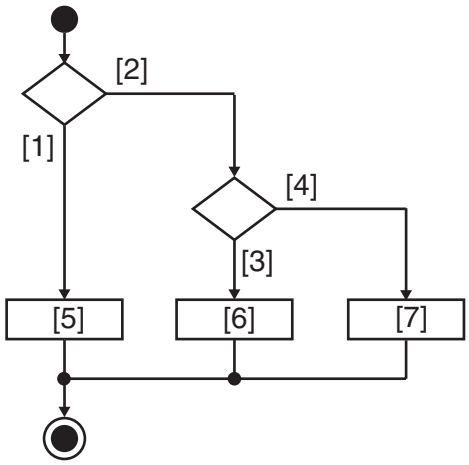
[1]	Main power switch ON	[2]	Warm-up control
[3]	Warm-up completed	[4]	Post-warm-up control
[5]	Pre-standby control	[6]	Standby control (including a countermeasure against overshoot)
[7]	Print request	[8]	Print control
[9]	Standby	[10]	Entry in sleep mode
[11]	In sleep state	[12]	Fusing belt temperature

(c) Fusing temperature control during warm-up

- To prevent image fixability from being degraded due to environmental changes when the main power switch is turned ON, three different warm-up modes are incorporated for fusing temperature control.
- The warm-up mode is performed “at low temperatures”, “at ordinary temperatures”, or “under high humidity condition”.
- In the warm-up mode under high humidity condition, the warm-up time is extended to prevent paper from curling and the difference in temperature between the fusing belt and fusing pressure roller is minimized.
- When the temperature of the fusing belt reaches the warm-up completion temperature, control is passed onto the pre-standby process.

Warm up mode	Environment	
	Machine interior temperature	Machine interior humidity (absolute humidity *1)
Warm-up at low temperatures	Less than 18 degrees	Not judged by absolute humidity
Warm-up at ordinary temperatures	18 degrees or more to 32 degrees or less	Less than a predetermined value
Warm-up under high humidity condition	More than 32 degrees	Predetermined value or more

- *1: Absolute humidity: water content contained in the air (1 m3) as steam regardless of the temperature



[1]	Machine interior temperature less than 18 °C	[2]	Machine interior temperature 18 °C or more
[3]	Absolute humidity, specified value or more	[4]	Absolute humidity, less than the specified value
[5]	Warm-up at low temperatures	[6]	Warm-up under high humidity condition
[7]	Warm-up at ordinary temperatures	-	-

(d) Temperature control during pre-standby

- After the warm-up completion temperature is reached, control is then passed onto the pre-standby process.
- The temperature control in the pre-standby state turns ON or OFF the fusing heater lamp as necessary in order to maintain the fusing belt temperature at a level that enables printing.
- A print job, when received during the pre-standby state, can be started without waiting.

(e) Temperature control during stand-by

- If no print request is received after the temperature control in the pre-standby state is started, control is passed onto the standby process.
- The temperature control in the standby state maintains the fusing belt temperature at a level lower than the temperature that enables printing.
- The control is intended to shorten time it takes the temperature to reach the printable level when a print request is received.
- An overshoot preventive process may be performed before control is passed onto the temperature control in the standby state.
- After standby starts, the fusing motor rotates (low speed) and stops after 5 seconds.
  The rotation time of the fusing motor after standby starts can be changed with EngineDipSW.

(f) Temperature control during the print cycle

Temperature control

- The machine enters a print state as it receives a print control and carries out a print cycle at a set temperature corresponding to the type of paper selected for the job.
- The fusing temperature is measured during the print cycle and temperature control suitable for the print condition is performed accordingly.

Service Mode

- The machine has a fusing temperature adjustment function in order to prevent image fixability from being degraded depending on the type of paper and reduce such phenomena as paper curl, uneven wax, and offset.
- The fusing temperature can be varied using the setting made in “Machine/ Fusing Temperature” of the Service Mode.

Setting item	Setting range	Default setting
Plain paper	- 20 °C to +10 °C (step: 5 °C)	0 °C
Plain paper+		
Thick paper		
Thick 1		
Thick 1+		
Thick 2		
Postcard		
Envelope		
Recycled		
Glossy Paper 1		
Glossy Paper 1+		
Glossy Paper 2		
Labels		

Setting item	Setting range	Default setting
Letterhead		

(g) Energy save mode

- The machine enters the energy save mode from any standby state to thereby reduce power consumption (TEC value).
- TEC value (typical electricity consumption): Energy saving criteria for copiers and printers to comply with the Energy Start program. Power consumption (kWh) at the office assuming operation of a product for one week (5 working days + 2 holidays) is calculated from the print speed and power consumption of the product.
- The energy save mode may be either the low power mode or sleep mode, whichever is enabled depending on the set conditions.

Temperature control during sleep mode

- To reduce power consumption during the sleep mode, power to the fusing heater lamp is shut down to stop heating the fusing belt.
- If the fusing belt temperature is decreased to room temperature, the printable temperature can be recovered within the same period of time as that of warm-up.

(4) Protection from abnormal temperatures

(a) First approach: software protection

- If the heating roller temperature sensor detects a predetermined temperature or more continuously, the temperature is determined to be abnormally high and a “trouble code C3725: Fusing abnormally high temperature detection (Main of the heating side)” will be displayed.
- If the heating roller thermistor/1 detects a predetermined temperature or more continuously, the temperature is determined to be abnormally high and a “trouble code C3722: Fusing abnormally high temperature detection (Edge of the heating side)” will be displayed.
- If the heating roller thermistor/2 detects a predetermined temperature or more continuously, the temperature is determined to be abnormally high and a “trouble code C3726: Fusing abnormally high temperature detection (Center of the heating side)” will be displayed.
- When the trouble code is displayed, printing will be prohibited.

(b) Second approach: hardware protection

- A different protection is provided when the CPU overruns, becoming unable to detect the malfunction of an abnormally high temperature. If the fusing temperature sensor/2 (TEM2) detects an abnormal temperature, the heater relay of the DC power supply is turned OFF through the printer control board. Power supply to the fusing heater lamp is then shut down.
- When the hardware circuit in the DC power unit detects the heater relay being OFF, the temperature is judged to be abnormally high. Trouble code C3725: Fusing abnormally high temperature detection (TEM1:center) will be displayed.
- Through these control procedures, the power supply to the heater lamps can be shut down before the thermostat is activated. It thereby suppresses damage to the fusing unit itself.

(c) Third approach: thermostat protection

- If detection of the abnormally high temperature through approaches 1 and 2 above is not possible due to a defective the heating roller temperature sensor, heating roller thermistor or other reason, the thermostat comes into play to shut down the power supply to the heater lamp.

(5) Fusing PPM control

(a) PPM control

- To achieve the intended level of fixability of printed images, the PPM control reduces the number of printed pages per minute by widening the distance between sheets of paper.

PPM mode	Control execution conditions	Purpose	Specific controls	Print productivity *1
Low temperature environment mode	Room temperature at the start of the print cycle is less than 18 degrees	To achieve the intended level of fixability under low temperature environment	To prevent fixability from being degraded in a multi-print cycle, paper-to-paper distance is widened to thereby limit a decrease in the fusing temperature.	100% 90% 80% 70%: default 60% 5 0%
High humidity environment mode *2	Environmental humidity at the start of the print cycle is a predetermined value or more	To suppress occurrence of paper curl under high humidity environment	Paper-to-paper distance is widened in a multi-print cycle run under high humidity environment so as to prevent paper from curling, thereby achieving a required fusing temperature.	100% 70% 50%: default
Paper curl suppression mode	“Mode 3” is selected for “Change Warm Up Time” of the service mode	To suppress occurrence of paper curl under conditions other than high humidity environment	Paper-to-paper distance is widened in a multi-print cycle run under any condition other than high humidity environment so as to prevent paper from curling, thereby achieving a required fusing temperature.	100% 50%: default

Heating roller end temperature rise suppression mode	• Print request is received for paper with a paper width of 209 mm or less • Temperature of the heating roller ends becomes a predetermined value or more	To suppress inordinate rise in temperature on heating roller ends in a print cycle using paper of a small size	Paper-to-paper distance is widened in a multi-print cycle so as to prevent the temperature on ends of the heating roller from increasing, thereby promoting reduction in temperature.	100%: default value 90% 80% 70% 60% 50% 40% 30%
Reduced power supply mode	Only an insufficient power is supplied to the fusing heater lamp, resulting in a fusing temperature lower than a predetermined value	To achieve the intended level of fixability under low power supply condition	To prevent fixability from being degraded in a multi-print cycle, paper-to-paper distance is widened to thereby limit a decrease in the fusing temperature.	100%: default value 70% 50%
Recycled paper correspondence mode	“100%” is selected for “PPM Control Choice” of the service mode	To increase the print productivity of recycled paper. * Paper curling can increase if 100% is selected.	Paper-to-paper distance is narrowed to thereby increase productivity.	100% 70%: default value *3

- *1: Exemplary calculation of print speed: If 40 ppm can be achieved at a print productivity of 100 % on A4 plain paper, a change in print productivity to 90% results in 36 ppm.
- *2: Execution of the control for the high humidity environment mode can be prohibited by turning ON "No. 5 PPM control (high humidity environment mode) prohibited" of Engine FW DIP switch of Enhanced Security of the service mode.
- *3: For recycled paper, the print productivity will be set to 70% when “Mode 3” is selected for warm-up choice.

(6) Fusing unit detection

(a) Unit mounting detection

- The machine detects the mounting condition of the fusing unit.
- When fusing unit is detected in the mounted condition, the machine begins the initial operation.

Detection timing

- The unit mounting detection control is performed under any of the following conditions:
  “The power switch is turned ON (with the front door and right door are closed)”
  “The machine exits the sleep mode”
  “The front door or right door is opened and closed with the power switch in ON position”

Operation when it is detected that no units are mounted

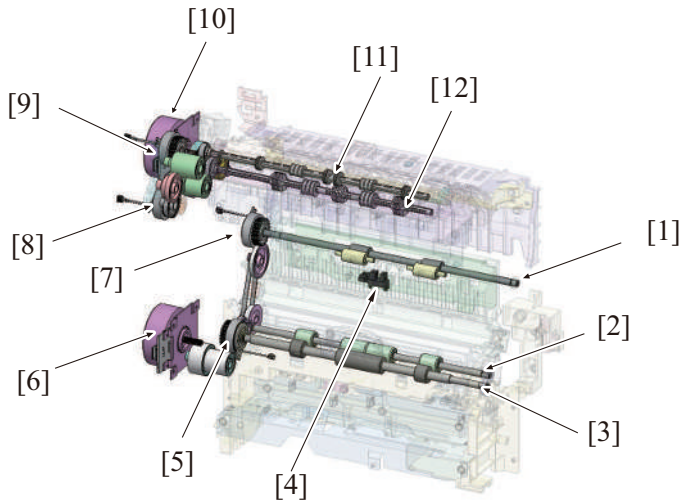
- The message "Fusing Unit Installation Error" appears on the operation panel, and the machine prohibits initial operation and any new print cycle.
  The message “Fusing Unit Installation Error” disappears as soon as a fusing unit is mounted.

(b) Fusing unit new article detection

- The fusing unit is not provided with any new article detection mechanism. If the fusing unit is replaced with a new one, therefore, “New Release” of “Fusing Unit” must be performed in [Counter] -> [Life] of the service mode.

1.14 DUPLEX SECTION

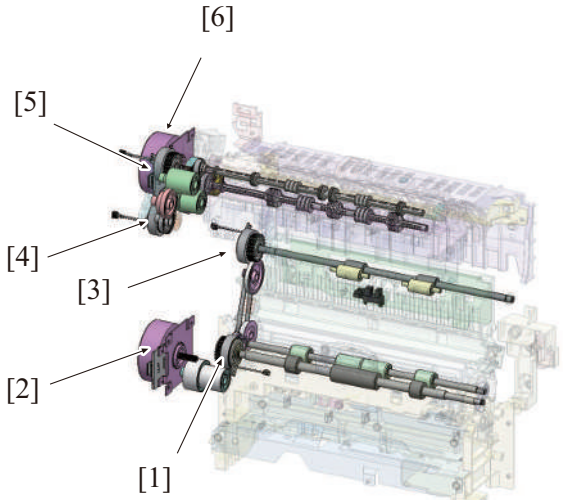
1.14.1 Configuration



[1]	ADU transport roller	[2]	Driven roller
[3]	Registration roller	[4]	ADU transport sensor (PS11)
[5]	Registration clutch (CL4)	[6]	Main motor (M1)

[7]	ADU transport clutch (CL5)	[8]	ADU forward rotation clutch (CL6)
[9]	ADU reverse rotation clutch (CL7)	[10]	Fusing motor (M3)
[11]	Reverse roller	[12]	Paper exit roller

1.14.2 Drive



[1]	Registration clutch (CL4)	[2]	Main motor (M1)
[3]	ADU transport clutch (CL5)	[4]	ADU forward rotation clutch (CL6)
[5]	ADU reverse rotation clutch (CL7)	[6]	Fusing motor (M3)

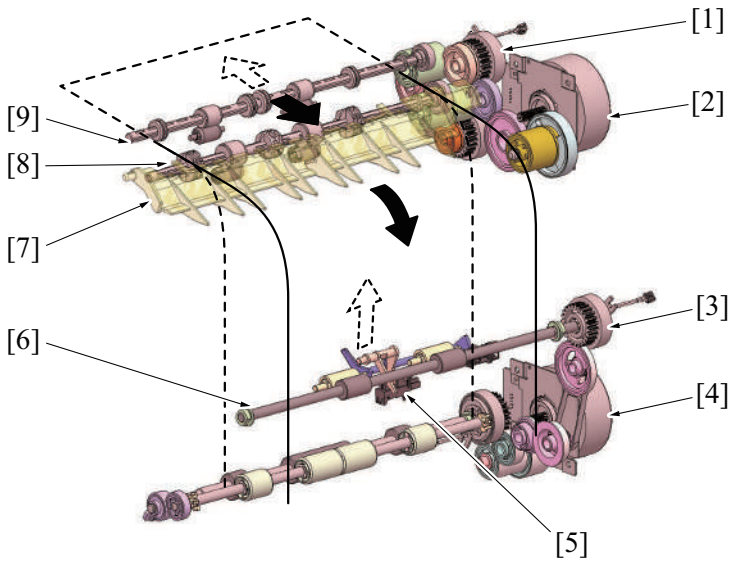
1.14.3 Operation

(1) Paper transport control

1. Paper transport

- The fusing motor and ADU reverse rotation clutch provides drive for paper transport onto the duplex section.
- The duplex transport clutch controls the main motor to rotate, to drive the ADU transport roller.
- The ADU transport roller transports paper from the duplex section to re-feeding position.
- The duplex transport sensor is located at the re-feeding position in the duplex section, serving to control the timing at which paper is moved and detect paper misfeed or paper left in the duplex section.

[1] ADU reverse rotation clutch (CL7)
[2] Fusing motor (M3)
[3] ADU transport clutch (CL5)
[4] Main motor (M1)
[5] ADU transport sensor (PS11)
[6] ADU transport roller
[7] Switchback guide
[8] Paper exit roller
[9] Reverse roller



2. Loop formation

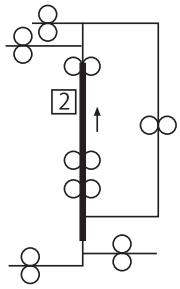
- To correct skew in the paper transported to the duplex section, a loop is formed in the paper at the duplex section before the paper is transported onto the main body.

- The registration roller functions to control formation of the loop. The registration roller is brought to a stop after the lapse of a predetermined period of time after the paper has moved past the duplex transport sensor. A loop is thereby formed in the paper at the duplex section.
- After the loop being formed, start transporting paper with the loop being held exactly by turning on the duplex transport clutch before turning on the registration clutch.
- When the paper end passed through the registration sensor, turn off the duplex transport clutch and stop the duplex transport roller 1/2.

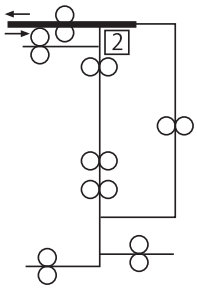
(2) Duplex circulation control

(a) 1 sheet operation

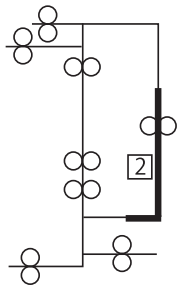
1. A sheet of paper is taken up and fed in and the image of the second page of the original is printed.



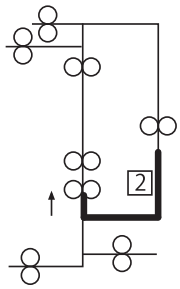
2. The switchback guide operates so as to transport the paper to the reverse section. Immediately before the paper leaves the paper exit roller, the direction of rotation of the reverse roller is reversed and the paper is transported toward and into the duplex section.



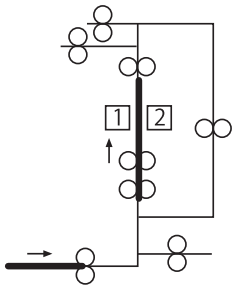
3. While passing through the duplex section, the paper stops temporarily at the re-feeding position.



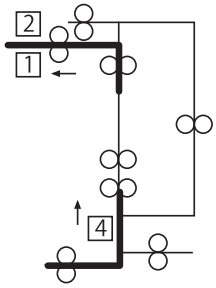
4. The paper is subject to skew correction at the registration roller section before being re-fed.



5. The image of the first page of the original is printed on the paper re-fed from the duplex section.



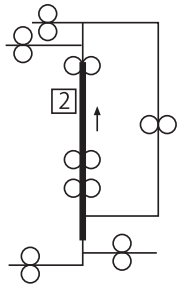
6. While the first sheet of paper is fed out, the second sheet of paper is taken up and fed in and the image of the fourth page of the original is printed.



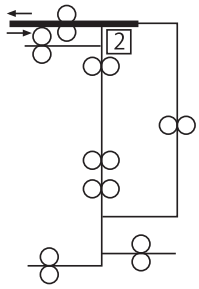
- Steps 2 to 5 are repeated hereafter.

(b) 2 sheet operation

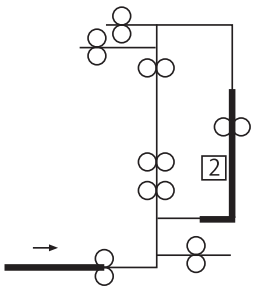
1. A sheet of paper is taken up and fed in and the image of the second page of the original is printed.



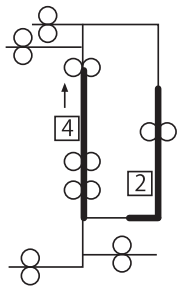
2. The switchback guide operates so as to transport the paper to the reverse section. Immediately before the paper leaves the paper reverse roller, the direction of rotation of the reverse roller is reversed and the paper is transported toward and into the duplex section.



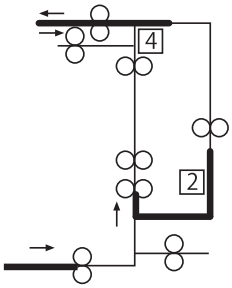
3. While passing through the duplex section, the paper stops temporarily at the re-feeding position. At the same time, the second sheet of paper is taken up and fed in.



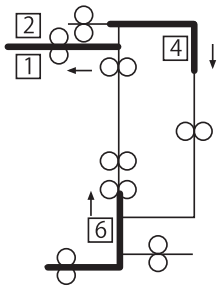
4. The second sheet of paper is taken up and fed in and the image of the fourth page of the original is printed. The first sheet of paper stops temporarily at the re-feeding position.



5. The first sheet of paper is subject to skew correction at the registration roller section before being re-fed. The second sheet of paper is transported into the duplex section by the reverse roller. At the same time, the third sheet of paper is taken up and fed in.



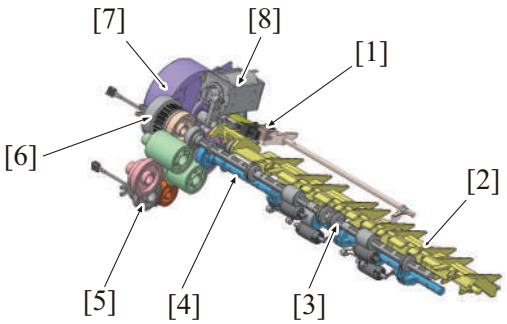
6. The image of the first page of the original is printed on the paper re-fed from the duplex section.
7. While the first sheet of paper is fed out, the third sheet of paper is taken up and fed in and the image of the sixth page of the original is printed. The second sheet of paper being transported through the duplex section is brought to a temporary stop at the re-feeding position.



- Steps 4 to 7 are repeated hereafter.

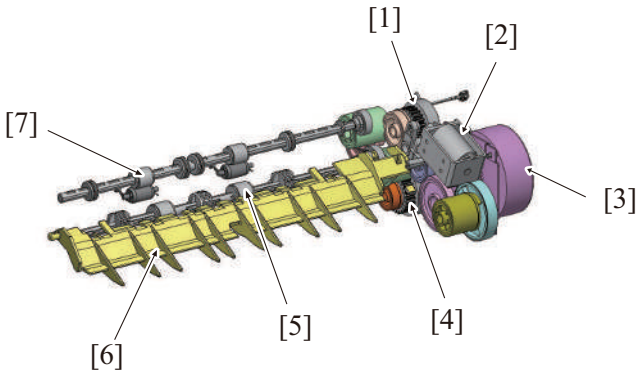
1.15 PAPER EXIT/REVERSE SECTION

1.15.1 Configuration



[1]	Paper exit sensor (PS13)	[2]	Exit path switchback guide
[3]	Reverse roller	[4]	Paper exit roller
[5]	ADU forward rotation clutch (CL6)	[6]	ADU reverse rotation clutch (CL7)
[7]	Fusing motor (M3)	[8]	Exit path switch solenoid (SD1)

1.15.2 Drive



[1]	ADU reverse rotation clutch (CL7)	[2]	Exit path switch solenoid (SD1)
[3]	Fusing motor (M3)	[4]	ADU forward rotation clutch (CL6)
[5]	Paper exit roller	[6]	Exit path switchback guide
[7]	Reverse roller	-	-

1.15.3 Operation

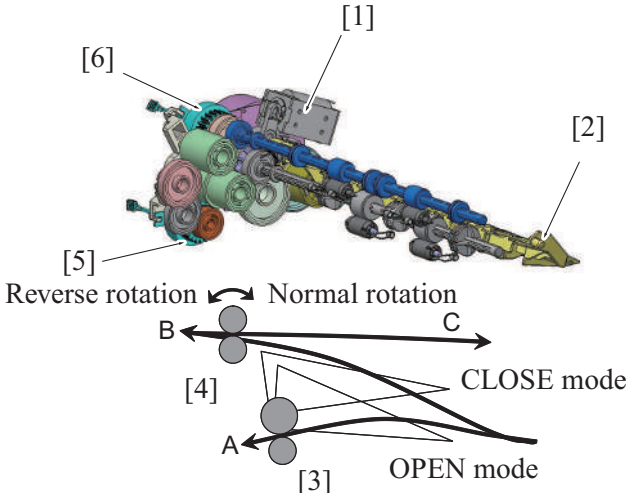
(1) Transport control

(a) Paper exit switching mechanism

- The paper transport path is switched between one in the exit direction and one toward the reverse roller.
- Paper exit switching is controlled by switching the exit path switch solenoid ON/OFF.

1. Switchback guide operation

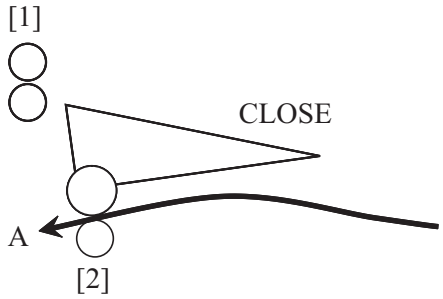
Transport route	Normal rotation roller	Exit/reverse roller	Exit path switch solenoid	Switchback guide
A	Normal rotation	Stopping	OFF	CLOSE
B	Stopping	Normal rotation	ON	OPEN
C	Stopping	Reverse rotation	OFF	CLOSE



[1]	Exit path switch solenoid (SD1)	[2]	Switchback guide
[3]	Paper exit roller	[4]	Reverse roller
[5]	ADU forward rotation clutch (CL6)	[6]	ADU reverse rotation clutch (CL7)

(b) Single-side printing

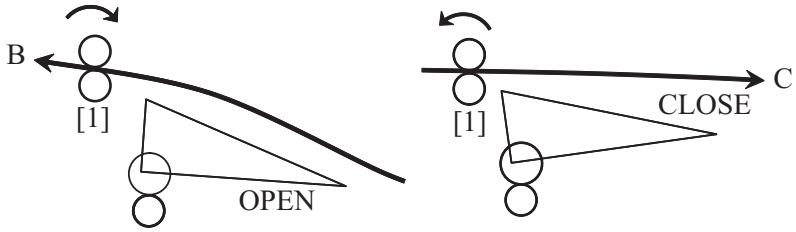
- Paper exits outside the machine with the switchback guide in CLOSE mode.
- The reverse roller is stopping.



[1]	Reverse roller	[2]	Paper exit roller

(c) Duplex printing

1. The switchback guide turns to the OPEN mode and the paper is transported to the direction of the reverse roller.
2. The reverse roller rotates forward.
3. The switchback guide becomes CLOSE mode after the back end of the paper passes through the reverse roller, and the reverse roller starts rotating backward to send the paper to the duplex unit direction.

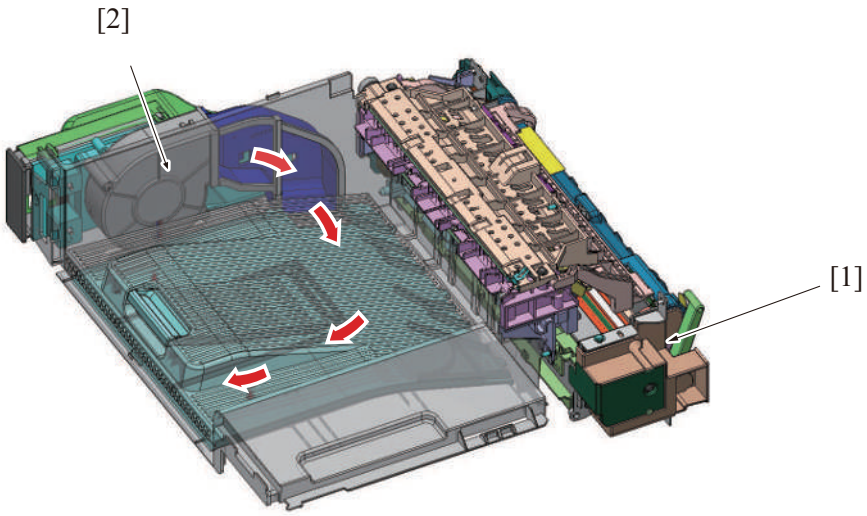


[1]	Reverse roller	-	-

(2) Exit paper cooling mechanism

(a) Paper exit/reverse section cooling

- The machine cooling fan motor cools the paper after fusing.
- The machine cooling fan motor blows air around the paper exit section to cool the paper after the fusing process.



[1]	Fusing section	[2]	Machine cooling fan motor (FM2)

1.16 IMAGE STABILIZATION CONTROL

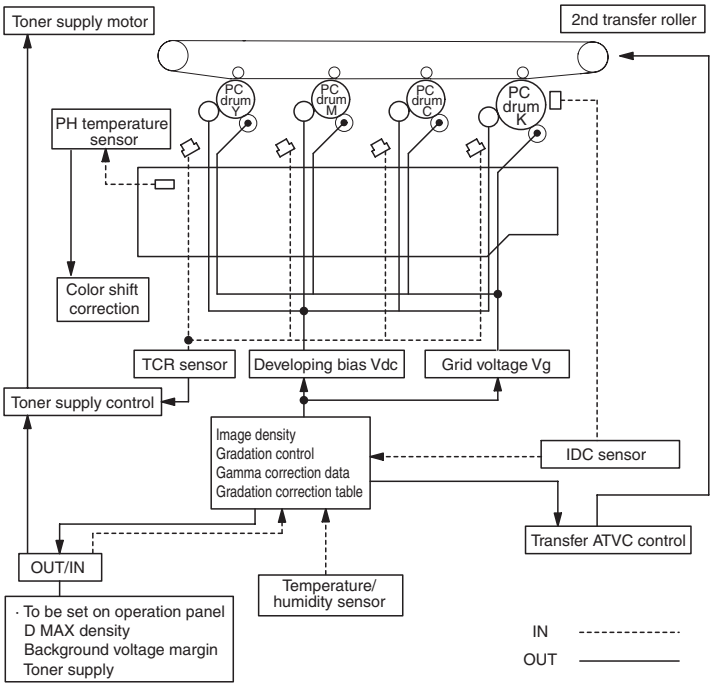
1.16.1 Overview

- The machine provides the following image stabilization control to ensure stabilized print image.

Purpose	Control	Control means
To stabilize image density To stabilize gradation	• IDC sensor adjustment control • Max. density adjustment control • LD intensity adjustment control • Registration control (color shift correction) * • Gamma correction control	• IDC sensor • Temperature/humidity sensor • PH temperature sensor

Purpose	Control	Control means
To stabilize toner density	TCR control (Y,M,C,K) *	TCR sensor
To stabilize image transfer	• Transfer output control * • 2nd transfer ATVC	Temperature/humidity sensor

- *: Refer to descriptions concerning control of each section.



1.16.2 Description of control

(1) IDC sensor adjustment control

- Controls changes in characteristics due to change with time and contamination of the transfer belt and IDC sensor, part-to-part variations in the sensors, and change of environment.
- The intensity (current value) of the IDC sensor is adjusted on the surface of the transfer belt, on which no toner sticks (background level).

(2) Dmax density adjustment control

- The developing bias (Vdc) is adjusted to control changes in the solid density resulting from variations in developing characteristics and IDC sensor intensity, variations in sensitivity of the photoconductor, and changes in the environment, durability, and the amount of charge in toner.
- Patterns are produced on the surface of the transfer belt and the IDC sensor detects the amount of toner sticking to them.
- Referring to the detected data and the environment data taken by the temperature/ humidity sensors, the developing bias value that results in the appropriate maximum density is calculated and stored in memory.
- Thereafter, the grid voltage (Vg) value, including the background margin adjustment value, is calculated and stored in memory.

(3) LD intensity adjustment control

- It adjusts the variation in reproducibility of the thin line and the reverse outline, which is resulting from the variations in electrostatic characteristics of the photoconductor, developing characteristics and transfer characteristics in terms of individual difference, environment and durability, to make it the target level.
- It produces detection patterns on the surface of the transfer belt with the given level of LD intensity and detects the output value of IDC sensor.
- LD intensity is calculated from the detected IDC sensor data.

(4) Color registration control (color shift correction)

- In a tandem engine, each four different color has an independent image reproduction process. Color shift may occur due to accuracy differences of parts in the print head unit. The color registration control system automatically detects color shift and correct color shift in the main and sub scanning directions.
- Color shift is misalignment of the images of three different colors, yellow (Y), magenta (M), and cyan (C), with respect to the image of black (K).
- The color shift is detected as follows. The IDC sensors read the pattern that is produced at each of front and rear ends of the transfer belt. It calculates and stores color shift amounts in the sub scanning and main scanning directions.
- The amount of color shift in the sub scanning direction is read from the pattern falling within the sub scanning detection range.
- From data readings, the machine calculates how much the position of each of the different colors should be corrected. Based on the calculated data, the machine controls each dot during image output, thereby correcting the color shift amount.

(5) Gamma correction control

- The intensity of LD in all gradation levels is adjusted to correct changes in gradation characteristics to a linear one. The changes in gradation characteristics are caused by variations in the photoconductor sensitivity and developing characteristics and changes with time and in environment.

- It produces gradation patterns on the transfer belt and calculates gradation characteristics output by the current engine with the IDC sensor.
- The gamma correction data is calculated using the density measurements of different gradation levels. The optimum LD intensity is set for each of the different gradation levels.

1.16.3 Control contents

(1) Image stabilization type (mode)

- Eight different modes of image stabilization are available.
- A specific mode is selected according to the environmental conditions and print requirements, thereby achieving stabilized image at all times.

Stabilization type	Description
Mode 1 (initialization and image stabilization)	Executed when “Initialize + Image Stabilization” is selected from the control panel.
Mode 1 (long image stabilization)	Executed for all stabilization controls.
Mode 2 (short image stabilization)	Simply executed for all stabilization controls.
Mode 3 (gamma correction + registration control)	Executed only for color registration control and gamma correction.
Mode 4 (monochrome, long image stabilization)	A mode exclusive for monochrome, executed for all stabilization controls during monochrome printing.
Mode 5 (registration control)	Executed only for registration control. Executed when internal temperature of machine changes.
Mode 6 (monochrome, gamma correction)	A mode exclusive for monochrome, executed only for gamma correction.
Mode 7 (gamma correction)	Executed only for gamma correction.
Mode 8 (monochrome, short image stabilization)	A mode exclusive for monochrome, simply executed for all stabilization controls during monochrome printing.

(2) Image stabilization execution flow

(a) Determination of stabilization type

- During predrive, standby, printing, or when stabilization completed, judge the stabilization status and determine stabilization type as well as start timing depending on factors of stabilization and priority of these factors. If the toner empty condition is detected, stabilization judgment will not be executed.

(b) Execution of image stabilization

- When stabilization type and start timing are determined through stabilization judgment, image stabilization will be executed.
- Displays the message "Calibrating" on the operation panel while executing the image stabilization.
- Opening the front door/right door during image stabilization, occurrence of troubles or failure in adjustment for each sequence may stop image stabilization.

(c) Stabilization start timing

Types of stabilization start timing are shown below.

Level 0*	Executed immediately.
Level 1*	Executed at any of the following timing. Start of color printing/End of color printing/Before switching to color mode/Sorting by number of copies.
Level 2	Executed at any of the following timing. Start of color printing/End of color printing/Before switching to color mode.
Level 3	Executed at start of color printing or before switching to color mode.

- *If there are less than 10 sheets of paper remained to be printed, stabilization will be executed after completing the job.

(d) Completing image stabilization

For the type of image stabilization which has been executed on the following modes, stabilization adjustment will be executed again after completing the stabilization. Stabilization start timing will turn to level 3 regardless of stabilization type.

- Mode 3 (gamma correction + color registration control)
- Mode 4 (monochrome, long image stabilization)
- Mode 5 (color registration control)
- Mode 6 (monochrome, gamma correction)
- Mode 8 (monochrome, short image stabilization)

(3) Control sequence by mode

- A different control sequence applies according to the mode of image stabilization.
- Control is performed in the specified sequence for each mode.

Sequence	Mode 1 (initialization and image stabilization)/ (long image stabilization)	Mode 2 (short image stabilization)	Mode 3 (gamma correction + color registration control)	Mode 4 (monochrome, long image stabilization) *4	Mode 5 (color registration control)	Mode 6 (monochrome, gamma correction)	Mode 7 (gamma correction)	Mode 8 (monochrome, short image stabilization)
1	IDC sensor adjustment	IDC sensor detection *1	IDC sensor detection *1	IDC sensor adjustment	IDC sensor detection*1	IDC sensor detection*1	IDC sensor detection*1	IDC sensor detection*1

Sequence	Mode 1 (initialization and image stabilization)/ (long image stabilization)	Mode 2 (short image stabilization)	Mode 3 (gamma correction + color registration control)	Mode 4 (monochrome, long image stabilization) *4	Mode 5 (color registration control)	Mode 6 (monochrome, gamma correction)	Mode 7 (gamma correction)	Mode 8 (monochrome, short image stabilization)
2	Dmax density adjustment	Dmax density adjustment	Color registration adjustment *2	Dmax density adjustment	Color registration adjustment *2	Gamma correction *3	Gamma correction *3	Dmax density adjustment
3	LD light intensity adjustment	Color registration adjustment *2	Gamma correction *3	LD light intensity adjustment	-	-	-	LD light intensity adjustment
4	Color registration adjustment	Gamma correction *3	-	Dmax density adjustment	-	-	-	Gamma correction *3
5	Dmax density adjustment	-	-	LD light intensity adjustment	-	-	-	-
6	LD light intensity adjustment	-	-	Gamma correction *3	-	-	-	-
7	Gamma correction	-	-	-	-	-	-	-

- *1: The IDC sensor uses the output value calculated in the last IDC registration sensor adjustment and check that the value measured on the surface of the transfer belt (background level) is within the specified range. If the measured value is out of the specified range, mode 1 is used when the next image stabilization is carried out.
- *2: Unlike the color registration adjustment of mode 1, simplified color registration control is performed.
- *3: Unlike the gamma correction of mode 1, simplified gamma correction control is performed.
- *4: To be executed twice when an imaging unit or a transfer belt unit is replaced, or when the machine recovers from a toner empty condition.

(4) Predrive operation

- The following describe the stabilization operations executed when, for example, the main power switch is turned ON, the sleep mode is canceled, the front door is closed, or a malfunction is reset.

Mode	Image stabilization mode	Operation condition	Image stabilization setting
Mode 1	Initialization and image stabilization	• A new imaging unit/Y,M,C is detected. • A new transfer belt unit is detected • The machine recovers from a toner empty condition. • While a warning code is being displayed.	Not specified
	Long image stabilization	• In the last image stabilization, the value of IDC sensor detection was out of the specified range. • A change in environment is detected (a change in environment exceeding the threshold value is detected since the last image stabilization sequence). • The number of paper printed after the last LD adjustment exceeds a predetermined value.	Standard or Color priority selection
Mode 2	Short image stabilization	• A Dmax adjustment request is received as a result of the last gamma correction. • The number of paper printed after the gamma correction exceeds a predetermined value. • Information is provided indicating that the last stabilization control was discontinued. • There is a change in temperature after the lapse of a predetermined period of time after a developing drive stop.	Standard or Color priority selection
		The stabilization is executed when the main power switch is turned ON even without the operating condition	Only Color priority selection
Mode 3	Gamma correction + color registration control	• The number of paper printed after the gamma correction exceeds a predetermined value. • There is a change of a predetermined value or more in temperature after the color registration adjustment (when exiting from the sleep mode).	Standard or Color priority selection
Mode 4	Monochrome, long image stabilization	• A new imaging unit/K is detected. • In the last image stabilization, the value of IDC sensor detection was out of the specified range. • A change in environment is detected (a change in environment exceeding the threshold value is detected since the last image stabilization sequence). • The number of paper printed after the last LD adjustment exceeds a predetermined value.	Only Black priority selection

Mode	Image stabilization mode	Operation condition	Image stabilization setting
		• A predetermined period of time or more elapses after a developing drive stop.	
Mode 5	Color registration control	• There is a change of a predetermined value or more in temperature after the color registration adjustment (when exiting from the sleep mode).	Standard or Color priority selection
Mode 6	Monochrome, gamma correction	• A Dmax adjustment request is received as a result of the last gamma correction. • The number of paper printed after the gamma correction exceeds a predetermined value.. • Information is provided indicating that the last stabilization control was discontinued.	Only Black priority selection
Mode 7	Gamma correction	• The number of paper printed after the last LD adjustment exceeds a predetermined value.	Standard or Color priority selection
Mode 8	Monochrome, short image stabilization	• The number of paper printed after the last LD adjustment exceeds a predetermined value. • Information is provided indicating that the last stabilization control was discontinued. • A predetermined period of time or more elapses after a developing drive stop.	Only Black priority selection

(a) Stabilization mode setting

- Optimum image stabilization control can be selected using the administrator mode or service mode according to user's use condition.
- Three options available are the standard, color priority, and black priority modes.
- Mode of image stabilization setting is provided to maintain image quality and achieve the following purposes.
  1. To reduce frequency at which the stabilization control is performed in order to reduce cost per print for users who have a low print volume and low color ratio
  2. To shorten time between when the machine is turned ON and when it is ready for printing
  3. To maintain convenience for users having a high color frequency

Mode	Control
Standard	Color stabilization is executed if image adjustments are necessary for color print or black print during predrive.
Color priority	• Color stabilization is executed if image adjustments are necessary for color print or black print during predrive. • Stabilization is executed unconditionally when the main power switch is turned ON. Warm-up time takes about 60 sec. when the main power switch is turned ON.
Black priority	• Black stabilization is executed if image adjustments are necessary for black print during predrive. • Color stabilization is executed before color print if image adjustments are necessary for color print.

(5) Service Mode

- Types (modes) of image stabilization to be executed with the menu of the service mode will be described.

Menu of service mode	Type (mode) of image stabilization to be executed	
Gradation Adjust ([Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust])	Mode 2	
Stabilizer ([Service Mode] -> [Imaging Process Adjustment] -> [Stabilization])	Initialize + Image Stabilization	Mode 1
	Stabilization Only	Mode 2

(6) Expert Adjustment

- Types (modes) of image stabilization to be executed with the menu of the expert mode will be described.

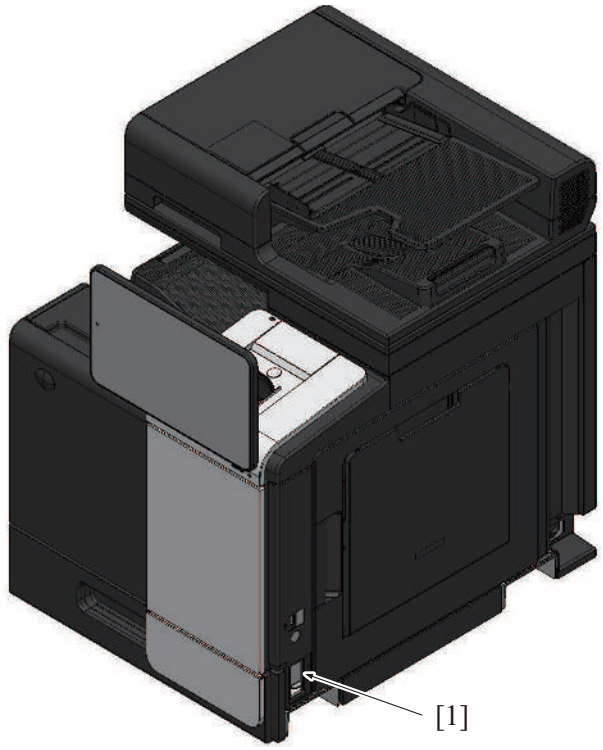
Menu of expert mode	Type (mode) of image stabilization to be executed	
Gradation Adjustment ([Utility] -> [Expert Adjustment] -> [Gradation Adjustment])	Mode 2	
Image Stabilization ([Utility] -> [Expert Adjustment] -> [Image Stabilization])	Initialize+Image Stabilization	Mode 1
	Stabilization Only	Mode 2

(7) Stabilization time

Mode	Time
Mode 1	Approx. 40 sec.
Mode 2	Approx. 20 sec.
Other than the above	Approx. 20 sec. or less

1.17 POWER SUPPLY SECTION

1.17.1 Main power switch



[1]	Main power switch	-	-

NOTE

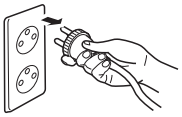
- **To turn OFF and ON the main power switch, first turn OFF the main power switch and wait for 10 sec. or more before turning it ON again. If a setting value or values in the service mode are changed, it takes 10 sec. or more to incorporate the setting changes properly in the machine.**

(1) Power supply

⚠WARNING

When the power cord is unplugged after turning OFF the main power switch, partial power switches will remain powered for monitoring the operation of the main power switch.

Therefore, at the time of disassembly and reassembly, be sure to turn OFF the main power switch and unplug the power cord from the power outlet.



When replacing a unit or board with the power cord being connected to the power outlet, a risk of electric shock or damaging the unit or board exists.

- When the main power switch is turned OFF but the power cord is still connected to the power outlet, only the following power switches are powered.

5.1V	• Base board (BASEB) • DC power supply unit (DCPU)

(2) Quick start up function

- This function shortens the start up time (*).
- A “Quick start up data” is generated, the CPU operating power is powered between a certain time after the main power switch is turned OFF to maintain the On Board Memory in the storage board.
- After the “Quick start up data” has been saved, the CPU operating power turns OFF. However, partial power switches will remain powered for monitoring the operation of the main power switch.
- At next time, the saved “Quick start up data” will be used to start up the machine.

NOTE

- ***: Start up time indicates "Panel accessible time", "BOX screen accessible time" and "Network accessible time".**
- **After the main power switch is turned OFF, turn on the main power switch before the "Quick start up data" is saved to start up the machine at normal speed.**
- **Also, when the power cord is unplugged before the "Quick start up data" is saved after the main power switch is turned OFF, the machine will start up at normal speed.**

1.17.2 Power key



[1]	Power key	-	-

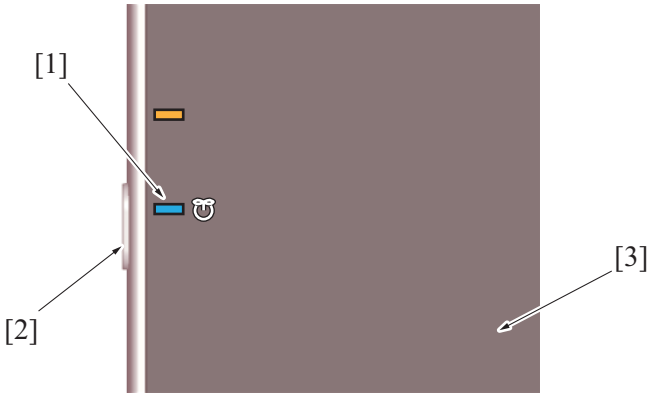
(1) Power key functions

- The power key offers two functions, serving as the power save button and the sub-power switch found in conventional models, depending on how long it is held down.
- In the default setting, holding down the power key for a short time sets the machine into the power save mode (low power mode) and holding it down for a long time sets the machine into the sub power OFF mode.
- The mode can be changed from the following: [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Settings].

How long the power key is held down	Default setting	Settings changed by Administrator Settings
Short time	Low power mode (*2)	Sleep mode (*2)
		Sub power OFF mode (*1)
Long time	Sub power OFF mode	ErP auto power off mode (*1)

- *1: [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Settings] -> [Power Key Setting]
- *2: [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Settings] -> [Power Save Settings]

(2) Status in each mode



[1]	Power key LED	[2]	Power key
[3]	Control panel	-	-

Mode		State	Power key LED
Standby		All functions are ready to accept and ready to perform jobs.	Lit up blue
Power save mode	Low power mode	• Power consumption is limited to a level lower than the standby state with the fusing temperature control minimized. • Reset when a job is received or the machine is operated.	Blinking in blue
	Sleep mode (*2) (Not reduce)	• Power consumption is reduced in low power mode. • Sensors that are used internally are operating.	Blinking in blue
	Sleep mode (*2) (Reduce)	• Power is supplied only to a portion of the base board required for receiving a job. • When an original is placed on the scanner, a job is received, or the machine is operated, the system wakes up.	
	Sleep mode (*2) (High)	• Power is supplied only to a portion of the base board required for receiving a job. • Reset when a job is received or the machine is operated.	
Sub power OFF mode	Sleep mode (*3) (Not reduce)	• Power consumption is reduced in low power mode. • Sensors that are used internally are operating. • Wake-up time is shorter than when “Enabled or High” is selected. • The system wakes up when the sub power is turned on.	Lit up orange
	Sleep mode (*3) (Reduce)	• Power is supplied only to a portion of the base board required for receiving a job. • A job can be received, but printing is performed when power is turned ON. • Wake-up time is longer than when “Disabled” is selected.	
	Sleep mode (*3) (High)	• Power is supplied only to the base board. • A job can be received, but printing is performed when power is turned ON. • Wake-up time is longer than when “Disabled” is selected. • Power is reduced when “Enabled” is selected.	
ErP auto power off mode		• Power consumption to the lowest level. • Reset only by the power key or the weekly timer setting. • No jobs can be received. (*1) • The system can also wake up when this machine is equipped with the optional wireless LAN kit.	Blinking in orange

- *1: In ErP auto power OFF mode, this machine cannot receive data or faxes, and also it cannot scan or print an original.
- *2: [Disable], [Enabled] and [High] are selectable in [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Settings] -> [Power Consumption in Sleep Mode].
- *3: Even in sub power off mode, [Disable], [Enabled] and [High] are selectable in [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Supply/Power Save Settings] -> [Power Consumption in Sleep Mode].

(3) Power supply

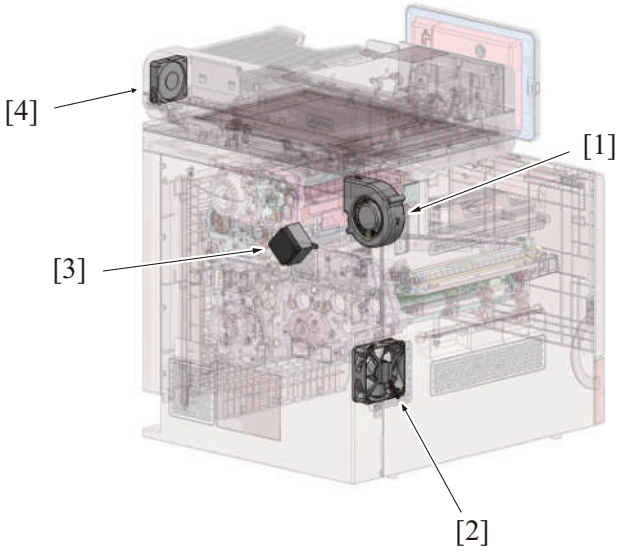
Power is supplied only to the following portions in the sleep mode and the sub power OFF mode.

5.1 V	• MFP controller • FAX CPU • Main body storage (*1) • USB board
	• Angle sensor (*2) • Original cover sensor (*2) • Control panel key

- *1: When [Enabled] and [High] are selected in [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Settings] -> [Power Consumption in Sleep Mode], the power is not supplied.
- *2: When [High] is selected in [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Settings] -> [Power Consumption in Sleep Mode], the power is not supplied.

1.18 FAN CONTROL

1.18.1 Configuration



[1]	Toner suction fan (FM2)	[2]	Machine cooling fan (FM1)
[3]	CPU cooling fan (FM3)	[4]	DF cooling fan (FM4)

1.18.2 Operation

(1) Function

Motor name	Function (purpose)
Machine cooling fan (FM1)	• Discharges heat generated from the DC power supply, or base board section to prevent the internal temperature of the machine from rising.
Toner suction fan (FM2)	• Sucks in and recovers the floating toner to prevent the toner from staining the internal machine. • Blows air in the duct between the HV board and paper exit tray. Thus, temperature around the HV board can be prevented from increasing due to heat from the discharged paper. • Blows air on the paper exit tray to cool the paper.
CPU cooling fan (FM3)	• Blows air onto the CPU board to provide cooling.
CPU cooling fan (FM4)	• Discharges heat generated from the document main motor to prevent the internal temperature of the machine from rising.

(2) Fan control

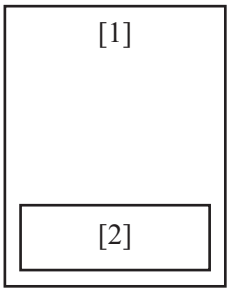
Control conditions	Motor name			
	Machine cooling fan (FM1)	Toner suction fan (FM2)	CPU cooling fan fan (FM3)	DF cooling fan (FM4)
• When controlling the IU temperature decreasing weight	Full speed	Full speed	Full speed	Stop
• When the door is opened	Half speed	Stop	Full speed	Stop
• In sleep state	Stop	Stop	Stop/Full speed *2	Stop
• When sub power off	Stop	Stop	Stop/Full speed *3	Stop
• When ErP auto power off	Stop	Stop	Stop	Stop
• When trouble occurs • In standby state*1	Half speed	Stop	Full speed	Stop/Full speed *4
• Predrive operation • During image stabilization • During operation checking*1	Full speed	Full speed	Full speed	Stop/Full speed *4
• During a 1-sided print cycle	Full speed	Full speed	Full speed	Stop/Full speed *4
• During a 2-sided print cycle	Full speed	Full speed	Full speed	Stop/Full speed *4

• During a firmware upgrading	Full speed	Stop	Full speed	Stop

- *1: If the machine enters the “standby” state, the fan motor turns at full speed for predetermined time before stopping.
- *2: When the power consumption in sleep mode is "Not reduce”, the fan motor turns at full speed. When "Reduce" or "High", the fan motor stops.
- *3: Changes according to the machine status.
- *4: When the DF operates, the fan motor turns at full speed.

1.19 COUNTER CONTROL

1.19.1 Configuration



[1]	Base board (BASEB)	[2]	Electronic counter

1.19.2 Operation

Name	Function/system
Electronic counter	• Number of total in copy/print/fax/scan mode will be displayed on the screen as described below. • Black, full color, mono color, and 2 color • Total counter, large size counter, color total (copy + printer), scan counter, fax TX counter, fax RX counter, original counter, paper counter, total duplex counter, number of total pages output • Counts one when an exit signal is applied to it.

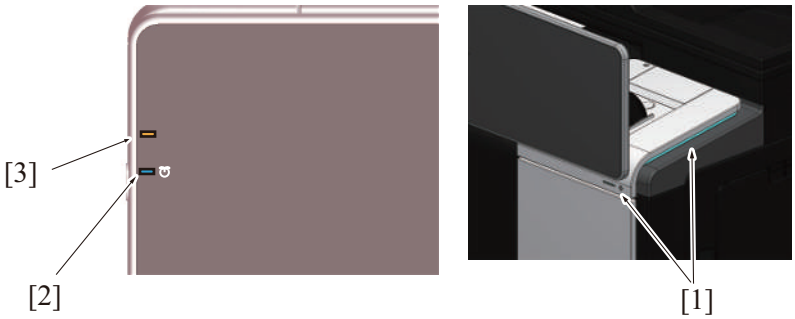
NOTE

- **The counting modes can be selected at [Billing Setting] of Service Mode. For details, see Counter Setting.**

1.20 INDICATOR FUNCTION

1.20.1 Configuration

(1) Operation panel section



[1]	Data indicator	[2]	Power key LED
[3]	Warning indicator	-	

1.20.2 Control

- The lighting control for the LED on each indicator section is described below.

(1) Power key LED

Status	Power key LED status
During warm-up	Lit up blue
During stand-by	Lit up blue
During copying or printing	Lit up blue
Paper misfeed or trouble	Lit up blue
Low power mode Sleep mode	Blinking in blue
ErP auto power off mode	Blinking in orange

Status	Power key LED status
Sub power off mode	Lit up orange

(2) Warning status indicator section

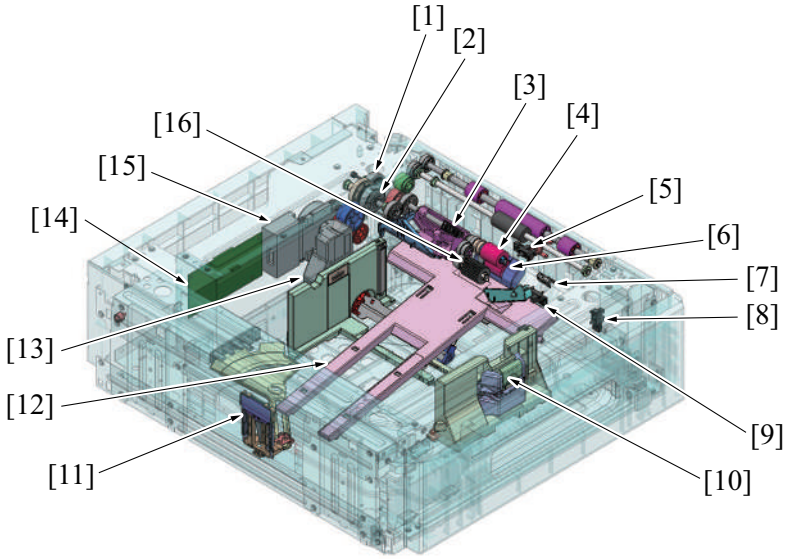
Status	Warning status indicator section
When machine stops	Lit up orange
When warning occurs	Blinking in orange
Other status	Unlit

(3) Data indicator section

Status	Operation status indicator section
Job is currently	Lit up blue
Receiving a job	Blinking in blue
Other status	Unlit

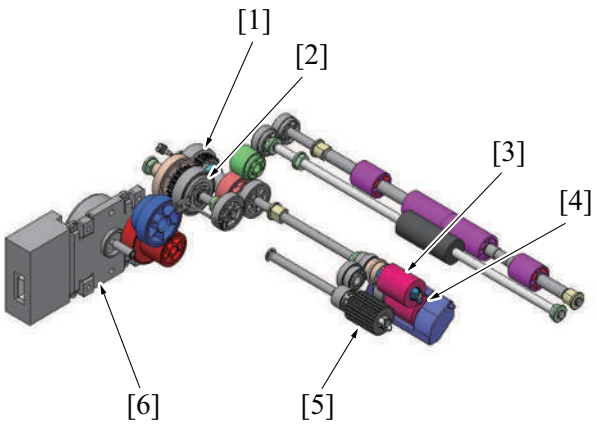
2. PF-P20/PF-P27

2.1 Configuration



[1]	Tray 2 paper feed clutch (CL1/2)	[2]	Tray 2 transport clutch (CL2/2)
[3]	Tray 2 upper limit sensor (PS2/2)	[4]	Feed roller
[5]	Tray 2 transport sensor (PS6/2)	[6]	Separation roller
[7]	Tray 2 paper feed sensor (PS3/2)	[8]	Tray 2 door sensor (PS4/2)
[9]	Tray 2 paper empty sensor (PS1/2)	[10]	Edge guide plate
[11]	Trailing edge guide plate	[12]	Paper lift-up plate
[13]	Tray 2 lift-up motor (M2/2)	[14]	Tray 2 PC control board (PCCB/2)
[15]	Tray 2 drive motor (M1/2)	[16]	Pick-up roller

2.2 Drive



[1]	Tray 2 paper feed clutch (CL1/2)	[2]	Tray 2 transport clutch (CL2/2)
[3]	Feed roller	[4]	Separation roller
[5]	Pick-up roller	[6]	Tray 2 drive motor (M1/2)

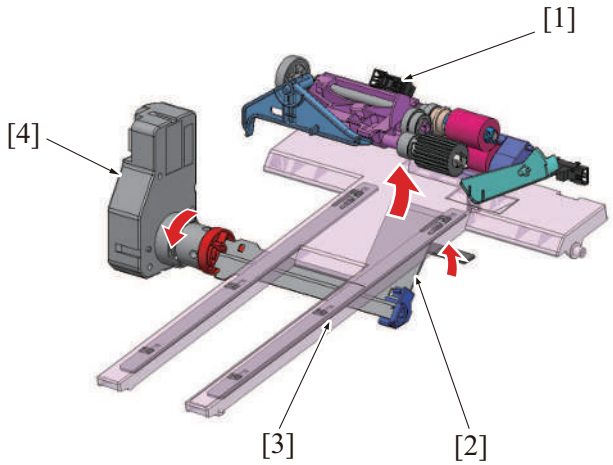
2.3 Operation

2.3.1 Up/down control

- Tray 2 and tray 3 are controlled in the same control procedure.

(1) Up operation

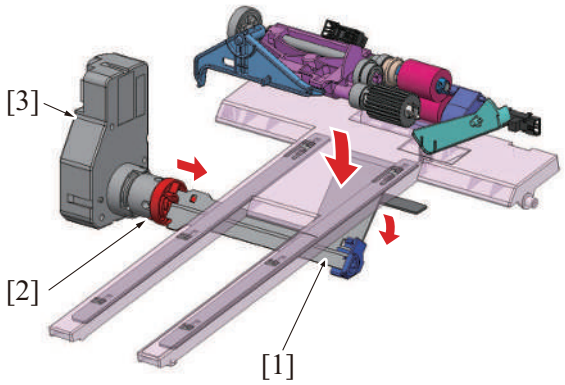
- The paper lift-up lever is located under the paper lift-up plate.
- The drive shaft of the tray 2 lift-up motor is connected to the paper lift-up lever.
- When the drive shaft of the tray 2 lift-up motor rotates, the paper lift-up lever rotates to raise the paper lift-up plate.



[1]	Tray 2 upper limit sensor (PS2/2)	[2]	Paper lift-up lever
[3]	Paper lift-up plate	[4]	Tray 2 lift-up motor (M2/2)

(2) Down operation

- When the tray is slid out of the machine, the coupling of the tray 2 lift-up motor and the lift-up plate drive shaft are disconnected from each other.
- When the driving force of the tray 2 lift-up motor is released from the lift-up plate drive shaft, the paper lift-up plate starts lowering by its own weight.



[1]	Paper lift-up lever	[2]	Coupling
[3]	Tray 2 lift-up motor (M2/2)	-	-

(3) Operation timing

(a) When the tray is slid in

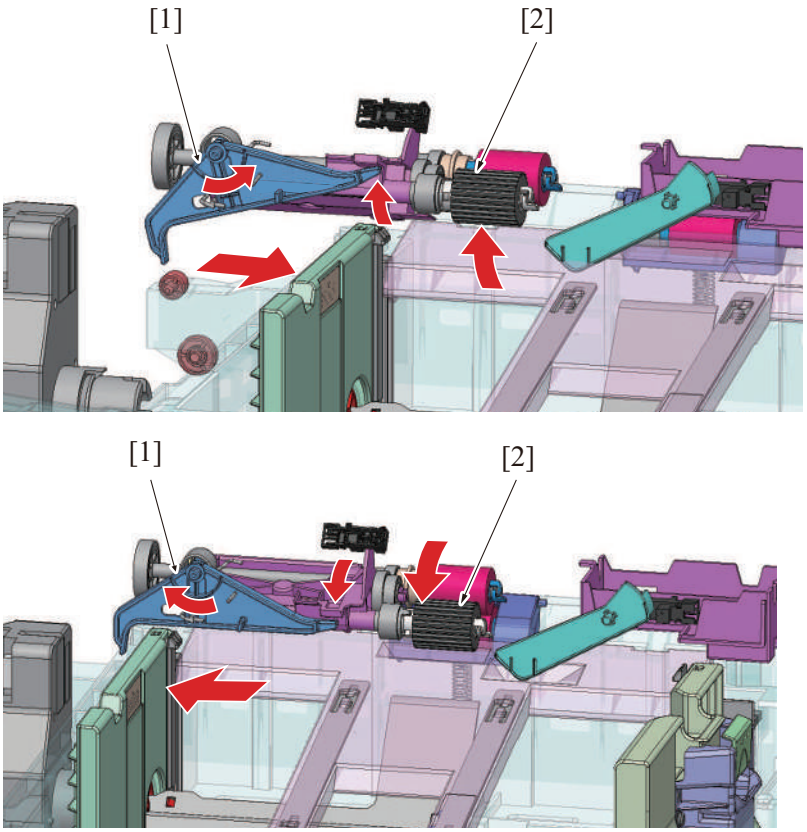
- When the tray is slid into the machine, the tray 2 door sensor is blocked. The machine then determines that the tray is slid into position.
- The paper lift-up plate is lowering when the tray is slid out, so that the tray 2 upper limit sensor is unblocked.
- Determining after tray insertion that the tray 2 upper limit sensor is unblocked, the machine lets the tray 2 lift-up motor rotate to start the up operation of the paper lift-up plate.
- When the paper stack is raised to a predetermined height after the paper lift-up plate up operation starts, the tray 2 upper limit sensor is blocked.
- Determining that the tray 2 upper limit sensor is blocked, the machine stops the tray 2 lift-up motor to complete the up operation of the paper lift-up plate.
- Control is provided to make sure that the up operation of the tray 2 is not performed together with another trays.
- If the tray 2 is slid out during the up operation of the paper lift-up plate and accordingly the tray 2 door sensor is unblocked, the up operation of the paper lift-up plate is terminated.

(b) During a print cycle

- When the amount of paper decreases as the unit keeps printing, the pick-up roller will gradually come down to unblock the tray 2 upper limit sensor. The tray 2 lift-up motor will rotate again to lift up the paper lift-up plate.
- When the tray 2 upper limit sensor is blocked, the tray 2 lift-up motor will stop to stop lift-up the paper lift-up plate.
- The sequence of these operations is repeated to keep constant the pressure between the pick-up roller and paper stack (paper take-up pressure) regardless of the amount of paper still available for use.

2.3.2 Pick-up roller retract mechanism

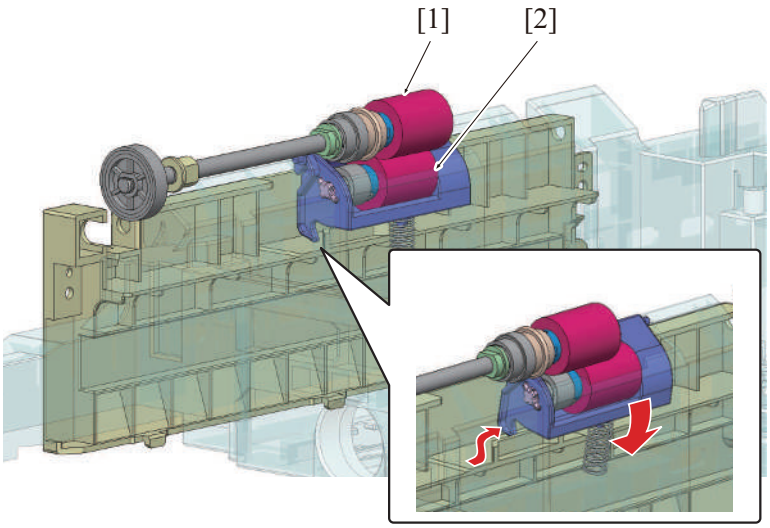
- A mechanism to retract the pick-up roller is provided, in order to avoid damaging stacked paper when the paper feed tray is inserted.
- When the tray 2 is open, the retraction lever in the back of the machine presses the pick-up roller up to the retract position.
- When the pick-up roller is in the retract position, paper cannot be damaged as the pick-up roller does not make contact with the stacked paper.
- Closing the tray 2 presses the retraction lever to move the pick-up roller to the a position such that it can supply paper.



[1]	Retraction lever	[2]	Pick-up roller

2.3.3 Separation roller retract mechanism

- When a paper jam occurs and paper is caught between rollers where the feed roller is pressing the separation roller, paper will be left inside the machine through pulling out the paper feed tray. If you insert the paper feed tray in that state, the paper may get torn in pieces which may fall off and scatter inside the machine. It prevents paper from being torn or falling off through retracting the separation roller.
- The separation roller is pressed against the feed roller by spring pressure when the paper feed tray is closed. (Paper feed position)
- Release the paper tray lock, the roller pushdown lever is also released and the separation roller retract lever is pushed down to the retracting position. It releases the paper from the rollers even if it is jammed between the rollers.



[1]	Feed roller	[2]	Separation roller

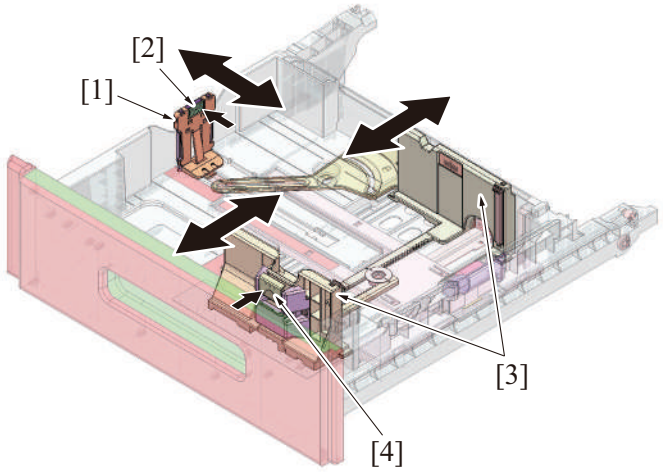
2.3.4 Paper feed control

- Rotation of the tray 2 drive motor is transmitted through the tray 2 paper feed clutch to drive the feed roller to take up and feed the paper.

- The paper taken up and fed in is conveyed onto the registration roller.
- The paper is pressed against the stationary registration roller so that a loop is formed in the paper. The feed roller is then stopped. The loop thus formed in the paper corrects any mechanical skew in the paper.
- As the trailing edge of the paper reaches a point immediately before the feed roller, the feed roller is stopped.

2.3.5 Paper guide plate

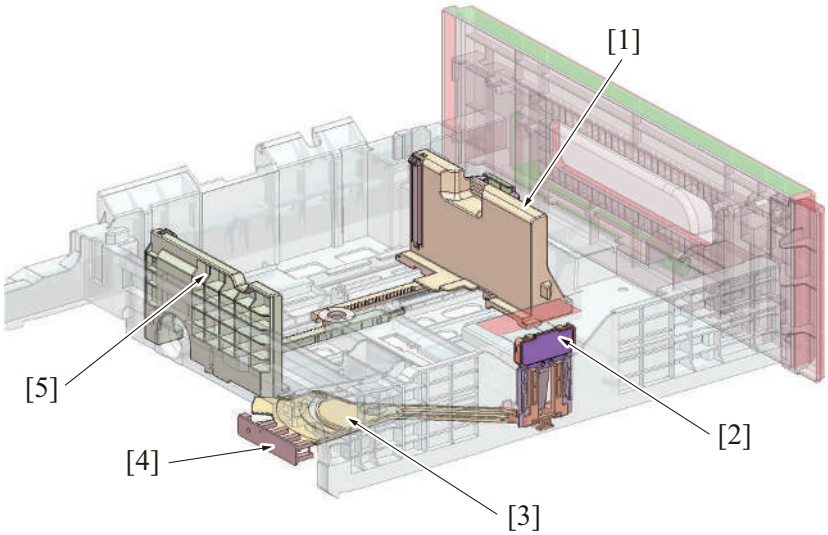
- The trailing edge guide plate can be slid to the exact size in the length direction of the paper to be loaded.
- When the trailing edge guide plate lock release button is being pressed, slide the trailing edge guide plate to the left and right.
- The edge guide plate can be slid to the exact size in the width direction of the paper to be loaded.
- When the edge guide plate lock release lever is being held, slide the edge guide plate to the front and back.



[1]	Trailing edge guide plate	[2]	Trailing edge guide plate lock release button
[3]	Edge guide plate	[4]	Edge guide plate lock release lever

2.3.6 Paper size detection

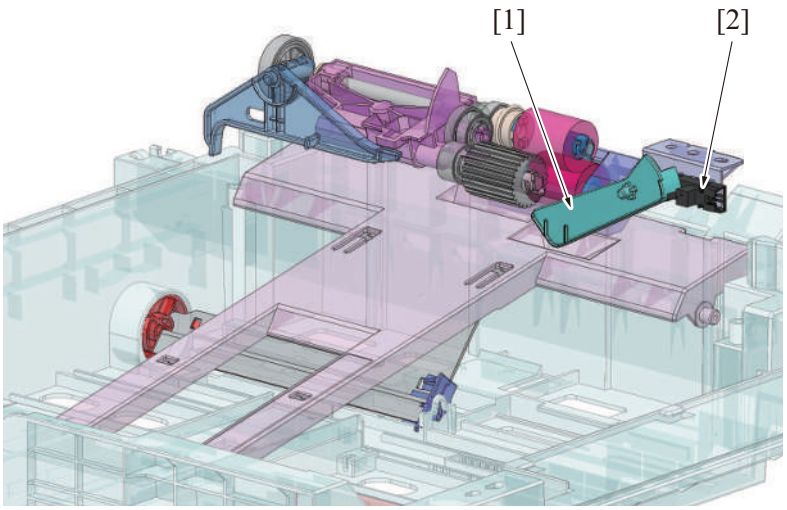
- When the paper length guide of the drawer is moved, the circular paper length detection plate located on the bottom of the drawer turns.
- The paper length is detected by the lever that operates in conjunction with the paper length detection plate, and four paper length detection sensors on the FD paper size board.
- Four paper length detection sensors determine the size of the paper loaded in the drawer.
- The sensor on the FD paper size board detects whether the drawer is open or not.



[1]	Paper width guide (front)	[2]	Paper length guide
[3]	Paper length detection plate	[4]	Tray 2 paper size sensor (PS5/2)
[5]	Paper width guide (rear)	-	-

2.3.7 Paper empty condition detection control

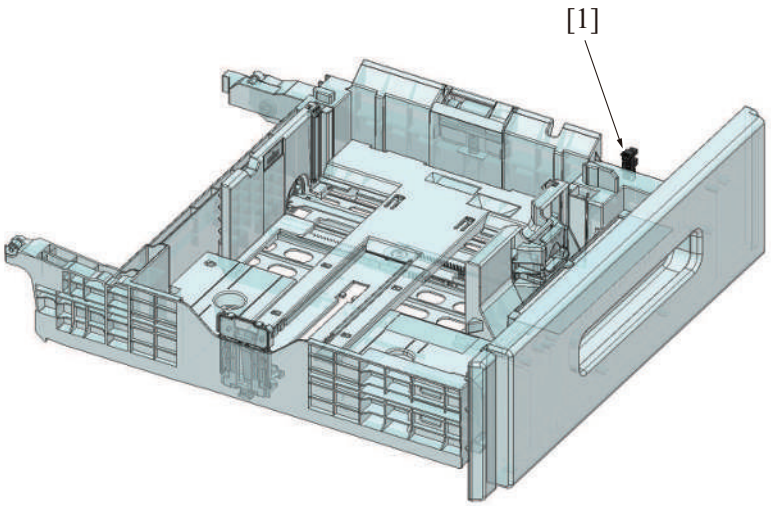
- At time that the tray 2 paper empty sensor is unblocked, a paper empty condition is detected.
- No mechanism is provided for detecting a paper near-empty condition.



[1]	Empty sensor actuator	[2]	Tray 2 paper empty sensor (PS1/2)

2.3.8 Tray open/close detection control

- The tray 1 set sensor detects a tray in the open or closed position.



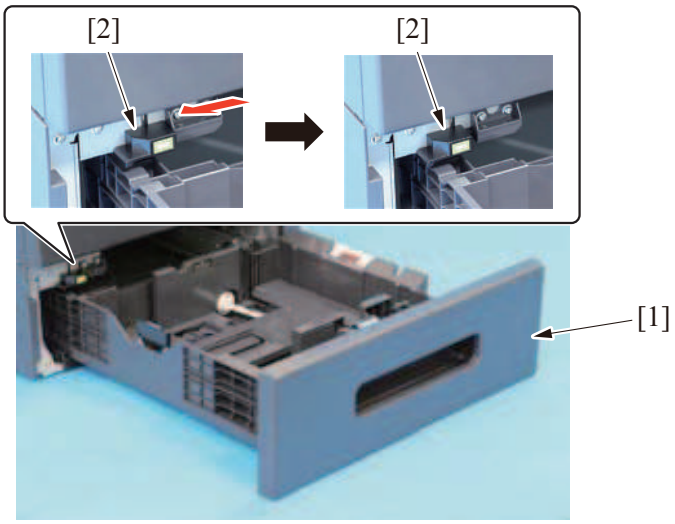
[1]	Tray 2 door sensor (PS4/2)	-	-

2.3.9 Paper misfeed detection control

- If the registration sensor is not activated within a predetermined period of time after a paper feed sequence has been started, the main body determines that there is a paper misfeed. It then gives the message “PAPER EMPTY TRAY 2” on the panel.
- The paper misfeed display can be reset by opening and closing any of the doors.
- Paper refeeding (retry control) is not performed from tray 2 even when a paper jam is resolved.

2.3.10 Paper feed tray stopper release mechanism

- The paper feed tray is equipped with a stopper mechanism.
- When paper is placed, the stopper prevents the paper feed tray from falling off from the machine even if it is slided out.
- The paper feed tray can be removed if paper is remained inside the machine at the time of handling a paper jam or a misfeed.



[1]	Tray 2	[2]	Tray 2 stopper

(1) Releasing the paper tray stopper

- Press the stopper on its left side, the stopper lock will be released.

(2) Locking the paper tray stopper

- Press the stopper on its right side, the stopper lock will be locked.

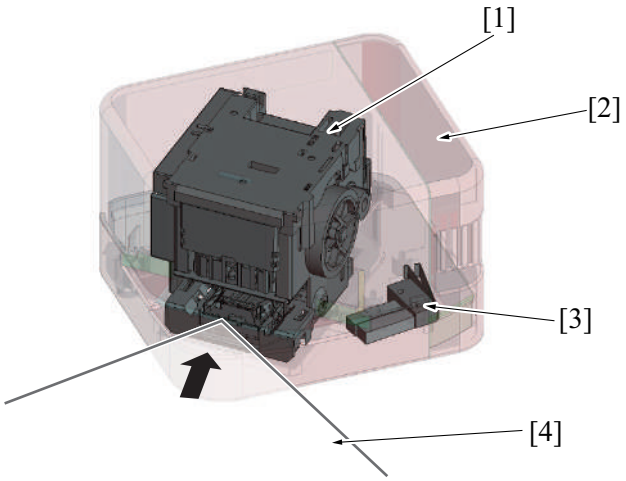
NOTE

- **A mechanism is provided to push and lock the stopper through closing the paper tray to its home position even if you forget to lock it. (Mechanism to prevent forgetting lock)**

3. FS-P04

3.1 Configuration

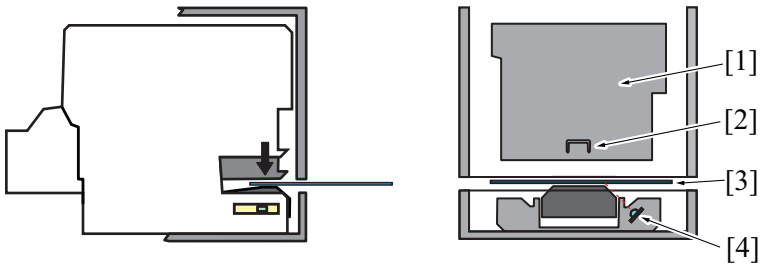
- A finisher (FS-P04) is composed of a clincher, a staple cartridge and a safety switch, and the power supply is provided from the MFP main body.



[1]	Clincher	[2]	Cover
[3]	Safety switch	[4]	Paper

3.2 Paper detection

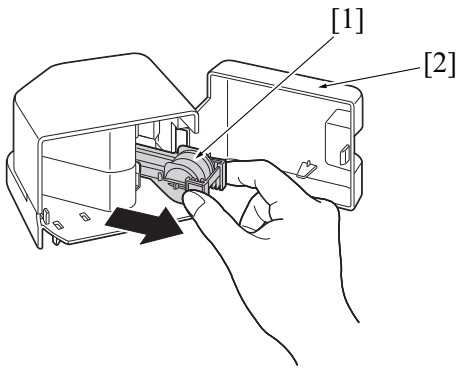
- The reflective sensor installed in the clincher detects the end of paper and execute stapling.
  NOTE
  - **Since the reflective sensor cannot detect the end of the paper with solid black image on the back side, or the paper without border, stapling may not be executed.**



[1]	Clincher	[2]	Staple
[3]	Paper	[4]	Reflective sensor

3.3 Safety switch

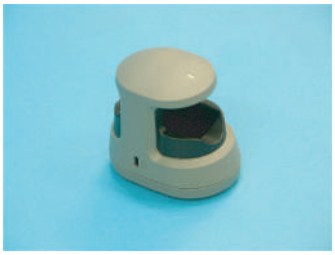
- When opening the finisher cover, the safety switch turns off to shut off the power supply from the main body. For safety reasons, the clincher is designed not to operate when replacing a staple cartridge or getting rid of a jam of staples.



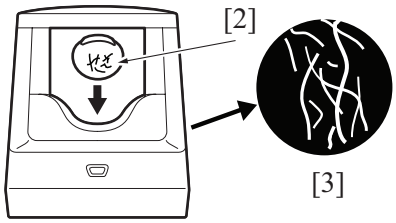
[1]	Staple cartridge	[2]	Cover

4. AU-102

4.1 Configuration



[1]



[1]	Authentication unit (AU-102)	[2]	Finger
[3]	Vein image	-	-

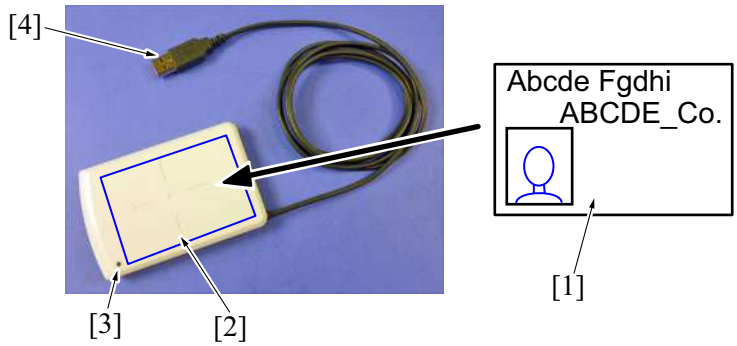
4.2 Operation

- A finger vein pattern is used for personal identification.
- Vein patterns are inside the body and cannot be visually recognized. This makes vein patterns extremely difficult to forge or falsify. The vein pattern authentication system can provide high security.
- With ultra-red LED radiation, a finger vein pattern is captured by camera and its image is created. The vein pattern image is registered and a person can be identified if the person's vein pattern matches the registered one at the time of user authentication.

5. AU-201S

5.1 AU-201S

5.1.1 Configuration



[1]	Non-contact IC card	[2]	Read-write area
[3]	Status LED	[4]	USB connector (Type-A)

5.1.2 Operation

- Place the non-contact IC card on the authentication device to read and write data.
- Displays the operational status via LEDs on the unit.
  - Yellow-green light glows: Normal operation.
  - Red light or orange light is on: Unit is experiencing an issue.

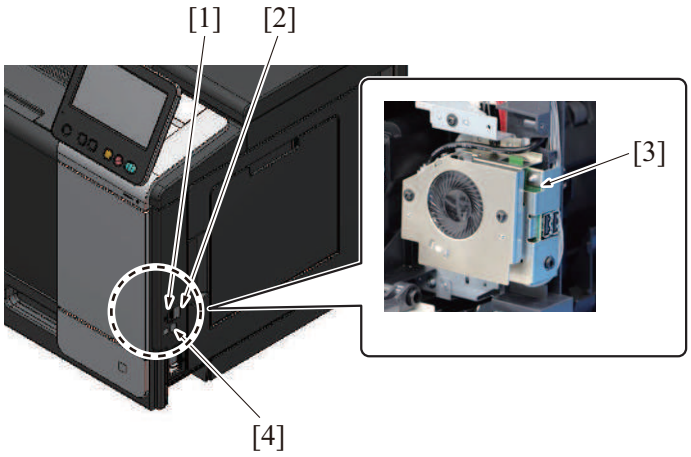
5.1.3 Specifications

Communication Type	TypeA/Mifare	TypeB	FeliCa
Communication Speed	106 Kbps	106 kbps, 212 kbps, 424 kbps	212 kbps, 424 kbps
Authentication Function	Mifare Crypt	-	DES, AES
Compatible IC cards	• Non-contact IC cards compliant with ISO14443 Type A • Non-contact IC cards compliant with TN2 (SEE55R)	Non-contact IC cards compliant with ISO14443 Type B	FeliCa card
Inter-terminal Communication	Inter-terminal communication compliant with ISO18092 (communication speed: 106, 212, and 424 kbps)		

6. EK-P08/EK-P09

6.1 EK-P08

6.1.1 Configuration



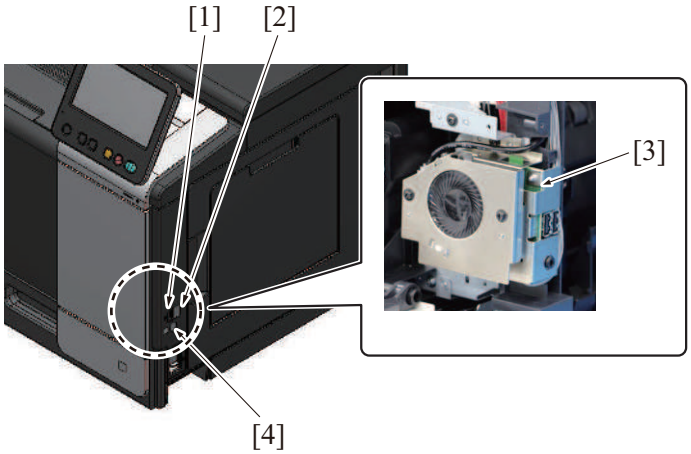
[1]	USB terminal (extension)	[2]	USB terminal (standard)
[3]	Local Interface Kit EK-P08	[4]	Voice guidance output terminal

6.1.2 Operation

- The document can be printed directly from, or saved in, the USB memory.
- Connecting the USB keyboard (dealer option: overseas market only) will permit keyboard input.

6.2 EK-P09

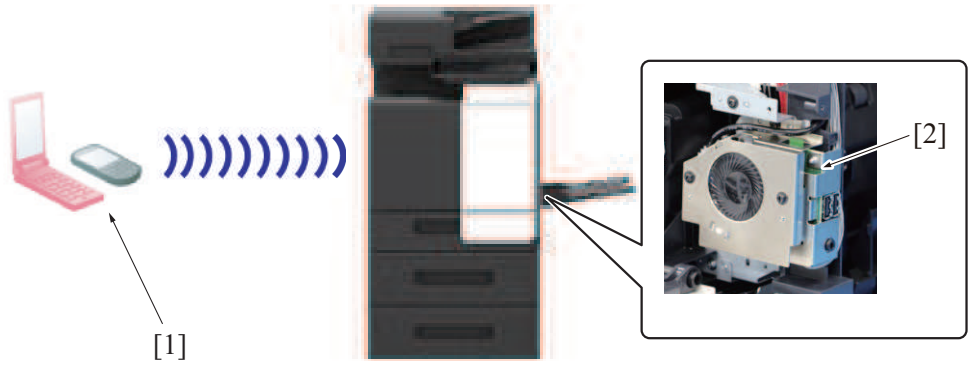
6.2.1 Configuration



[1]	USB terminal (extension)	[2]	USB terminal (standard)
[3]	Local Interface Kit EK-P09	[4]	Voice guidance output terminal

6.2.2 Operation

- The document can be printed directly from, or saved in, the USB memory.
- Connecting the USB keyboard (dealer option: overseas market only) will permit keyboard input.
- The local interface kit is mounted when the voice guidance function, and functions interacting with the portable phone or PDA (Personal Digital Assistant), compatible with Bluetooth, are to be used. It has a built-in speaker and Bluetooth communication receiver.

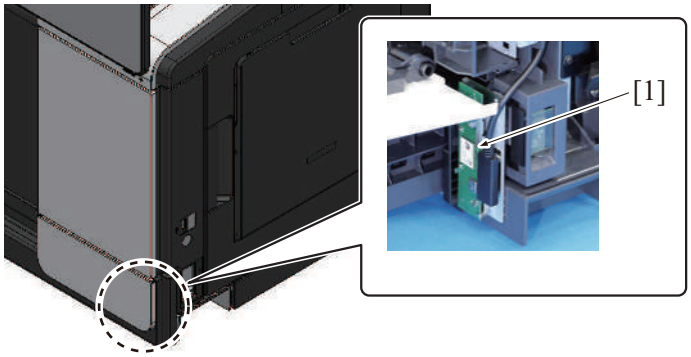


[1]	Portable phone, PDA	[2]	Local Interface Kit EK-P09

7. UK-221

7.1 CONFIGURATION

7.1.1 Mounting position



[1]	Upgrade kit (UK-221)	-	-

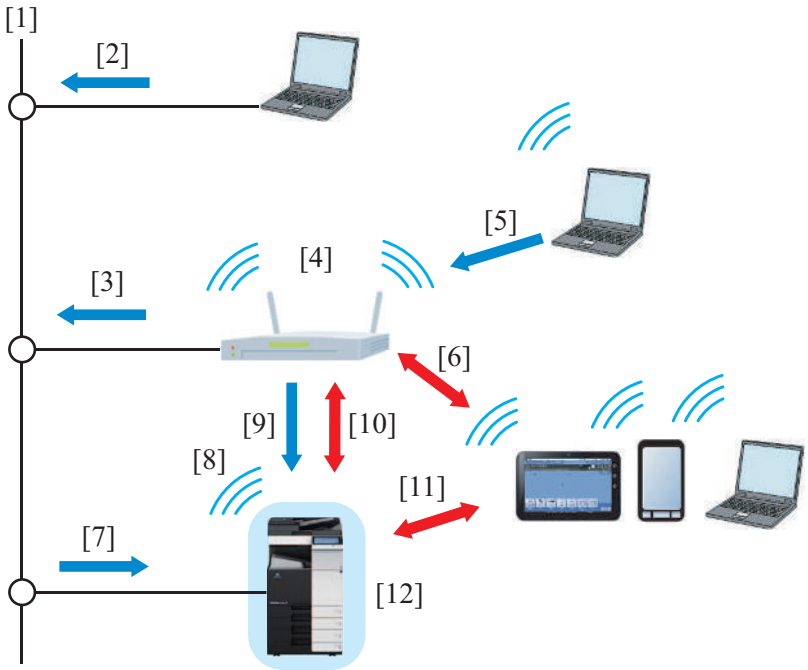
7.2 OPERATION

7.2.1 Outline

When the upgrade kit is installed, the following functions can be added.

- By connecting the main body as a wireless LAN adapter to a wireless LAN access point connected to the LAN environment, a job can be executed. The main body can be connected to both a wireless LAN environment and a LAN environment. (Wireless Only, Wired+Wireless (Secondary Mode))
- Direct communication between the main body and the mobile device (Android device, iOS device or Wi-Fi support devices) will be enabled. (Wired+Wireless (Primary Mode), Wired+Wireless (Wi-Fi Direct))
- Even when the main body is on standby state in "ErP Auto Power Off mode", the main body can be started from a client to execute a job.

Basic concept of connection



[1]	LAN environment	[2]	Job received from a PC connected to the LAN environment
[3]	Job received via the wireless LAN access point	[4]	Wireless LAN access point connected to the LAN environment
[5]	Job received from a PC connected to the wireless LAN environment	[6]	Communication with a mobile device connected to the wireless LAN environment*1
[7]	Job received from the main body via the LAN	[8]	• Communication with the wireless LAN access point (Wireless Only, Wired+Wireless (Secondary Mode)) • Enabled communication with a mobile device (Wired + Wireless (Primary Mode), Wired + Wireless (Wi-Fi Direct))
[9]	Job received from the main body via the wireless LAN	[10]	Communication via the wireless LAN access point connected to a mobile device (Android device, iOS device, or Wi-Fi support devices)

[11]	Direct communication with a mobile device (Wired + Wireless (Primary Mode), Wired + Wireless (Wi-Fi Direct))	[12]	Main body (on startup)

NOTE

- **To use the upgrade kit, the following settings are required.**
  [Service Mode] -> [Network Settings] -> [2nd Network Setting]
- **The "Interface structure" includes the following five patterns. These patterns can be selected depending on the connection environment of the main body.**
  [Service Mode] -> [Network Settings] -> [2nd Network Setting]- > [Network Interface Settings]

No.	Network Interface Settings	Connection environment of main body
1	**Wired Only**	**Use when the main body is connected only to a LAN environment.**
2	**Wireless Only**	**Use when the main body is connected only to a wireless LAN environment.**
3	**Wired+Wireless (Secondary Mode)**	**Use when the main body is connected to both a LAN environment and a wireless LAN environment.**
4	**Wired+Wireless (Primary Mode)**	• **Use when the main body is connected to both a LAN environment and a wireless LAN environment.** • **The main body is used as a wireless LAN access point (Primary Mode).**
5	**Wired+Wireless (Wi-Fi Direct)**	• **Use when the main body is connected to both a LAN environment and a wireless LAN environment.** • **The main body is used as a wireless LAN access point.** • **With this mode, a mobile device (excluding iOS) can be connected to Wi-Fi Direct authentication devices easily.**

7.2.2 2nd network interface structure

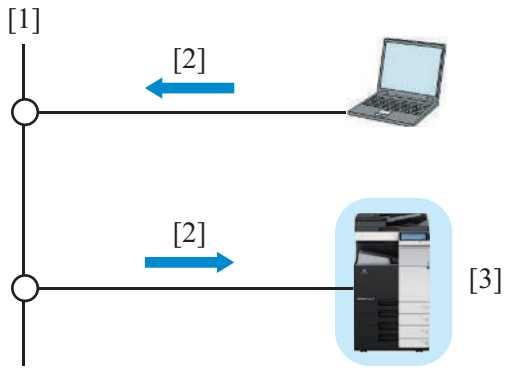
(1) Wired Only

- Use when the machine is connected only to a LAN environment. (Initial setting)
- The LAN line is the main line.

(a) Operation

- To execute a job received from a client via the LAN.

Basic concept of connection



[1]	LAN environment	[2]	Job
[3]	Main unit (on startup)	-	-

(2) Wireless Only

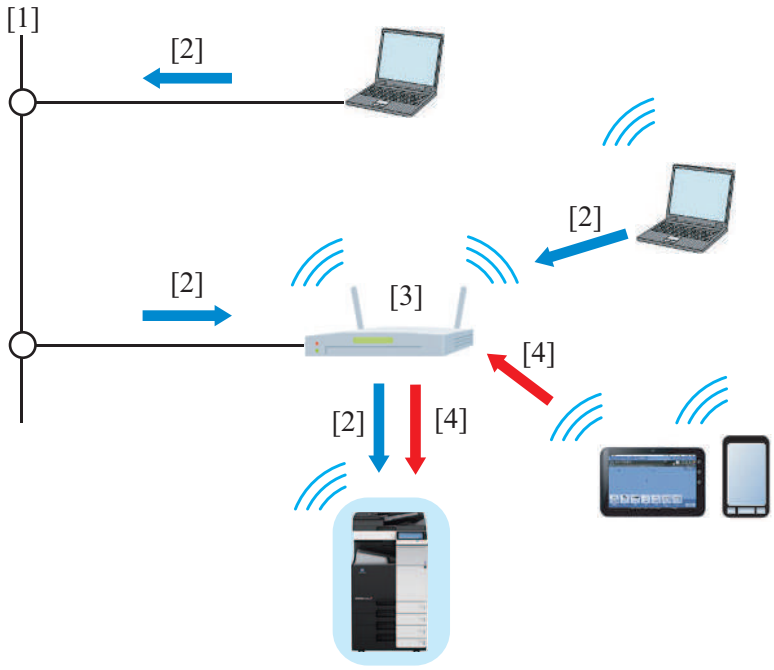
- Use when the machine is connected only to a wireless LAN environment.
- The wireless LAN line is the main line.

(a) Operation

- To execute a job received from a client via the wireless LAN access point.
  - To execute a job received from a PC connected to the LAN.
  - To execute a job received from a PC connected to the wireless LAN.
  - To execute a job received from an Android device or iOS device (called mobile device hereafter) connected to the wireless LAN.

  NOTE
  - **A wireless communication is performed between the machine and a client via the wireless LAN access point.**

Basic concept of connection



[1]	LAN environment	[2]	Job received from a PC
[3]	Wireless LAN access point	[4]	Job received from a mobile device

(3) Wired+Wireless (Secondary Mode)

- Use when the machine is connected to both a LAN environment and a wireless LAN environment.
- The LAN line is the main line, and the wireless LAN line is the sub line.

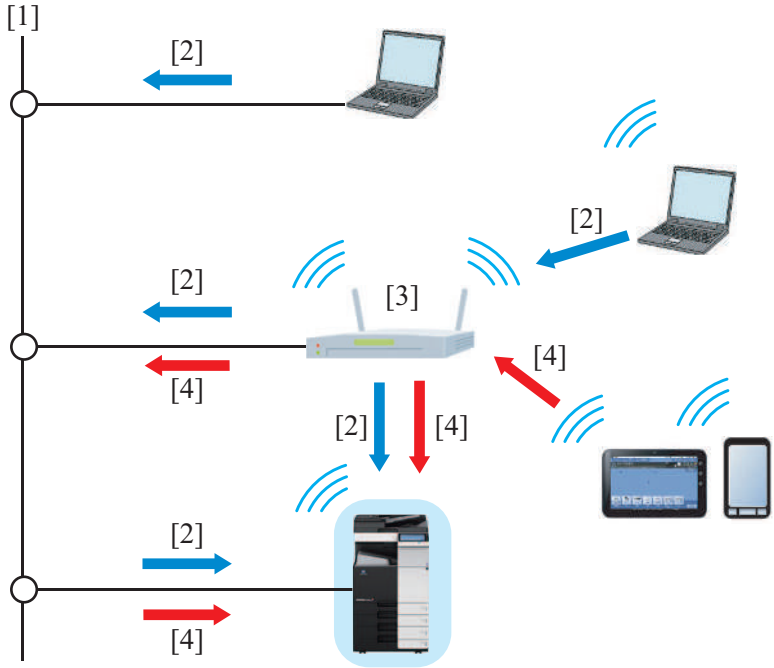
(a) Operation

- To execute a job received from a client via the LAN.
  - To execute a job received from a PC connected to the LAN.
  - To execute a job received from a PC connected to the wireless LAN.
  - To execute a job received from an Android device or iOS device (called mobile device hereafter) connected to the wireless LAN.
- To execute a job from a client via the wireless LAN access point.
  - To execute a job received from a PC connected to the LAN.
  - To execute a job received from a PC connected to the wireless LAN.
  - To execute a job received from an Android device or iOS device (called mobile device hereafter) connected to the wireless LAN.

NOTE

- **A communication is performed between the machine and the mobile device via the LAN and wireless LAN access point.**

Basic concept of connection



[1]	LAN environment	[2]	Job received from a PC

[3]	Wireless LAN access point	[4]	Job received from a mobile device

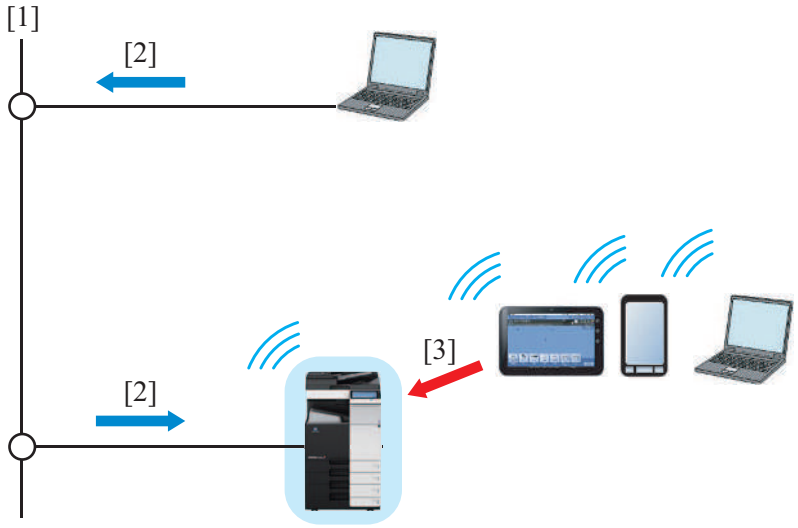
(4) Wired+Wireless (Primary Mode)

- Use when the machine is connected to both a LAN environment and a wireless LAN environment.
- The LAN line is the main line, and the wireless LAN line is the sub line.
- The machine is used as a wireless LAN access point.
- During startup of the machine, perform wireless LAN communication between the machine and the mobile device (Android device, iOS device, or devices supporting Wi-Fi) without via wireless LAN access point.

(a) Operation

- To execute a job received from a client via the LAN.
  - To execute a job received from a PC connected to the LAN.
  - To execute a job received from a PC connected to the wireless LAN.
- To execute a job received from a mobile device through a wireless communication.

Basic concept of connection



[1]	LAN environment	[2]	Job received from a PC
[3]	Job received from a mobile device	-	-

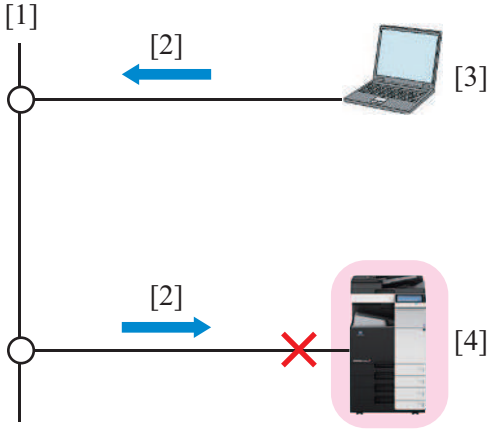
(5) Wired+Wireless (Wi-Fi Direct)

- This mode performs same control as that with Wired+Wireless (Primary Mode).
- When connected to devices supporting Wi-Fi Direct authentication, connection without settings of SSID and password is enabled.

7.2.3 Operation on ErP Auto Power Off mode

- On ErP Auto Power Off mode, the sub power supply turns off, so that the power consumption is controlled. Touching the power key to start the main body.
- When the main unit on which the upgrade kit is not installed, is switched to ErP Auto Power Off mode, the operations such as receiving data, receiving fax, reading original, printing and so on cannot be executed.
- When the upgrade kit is installed, ErP Auto Power Off mode can be released remotely (by starting up the main body).
  [Administrator] -> [Network] -> [Wireless Network Setting]

Diagram of standby state in "ErP Auto Off mode" of the main body



[1]	LAN environment	[2]	Print job
[3]	Client (PC)	[4]	Main body (on standby in ErP Auto Power Off mode)

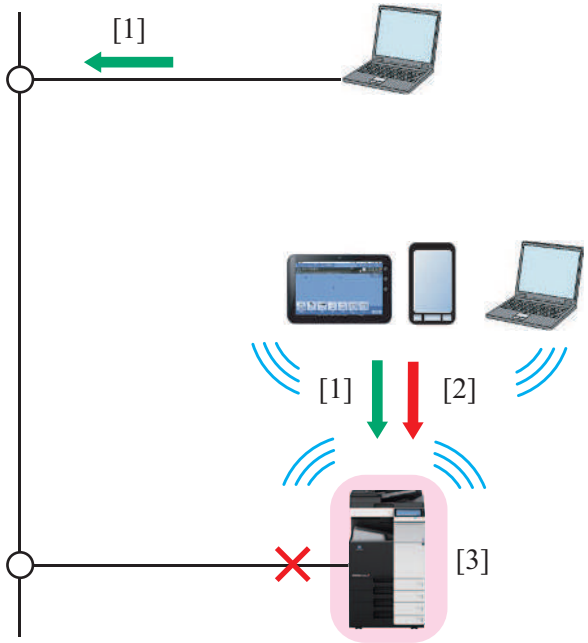
(1) Wired+Wireless (Secondary Mode)

NOTE

- **To awake from the ErP Auto Power Off mode, select [Awake with ARP + Unicast Communication].**

1. The machine waits for a startup indication that is sent via the wireless LAN communication.
2. Receive a startup command from a client via the wireless LAN communication without via the wireless LAN access point to start up the machine.
   - Receiving a startup indication from a PC to start up the main unit.
   - Receiving a communication from a mobile device to start up the main unit.

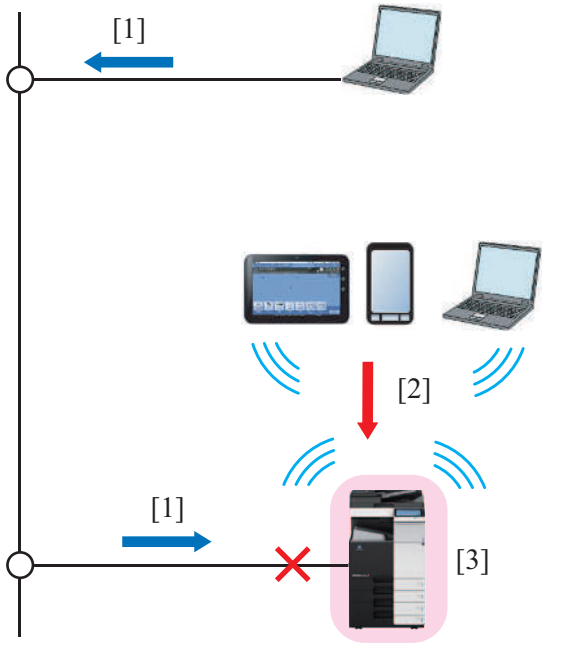
   Diagram of startup operation



   [1] Startup indication *1
   [2] Job received from a mobile device
   [3] Machine (on startup)
   - *1: To execute a print job, [Wake-On-Lan setting] is required to configure at [Initial settings] of a printer driver.

3. After the machine starts up, execute a job that is received from a client.
   - Execute a job received from a PC via the LAN.
   - Execute a job received from a PC via the wireless LAN communication.
   - Execute a job received from a mobile device via the wireless LAN communication.

   Diagram of operation after startup



   [1] Job received from a PC
   [2] Job received from a mobile device
   [3] Machine (after startup)

(2) Wired+Wireless (Primary Mode), Wired+Wireless (Wi-Fi Direct)

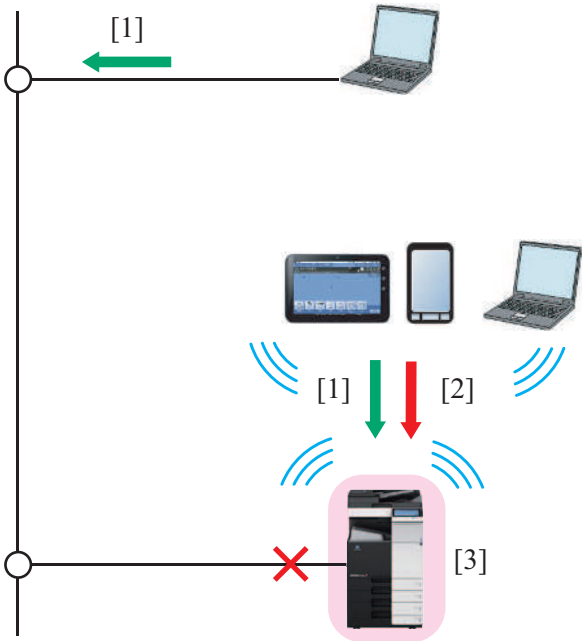
NOTE

- **To awake from the ErP Auto Power Off mode, select [Awake with ARP + Unicast Communication].**

1. The main body waits for a startup indication sent via the wireless LAN communication.

2. Receiving a startup indication from a client via the wireless LAN communication without via the wireless LAN access point to start up the main body.
   - Receiving a startup indication from a PC to start up the main body.
   - Receiving a communication from a mobile device to start up the main body.

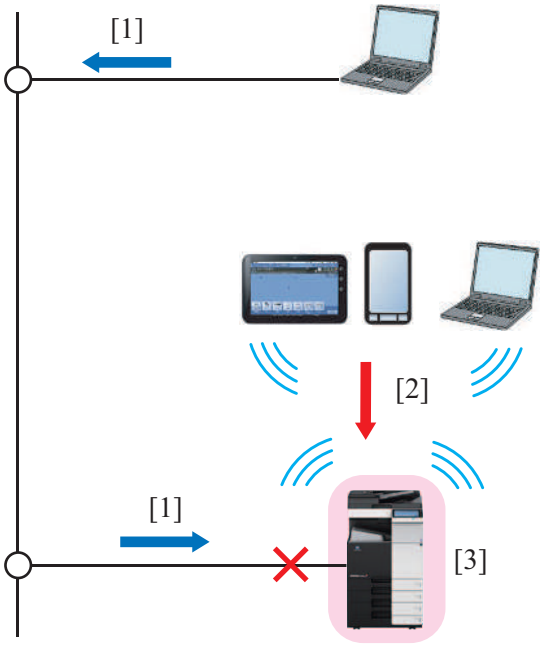
   Diagram of startup operation



   [1] Startup indication (*1)
   [2] Job received from a mobile device
   [3] Main body (on startup)
   - *1: To execute a print job, [Wake-On-Lan Settings] is required to be configured at [Settings] of a printer driver.

3. After starting up the main body, execute a job received from a client.
   - Execute a job received from a PC via the LAN.
   - Execute a job received from a mobile device through a direct wireless LAN communication.

   Diagram of operation after starting up the main body



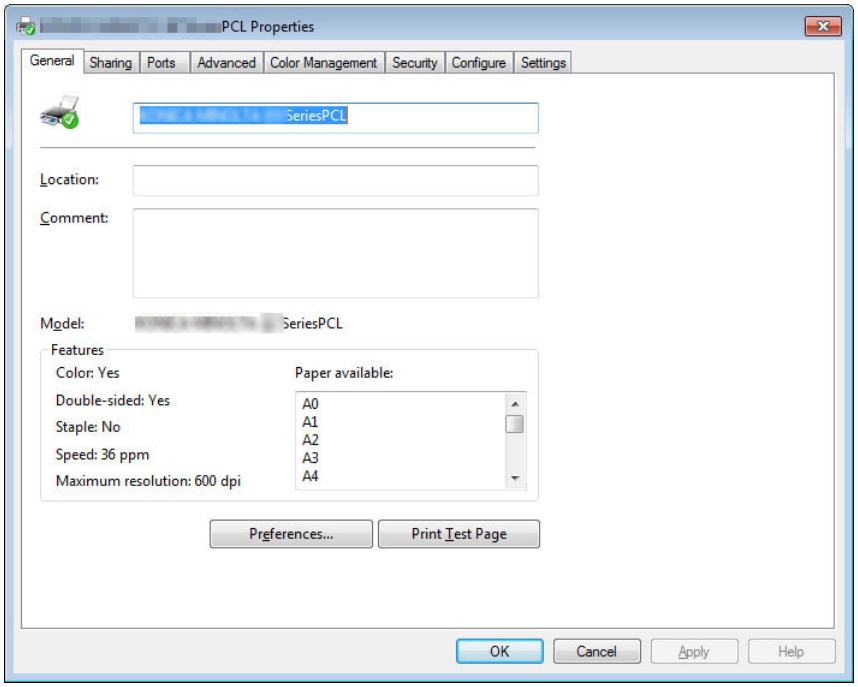
   [1] Job received from a PC
   [2] Job received from a mobile device
   [3] Main body (on startup)
   - After starting up the main body, the wireless LAN communication between the main body and the wireless LAN access point will be completed.

(3) Setting for printer driver

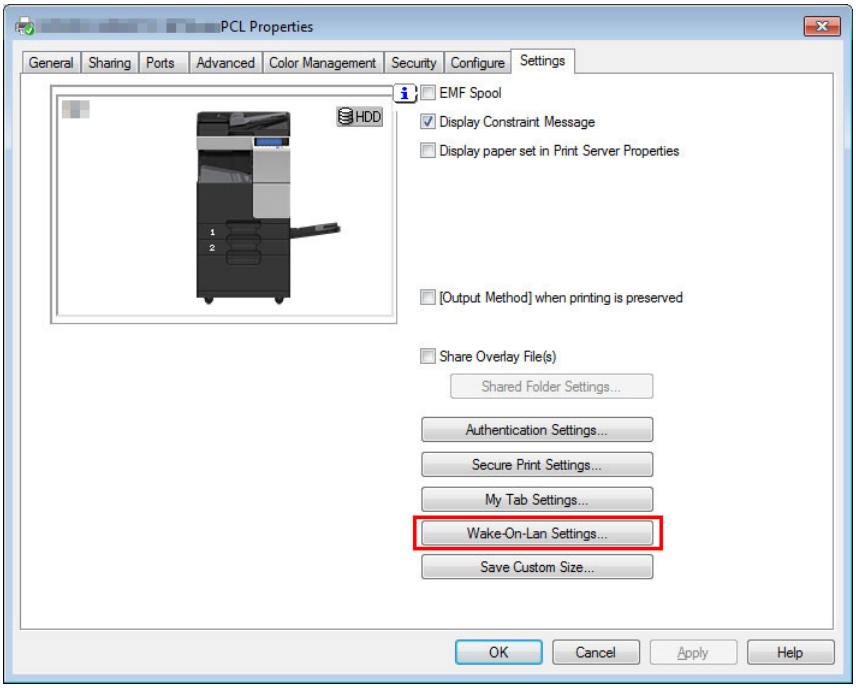
- To execute a print job, property settings are required for the printer driver to start up the main unit from ErP Auto Power Off mode.

(a) Setting procedure

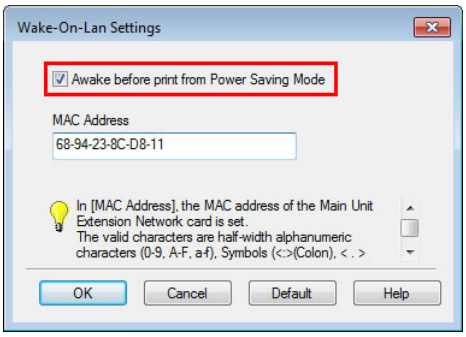
1. Open the property window of the printer.



2. Select the [Initial settings] tab, and select [Wake-On-Lan setting].



3. Select the [Awake before print from Power Saving Mode] check box.



8. FK-517

8.1 COMMUNICATION CONTROL

8.1.1 FIF bits of DIS, DTC and DCS

NOTE

- **Considered to be A4 width when the DIS recording paper width is invalid (1, 1).**
  Becomes a FIF error when the DCS recording paper width is invalid (1, 1).
- **Considered to be unlimited when the DIS recording paper length is invalid (1, 1).**
  Considered to be unlimited when the DCS recording paper length is invalid (1, 1).
  The DCS recording paper length in a machine is made to be of the same length as that in a remote station and is sent.
- **Considered to be 2400 bps when the DIS transmission speed is an undefined value.**
  Becomes a FIF error when the DCS transmission speed is an undefined value.
- **Considered to be 40ms instruction when the MSLT of DCS is an undefined value.**
- **Considered to have mm ability when DIS inch ability and mm ability are both set to OFF.**
  Considered to be 200x100 pels/inch when the DCS resolution receives the inch instruction at 3.85 l/mm.
  Becomes a FIF error when more than one of bit41, 42 and 43 are set to on in the resolution of DCS.
- **Becomes a FIF error when DCS receives the MMR instruction without ECM.**
- **Becomes a FIF error when DCS receives the file transfer (BFT) instruction without ECM.**
- **Becomes a FIF error when DCS shows an instruction which exceeds the ability of the machine.**
- **FIF of DIS/DTC is not sent if last octet is 0.**
  DCS sends FIF whose length is the same as that of the machine.
- **When undefined signals are received, they are received and ignored in consideration of the future expansion. (not an error)**

(1) FIF data configuration list (DIS/DTC)

(a) Octet 4

bit	Function	Contents	Default
1	T.37 Internet fax (Simple mode)		0
2	Reserved		0
3	T.38 real time Internet fax		0
4	Third generation mobile network		0
5	Reserved		0
6	V.8 ability		0
7	ECM frame	1: 64 octet 0: 256 octet	0
8	Reserved		0

(b) Octet 5

bit	Function	Contents	Default
9	Ready for polled transmission	1: polled transmission documents exist 0: no polled transmission documents	@
10	Receiver ability	1: Reception is possible. 0: Reception is impossible.	@
11	Transmission speed ability	Refer to *1.	1
12			1
13			0
14			1
15	R8×7.7 l/mm and/or 200×200 pels/25.4 mm		1
16	Two-dimensional coding ability	1: MR 0: MH	1

- @: Changes to 0 or 1 according to a status of devices.
- *1: Transmission speed ability (bit 11, 12, 13 and 14)

11	12	13	14	Contents	Transmission speed
0	0	0	0	V27 ter fall back mode	24
0	1	0	0	V27 ter	48, 24
1	0	0	0	V29	96, 72
1	1	0	0	V27 ter & V29	96, 72, 48, 24
1	1	0	1	V27 ter & V29 & V17	144, 120, 96, 72, 48, 24

(c) Octet 6

bit	Function	Contents	Default
17	Recording paper width ability	bit 17, 18 0,0=A4 0,1=A3 1,0=B4	0
18			1

bit	Function	Contents	Default
		1,1=Invalid	
19	Recording paper length ability	bit 19, 20 0,0=A4 0,1=Unlimited 1,0=B4 1,1=Invalid	0
20			1
21	Minimum scan line time ability	Refer to *2.	1
22			0
23			0
24	Expansion field		1

- *2: Minimum scan line time ability (bit 21, 22 and 23)

21	22	23	Contents	
0	0	0	3.85 l/mm --- 20 ms	7.7 l/mm --- 20 ms
0	0	1	3.85 l/mm --- 40 ms	7.7 l/mm --- 40 ms
0	1	0	3.85 l/mm --- 10 ms	7.7 l/mm --- 10 ms
0	1	1	3.85 l/mm --- 10 ms	7.7 l/mm --- 5 ms
1	0	0	3.85 l/mm --- 5 ms	7.7 l/mm --- 5 ms
1	0	1	3.85 l/mm --- 40 ms	7.7 l/mm --- 20 ms
1	1	0	3.85 l/mm --- 20 ms	7.7 l/mm --- 10 ms
1	1	1	3.85 l/mm --- 0 ms	7.7 l/mm --- 0 ms

(d) Octet 7

bit	Function	Contents	Default
25	Reserved		0
26	Non-compression mode		0
27	Error correction mode (ECM) ability	1: with ECM 0: without ECM	1
28		0: fixed	0
29	Reserved		0
30	Reserved		0
31	T.6 coding (MMR) ability	1: with MMR 0: without MMR	1
32	Expansion field		1

(e) Octet 8

bit	Function	Contents	Default
33	Field not valid		0
34	Multi-selective polling	1: Ability 0: No ability	0
35	Polled sub-address		0
36	T.43 coding ability		0
37	Plain Interleave		0
38	32K ADPCM voice coding		0
39	Reserved		0
40	Expansion field		1

(f) Octet 9

bit	Function	Contents	Default
41	R8×15.4 l/mm		1
42	300×300 pels/25.4 mm		0
43	R16×15.4 l/mm and/or 400×400 pels/25.4 mm		1
44	inch ability		1
45	mm ability		1
46	Minimum scan line time ability of high resolution	0: T15.4=T7.7 1: T15.4=1/2T7.7	0
47	Selective polling		1
48	Expansion field		1

(g) Octet 10

bit	Function	Contents	Default
49	Sub address ability		1
50	Password		1
51	Ready for data file transmission (polling)		0
52	Reserved		0
53	BFT transfer ability		0
54	DTM transfer ability		0
55	EDI transfer ability		0
56	Expansion field		0

(h) Octet 11

bit	Function	Contents	Default
57	BTM transfer ability		0
58	Reserved		0
59	Character or mixed mode documents ready for Tx (polling)		0
60	Character mode ability		0
61	Reserved		0
62	Mixed mode ability		0
63	Reserved		0
64	Expansion field		0

(i) Octet 12

bit	Function	Contents	Default
65	Processible mode (T.505)		0
66	Digital network ability		0
67	Full-duplex communication ability	1: Full-duplex 0: Half-duplex	0
68	JPEG coding ability		0
69	Full color mode		0
70		0: Fixed	0
71	12 bits / pixel component		0
72	Expansion field		1

(j) Octet 13

bit	Function	Contents	Default
73	No sub sampling (1:1:1)		0
74	Custom illuminance		0
75	Custom gamut range		0
76	North America Letter (215.9*279.4) ability		0
77	North America Legal (215.9*355.6) ability		0
78	Single progression sequential coding (T.85) basic ability		1
79	Single progression sequential coding (T.85) optional LO ability		@
80	Expansion field		0

- @: Changes to 0 or 1 according to a status of devices.

(k) Octet 14

bit	Function	Contents	Default
81	HKM key management capability		0
82	RSA key management capability		0
83	Override capability		0
84	HFX40 cipher capability		0
85	Alternative cipher number 2 capability		0
86	Alternative cipher number 3 capability		0
87	HFX40-I hashing capability		0
88	Expansion field		1

(l) Octet 15

bit	Function	Contents	Default
89	Alternative hashing system number 2 capability		0
90	Alternative hashing system number 3 capability		0
91	Reserved		0
92	T.44 (Mixed raster content)		0
93	T.44 (Mixed raster content)		0
94	T.44 (Mixed raster content)		0
95	Page length maximum strip size for T.44 (Mixed raster content)		0
96	Expansion field		1

(m) Octet 16

bit	Function	Contents	Default
97	Color/gray-scale 300 pels/25.4 mm x 300 lines/25.4 mm or 400 pels/25.4 mm x 400 lines/25.4 mm resolution		0
98	100 pels/25.4 mm x 100 lines/25.4 mm for color/gray scale		0
99	Simple phase C BFT negotiations capability		0
100	Extended BFT negotiations capability		0
101	Internet selective polling address (ISP)		0
102	Internet routing address (IRA)		0
103	Reserved		0
104	Expansion field		1

(n) Octet 17

bit	Function	Contents	Default
105	600 pels/25.4 mm x 600 lines/25.4 mm		1
106	1200 pels/25.4 mm x 1200 lines/25.4 mm		0
107	300 pels/25.4 mm x 600 lines/25.4 mm		0
108	400 pels/25.4 mm x 800 lines/25.4 mm		0
109	600 pels/25.4 mm x 1200 lines/25.4 mm		0
110	Color/gray-scale 600 pels/25.4 mm x 600/25.4 mm resolution		0
111	Color/gray-scale 1200 pels/25.4 mm x 1200/25.4 mm resolution		0
112	Expansion field		0

(o) Octet 18

bit	Function	Contents	Default
113	Double sided printing capability (alternate mode)		0
114	Double sided printing capability (continuous mode)		0
115	Black and white mixed raster content profile (MRCbw)		0
116	T.45 (run length color encoding)		0
117	Shared date memory capacity	bit 117, 118 0,0=Disable 0,1= Level 1=1.0 Mbytes 1,0= Level 2=2.0 Mbytes 1,1= Level 3=unlimited (i.e. 32 Mbytes or more)	0
118			0
119	Reserved		0
120	Expansion field		0

(p) Octet 19

bit	Function	Contents	Default
121	Flow control capability for T.38 communication		0
122	K > 4		0
123	Internet aware T.38 mode fax device		0
124	T.89 (Application profiles for ITU-T T.88)	Refer to *3.	0
125			0

bit	Function	Contents	Default
126			0
127	sYCC-JPEG coding		0

- *3: T.89 (Application profile for ITU-T T.88)

124	125	126	Contents
0	0	0	Not used
0	0	1	Profile 1
0	1	0	Profile 2
0	1	1	Profile 3
1	0	0	Profile 2 and 3
1	0	1	Reserved
1	1	0	Reserved
1	1	1	Reserved

(2) FIF data configuration list (DCS)

(a) Octet 4

bit	Function	Contents	Default
1	T.37 Internet fax (Simple mode)		0
2	Reserved		0
3	T.38 real time Internet fax		0
4	Third generation mobile network		0
5	Reserved		0
6	Invalid		0
7	Invalid		0
8	Reserved		0

(b) Octet 5

bit	Function	Contents	Default
9		0: fixed	0
10	Reception command		1
11	Transmission speed instruction	Refer to *1.	@
12			@
13			@
14			@
15	R8×7.7 l/mm or 200×200 pels/25.4 mm	1: 7.7 l/mm 0: 3.85 l/mm	@
16	Two-dimensional coding instruction	1: MR 0: MH	@

- @: Changes to 0 or 1 according to a status of devices.
- *1: Transmission speed appointment (bit 11, 12, 13 and 14)

11	12	13	14	Contents
0	0	0	0	24/V27 ter
0	1	0	0	48/V27 ter
1	0	0	0	96/V29
1	1	0	0	72/V29
0	0	0	1	144/V17
0	1	0	1	120/V17
1	0	0	1	96/V17
1	1	0	1	72/V17

(c) Octet 6

bit	Function	Contents	Default
17	Recording paper width instruction	bit 17, 18 0,0=A4 0,1=A3 1,0=B4 1,1=Invalid	@
18			@
19	Recording paper length instruction	bit 19, 20 0,0=A4 0,1=Unlimited	@
20			@

bit	Function	Contents	Default
		1,0=B4 1,1=Invalid	
21	Minimum scan line time instruction	Refer to *2.	@
22			@
23			@
24	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.
- *2: Minimum scan line time instruction (bit 21, 22 and 23)

21	22	23	Contents
0	0	0	20 ms
0	0	1	40 ms
0	1	0	10 ms
1	0	0	5 ms
1	1	1	0 ms

(d) Octet 7

bit	Function	Contents	Default
25	Reserved		0
26	Non-compression mode		0
27	Error correction mode (ECM) instruction	1: with ECM 0: without ECM	@
28	Frame size instruction	1: 64 octet 0: 256 octet	@
29	Reserved		0
30	Reserved		0
31	T.6 coding (MMR) instruction	1: with MMR 0: without MMR	@
32	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(e) Octet 8

bit	Function	Contents	Default
33	Field not valid capability		0
34		0: fixed	0
35		0: fixed	0
36	T.43 Coding		0
37	Plain Interleave		0
38	32K ADPCM voice coding		0
39	Reserved		0
40	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(f) Octet 9

bit	Function	Contents	Default
41	R8×15.4 l/mm		@
42	300×300 pels/25.4 mm		@
43	R16×15.4 l/mm or 400×400 pels/25.4 mm		@
44	inch/mm instruction	1: mm setting 0: inch setting	@
45	Arbitrary		0
46	Arbitrary		0
47		0: fixed	0
48	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(g) Octet 10

bit	Function	Contents	Default
49	Sub address transmission		@

bit	Function	Contents	Default
50	Password (SID) transmission		@
51		0: fixed	0
52	Reserved		0
53	BFT transfer		@
54	DTM transfer		0
55	EDI transfer		0
56	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(h) Octet 11

bit	Function	Contents	Default
57	BTM transfer		0
58	Reserved		0
59		0: fixed	0
60	Character mode		0
61	Reserved		0
62	Mixed mode		0
63	Reserved		0
64	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(i) Octet 12

bit	Function	Contents	Default
65	Processible mode (T.505)		0
66	Digital network ability		0
67	Full-duplex communication instruction	1: Full-duplex 0: Half-duplex	0
68	JPEG coding		0
69	Full color mode		0
70	Default Huffman table use		0
71	12 bits / pixel component		0
72	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(j) Octet 13

bit	Function	Contents	Default
73	No sub sampling (1:1:1)		0
74	Custom illuminance		0
75	Custom gamut range		0
76	North America Letter (215.9 x 279.4)		0
77	North America Legal (215.9 x 355.6)		0
78	Single progression sequential coding (T.85) basic		@
79	Single progression sequential coding (T.85) optional LO		@
80	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(k) Octet 14

bit	Function	Contents	Default
81	HKM key management selected		0
82	RSA key management selected		0
83	Override mode selected		0
84	HFX40 cipher selected		0
85	Alternative cipher number 2 selected		0
86	Alternative cipher number 3 selected		0
87	HFX40-I hashing selected		0
88	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(l) Octet 15

bit	Function	Contents	Default
89	Alternative hashing system number 2 selected		0
90	Alternative hashing system number 3 selected		0
91	Reserved		0
92	T.44 (Mixed raster content)		0
93	T.44 (Mixed raster content)		0
94	T.44 (Mixed raster content)		0
95	Page length maximum strip size for T.44 (Mixed raster content)		0
96	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(m) Octet 16

bit	Function	Contents	Default
97	Color/gray-scale 300 pels/25.4 mm x 300 lines/25.4 mm or 400 pels/25.4 mm x 400 lines/25.4 mm resolution		0
98	100 pels/25.4 mm x 100 lines/25.4 mm for color/gray scale		0
99	Simple phase C BFT negotiations capability		0
100		0: Fixed	0
101		0: Fixed	0
102	Internet routing address (IRA) Transmission		0
103	Reserved		0
104	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(n) Octet 17

bit	Function	Contents	Default
105	600 pels/25.4 mm x 600 lines/25.4 mm		@
106	1200 pels/25.4 mm x 1200 lines/25.4 mm		0
107	300 pels/25.4 mm x 600 lines/25.4 mm		0
108	400 pels/25.4 mm x 800 lines/25.4 mm		0
109	600 pels/25.4 mm x 1200 lines/25.4 mm		0
110	Color/gray-scale 600 pels/25.4 mm x 600/25.4 mm resolution		0
111	Color/gray-scale 1200 pels/25.4 mm x 1200/25.4 mm resolution		0
112	Expansion field		0

- @: Changes to 0 or 1 according to a status of devices.

(o) Octet 18

bit	Function	Contents	Default
113	Double sided printing selected (alternate mode)		0
114	Double sided printing selected (continuous mode)		0
115		0: Fixed	0
116	T.45 (run length color encoding)		0
117	Shared date memory required	bit 117, 118 0,0= not used 0,1= Level 1=1.0 Mbytes 1,0= Level 2=2.0 Mbytes 1,1= Level 3=unlimited (i.e. 32 Mbytes or more)	0
118			0
119	Reserved		0
120	Expansion field		0

(p) Octet 19

bit	Function	Contents	Default
121	Flow control capability for T.38 communication		0
122	K > 4		0

bit	Function	Contents	Default
123	Internet aware fax device operating in T.38 mode		0
124	T.89 (Application profiles for ITU-T T.88)	Refer to *3.	0
125			0
126			0
127	sYCC-JPEG coding		0

- *3: T.89 (Application profile for ITU-T T.88)

124	125	126	Contents
0	0	0	Not used
0	0	1	Profile 1
0	1	0	Profile 2
0	1	1	Profile 3
1	0	0	Invalid
1	0	1	Reserved
1	1	0	Reserved
1	1	1	Reserved

8.1.2 Modem fallback sequence

- Fallback sequences of TCF and CTC are shown as follows:

(1) V17, V29, and V27 ter

Ability of a remote station	TCF fallback sequence
V27 ter/V29	96/V.29 -> 72/V.29 -> 48/V.27 ter -> 24/V27 ter
V27 ter/V29/V33 V17	144/V.17 -> 120/V.17 -> 96/V.17 -> 72/V.17 -> 48/V.27 ter -> 24/V27 ter

- On the transmission side: If PPR is received four times, a modem is set in the fallback state.
- On the reception side: In case of sending PPR, when the number of error frames exceeds the FP value, a modem is set in the fallback state.

(2) V34 fallback

- Line quality is always water by modem. Optimum speed is automatically selected on-the-fly.

8.1.3 V8/V34 sequence

(1) V34

(a) Outline

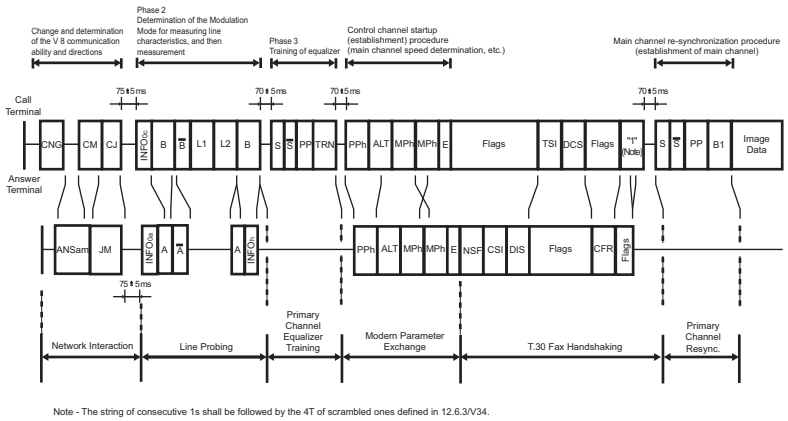
- The 33.6kbps data transmission method and protocol including the V8 protocol. As for each of full-duplex and half-duplex, startup handshake until data transmission starts is divided into four phases, phase1 to 4, and signals used in each phase are regulated.

(b) Features

- Full-duplex (echo canceler method) / Half-duplex method are regulated (for data / FAX respectively)
- 2400, 3000 and 3200 symbols / sec (mandatory) and 2743, 2800 and 3429 symbols / sec (option) QAM synchronous transmission at each symbol rate
- Communication at each signal rate of 33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800 and 2400 bps
- Four-dimensional-symbol trellis coding
- A 200bps sub channel which can be used as an asynchronous second channel (option)
- Negotiation in which characteristics of a line is measured before transmission starts and the maximum communication speed is achieved by finely adjusting the transmission parameter, based on the result of measurement (carrier / frequency / equalizer / symbol rate / level, etc.)
- Data transmission in the super frame with the hierarchical structure

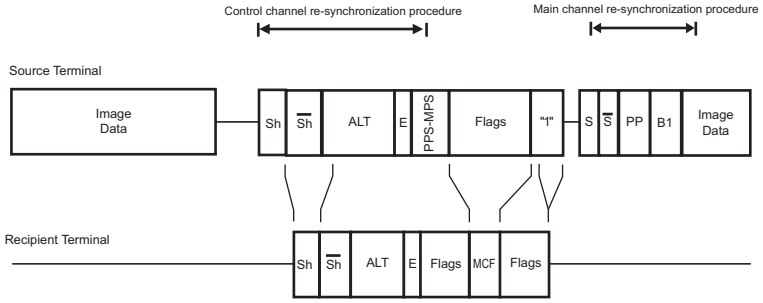
(2) Sample of a signal procedure at sending two pages

(a) Beginning of communications to beginning of 1st page transmission

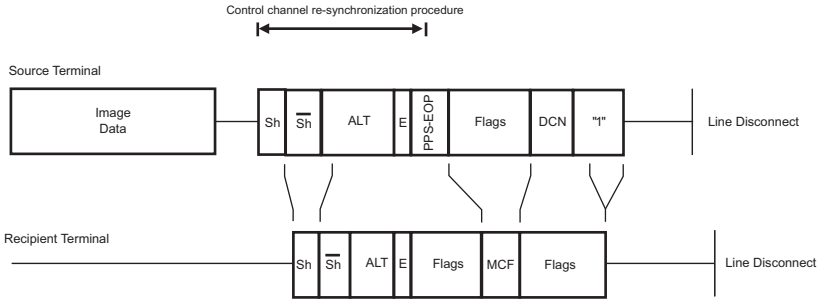


Note - The string of consecutive 1s shall be followed by the 4T of scrambled ones defined in 12.6.3/V34.

(b) Signals between pages



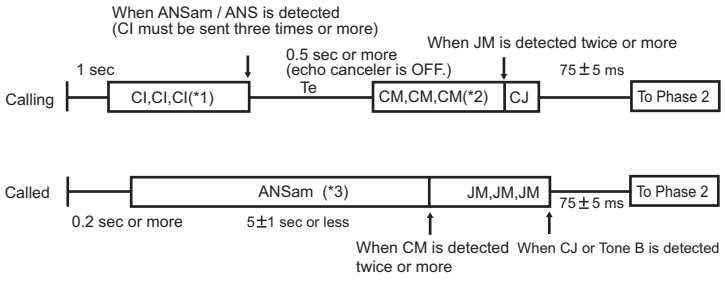
(c) 2nd page transmission termination to communication termination



Note - Some terminals may disconnect the line immediately after sending DCN without sending consecutive 1s.

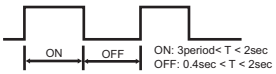
(3) Procedure details

(a) Phase 1 (V8) ....Beginning of connection between a calling modem and a called modem



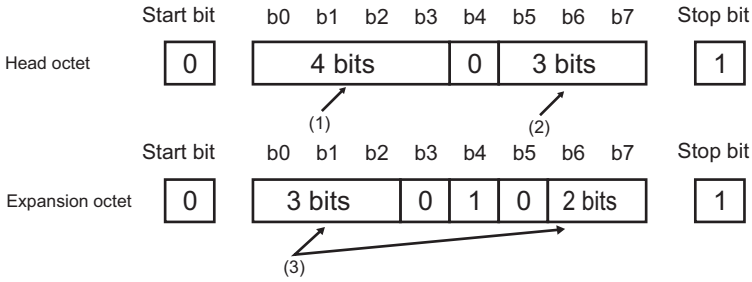
- *1: One of no signals / C1 / CNG (T.30) / CT (V.25)
- *2: V.34 full-duplex ability in the modulation mode bit is ON.
- *3: ANSam of phase inversion is sent. Phase inversion is an option in case of supporting only half-duplex. When CM or valid signal from the calling side is not detected, the procedure is moved to T.30, etc. after 75 ± 5 ms interval.

Signal Definition

Signal type	Meaning	Signal direction Call Called	Signal speed	Timing of transmission
CI (Call Indicator)	Function display on the calling side	->	V.21 (L) (300 bps)	• Start: after 0.4 seconds after line connection from ON condition (in the following format) • Stop: when 3 period or more has passed after ANSam/ ANS is detected 
	[Comments] • CI is a signal to carry call function. • The calling side send CI, CT (Call Tone - V25) or CNG. • CI transmission and detection are optional. • The ON minimum time (=3 Period) is of duration of three CI signals in the following format.			
ANSam (Modified Answer Tone)	V.8 procedure on the called side Support display	<-	-	When 0.2 seconds or more has passed after reception
	[Comments] • Essential for a called machine which supports the V8 procedure. • 2100 Hz sine wave is phase-inverted by 400 +/-25 ms periods, then amplitude modulated by 15 +/-0.1 Hz sine wave • Average value of modulation factor (x) 0.8 +/- 0.01 < x < 1.2 +/- 0.01 • Average transmission power compliant to V2 • 2100 +/- 200 Hz external power is smaller than the average power by 24 dB or more.			
CM (Call Menu)	Modulation mode etc. on the calling side	-> (300 bps)	V.21 (L)	• Start: Te (0.5 sec. ≤ Te ≤ 1 sec.) has passed after CI transmission stops • Stop: When two or more JM are detected
	[Comments] • CM is a signal which carries call function, modulation modes, protocols and GSTN access. • The first information category is call function. • Protocols and GSTN access category are added when the calling side has ability and when needed to inform to a remote station.			
CJ	CM termination	-> (300 bps)	V.21 (L)	When CM is completed
	[Comments] • START bit (0) and STOP bit (1) are added to 1 octet of all bit 0. • Signal format Start bit b0 b1 b2 b3 b4 b5 b6 b7 Stop bit 0 0 0 0 0 0 0 0 0 1			
JM (Joint Menu)	Display of common ability on both calling and called sides	<- (300 bps)	V.21 (H)	• Start: When two or more same CM are received • Stop: When CJ is received or receives a signal matching the selected Modulation Mode from the calling side
	[Comments] • JM is a response signal to CM and of the same format as the received CM. • The fist information category is Call Function as same as CM. • Modulation mode sets the common bit on calling and called sides and sends by the same octet as received CM. • When there is no common ability, all bits are set to 0 and send by the same octet as received CM. • The minimum item No. is selected from the common bits to determine the actual Modulation Mode. • Protocol is added when it is included in received CM and needed to instruct. • GSTN access is added when it is included in received CM and needed to instruct. • Bit 6 is set to ON when needed to show ability. Bit 5 is set to the same one as received CM.			

Signal format

1. Preamble: a signal added before each signal when CI, CM and JM signals are sent.
   - Format: 1111111111 +0000000001 (for CI)
   - Format: 1111111111 +0000001111 (for CM and JM)
2. Common format among each signal CI, CM and JM
   - Start Bit (=0) is put at the top and Stop Bit (=1) is put at the end of each octet.



- (1): Category tag (tags which represent information types)

Bit assignment					Meaning (information type)	Included signal
b0	b1	b2	b3			
1	0	0	0	...	Call Func	Top of CM, JM / CI
1	0	1	0	...	Modulation Mode	CM/JM
0	1	0	1	...	Protocols	CM/JM
1	0	1	1	...	GSTN access	CM/JM
0	1	1	0	...	PCM modem ability	CM/JM

- (2): Option bit (Differs depending on category tags. See " P.8.1.3 (4) Common signal bit definition".)
- (3): Additional option bit (Differs depending on category tags. See " P.8.1.3 (4) Common signal bit definition".)

(4) Common signal bit definition

(a) Call function (1 octet)

Top octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning
1	0	0	0	0				(Call Function category tag)
					0	0	0	Defined by ITU-T
					1	0	0	PSTN multi-media terminal
					0	1	0	V18 text phone
					1	1	0	Video tex
					0	0	1	FAX transmission from the calling terminal
					1	0	1	FAX reception in the calling terminal
					0	1	1	Data transmission / reception
					1	1	1	Expansion octet = with call function represented by next octet

- (Other than the above = Reserved)

(b) Modulation mode (3 octets)

1st octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
1	0	1	0	0				(Modulation mode category tag, b4 = 0 is first octet)	
					0/1			PCM modem ability disabled/enabled	
						0/1		V34 full-duplex ability disabled/enabled	1
							0/1	V34 half-duplex ability disabled/enabled	2

2nd octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
			0	1	0			(b3, 4 and 5=0, 1, 0 means expanded oct.)	
0/1								V32 bis / V32 ability disabled / enabled	3
	0/1							V22 bis / V22 ability disabled / enabled	4
		0/1						V17 ability disabled / enabled	5
						0/1		V29 half-duplex ability disabled / enabled (used in T.30)	6
							0/1	V27 ter ability disabled / enabled	7

3rd octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
			0	1	0			(b3, 4 and 5=0, 1, 0 means expanded oct.)	
0/1								V26 ter ability disabled / enabled	8
	0/1							V26 bis ability disabled / enabled	9
		0/1						V23 full-duplex ability disabled / enabled	10

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
						0/1		V23 half-duplex ability disabled / enabled	11
							0/1	V21 ability disabled / enabled	12

(c) Protocols (1 octet)

b0	b1	b2	b3	b4	b5	b6	b7	Meaning
0	1	0	1	0				(Protocols category tag)
					1	0	0	V42 LAPM protocol
					1	1	1	Protocol represented by expanding octet

- (Other than the above = Reserved)

(d) GSTN access (1 octet)

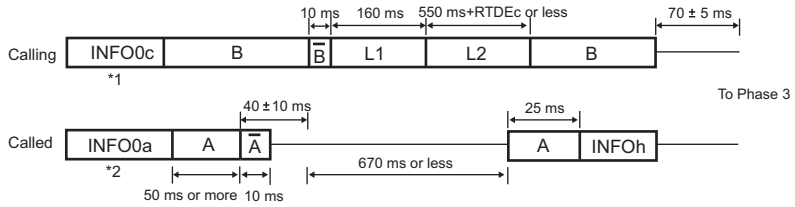
b0	b1	b2	b3	b4	b5	b6	b7	Meaning
1	0	1	1	0				(GSTN access category tag)
					0/1			Celluler connection in the calling side
						0/1		Celluler connection in the called side
							0/1	0: Analog network connection 1: Digital network connection

(e) PCM modem capability (1 octet)

b0	b1	b2	b3	b4	b5	b6	b7	Meaning
1	1	1	0	0				(PCM modem category tag)
					0/1			V.90 analog modem capability
						0/1		V.90 digital modem capability
							0/1	V.91 capability

(5) Phase 2 (Probing) ..... V.34 basic setting

- Exchange of modulation ability
- Measurement of line characteristics (bi-direction)
- Determination and exchange of compensation values to line characteristics (compensation values of maximum data rate, transmission level, pre-emphasis (*))
  - *: linear equalizer for compensating amplitude distortion



A	• 2400 Hz tone signal output from the called side (Level is a set value -1 dB). • 1800 Hz guard tone (Level is a set value -7 dB) is output simultaneously from the called side.	
$\bar{A}$	• 2400 Hz tone signal output from the called side (Phase inversion of A). • 1800 Hz guard tone.	
B	1200 Hz tone signal output from the called side.	
$\bar{B}$	1200 Hz tone signal output from the calling side (Phase inversion of B).	
INFO 0x	Binary signal for indicating auto modulation option signal (x=a/c: a: called side, c: calling side)	
L1, L2	Signal for conditioning line characteristics (tone synthesis at the interval of 150 Hz from 150 to 3750 Hz (except for 900, 1200, 1800 and 2400 Hz))	• L1: 160 ms, Level= Set value+6dB • L2: Maximum 550 ms+TRDEx, Level = Set value
INFO h	Binary signal for indicating parameters used in Phase 3 (training of main channel equalizer). This signal is sent from a modem receiving main channel data to a transmitting modem.	

- *1: INFO 0c Bit 28 OFF
- *2: INFO 0a Bit 28 OFF

(a) <INFO 0x Bit Assignment>

Bits (LSB-MSB)	Value	Meaning	
0-3	1111	Fill Bits	
4-11	01110010	Bit string for frame synchronization	
12	0/1	2743 symbol / sec support	• 0: No • 1: Yes
13	0/1	2800 symbol / sec support	• 0: No

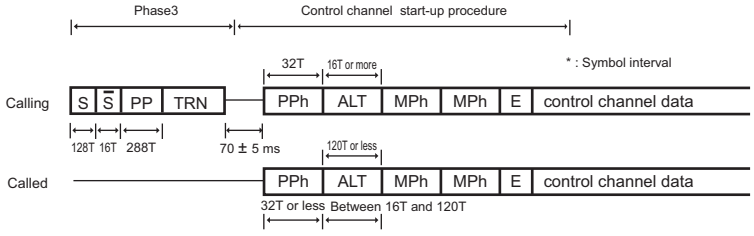
Bits (LSB-MSB)	Value	Meaning	
			• 1: Yes
14	0/1	3429 symbol / sec support	• 0: No • 1: Yes
15	0/1	Ability to transmit at low carrier frequency at 3000 symbol / sec	• 0: No • 1: Yes
16	0/1	Ability to transmit at high carrier frequency at 3000 symbol / sec	• 0: No • 1: Yes
17	0/1	Ability to transmit at low carrier frequency at 3200 symbol / sec	• 0: No • 1: Yes
18	0/1	Ability to transmit at high carrier frequency at 3200 symbol / sec	• 0: No • 1: Yes
19	0/1	3429 symbol / sec transmission	• 0: Disable • 1: OK
20	0/1	Ability to lower the transmission level than a preset value	• 0: No • 1: Yes
21-23	0 to 5	Maximum tolerance of symbol rates between transmission and reception	• 0: 2400 symbol/sec • 1: 2743 symbol/sec • 2: 2800 symbol/sec • 3: 3000 symbol/sec • 4: 3200 symbol/sec • 5: 3429 symbol/sec
24	0/1	1=INFO 0 is sent from the CME modem	
25	0/1	1664 signal point (33.6 K) ability	• 0: No • 1: Yes
26-27	0 to 3	Clock source transmission	• 0: Internal • 1: External • 2: Synchronous to the reception clock • 3: Reserved
28	0/1	1=Correct INFO 0 frame is received during error recovery	
29-44		CRC	
45-48	1111	Fill Bits	

(b) <INFO h Bit Assignment>

Bits (LSB-MSB)	Value	Meaning	
0-3	1111	Fill Bits	
4-11	01110010	Bit string for frame synchronization (transmitted from the left side)	
12-14	0 to 7	• Output reduction width demanded by the reception modem (dB) • When *the modem on the transmitting side can not reduce output* at INFO 0, the value is set to 0.	
15-21	0 to 127	The length of TRN which the modem of the transmitting side send in the Phase 3 (x 35 ms)	
22	0/1	High carrier is user for data mode Tx.	
23-26	0 to 10	Pre-emphasis filer index No.which is used for data transmission	
27-29	0 to 5	Symbol rate of data transmission	0: 2400 ... 5: 3429 (symbol / sec)
30	0/1	Selection of parameters used for TRN.	• 0: 4 points • 1: 16 points
31-46		CRC	
47-50	1111	Fill Bits	

(6) Phase 3 .....Training of the main channel equalizer

- Band division full-duplex method
- Transmission and reception of Phase 3 signals (S, $\overline{S}$PP, TRN) are executed by using parameter values which are determined by exchanging INF Oh. (symbol rate, carrier frequency, pre-emphasis filter and transmission level)



- The speed of the following signals (Phase 3) are determined by INFOh. (The following signals are used in the main channel in the half-duplex procedure.)

S	Signal which sends alternately 0 point and a point which rotated 0 point counterclockwise by 90 degrees

$\overline{S}$	Signal which sends alternately a point which rotated 0 point counterclockwise by 180 degrees and a point which rotated 0 point counterclockwise by 270 degrees
PP	Special signal which is sent from a remote station for adjusting an equalizer
TRN	Training signal. (Symbol rate and duration are determined in INFOh.)

(a) Control channel signal

- The following signals are used for establishing the control channel or re-synchronization and retrain. (peculiar to half-duplex procedure)

Modulation method	1200 / 2400 bps QAM modulation (600 ± 0.01 symbols / sec). However, training and synchronous signals are 1200 bps.	• Calling modem: Carrier (=1200 Hz ± 0.01 % (level = set value)) • Called modem: Carrier (=2400 Hz ± 0.01 % (level = set value-1 dB)) + Guard tone (=1800 Hz ± 0.01 % (level = set value-7 dB))
Sh	Signal which sends alternately 0 point and a point which rotated 0 point counterclockwise by 90 degrees (the same as S)	
$\overline{Sh}$	Signal which sends alternately a point which rotated 0 point counterclockwise by 180 degrees and a point which rotated 0 point counterclockwise by 270 degrees (the same as S)	
AC	Signal which send alternately 0 point and a point which rotated 0 point by 180 degrees	
PPh	Special signal which is sent from a remote station for adjusting an equalizer (used when the initial of the control channel and re-synchronization are executed)	
ALT	Signal which scrambled alternate signals of 0 and 1 (1200 bps)	
MPh	Binary signal used for exchanging parameters of the modulation method when data is actually sent and received by using the main channel (1200 bps)	• Both type 0 and type 1 (type 0+pre-recording coefficient) must be received. • When type 0 is received, pre-recording coefficient is considered to be 0 and never functions.
E	“1”, binary of 20 bit, which represents the beginning of user data transmission on the control channel	

(b) MPh (type 0) bit assignment

Bits (LSB-MSB)	Value	Meaning	
0-16	All bit 1	Bit string for frame synchronization	
17	0	Start bit	
18	0	MP signal type	
19	0	Reserved	
20-23	1 to 14	Maximum transmission rate from the calling modem to the called modem (x 2400) *1	
24-26	0,0,0	Reserved	
27	0/1	Control channel data transmission rate which is selected by the opposed transmitter	• 0: 1200 bps • 1: 2400 bps
28	0	Reserved	
29-30		Trellis coding device selection *2	• 00: 16 state • 10: 32 state • 01: 64 state • 11: Reserved
31	0/1	Non-linear encoder parameter selection for the terminal transmitter of a remote station *2	• 0: φ=0 • 1: φ=0.3125
32	0/1	Parameter (shaping) selection when the data rate is determined within each symbol rate *2	• 0: Minimum • 1: Expanded
33	0	Reserved	
34	0	Start bit	
35-49		Communication speed mask (Bit 35=2400 bps ... Bit 46=28.8 kbps, Bit 47=31.2 kbps, Bit 48=33.6 kbps and Bit 49=Reserved)	• 0: Ability of both modems disabled • 1: Enabled
50	0/1	Use of control channel imbalance data rate	• 0: No • 1: Yes
51	0	Start bit	
52-67	0	Reserved	
68	0	Start bit	
69-84		CRC	
85-87	0,0,0	Fill Bits	

- *1: 13 and 14 are used when the opposed modem supports up to 1664 points.
- *2: Set to 0 on the transmitting modem.

(c) MPh (type 1) bit assignment

Bits (LSB-MSB)	Value	Meaning
0-16	All bit 1	Bit string for frame synchronization

Bits (LSB-MSB)	Value	Meaning	
17	0	Start bit	
18	1	MP signal type	
19	0	Reserved	
20-23	1 to 14	Maximum transmission rate from the calling modem to the called modem (x 2400) *1	
24-26	0,0,0	Reserved	
27	0/1	Control channel data transmission rate which is selected by the opposed transmitter	• 0: 1200 bps • 1: 2400 bps
28	0	Reserved	
29-30		Trellis coding device selection *2	• 00: 16 state • 10: 32 state • 01: 64 state • 11: Reserved
31	0/1	Non-linear encoder parameter selection for the terminal transmitter of a remote station *2	• 0: φ=0 • 1: φ=0.3125
32	0/1	Parameter (shaping) selection when the data rate is determined within each symbol rate *2	• 0: Minimum • 1: Expanded
33	0	Reserved	
34	0	Start bit	
35-49		Communication speed mask (Bit 35=2400 bps ... Bit 46=28.8 kbps, Bit 47=31.2 kbps, Bit 48=33.6 kbps and Bit 49=Reserved)	• 0: Ability of both modems disabled • 1: Enabled
50	0/1	Use of control channel imbalance data rate	• 0: No • 1: Yes
51	0	Start bit	
52-67		Pre-coding coefficient h (1) Real	
68	0	Start bit	
69-84		Pre-coding coefficient h (1) Imaginary	
85	0	Start bit	
86-101		Pre-coding coefficient h (2) Real	
102	0	Start bit	
103-118		Pre-coding coefficient h (2) Imaginary	
119	0	Start bit	
120-135		Pre-coding coefficient h (3) Real	
136	0	Start bit	
137-152		Pre-coding coefficient h (3) Imaginary	
153	0	Start bit	
154-169		Reserve	
170	0	Start bit	
171-186		CRC	
187	0	Fill Bits	

- *1: 13 and 14 are used when the opposed modem supports up to 1664 points.
- *2: Set to 0 on the transmitting modem.

(7) Re-synchronization procedure / Startup procedure

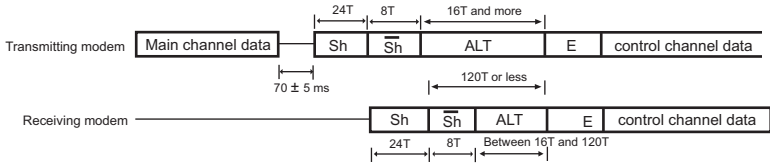
- A procedure required to switch control channel and main channel in the half-duplex procedure
- A procedure which includes another modulation parameter exchanging is especially called the startup procedure. (used for changing the communication speed)

(a) Startup procedure

- Control channel startup procedure (By exchanging MPh, the communication speed is changed.)
- “Control channel re-synchronization procedure” is not used.

(b) Re-synchronization procedure

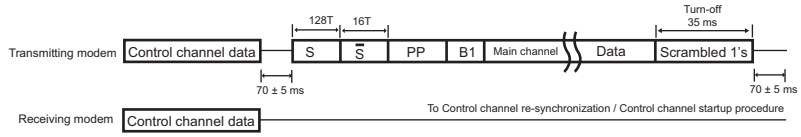
- Control channel re-synchronization.
- See signals related to control channels for signal names and change method.



Main channel re-synchronization procedure and Turn-off

- The receiving modem re-synchronizes the main channel by using the PP signal. After B1, starts receiving Primary Data.
- The transmitting modem sends the scrambled 1's for 35 ms after Primary Data transmission has been completed.
- Both modems move to the control channel re-synchronization procedure or the control channel startup procedure.

S	Signal which sends alternately 0 point and a point which rotated 0 point counterclockwise by 90 degrees
$\overline{S}$	Signal which sends alternately a point which rotated 0 point counterclockwise by 180 degrees and a point which rotated 0 point counterclockwise by 270 degrees
PP	Special for adjusting an equalizer
B1	High-speed signal of one frame length which is sent at the end of a series of startup sequence in the selected modulation parameter.



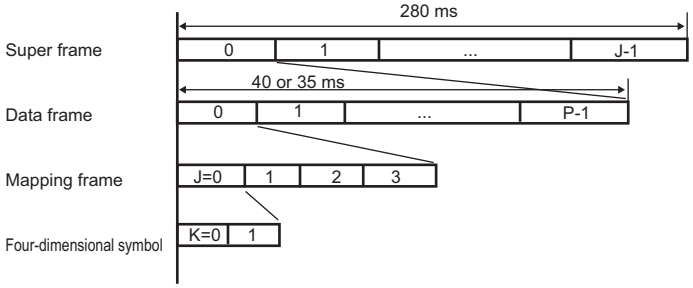
(8) Other

(a) Minimum reception signal level (RLSD) (half-duplex mode only)

- The reception circuit is turned to ON when the signal becomes 43 dBm or more.
- When the signal becomes 48 dBm or less, the reception circuit is turned OFF within 20 to 25 ms after it has exceeded the thresh old.

(b) Data frame structure

- All data transmitted in V.34 (after the Phase 4) is treated in the following frame format.
  - J: The number of data frames within one super frame
  - P: The number of mapping frames within one data frame



Modulation Speed	J	P
2400 baud	7	12
2743 baud	8	12
2800 baud	7	14
3000 baud	7	15
3200 baud	7	16
3429 baud	8	15

8.2 FUNCTION

8.2.1 Telephone function

(1) TEL/FAX switching

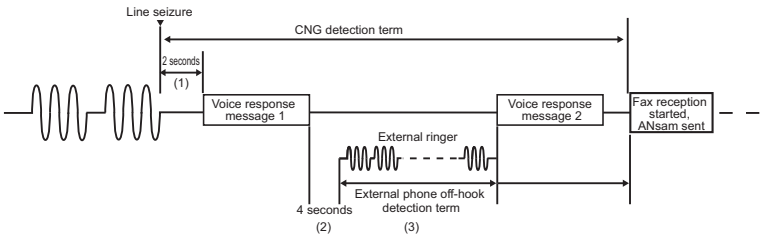
(a) Outline

- A function to switch telephone and FAX automatically after reception. (Depends on Country spec.)

(b) Operation

1. When CNG is not detected for 2 seconds (or 4 seconds, following address parameter) after line seizure, this function sends voice response message 1 and continues CNG detection.
2. If voice response 1 is sent and CNG detection is continued for 4 seconds but could not be detected, external ringer is sent to the externally installed phone.

3. When CNG is not detected for a given period (Default is 20 seconds. Changeable by address parameters), this function stops external ringer transmission and becomes fax reception after the voice response message 2 is sent.
4. This function detects OFF-HOOK of the external telephone during external ringer transmission only.
5. When OFF-HOOK of the external telephone is detected during external ringer transmission, the line is connected to the external telephone. Even if you use the telephone, you can manually switch to the fax reception after that.
6. When CNG is detected during the above-mentioned external ringer transmission, External ringer transmission is stopped and the fax reception starts.



(c) Related FP

No.	FP	Meaning and purpose	Address	Value	Default	Note
1	Tel-Fax switching	TEL/FAX switching mode	0x0e0095 bit5	0: Disabled 1: Enabled	0	Those with a Administrator Settings
2	RBT transmission time	RingBackTone signal transmission time	0x0e00fc	unit: 1000 ms, HEX	0x14 (20 sec.)	• A serviceman setting by address setting • Those with a Administrator Settings 30 sec. or less: 5 seconds 30 sec. or more: 30 seconds
3	Tel-Fax switching parameter	Time from vocal response to RBT transmission (CNG detection waiting time 2)	0x0e0095 bit7	0: 4 sec. 1: 2 sec.	0	A serviceman setting by address setting
4	Tel-Fax switching parameter	Time from reception to voice response transmission (CNG detection waiting time 1)	0x0e0095 bit6	0: 2 sec. 1: 4 sec.	0	
5	Tel-Fax switching parameter	TEL/FAX switching ON response details	0x0e0095 bit3	0: Voice response + RBT transmission 1: RBT transmission only	0	Those with a Administrator Settings

8.2.2 F-code

- F-code is a function to realize confidential transmission / bulletin board polling / relay transmission by using SUB, SEP and SID signals.
- To be more specific, a machine which can open “a box” on the memory is called “a F code compliant center machine” and a machine which can access to a center machine by using the F code function is called “a F-code compliant machine.” The center machine can have plural “boxes” and they are used as the confidential box, bulletin board box and relay box respectively.
- Function outline is as follows.

Function	Outline	Signals to be used			Use (Meaning)	Required function	Remark
		SUB	SEP	SID			
Confidential transmission	Sent to the center machine which opens a confidential box by appointing the confidential box No. (The center machine has memory reception to the confidential box.)	○	×	△	• SUB = Appointment of a confidential box • SID = Password	Registration = Message adding	Each box No. = Contents of a signal (20 digits or less)
Bulletin board polling	By appointing a box No. in the center machine which opens a bulletin board, contents are polled.	×	○	×	SEP = Appointment of a bulletin board box	• Registration = Message overwriting • With a mode which is not deleted by polling.	
Relay transmission	Requesting relay to the relay machine which opens a relay box (No.) in which a broadcasting transmission remote station is registered.	○	×	○	• SUB = Appointment of a relay box (No.) • SID = Password		

- ○ = interact is required
- △ = selectable
- × = do not use

(1) Signal format

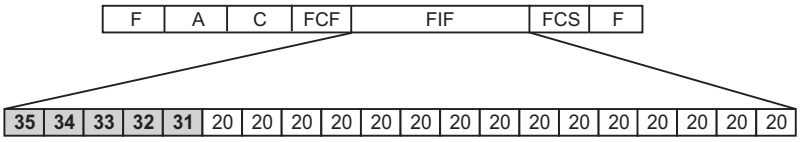
(a) Contents of signals

Item / Signal Name	SUB/SEP	SID
Characters	0 to 9 only (* and # must not be used.)	• 0 to 9 • * • #
Contents	Box No.	Password
No. of digits	Arbitrary between 1 and 20	
Space between digits	Prohibited	
Others	Impossible to designate more than one box	

(b) FIF (SUB/SEP/SID) common

- The last digit is left-justified. The remaining are filled with space (0x20)

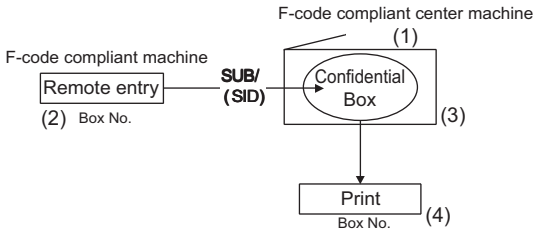
eg.) 12345



(c) DIS/DTC/DCS bit condition

Bit No.	Meaning	DIS/DTC	DCS
47	Selective polling ability	• DIS = ON when SEP reception is possible • DTC = ON when SEP is transmitted	0: fixed
49	Sub address ability / function	ON when SUB reception is possible	ON when SUB transmission is possible
50	Password / sender ID	• DIS = ON when SID reception is possible • DTC = ON when SID is transmitted	ON when SID is transmitted

(2) F-code confidential transmission

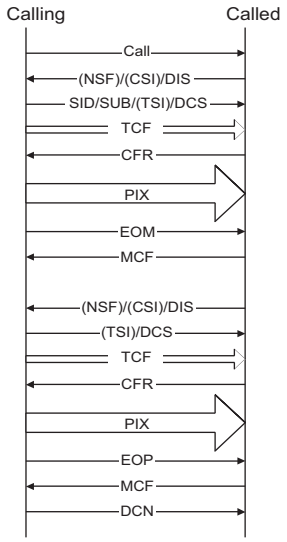


1. The confidential box is registered in the center machine.
   - Registration of confidential box No. and name
   - Registration of communication password
   - Registration of box password
2. Transmission operation on the transmitting side
   - Specification of confidential box No.
3. Reception in the center machine
   - Automatic output of confidential communication report
4. Printing in the center machine
   - Output by entering an access protect No.

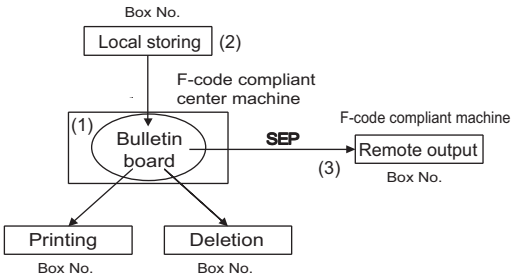
(a) BOX specifications

Confidential box No.	• Represented by a nine digit number. Operationally between 1 and 999999999. • You can not open the same box number as the bulletin board No. which has been already opened.
Communication password	Possible to use.
Confidential BOX name	Possible to resister up to 20 characters.
Erased at printing	Erased on every page after output.
Box password	Represented by eight digit number between 00000000 and 99999999.
No. of files in confidential box	100 files at the maximum including bulletin board.

(b) Example of the protocol sequence



(3) F-code bulletin board polling

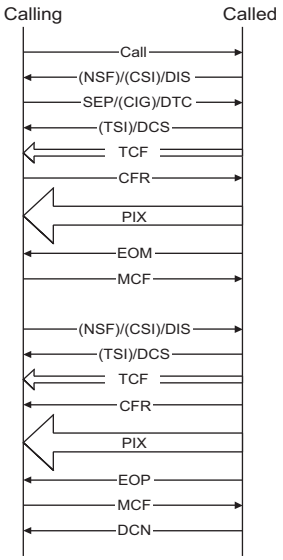


1. Registration of the bulletin board box in the center machine
   - Registration of the bulletin board No. and name
2. Storing documents in the bulletin board
3. Operations for polling reception on the compliant machine
   - Appointment of bulletin board No.

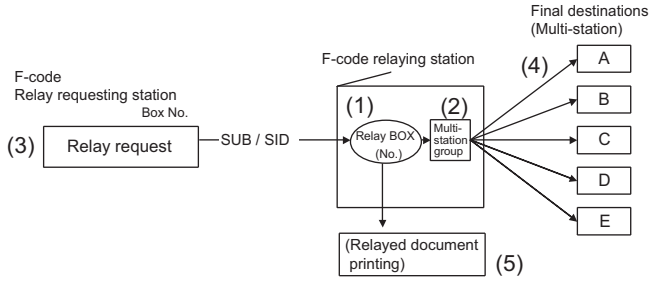
(a) BOX specifications

Bulletin board box No.	• Represented by a nine digit number. Operationally between 1 and 999999999. • You can not open the same box number as the confidential box which has been already opened.
Bulletin board password	No
Bulletin board box name	• Yes • Same number of characters as the confidential box
Erased at printing	Not erased when printed.
Erased at polling	Not erased when polled.
Access protect No.	No
No. of document registration to the bulletin board box	Only once. If already exist, it is overwritten.

(b) Example of protocol sequence



(4) F-code relay transmission



NOTE

- **This machine is only relay requests and do not function as a relaying station.**

1. The relay box is registered in the relaying station.
  - Registering relay box No., relay password and relay group No.

2. Registration of group
  - Registering final destinations in the group No.

3. Transmission operation in the relay requesting station
  - Instructs relay box no. and relay password.

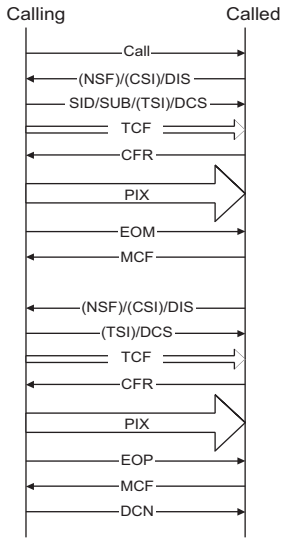
4. Transmission to the final remote stations registered in the group

5. Possible to printed relayed documents on the relaying station (depends on the parameter setting)

(a) BOX specifications

Relay box	Possible to register up to 5.
Relay box No.	Any box number that can range between 1 and 999999999
Relay password	Any 8-digit number
Relay BOX name	To be assignable
Access protect No.	No
Final destination designation	Possible only to register in the relay box by appointing the group.
File erasure after transfer	Always erased
Conditions to erase box by operations	Only when there are no files of received messages in the relay box, box can be erased.

(b) Protocol sequence example



8.2.3 Transmission function

(1) Original scan mode

- The original scan mode is roughly classified by the regular original scan and the irregular original scan.

Regular original	Irregular original	Mode selection
Normal mode	Irregular mode	Default setting
Mixed original mode		Scan setting

(a) Scan mode default setting

- The scan mode can be set by [Service Mode] -> [FAX] -> [System] -> [Scan Setting]. The default is the irregular mode.

	Paper size detection	Default	Frame erasure
Irregular mode	Trailing edge detection	○	Trailing edge erasure may not be done.
Normal mode	DF paper size sensor	Automatically selected when using the page related application function (book transmission, etc.).	Frame erasure of all sides

8.2.4 Reception function

(1) Reduction / division of reception

- Parameters related to reduction / division are set on the [Administrator Settings] -> [Fax Settings] -> [TX/RX Settings]. There are two parameters as follows:
  - [Min. Reduction for RX Print]: 96, 95, 94, ..., 87: a
  - [Print Separate Fax Pages]: ON, OFF: b
- The reception recording mode is determined by the above-mentioned parameters, a and b.

(a) Auto reduction reception mode

- a = Don’t care (except 100)
- b = OFF
- The received documents are automatically reduced in the range of 35 to 96 %.

(b) Page division recording reception mode

- a = 96, 95, ..., 87
- b = ON
- Documents are reduced to three reduction rate (90 %, 86 %, or 82 %) determined by the width of received documents and the selected recording paper. When they are still larger than a paper size, they are reduced to a value in “a” for the division recording.
  - 90% = Fixed value
  - 86%, 82% = Reduction rate determined by the main scanning direction
- The paper selection and division are determined in accordance with the following figure.

(c) Paper selected for division printing, magnification

A4S width at reception

Original length=Received original size*(1/a)	Optimum paper	Selected paper size / Division operation							
		Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8
152 mm or less	A5	A5/a %	A5S/69 %	A4S/a %	A4/a %	B5S/84 %	B5/a %	B4/a %	A3/a %
153 to 311 mm	A4S	A4S/a %	A4/a %	B4/a %	A3/a %	-	-	-	-

Original length=Received original size*(1/a)	Optimum paper	Selected paper size / Division operation							
		Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8
312 to 384 mm	B4	B4/a %	B5/a %	B5S/84 %	A3/a %	A4/a %	A4S/a %	-	-
Over 384 mm	A3	A3/a %	A4/a %	B5S/84 %	-	-	-	-	-

- a : Set magnification

B4 width at reception

Original length=Received original size*(1/a)	Optimum paper	Selected paper size / Division operation							
		Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8
189 mm or less	B5	B5/a %	B5S/71 %	B4/a %	A4S/82 %	A4/a %	A3/a %	-	-
189 to 384 mm	B4	B4/a %	B5/a %	B5S/71 %	A3/a %	A4/a %	A4S/82 %	-	-
Over 384 mm	A3	A3/a %	A4/a %	A4S/82 %	-	-	-	-	-

- a : Set magnification

A3 width at reception

Original length=Received original size*(1/a)	Optimum paper	Selected paper size / Division operation							
		Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8
219 mm or less	A4	A4/a %	A4S/69 %	B4/85 %	A3/a %	-	-	-	-
Over 219 mm	A3	A3/a %	A4/a %	A4S/69 %	-	-	-	-	-

- a : Set magnification

(2) Cassette / paper selection

- The cassette and paper selection is performed by using two parameters of the [Administrator Settings] -> [Fax Settings] -> [TX/RX Settings].
  - [Print Paper Selection]: Auto Select, Fixed Size, Priority Size: a
  - [Tray Selection for RX Print]: Auto, Tray 1, Tray 2, Tray 3 and Tray 4: b

NOTE

- **When “b” is fixed to tray 1, 2, 3 or 4, “a” becomes invalid.**
- **Only when “b” is set to Auto, “a” becomes valid.**
- **Only A3, B4 and A4 sizes can be selected for the fixed size and preferential size modes.**
- **Bypass cannot be specified as fix-tray.**
- **Page dividing function becomes invalid when the tray is fixed.**

(3) Compulsory memory reception

- The function to enable to print out by operations without printing out documents at reception in the FAX communications.

(a) Related settings

Compulsory memory reception function

- Set in the [Service Mode] -> [FAX] > [System] -> [Display Setting].
- When this setting is set to “OFF”, display and actions related to the Compulsory memory reception are not performed. In addition, you can not perform operations. If this setting is not set, the following Compulsory memory reception function used is also set to disabled.

Compulsory memory reception function use

- Set in the [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Memory RX Setting].
- When this setting is set to “NO”, the compulsory memory reception actions are not performed at reception. In addition, you can not display, erase and print the compulsory memory reception documents. The compulsory memory reception documents are displayed on the main menu irrelevant to this setting.

Compulsory memory reception password

- Within eight digits (0 to 9)
- Set in the [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Memory RX Setting].
- This setting is required to display, delete or print the compulsory memory reception documents.

(b) Operation

Necessary conditions for this function

- When there is the compulsory memory reception function, and it is used, the compulsory memory reception action is performed.

Line seizure

- It is possible to receive up to 500 compulsory memory reception jobs including the normal reception and the substitute reception. When 500 compulsory memory reception jobs are received, machine will not catch the line. (Except the case that the polled transmission documents and bulletin board documents are registered.)

Reception

- When the reception is performed in the compulsory memory reception mode, printing is not performed even with recording paper and the reception is performed in memory as the compulsory memory reception documents.
- The same as in the polled reception and manual reception.

- The auto forwarding setting is neglected in this mode, and the compulsory memory reception is performed.
- When SUB is received, related applications will start.

Setting change

- When there are received compulsory memory reception documents, even if the compulsory memory reception setting is set to invalid in the utility mode, the compulsory memory reception file is not printed.
- For printing, the compulsory memory reception setting is required to be set to “ON.”

(4) Closed reception (Junk FAX)

- The closed reception function used only at the time of the reception by using the F-code SID signal.

NOTE

- **You can not use this function with the F-code communications.**

(a) Closed reception function

- Set in the [Service Mode] -> [FAX] > [System] -> [Display Setting].

(b) Closed reception function use

- Set in the [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Closed Network RX].
- When this setting is set to “No”, the closed reception actions are not performed at reception.

(c) Closed reception password

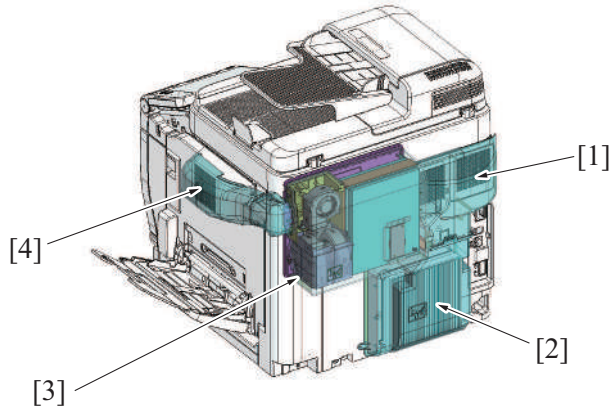
- Four digits (0 to 9)
- Set in the [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Closed Network RX].

9. CU-202/CU-204

9.1 CONFIGURATION

9.1.1 Configuration

- The exhaust port is mounted to cover each suction duct. Thus, the clean unit can maximally collect UFP that is exhausted from the main body.



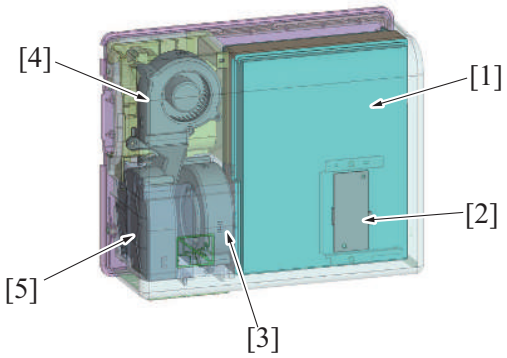
[1]	Suction port (paper exit / developing / power supply section)	[2]	Suction port (cooling section)
[3]	Clean unit	[4]	Suction port (fusing section)

NOTE

- **When the clean unit has been mounted, be sure to configure related settings in service mode. [Service Mode] -> [System 2] -> [Cleaning Unit Setting]**

9.1.2 Unit internal configuration

- The clean unit consists of three exhaust fans, a UFP filter, and a drive board.



[1]	UFP filter	[2]	Clean unit drive board (CUDB)
[3]	Exhaust fan/2 (FM2)	[4]	Exhaust fan/3 (FM3)
[5]	Exhaust fan/1 (FM1)	-	-

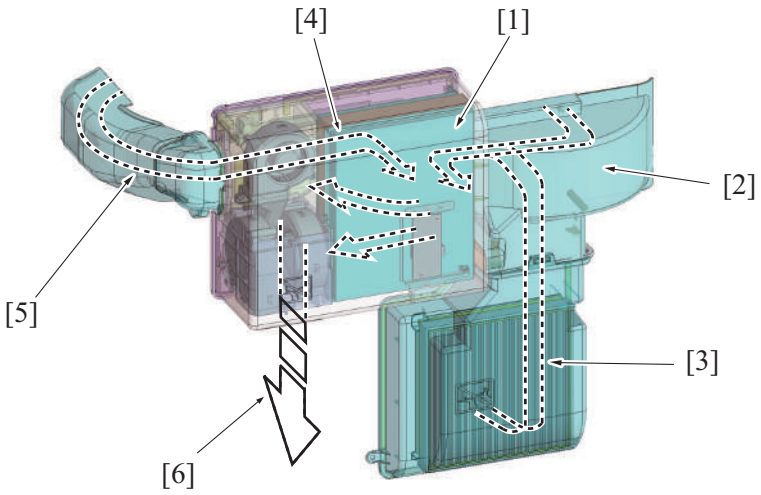
9.2 OPERATION

9.2.1 Airflow

- Air is exhausted from the fusing section, paper exit section, and power supply section of the main body, and inside of the machine. The clean unit takes the exhausted air into the clean unit via each duct.
- The UFP filter collects the air UFP (Ultrafine Particle) that is exhausted from the main body.
- Air passing through the UFP filter is exhausted out of the machine through the exhaust fans 1/2/3 in the clean unit.

  NOTE

  - **The UFP filter does not require a periodic replacement.**



[1]	UFP filter	[2]	Exhausted air from the power supply section/paper exit section of the main body
[3]	Exhausted air from the machine	[4]	Air flow inside the clean unit
[5]	Exhausted air from the fusing section of the main body	[6]	Exhausted air from the clean unit

9.2.2 Fan control

(1) Control conditions

- The clean unit drive board drives three exhaust fans 1/2/3.
- Three exhaust fans control the rotation in a same way.

Control conditions	Exhaust fan/1 (FM1)	Exhaust fan/2 (FM2)	Exhaust fan/3 (FM3)
• When the door is open • In sleep • Rewriting firmware • In standby • In trouble	Stop	Stop	Stop
• Initial operation • During image stabilization • At operation check function (when the load check) • When printing (1-Sided / 2-Sided) • During IU temperature lowering wait control	Full speed	Full speed	Full speed

(2) Lock detection

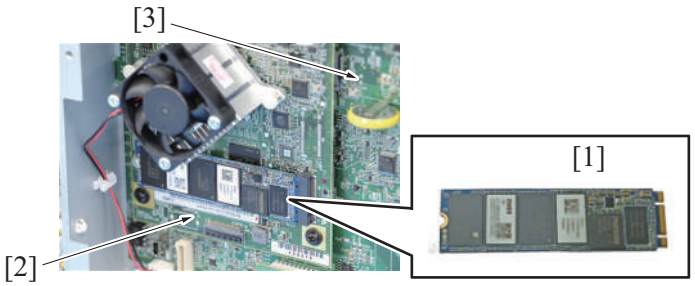
- The clean unit drive board detects the lock status of the exhaust fans.
- Even when one of the exhaust fans in the clean unit is locked, the clean unit drive board sends a lock signal to the main body. Then a clean unit fan's failure to turn (C5360) will appear on the operation panel.

Exhaust fan/1 (FM1)	Exhaust fan/2 (FM2)	Exhaust fan/3 (FM3)	Lock signal (LOCK)	Status
Rotation	Rotation	Rotation	L	Normal
Lock status	Rotation	Rotation	H	Clean unit fan's failure to turn (C5360)
Rotation	Lock status	Rotation		
Rotation	Rotation	Lock status		

10. EM-908

10.1 CONFIGURATION

- The Expanded Memory Unit EM-908 is mounted on the CPU board.
- By mounting the EM-908, it can be used as an internal storage of 1 TB.



[1]	Expanded Memory Unit (EM-908): 1 TB	[2]	CPU board (CPUB)
[3]	Base board (BASEB)	-	-

UPDATING STATUS

DATE	UPDATED PAGES	PAGES	CODE
02/2025	1st EDITION	724	Y120510-5



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