MINOLTA

Service Manual

The essentials of imaging

Di2510/Di3010/Di3510
Di2510f/Di3010f/Di3510f

1. SAFETY PRECAUTIONS FOR INSPECTION AND SERVICE

- When performing inspection and service procedures, observe the following precautions to prevent accidents and ensure utmost safety.

✻ Depending on the model, some of the precautions given in the following do not apply.

- Different markings are used to denote specific meanings as detailed below.

⚠ WARNING

- Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

- Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

- The following graphic symbols are used to give instructions that need to be observed.



Used to call the service technician attention to what is graphically represented inside the marking (including a warning).



Used to prohibit the service technician from doing what is graphically represented inside the marking.



Used to instruct the service technician to do what is graphically represented inside the marking.

1-1. Warning

⚠ WARNING

1. Always observe precautions.



- Parts requiring special attention in this product will include a label containing the mark shown on the left plus precautionary notes. Be sure to observe the precautions.
- Be sure to observe the “Safety Information” given in the Operator’s Manual.

⚠ WARNING

2. Before starting the procedures, be sure to unplug the power cord.



- This product contains a high-voltage unit and a circuit with a large current capacity that may cause an electric shock or burn.
- The product also contains parts that can jerk suddenly and cause injury.
- If this product uses a laser, laser beam leakage may cause eye damage or blindness.

3. Do not throw toner or the toner bottle into a fire.



- Do not throw toner or the Toner Bottle (Imaging Cartridge, Toner Cartridge) into a fire. Toner expelled from the fire may cause burns.

4. Use the specified parts.



- For replacement parts, always use the genuine parts specified in the manufacturer's parts manual. Installing a wrong or unauthorized part could cause dielectric breakdown, overload, or undermine safety devices resulting in possible electric shock or fire.
- Replace a blown electrical fuse or thermal fuse with its corresponding genuine part specified in the manufacturer's parts manual. Installing a fuse of a different make or rating could lead to a possible fire. If a thermal fuse blows frequently, the temperature control system may have a problem and action must be taken to eliminate the cause of the problem.

5. Handle the power cord with care and never use a multiple outlet.



- Do not break, crush or otherwise damage the power cord. Placing a heavy object on the power cord, or pulling or bending it may damage it, resulting in a possible fire or electric shock.
- Do not use a multiple outlet to which any other appliance or machine is connected.
- Be sure the power outlet meets or exceeds the specified capacity.
- Use only the power cord supplied in the package. If a power cord is not supplied, only use the power cord and plug that is specified in POWER CORD INSTRUCTION. Failure to use this cord could result in a fire or electrical shock.
- Use the power cord supplied in the package only for this machine and NEVER use it for any other product. Failure to observe this precaution could result in a fire or electrical shock.

6. Be careful with the high-voltage parts.



- A part marked with the symbol shown on the left carries a high voltage. Touching it could result in an electric shock or burn. Be sure to unplug the power cord before servicing this part or the parts near it.

7. Do not work with wet hands.



- Do not unplug or plug in the power cord, or perform any kind of service or inspection with wet hands. Doing so could result in an electric shock.

⚠ WARNING

8. Do not touch a high-temperature part.



- A part marked with the symbol shown on the left and other parts such as the exposure lamp and fusing roller can be very hot while the machine is energized. Touching them may result in a burn.
- Wait until these parts have cooled down before replacing them or any surrounding parts.

9. Maintain a grounded connection at all times.



- Connect the power cord to an electrical outlet that is equipped with a grounding terminal.

10. Do not remodel the product.



- Modifying this product in a manner not authorized by the manufacturer may result in a fire or electric shock. If this product uses a laser, laser beam leakage may cause eye damage or blindness.

11. Restore all parts and harnesses to their original positions.



- To promote safety and prevent product damage, make sure the harnesses are returned to their original positions and properly secured in their clamps and saddles in order to avoid hot parts, high-voltage parts, sharp edges, or being crushed.
- To promote safety, make sure that all tubing and other insulating materials are returned to their original positions. Make sure that floating components mounted on the circuit boards are at their correct distance and position off the boards.

1-2. Caution

⚠ CAUTION

1. Precautions for Service Jobs.



- A star washer and spring washer, if used originally, must be reinstalled. Omitting them may result in contact failure which could cause an electric shock or fire.
- When reassembling parts, make sure that the correct screws (size, type) are used in the correct places. Using the wrong screw could lead to stripped threads, poorly secured parts, poor insulating or grounding, and result in a malfunction, electric shock or injury.
- Take great care to avoid personal injury from possible burrs and sharp edges on the parts, frames and chassis of the product.
- When moving the product or removing an option, use care not to injure your back or allow your hands to be caught in mechanisms.

⚠ CAUTION

2. Precautions for Servicing with Covers and Parts Removed.

- Wherever feasible, keep all parts and covers mounted when energizing the product.
- If energizing the product with a cover removed is absolutely unavoidable, do not touch any exposed live parts and use care not to allow your clothing to be caught in the moving parts. Never leave a product in this condition unattended.
- Never place disassembled parts or a container of liquid on the product. Parts falling into, or the liquid spilling inside, the mechanism could result in an electric shock or fire.
- Never use a flammable spray near the product. This could result in a fire.
- Make sure the power cord is unplugged before removing or installing circuit boards or plugging in or unplugging connectors.
- Always use the interlock switch actuating jig to actuate an interlock switch when a cover is opened or removed. The use of folded paper or some other object may damage the interlock switch mechanism, possibly resulting in an electric shock, injury or blindness.

3. Precautions for the Working Environment.

- The product must be placed on a flat, level surface that is stable and secure.
- Never place this product or its parts on an unsteady or tilting workbench when servicing.
- Provide good ventilation at regular intervals if a service job must be done in a confined space for a long period of time.
- Avoid dusty locations and places exposed to oil or steam.
- Avoid working positions that may block the ventilation ports of the product.

4. Precautions for Handling Batteries. (Lithium, Nickel-Cadmium, etc.)

- Replace a rundown battery with the same type as specified in the manufacturer's parts manual.
- Before installing a new battery, make sure of the correct polarity of the installation or the battery could burst.
- Dispose of used batteries according to the local regulations. Never dispose of them at the user's premises or attempt to try to discharge one.

5. Precautions for the Laser Beam. (Only for Products Employing a Laser)

- Removing the cover marked with the caution label could lead to possible exposure to the laser beam, resulting in eye damage or blindness. Be sure to unplug the power cord before removing this cover.
- If removing this cover while the power is ON is unavoidable, be sure to wear protective laser goggles that meet specifications.
- Make sure that no one enters the room when the machine is in this condition.
- When handling the laser unit, observe the "Precautions for Handling Laser Equipment."

6. Precautions for storing the toner or imaging cartridge.

- Be sure to keep the toner or imaging cartridge out of the reach of children. Licking the imaging cartridge or ingesting its contents is harmful to your health.

1-3. Used Batteries Precautions

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.

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.

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.

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.

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.

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.

1-4. Other Precautions

- When handling circuit boards, observe the “HANDLING of PWBs”.
- The PC Drum is a very delicate component. Observe the precautions given in “HANDLING OF THE PC DRUM” because mishandling may result in serious image problems.
- Note that replacement of a circuit board may call for readjustments or resetting of particular items, or software installation.

1-5. Precautions for Service

- When performing inspection and service procedures, observe the following precautions to prevent mishandling of the machine and its parts.

✻ Depending on the model, some of the precautions given in the following do not apply.

1. Precautions Before Service

- When the user is using a word processor or personal computer from a wall outlet of the same line, take necessary steps to prevent the circuit breaker from opening due to overloads.
- Never disturb the LAN by breaking or making a network connection, altering termination, installing or removing networking hardware or software, or shutting down networked devices without the knowledge and express permission of the network administrator or the shop supervisor.

2. How to Use this Book

DIS/REASSEMBLY, ADJUSTMENT

- To reassemble the product, reverse the order of disassembly unless otherwise specified.

TROUBLESHOOTING

- If a component on a PWB or any other functional unit including a motor is defective, the text only instructs you to replace the whole PWB or functional unit and does not give troubleshooting procedures applicable within the defective unit.
- All troubleshooting procedures contained herein assume that there are no breaks in the harnesses and cords and all connectors are plugged into the right positions.
- The procedures preclude possible malfunctions due to noise and other external causes.

3. Precautions for Service

- Keep all disassembled parts in good order and keep tools under control so that none will be lost or damaged.
- After completing a service job, perform a safety check. Make sure that all parts, wiring and screws are returned to their original positions.
- Do not pull out the toner hopper while the toner bottle is turning. This could result in a damaged motor or locking mechanism.
- If the product is to be run with the front door open, make sure that the toner hopper is in the locked position.
- Do not use an air gun or vacuum cleaner for cleaning the ATDC Sensor and other sensors, as they can cause electrostatic destruction. Use a blower brush and cloth. If a unit containing these sensors is to be cleaned, first remove the sensors from the unit.

4. Precautions for Dis/Reassembly

- Be sure to unplug the copier from the outlet before attempting to service the copier.
- The basic rule is not to operate the copier anytime during disassembly. If it is absolutely necessary to run the copier with its covers removed, use care not to allow your clothing to be caught in revolving parts such as the timing belt and gears.
- Before attempting to replace parts and unplug connectors, make sure that the power cord of the copier has been unplugged from the wall outlet.
- Be sure to use the Interlock Switch Actuating Jig whenever it is necessary to actuate the Interlock Switch with the covers left open or removed.
- While the product is energized, do not unplug or plug connectors into the circuit boards or harnesses.
- Never use flammable sprays near the copier.
- A used battery should be disposed of according to the local regulations and never be discarded casually or left unattended at the user's premises.
- When reassembling parts, make sure that the correct screws (size, type) and toothed washer are used in the correct places.

5. Precautions for Circuit Inspection

- Never create a closed circuit across connector pins except those specified in the text and on the printed circuit.
- When creating a closed circuit and measuring a voltage across connector pins specified in the text, be sure to use the GND wire.

6. Handling of PWBs

During Transportation/Storage

- During transportation or when in storage, new P.W. Boards must not be indiscriminately removed from their protective conductive bags.
- Do not store or place P.W. Boards in a location exposed to direct sunlight and high temperature.
- When it becomes absolutely necessary to remove a Board from its conductive bag or case, always place it on its conductive mat in an area as free as possible from static electricity.
- Do not touch the pins of the ICs with your bare hands.
- Protect the PWBs from any external force so that they are not bent or damaged.

During Inspection/Replacement

- Avoid checking the IC directly with a multimeter; use connectors on the Board.
- Never create a closed circuit across IC pins with a metal tool.
- Before unplugging connectors from the P.W. Boards, make sure that the power cord has been unplugged from the outlet.
- When removing a Board from its conductive bag or conductive case, do not touch the pins of the ICs or the printed pattern. Place it in position by holding only the edges of the Board.
- When touching the PWB, wear a wrist strap and connect its cord to a securely grounded place whenever possible. If you cannot wear a wrist strap, touch a metal part to discharge static electricity before touching the PWB.
- Note that replacement of a PWB may call for readjustments or resetting of particular items.

7. Handling of Other Parts

- The magnet roller generates a strong magnetic field. Do not bring it near a watch, floppy disk, magnetic card, or CRT tube.

8. Handling of the PC Drum

✻ Only for Products Not Employing an Imaging Cartridge.

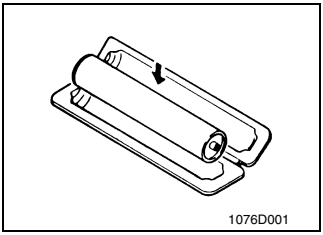
During Transportation/Storage

- Use the specified carton whenever moving or storing the PC Drum.
- The storage temperature is in the range between –20°C and +40°C.
- In summer, avoid leaving the PC Drum in a car for a long time.

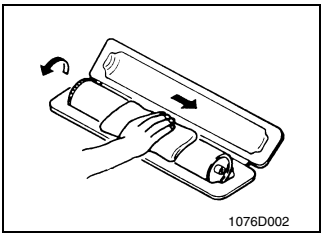
Handling

- Ensure that the correct PC Drum is used.
- Whenever the PC Drum has been removed from the copier, store it in its carton or protect it with a Drum Cloth.
- The PC Drum exhibits greatest light fatigue after being exposed to strong light over an extended period of time. Never, therefore, expose it to direct sunlight.
- Use care not to contaminate the surface of the PC Drum with oil-base solvent, fingerprints, and other foreign matter.
- Do not scratch the surface of the PC Drum.
- Do not apply chemicals to the surface of the PC Drum.
- Do not attempt to wipe clean the surface of the PC Drum.

If, however, the surface is contaminated with fingerprints, clean it using the following procedure.



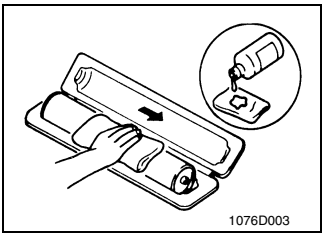
A. Place the PC Drum into one half of its carton.



B. Gently wipe the residual toner off the surface of the PC Drum with a dry, Dust-Free Cotton Pad.

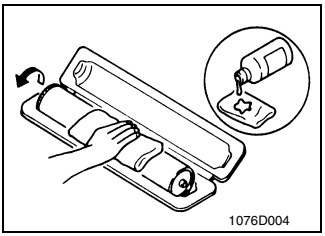
- Turn the PC Drum so that the area of its surface on which the line of toner left by the Cleaning Blade is present is facing straight up. Wipe the surface in one continuous movement from the rear edge of the PC Drum to the front edge and off the surface of the PC Drum.
- Turn the PC Drum slightly and wipe the newly exposed surface area with a CLEAN face of the Dust-Free Cotton Pad. Repeat this procedure until the entire surface of the PC Drum has been thoroughly cleaned.

✻ At this time, always use a CLEAN face of the dry Dust-Free Cotton Pad until no toner is evident on the face of the Pad after wiping.



C. Soak a small amount of either ethyl alcohol or isopropyl alcohol into a clean, unused Dust-Free Cotton Pad which has been folded over into quarters. Now, wipe the surface of the PC Drum in one continuous movement from its rear edge to its front edge and off its surface one to two times.

✻ Never move the Pad back and forth.



D. Using the SAME face of the Pad, repeat the procedure explained in the latter half of step 3 until the entire surface of the PC Drum has been wiped. Always OVERLAP the areas when wiping. Two complete turns of the PC Drum would be appropriate for cleaning.

NOTES

- *Even when the PC Drum is only locally dirtied, wipe the entire surface.*
- *Do not expose the PC Drum to direct sunlight. Clean it as quickly as possible even under interior illumination.*
- *If dirt remains after cleaning, repeat the entire procedure from the beginning one more time.*

9. Handling of the Imaging Cartridge and Print Unit

✻ Only for Products Employing an Imaging Cartridge and Print Unit.

During Transportation/Storage

- The storage temperature is in the range between –20 °C and +40 °C.
- In summer, avoid leaving the Imaging Cartridge and Print Unit in a car for a long time.

Handling

- Store the Imaging Cartridge and Print Unit in a place that is not exposed to direct sunlight.

Precautionary Information on the PC Drum Inside the Imaging Cartridge and Print Unit.

- Use care not to contaminate the surface of the PC Drum with oil-base solvent, fingerprints, and other foreign matter.
- Do not scratch the surface of the PC Drum.
- Do not attempt to wipe clean the surface of the PC Drum.

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GENERAL

1. Specifications

Type	:	Desktop/Console (dedicated cabinet or dedicated table)
Original Scanning System	:	Scanning in main scanning direction with a reduction type color CCD
Photoconductor	:	OPC (organic photoconductor)
Copying System	:	Electrostatic dry powdered image transfer to plain paper with a laser
Resolution	:	600x600 dpi
Paper Take-Up System	:	2Way
		Manual bypass tray. . . . . .150 sheets
		1st drawer . . . . . .500 sheets
	:	2nd drawer . . . . . .500 sheets
Exposure System	:	Mirror scanning slit exposure system
Developing System	:	MT-HGsystem
Charging System	:	Comb electrode with scorotron system
Image Transfer System	:	Roller image transfer
Paper Separator System	:	Paper separator fingers and charge neutralizing
Fusing System	:	Heat roller
Paper Discharging System	:	Charge neutralizing brush
Original Size		A3 or 11 x 17

Copy medium

Paper Source		1st Drawer 2nd Drawer	Manual Bypass Tray
Copy paper type	Plain paper (56 to 90 g/m^2)	❍	❍
	Transparencies	-	❍
	Special (91 to 210 g/m^2)	-	❍
	Postcards (190 g/m^2)	-	❍
	Recycled	❍	❍
	Label	-	❍
	Envelope	-	❍
Copy paper dimensions	Max. (width x length)	297 x 420 mm 11-3/4 x 16-1/2	297 x 432 mm 11-3/4 x 17
	Min. (width x length)	148 x 210 mm 5-3/4 x 8-1/4	90 x 140 mm 3-1/2 x 5-1/2

❍: Reliably fed - : Feeding prohibited

Multiple Copies	:	1 to 999 sheets (Di3510)
		1 to 99 sheets (Di2510/Di3010)
Warming-Up Time	:	17 sec. or less
First Copy Time	:	4.8 sec. or less (Di3510)
		5.3 sec. or less (Di2510/Di3010)

Continuous Copy Speed (copies/min)

Size	Di3510	Di3010	Di2510
A4C/Letter C	35	30	25

Zoom Ratios

Fixed Ratio	Full size	x 1.000
	Reduction	x 0.866, x 0.816, x 0.707, x 0.500
	Enlargement	x 1.154, x 1.224, x 1.414, x 2.000
Variable	25% to 400% (0.1% increments)	

Lens : Through lens (F = 5.0, f = 43.72 nm)
Source of Light : Noble gas fluorescent lamp

Power/Current Consumption : 1340 W ± 10 % (120-127 V area)
1365 W ± 10 % (220-240 V area)
Power Requirements : 110 V, 120 V, 127 V, 220 to 240 V: 50/60 Hz

Operating Environment

Temperature	10 to 32 °C (with a fluctuation of 10 °C or less per hour)
Humidity	15 to 85 % (with a fluctuation of 20 % or less)
Ambient Illumination	3000 1x or less
Levelness	1 °C (1.75/100 or less)

Machine Dimensions : 677(W) x 718(H) x 710(D)
26-3/4 x 28-1/4 x 28
Machine Weight : 74 Kg (163-1/4 lb) *1

*1: Duplex Unit, Switch Back Unit, and Imaging Unit included

2. PRECAUTIONS FOR INSTALLATION

2-1. Installation Site

To ensure safety and utmost performance of the copier, the copier should NOT be used in a place:

- Where it will be subjected to extremely high or low temperature or humidity.
- Where it will be subjected to sudden fluctuations in either temperature or humidity.
- Is subject to direct sunlight.
- Which is in the direct air stream of an air conditioner, heater, or ventilator.
- Which has poor ventilation or is dusty.
- Which does not have a stable, level floor or where it will receive undue vibration.
- Which is near any kind of heating device.
- Which is near volatile flammables (thinner, gasoline, etc.).
- Where it may be splashed with water.
- Which puts the operator in the direct stream of exhaust from the copier.
- Where ammonia gas might be generated.

2-2. Power Source

- If any other electrical equipment is sourced from the same power outlet, make sure that the capacity of the outlet is not exceeded.
- Use a power source with little voltage fluctuation.
- Never connect by means of a multiple socket any other appliances or machines to the outlet being used for the copier.
- Ensure that the copier does not ride on the power cord or communication cable of other electrical equipment, and that it does not become wedged into or underneath the mechanism.
- Make the following checks at frequent intervals:

✻ Is the power plug abnormally hot?
✻ Are there any cracks or scrapes in the cord?
✻ Has the power plug been inserted fully into the outlet?
✻ Does something, including the copier itself, ride on the power cord?

Use an outlet with a capacity of 110/120/127 V, 15 A or more. 220/240 V, 10 A or more.

2-3. Grounding

- Always ground the copier to prevent receiving electrical shocks in the case of electrical leakage.
- Connect the ground wire to the ground terminal of the outlet or a grounding contact which complies with the local electrical standards.
- Never connect the ground wire to a gas pipe, the ground wire for a telephone, lightning arrester, or a water pipe for fear of fire and electrical shock.

3. PRECAUTIONS FOR USE

3-1. To ensure that the copier is used in an optimum condition

- Never place a heavy object on the copier or subject the copier to shocks.
- Insert the power plug all the way into the outlet.
- Do not attempt to remove any panel or cover which is secured while the copier is making copies.
- Do not turn OFF the copier while it is making copies.
- Provide good ventilation when making a large number of copies continuously.
- Never use flammable sprays near the copier.
- If the copier becomes inordinately hot or produces abnormal noise, turn it OFF and unplug it.
- Do not turn ON the power switch at the same time when you plug the power cord into the outlet.
- When unplugging the power cord, do not pull on the cord; hold the plug and pull it out.
- Do not bring any magnetized object near the copier.
- Do not place a vase or vessel containing water on the copier.
- Be sure to turn OFF the power switch at the end of the workday or upon power failure.
- Use care not to drop paper clips, staples, or other small pieces of metal into the copier.

3-2. Operating Environment

The operating environmental requirements of the copier are as follows.

- Temperature: 10 to 32 °C
- Humidity: 15 to 85 %RH
- Rate of temperature change: 10 °C/h
- Rate of humidity change: 20 % RH/h

3-3. Power Requirements

The power source voltage requirements are as follows.

- Voltage fluctuation AC 110, 120, 220, 240 V (copying performance assured)
  (120V areas only: between -10 % and +6 %)
  + 10 %
  – 15 % (paper feeding performance assured)
- Frequency fluctuation 50/60 Hz ± 0.3 %

3-4. CAUTION

- It is prohibited to copy paper and hard currencies, government securities, and municipal bonds.
  (even when they are stamped as “Sample”)
- For fear of infringement of copyright, it is also prohibited to copy copyrighted works, including books, music, works of art, maps, drawings, motion pictures, and photos except when the copy is to be used only personally.

4. Handling Consumables

Before using any consumables, always read the label on its container carefully.

- Paper can be easily damaged by dampness. To prevent absorption of moisture, store paper, which has been removed from its wrapper but not loaded in the drawer, in a sealed plastic bag in a cool, dark place.
- Keep consumables out of the reach of children.
- Do not touch the PC Drum with bare hands.
- The same sized paper is of two kinds, short grain and long grain. Short grain paper should only be fed through the copier crosswise, long grain paper should only be fed lengthwise. The packing material will be marked.
- If your hands become soiled with toner, wash them with soap and water.
- Do not throw away any used consumables (PC Drum, starter, toner, etc.). They are to be collected.
- Do not burn, bury in the ground, or throw into the water any consumables (PC Drum, starter, toner, etc.).
- Do not store consumables in a place which:

✻ Is hot and humid.

✻ Is subject to direct sunlight.

✻ Has an open flame nearby.

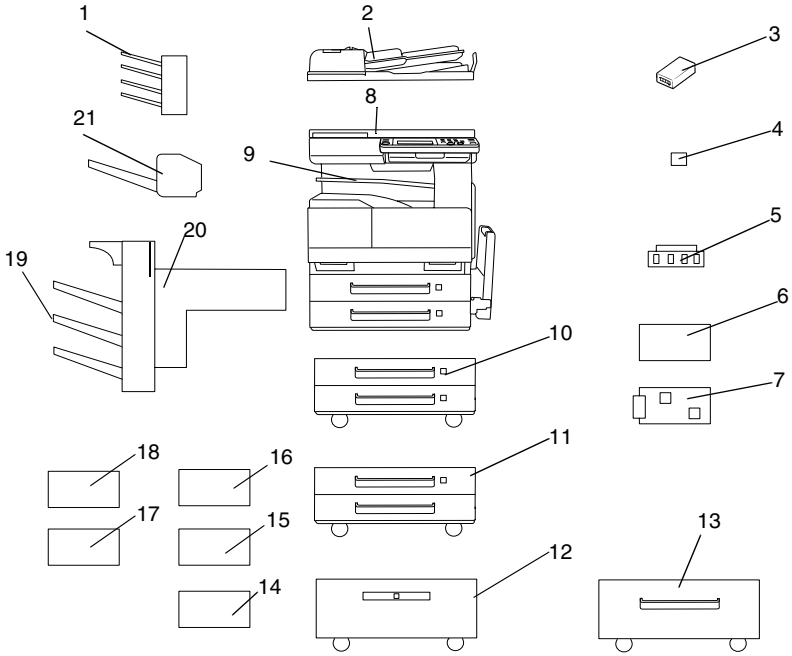
5. Other Precautions

Use the following precautions when performing service jobs for a copier that uses a laser.

- When a service job needs to be performed in the laser beam path, such as when working around the printer head or PC Drum, be sure first to unplug the power cord of the copier from the outlet.
- If the job requires that the power cord be left plugged in, observe the following precautions.

1. Take off your watch, ring and any other reflective object and wear laser protective goggles.
2. Keep users away from the job site.
3. Do not bring a highly reflective tool into the laser beam path during the service job.

6. SYSTEM OPTIONS



1. Mail Bin Kit (MK-1)
2. Duplexing Document Feeder (AFR-19)
3. Key Counter Kit 4
4. TX Marker STAMP UNIT 2
5. 32MB Memory/64MB Memory/128MB Memory
6. Hard Disk Drive Kit (HDD-6)
7. Data Terminal (DT-105)
8. Original Cover Kit (OC-6)
9. Job Separator (JS-203)
10. 2Way Paper Feed Cabinet (PF-210)
11. Paper Feed Cabinet (PF-124)
12. Large Capacity Cabinet (PF-122)
13. Copy Desk (CD-4M)
14. Network Scan Kit (SU-2)
15. Printer Controller (Pi3505e)
16. Printer Controller (Pi3505e/PS)
17. Internet Fax & Network Scan Kit (SU-3)
18. Network Interface Card (NC-4)
19. Additional Bin Kit (AK-1)
20. Built in Finisher (FN-117)
21. Saddle Kit (SK-1)

MAINTENANCE

1. Maintenance Schedule

- To ensure that the copier produces good copies and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instructed.

	PM Parts	Cycle (K=1,000)		Ref. Page
		Clean	Replace	
Paper Take-Up/Transport Section	Manual Bypass Paper Take-Up Roller	When paper take-up failure occurs	300	☞ E-4
	Manual Bypass Separator Roll Assy	When paper take-up failure occurs	300	☞ E-6
	1st Pickup Roller	When paper take-up failure occurs	300	☞ E-10
	1st Paper Take-Up Roller	When paper take-up failure occurs	300	☞ E-8
	1st Separator Roll Assy	When paper take-up failure occurs	300	☞ E-12
	2nd Pickup Roller	When paper take-up failure occurs	300	☞ E-18
	2nd Paper Take-up Roller	When paper take-up failure occurs	300	☞ E-15
	2nd Separator Roll Assy	When paper take-up failure occurs	300	☞ E-21
	Synchronizing Roller Bushing	—	900	☞ E-24
	Synchronizing Roller Gear	—	900	☞ E-24
	Paper Dust Removal Assy	When a problem occurs	150	☞ E-26
	Transport Roller	Upon each call	—	☞ E-26
Optical Section	Scanner rails/bushings	When image failure occurs	—	☞ E-27
	Mirrors and lens	When image failure occurs	—	☞ E-28
	Original Glass	When image failure occurs	—	☞ E-29
Image Transfer Section	Image Transfer Roller Unit	—	150	☞ E-30
	Ozone Filter	—	300	☞ E-29
	Charge Neutralizing Plate	When image transfer failure occurs	—	☞ E-29

	PM Parts		Cycle (K=1,000)		Ref. Page
			Clean	Replace	
Developing Section	PC Drum Unit	Di3510	—	100	☞ E-30
		Di3010	—	90	
		Di2510	—	80	
	Developer	Di3510	—	100	☞ E-31
		Di3010	—	90	
		Di2510	—	80	
	Developing Unit	Di3510	—	400	☞ E-34
		Di3010	—	360	
		Di2510	—	320	
	Ds Collar		When the Developer is replaced.	—	☞ E-35
Fusing Section	Fusing Unit		—	450	☞ E-38

CAUTIONS

- *Replace the Pickup Roller, Paper Take-Up Roller, and Separator Roll Assy at the same time.*
- *The numeric values in the Maintenance Cycle column represent the Life Counter values.*

1-1. Guidelines for Life-time Expected Values by Unit

	Description	Life Value	New Copy/Print Cycle Inhibited
Drum Unit	Convert the rotation speed of the PC Drum to the number of pages when A4C (Letter C) is printed using 4P/J.	100*1	No*2
Developer		100*1	None
Developing Unit	Drum Unit x 4 times	400*1	No*2
Fusing Unit	Count the number of times paper is fed out.	450*1	None

✻ 1: On the Di3510

✻ 2: Inhibit possible on the software SW in the Service Mode

CAUTION

✻ *The life specifications values represent the number of copies made or figures equivalent to it when given conditions (see the Table given below) are met. They can be more or less depending on the copier operating conditions of each individual user.*

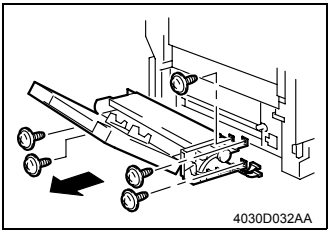
<Conditions for Life Specifications Values>

	Di3510	Di3010	Di2510
Job Type	4P/J	3P/J	
Paper Size	A4C		
Original Density	B/W ratio: 6 %		

2. Disassembly/Reassembly and Cleaning

(1) Cleaning of the Manual Bypass Paper Take-Up Roller

1. Remove the Rear Right Cover.
2. Remove the Lower Right Rear Cover.
3. Remove the Front Manual Bypass Cover.
4. Remove the Rear Manual Bypass Cover.

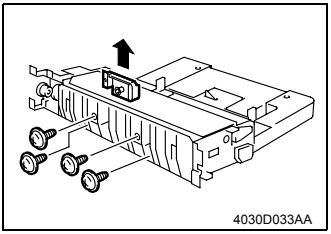


5. Remove five screws and unplug three connectors. Then, remove the Manual Bypass Unit.

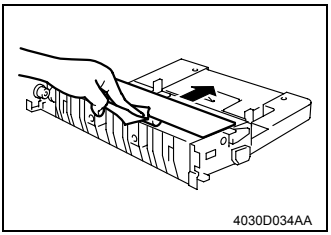
NOTE

- *When the Manual Bypass Unit has been mounted, be sure to perform the Manual Bypass Unit Installation Check procedures.*

☞ D-49



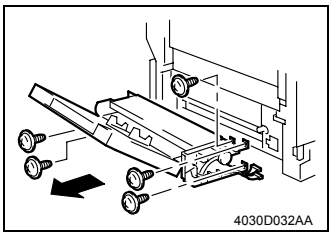
6. Remove two screws and the Manual Bypass Transport Cover.
7. Remove two screws and the Manual Bypass Separator Fixing Bracket Assy.



8. Using a soft cloth dampened with alcohol, wipe the Manual Bypass Paper Take-Up Roller clean of dirt.

(2) Replacement of the Manual Bypass Paper Take-Up Roller

1. Remove the Rear Right Cover.
2. Remove the Lower Right Rear Cover.
3. Remove the Front Manual Bypass Cover.
4. Remove the Rear Manual Bypass Cover.

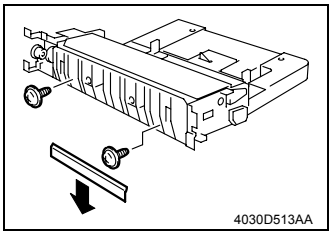


5. Remove five screws and unplug three connectors. Then, remove the Manual Bypass Unit.

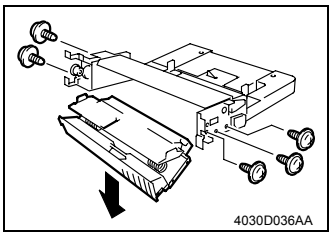
NOTE

- *When the Manual Bypass Unit has been mounted, be sure to perform the Manual Bypass Unit Installation Check procedures.*

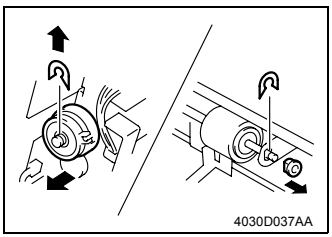
☞ D-49



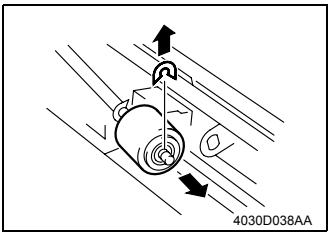
6. Remove the wiring from the cord holder.
7. Remove two screws and the frame.



8. Remove five screws and the Manual Bypass Unit Lower Frame.



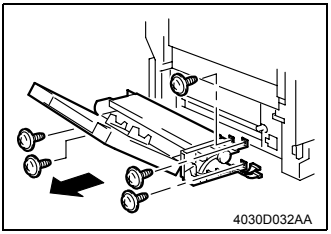
9. Remove one C clip and the Manual Bypass Paper Take-Up Clutch.
10. Snap off one C-clip of the Paper Take-Up Roll and one bushing.



11. Remove one C clips and the Manual Bypass Paper Take-Up Roller.
12. To reinstall, reverse the order of removal.
13. Select Tech. Rep. Mode → Counter → PM → Bypass and clear the counter.

(3) Cleaning of the Manual Bypass Separator Roll Assy

1. Remove the Rear Right Cover.
2. Remove the Lower Right Rear Cover.
3. Remove the Front Manual Bypass Cover.
4. Remove the Rear Manual Bypass Cover.

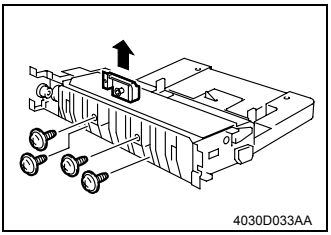


5. Remove five screws and unplug three connectors. Then, remove the Manual Bypass Unit.

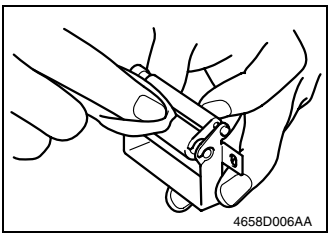
NOTE

- *When the Manual Bypass Unit has been mounted, be sure to perform the Manual Bypass Unit Installation Check procedures.*

☞ D-49



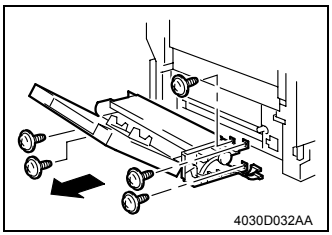
6. Remove two screws and the Manual Bypass Transport Cover.
7. Remove two screws and the Manual Bypass Separator Fixing Bracket Assy.



8. Using a soft cloth dampened with alcohol, wipe the Manual Bypass Separator Roll clean of dirt.

(4) Replacement of the Manual Bypass Separator Roll Assy

1. Remove the Rear Right Cover.
2. Remove the Lower Right Rear Cover.
3. Remove the Front Manual Bypass Cover.
4. Remove the Rear Manual Bypass Cover.

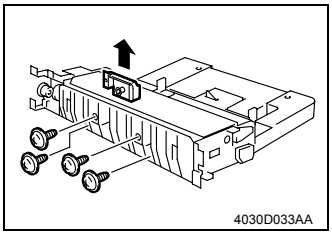


5. Remove five screws and unplug three connectors. Then, remove the Manual Bypass Unit.

NOTE

- *When the Manual Bypass Unit has been mounted, be sure to perform the Manual Bypass Unit Installation Check procedures.*

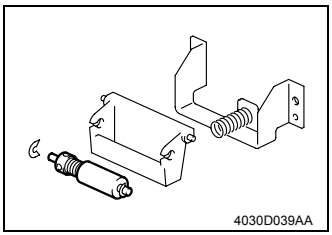
☞ D-49



6. Remove two screws and the Manual Bypass Transport Cover.
7. Remove two screws and the Manual Bypass Separator Fixing Bracket Assy.

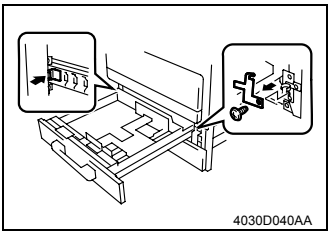
CAUTION

- *Install the Manual Bypass Separator Fixing Bracket while pressing down so that it coheres to the metal bracket of the copier.*

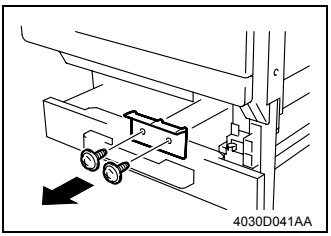


8. Remove the C clip, spring, and guide plate. Then, remove the Separator Roll Assy.
9. To reinstall, reverse the order of removal.
10. Select Tech. Rep. Mode → Counter → PM → Bypass and clear the counter.

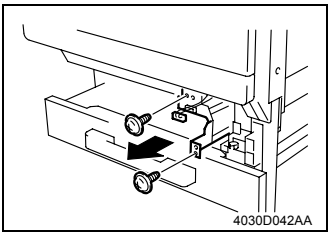
(5) Cleaning of the 1st Pickup Roller



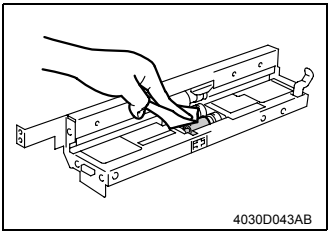
1. Remove the 1st Drawer.



2. Remove two screws and the connector cover.

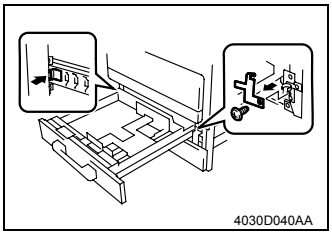


3. Remove the connector.
4. Remove two screws and the 1st Paper Take-up Roller.

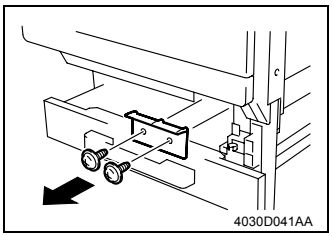


5. Using a soft cloth dampened with alcohol, wipe the 1st Pickup Roller clean of dirt.

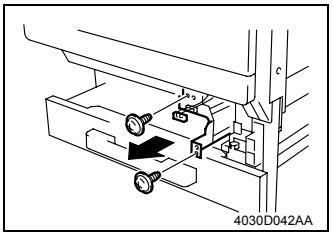
(6) Replacement of the 1st Pickup Roller



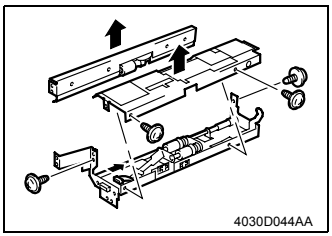
1. Remove the 1st Drawer.



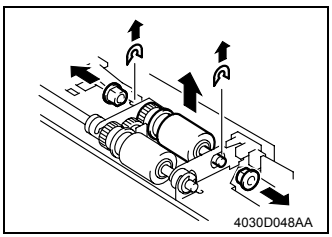
2. Remove two screws and the connector cover.



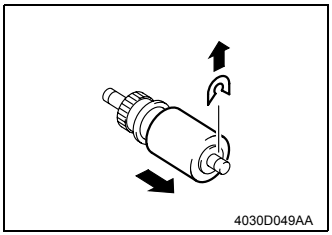
3. Remove the connector.
4. Remove two screws and the 1st Paper Take-up Roller.



5. Remove four screws and the 1st Paper Take-up Roller Assy Cover and the 1st Separator Roll Assy.

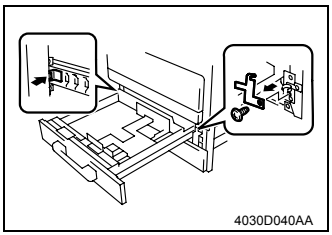


6. Remove two C clips and two bushings. Then, remove the Pickup Roller Assy.

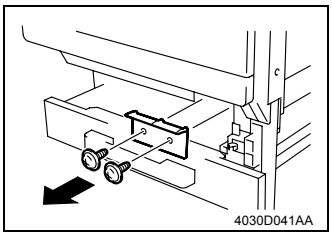


7. Remove one C clip and the 1st Pickup Roller.
8. To reinstall, reverse the order of removal.
9. Select Tech. Rep. Mode → Counter → PM → 1st Drawer and clear the counter.

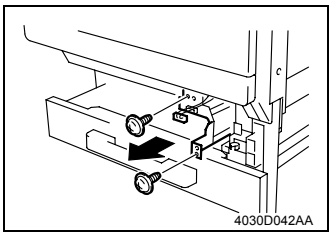
(7) Cleaning of the 1st Paper Take-Up Roller



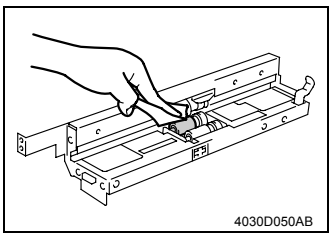
1. Remove the 1st Drawer.



2. Remove two screws and the connector cover.

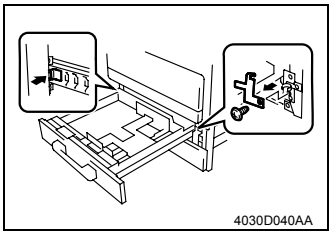


3. Remove the connector.
4. Remove two screws and the 1st Paper Take-up Roller.

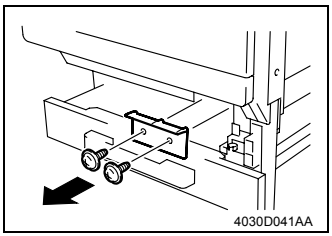


5. Using a soft cloth dampened with alcohol, wipe the 1st Paper Take-Up Roller clean of dirt.

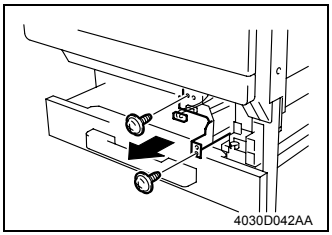
(8) Replacement of the 1st Paper Take-Up Roller



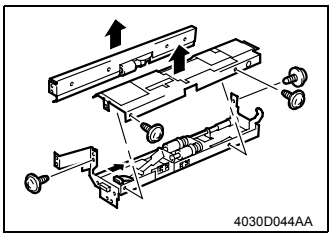
1. Remove the 1st Drawer.



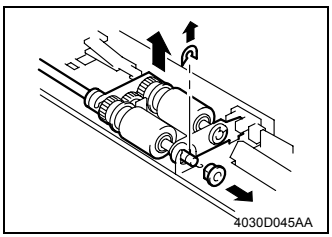
2. Remove two screws and the connector cover.



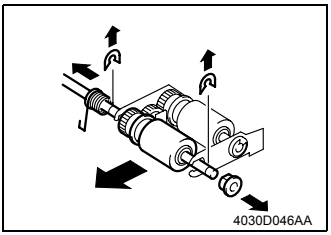
3. Remove the connector.
4. Remove two screws and the 1st Paper Take-up Roller.



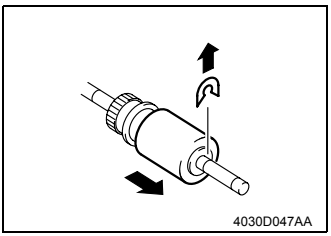
5. Remove four screws and the 1st Paper Take-up Roller Assy Cover and the 1st Separator Roll Assy.



6. Remove one C-clip and one bushing.

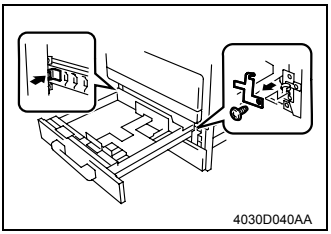


7. Remove two C rings, one bushing, and one spring. Then, remove the 1st Paper Take-Up Roller Assy.

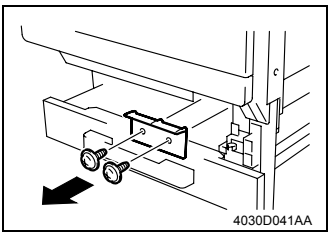


8. Remove one C clip and the 1st Paper Take-Up Roller.
9. To reinstall, reverse the order of removal.
10. Select Tech. Rep. Mode → Counter → PM → 1st Drawer and clear the counter.

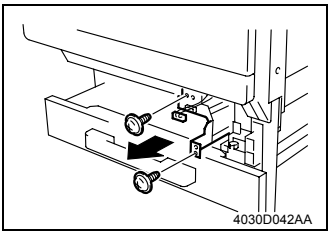
(9) Cleaning of the 1st Separator Roll



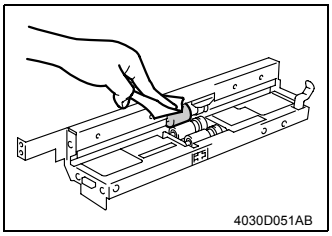
1. Remove the 1st Drawer.



2. Remove two screws and the connector cover.

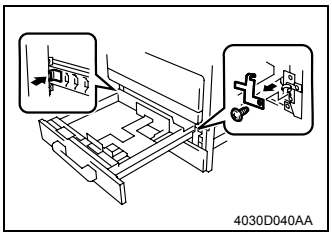


3. Remove the connector.
4. Remove two screws and the 1st Paper Take-up Roller Assy.

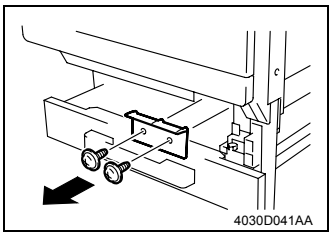


5. Using a soft cloth dampened with alcohol, wipe the 1st Separator Roll clean of dirt.

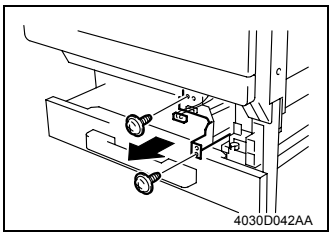
(10) Replacement of the 1st Separator Roll Assy



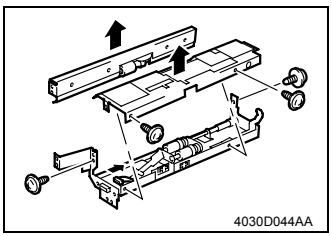
1. Remove the 1st Drawer.



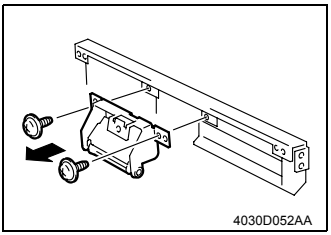
2. Remove two screws and the connector cover.



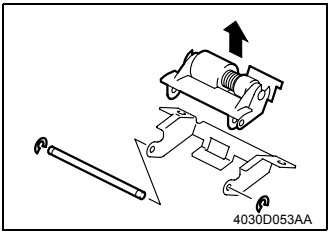
3. Remove the connector.
4. Remove two screws and the 1st Paper Take-up Roller Assy.



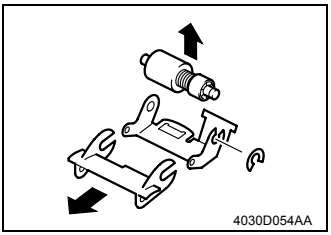
5. Remove four screws and the 1st Paper Take-up Roller Assy Cover and the 1st Separator Roll Assy.



6. Remove two screws and the 1st Separator Roll Mounting Bracket Assy.



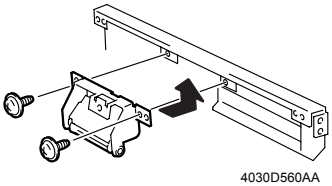
7. Remove two E rings and the 1st Separator Roll Mounting Bracket.



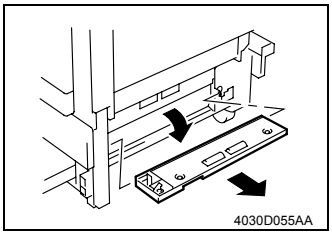
8. Remove one C clip and the 1st Separator Roll Assy.
9. To reinstall, reverse the order of removal.
10. Select Tech. Rep. Mode → Counter → PM → 1st Drawer and clear the counter.

Precaution for Reinstallation of the Separator Roll Assy

- *Install the 1st Separator Roll Mounting Bracket Assy while pressing the holder up so that it coheres to the metal bracket of the copier.*



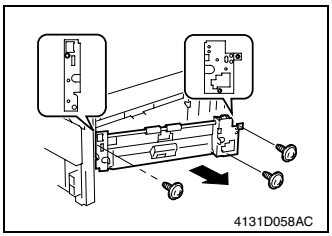
(11) Cleaning of the 2nd Pickup Roller



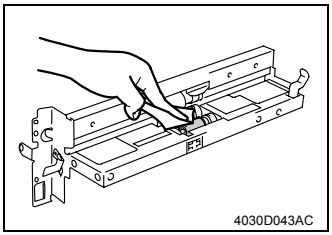
1. Slide out the 2nd Drawer.
2. Remove the Manual Bypass Unit.

☞ E-4

3. Remove the Lower Right Cover.



4. Unplug three connectors.
5. Remove three screws and the 2nd Paper Take-up Roller Assy.

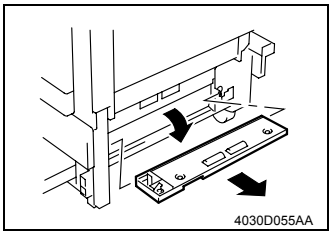


6. Using a soft cloth dampened with alcohol, wipe the 2nd Pickup Roller clean of dirt.

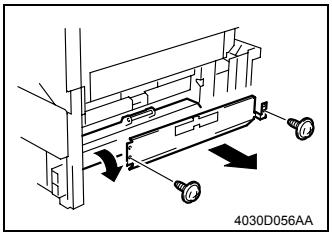
(12) Replacing of the 2nd Pickup Roller

1. Remove the Manual Bypass Unit.

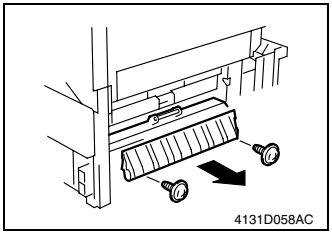
☞ E-4



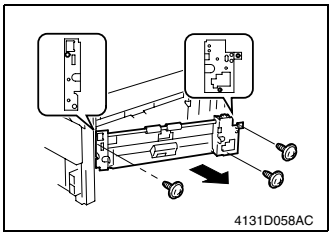
2. Slide out the 2nd Drawer.
3. Unhook two tabs and remove the Lower Right Door.



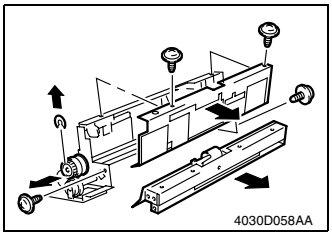
4. Remove two screws and the Transport Roller Cover.



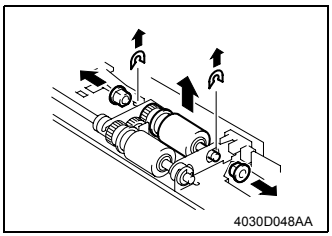
5. Remove two screws and the Misfeed Clearing Cover.



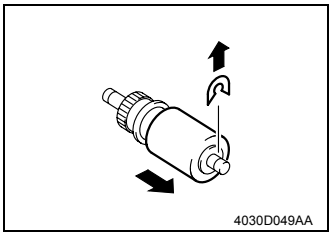
6. Unplug three connectors.
7. Remove three screws and the 2nd Paper Take-up Roller Assy.



8. Remove four screws and one C clip. Then, remove the 2nd Paper Take-Up Roller Cover, the 2nd Separator Roll Assy, and the 2nd Paper Take-Up Roller Clutch.

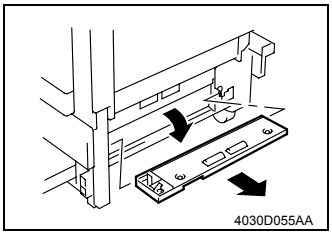


9. Remove two C clips and two bushings. Then, remove the 2nd Pickup Roller Assy.



10. Remove one C clip and the 2nd Pickup Roller.
11. To reinstall, reverse the order of removal.
12. Select Tech. Rep. Mode → Counter → PM → 2nd Drawer and clear the counter.

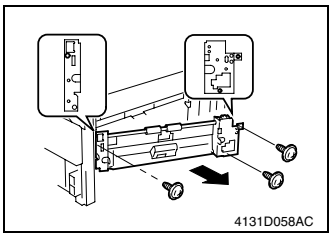
(13) Cleaning of the 2nd Paper Take-Up Roller



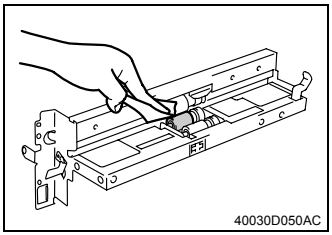
1. Slide out the 2nd Drawer.
2. Remove the Manual Bypass Unit.

☞ E-4

3. Remove the Lower Right Cover.



4. Unplug three connectors.
5. Remove three screws and the 2nd Paper Take-up Roller Assy.

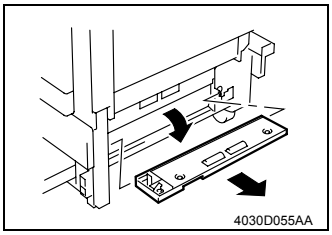


6. Using a soft cloth dampened with alcohol, wipe the 2nd Paper Take-Up Roller clean of dirt.

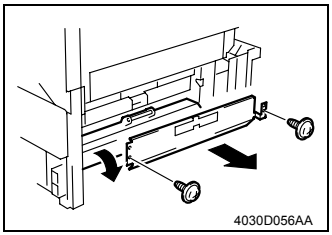
(14) Replacement of the 2nd Paper Take-Up Roller

1. Remove the Manual Bypass Unit.

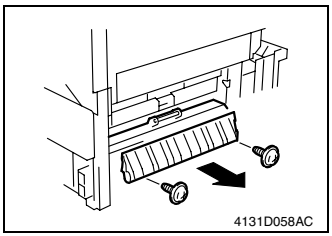
☞ E-4



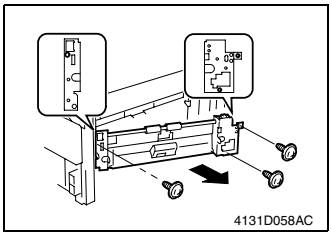
2. Slide out the 2nd Drawer.
3. Unhook two tabs and remove the Lower Right Door.



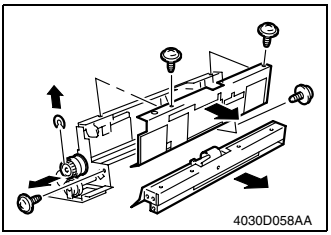
4. Remove two screws and the Transport Roller Cover.



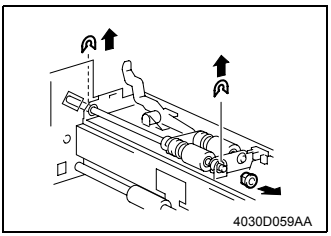
5. Remove two screws and the Misfeed Clearing Cover.



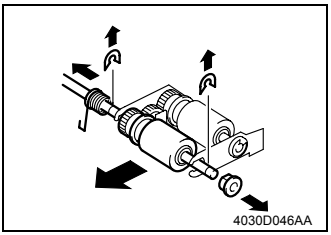
6. Unplug three connectors.
7. Remove three screws and the 2nd Paper Take-up Roller Assy.



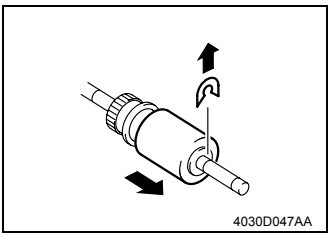
8. Remove four screws and one C clip. Then, remove the 2nd Paper Take-Up Roller Cover, the 2nd Separator Roll Assy, and the 2nd Paper Take-Up Roller Clutch.



9. Remove two C-clips and one bushing.



10. Remove two C clips and one bushing. Then, remove the 2nd Paper Take-Up Roller Assy.

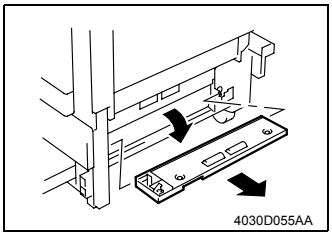


11. Remove one C clip and the 2nd Paper Take-up Roller Assy.
12. To reinstall, reverse the order of removal.
13. Select Tech. Rep. Mode → Counter → PM → 2nd Drawer and clear the counter.

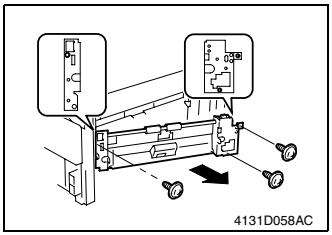
(15) Cleaning of the 2nd Separator Roll

1. Remove the Manual Bypass Unit.

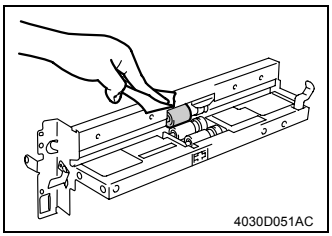
☞ E-4



2. Slide out the 2nd Drawer.
3. Unhook two tabs and remove the Lower Right Door.



4. Unplug three connectors.
5. Remove three screws and the 2nd Paper Take-up Roller Assy.

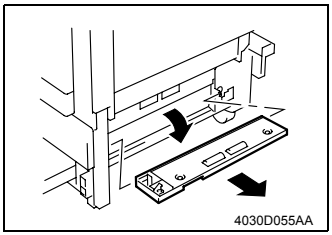


6. Using a soft cloth dampened with alcohol, wipe the 2nd Separator Roll clean of dirt.

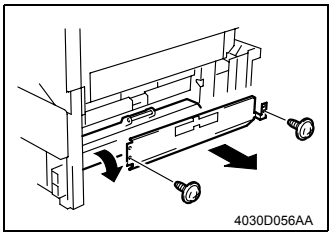
(16) Replacement of the 2nd Separator Roll Assy

1. Remove the Manual Bypass Unit.

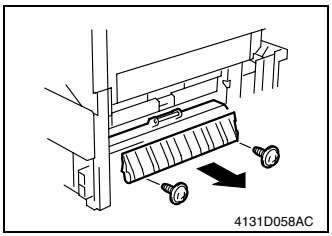
☞ E-4



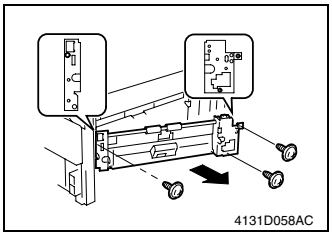
2. Slide out the 2nd Drawer.
3. Unhook two tabs and remove the Lower Right Door.



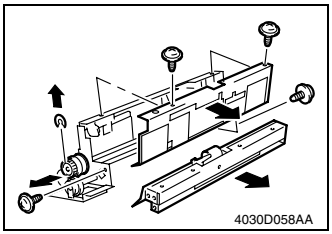
4. Remove two screws and the Transport Roller Cover.



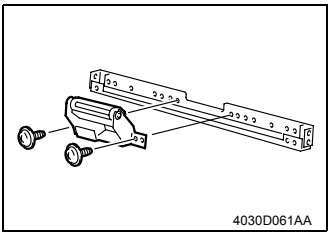
5. Remove two screws and the Misfeed Clearing Cover.



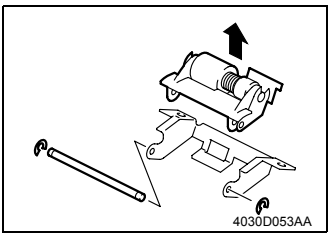
6. Unplug three connectors.
7. Remove three screws and the 2nd Paper Take-up Roller Assy.



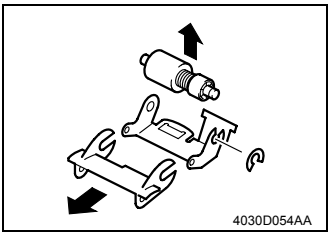
8. Remove four screws and one C clip. Then, remove the 2nd Paper Take-Up Roller Cover, the 2nd Separator Roll Assy, and the 2nd Paper Take-Up Roller Clutch.



9. Remove two screws and the 2nd Separator Roll Mounting Bracket Assy.



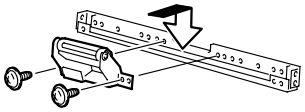
10. Remove two E rings and the 2nd Separator Roll Mounting Bracket.



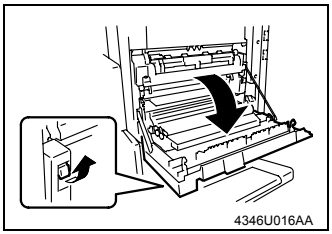
11. Remove one C clip and the 2nd Separator Roll Assy.
12. To reinstall, reverse the order of removal.
13. Select Tech. Rep. Mode → Counter → PM → 2nd Drawer and clear the counter.

Precaution for Reinstallation of the Separator Roll Assy

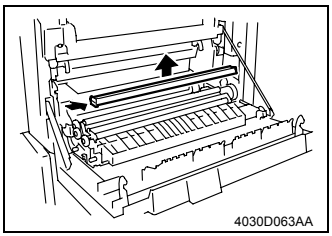
- *Install the 2nd Separator Roll Mounting Bracket Assy while pressing the holder down so that it coheres to the metal bracket of the copier.*



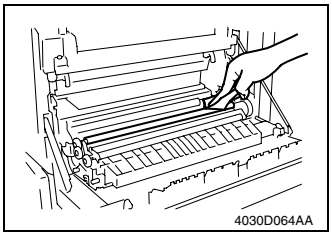
(17) Cleaning of the Synchronizing Rollers



1. Open the Right Door.

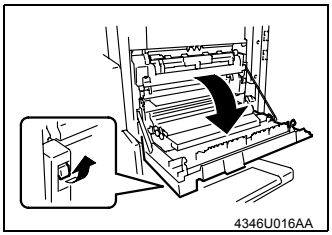


2. Open the Right Door.
3. Remove the Paper Dust Removal Assy.

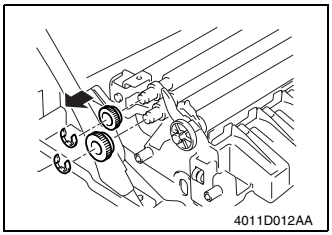


4. Using a soft cloth dampened with alcohol, wipe the Synchronizing Rollers clean of dirt.

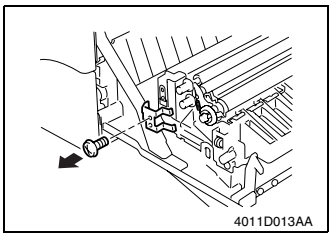
(18) Replacement of the Synchronizing Roller Bushings and Synchronizing Roller Gears



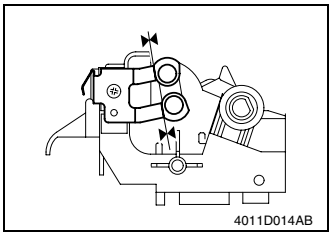
1. Open the Right Door.



2. Remove two E rings and two Synchronizing Roller Gears.

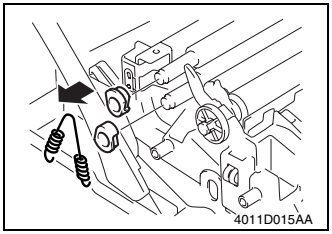


3. Remove one screw and the ground plate.



CAUTION

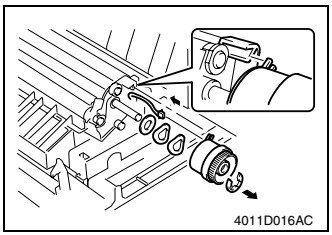
- *When reinstalling the ground plate, make sure that the ground plate is in contact with the side faces of the bushings.*



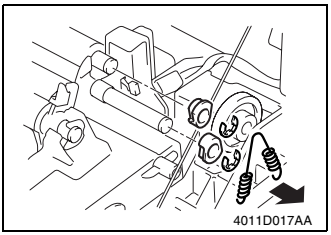
4. Remove one spring and two Synchronizing Roller Bushings.

CAUTION

- *When reinstalling the bushings, make sure that the flanges of the bushings are on the outside.*



5. Remove one E ring and unplug one connector. Then, remove the Synchronizing Roller Clutch.
6. Remove one washer and two wave washers.

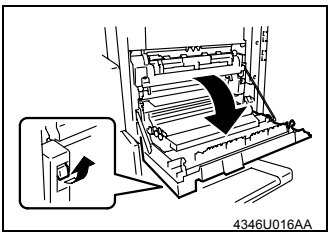


7. Remove one spring, two E rings, and two Synchronizing Roller Gears.

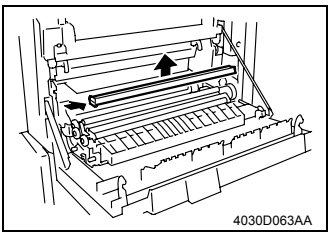
CAUTION

- *When reinstalling the bushings, make sure that the flanges of the bushings are on the outside.*

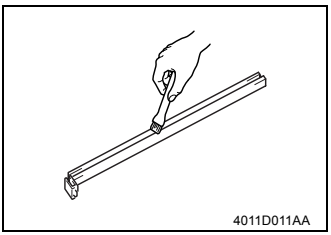
(19) Cleaning of the Paper Dust Remover Assy



1. Open the Right Door.

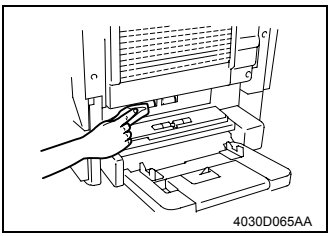


2. Remove the Paper Dust Removal Assy.



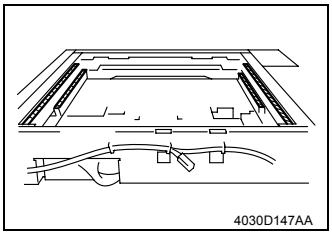
3. Using a brush, whisk dust and dirt off the Paper Dust Remover Assy.

(20) Cleaning the Transport Roller



1. Open the Lower Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Transport Roller clean of dirt.

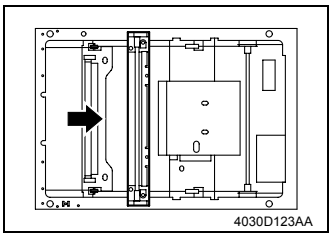
(21) Cleaning of the Scanner Rails



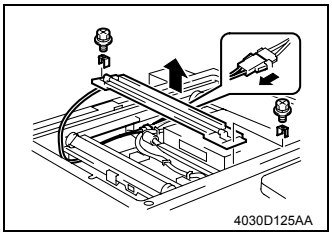
1. Remove the Original Scanning Glass.
2. Remove the Front Holding Bracket.
3. Remove two reinforcement plates.
4. Remove the Original Glass.
5. Using a soft cloth dampened with alcohol, wipe the Scanner Rails clean of dirt.

(22) Cleaning the Bushings

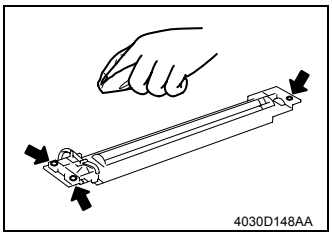
1. Remove the Original Scanning Glass.
2. Remove the Front Holding Bracket.
3. Remove two reinforcement plates.
4. Remove the Original Glass.



5. Move the Scanner Assy to the removal position.



6. Remove the wire from the Scanner Assy.
7. Unplug one connector and remove two screws and the Scanner Assy.



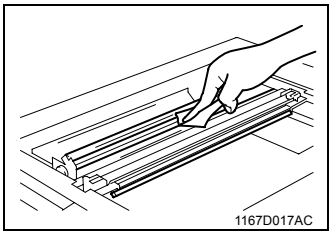
8. Using a soft cloth dampened with alcohol, wipe the Bushings clean of dirt.

CAUTION

- *When installing the Scanner Assy, be sure to perform scanner position adjustment.*

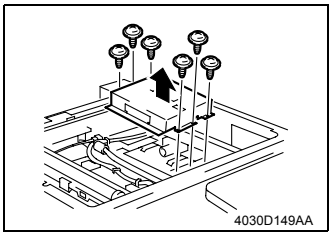
☞ D-50

(23) Cleaning of the Mirrors

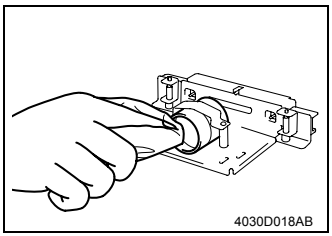


1. Remove the Original Scanning Glass.
2. Remove the Front Holding Bracket.
3. Remove two reinforcement plates.
4. Remove the Original Glass.
5. Using a soft cloth dampened with alcohol, wipe mirrors clean of dirt.

(24) Cleaning of the Lens

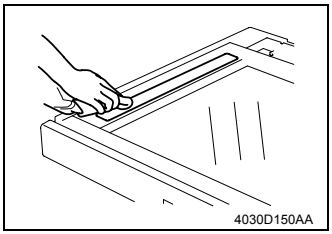


1. Remove the Original Scanning Glass.
2. Remove the Front Holding Bracket.
3. Remove two reinforcement plates.
4. Remove the Original Glass.
5. Remove six screws and the CCD Unit Cover.



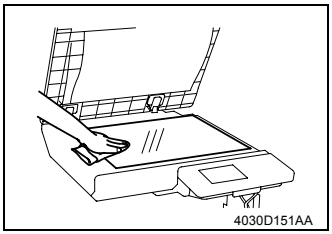
6. Using a soft cloth dampened with alcohol, wipe the Lens clean of dirt.

(25) Cleaning of the Original Scanning Glass



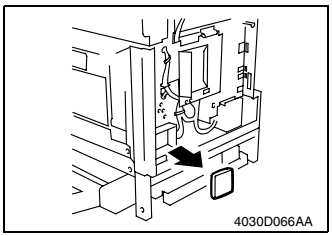
1. Using a soft cloth dampened with alcohol, wipe the Original Scanning Glass clean of dirt.

(26) Cleaning of the Original Glass



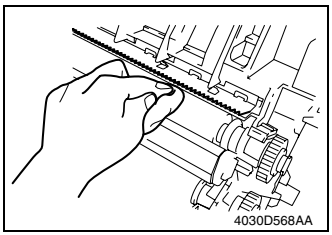
1. Using a soft cloth dampened with alcohol, wipe the Original Glass clean of dirt.

(27) Replacement of the Ozone Filter



1. Remove the IR Rear Cover.
2. Remove the Rear Cover.
3. Remove the Ozone Filter.

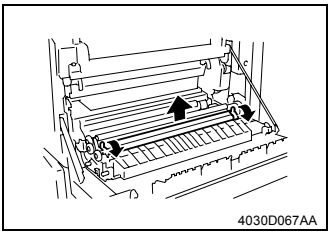
(28) Cleaning of the Charge Neutralizing Plate



1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Charge Neutralizing Plate.

3. Replacement of the Units

(1) Replacement of the Image Transfer Roller Unit



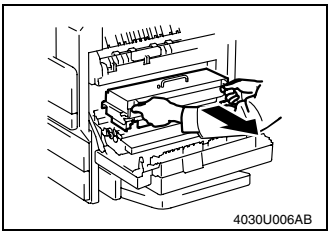
1. Open the Right Door.
2. Pull down the knobs forward and remove the Transfer Roller.

(2) Replacement of the PC Drum Unit

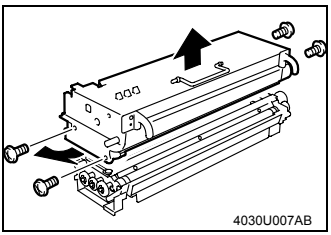
1. Select Tech. Rep. Mode → Counter → PM → PC Life.
2. Press the Clear key to clear the counter value.
3. Turn OFF the power.

CAUTIONS

- *Clear the PC counter before removing the IU.*
- *After clearing the PC counter, be sure to turn OFF the power.*



4. Open the Right Door.
5. Remove the IU.



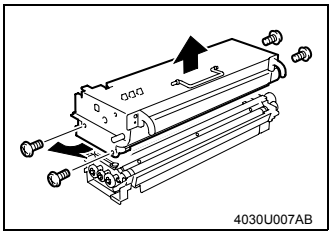
6. Remove the IU.
7. Remove four screws (silver) and disassemble the PC Drum Unit and the Developing Unit.
8. Replace the PC Drum Unit.
9. To reinstall, reverse the order of removal.

(3) Replacement of the Developer

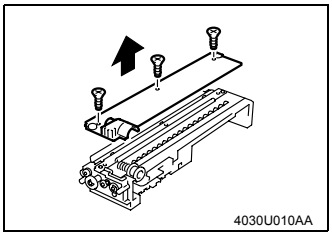
1. Select Tech. Rep. Mode → Counter → PM → PC Life.
2. Press the Clear key to clear the counter value.
3. Turn OFF the power.

CAUTIONS

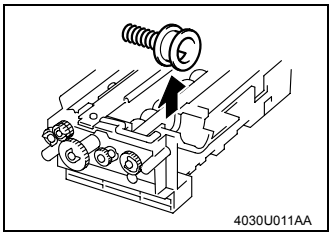
- *Clear the PC counter before removing the IU.*
- *After clearing the PC counter, be sure to turn OFF the power.*



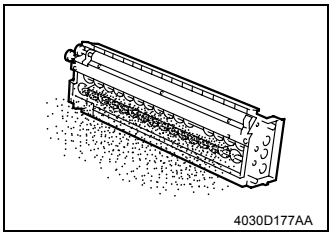
4. Remove the IU.
5. Remove four screws (silver) and disassemble the PC Drum Unit and the Developing Unit.



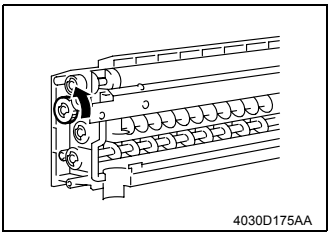
6. Remove three screws and the Developer Scattering Prevention Plate.



7. Remove the Toner Supply Port.

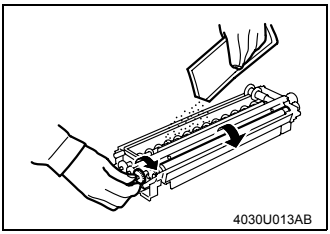


8. Remove the developer.

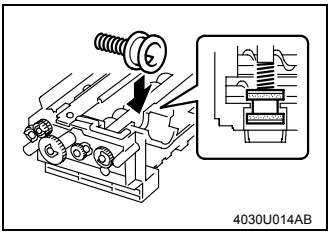


<Removal of the Developer>

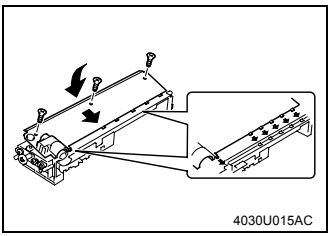
- Dump the developer on the Sleeve Roller by rotating the gear in the direction of the arrow.
- If you rotate the gear in reverse, mylar for cleaning the ATDC Sensor.
- Dump developer until almost no developer sticks to the Sleeve Roller.



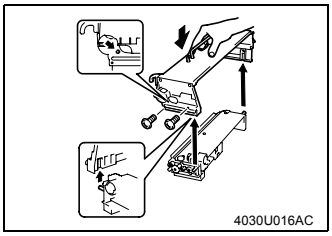
9. Set the developer while rotating the gear in the direction of the arrow.



10. Reinstall the Toner Supply Port.



11. Using three screws, secure the Developer Scattering Prevention Plate.



12. Install the PC Drum Unit and the Developing Unit.
13. Install the IU in the copier.

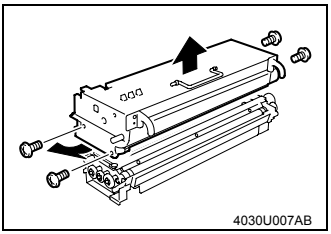
14. Turn ON the power.
15. Select Tech. Rep. Mode → Function → F8 and press the Start key.

CAUTIONS
- *After replacing the developer, be sure to execute F8 under Function of Tech. Rep. Mode.*
- *When the power is turned ON, execute F8 quickly.*

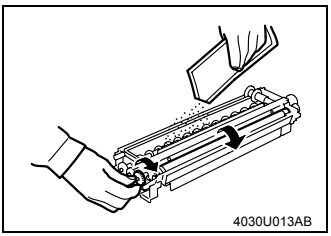
(4) Replacement of the Developing Unit

1. Select Tech. Rep. Mode → Counter → PM → Developer.
2. Press the Clear key to clear the counter value.
3. Turn OFF the power.

CAUTIONS
- *Clear the developer counter before removing the IU.*
- *After clearing the developer counter, be sure to turn OFF the power.*

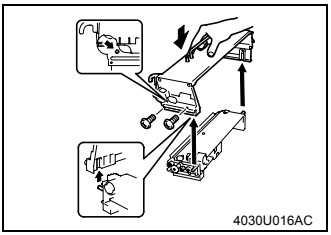


4. Remove the IU.
5. Remove four screws (silver) and disassemble the PC Drum Unit and the Developing Unit.
6. Replace the Developing Unit.
7. Replace the PC Drum Unit.



8. Supply new developer to the new Developing Unit.

☞ E-31



9. Install the new PC Drum Unit and the Developing Unit.
10. Install the IU in the copier.
11. Turn ON the power.
12. Select Tech. Rep. Mode → Function → F8 and press the Start key.

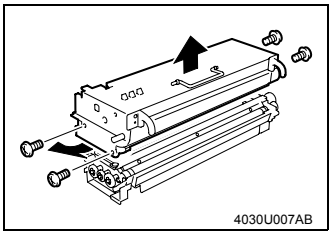
CAUTIONS
- *After replacing the developer, be sure to execute F8 under Function of Tech. Rep. Mode.*
- *When the power is turned ON, execute F8 quickly.*

(5) Cleaning of the Ds Collar

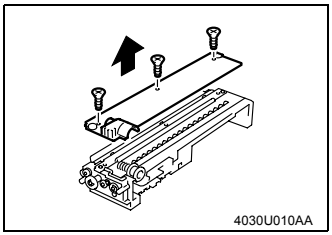
1. Select Tech. Rep. Mode → Counter → PM → PC Life.
2. Press the Clear key to clear the counter value.
3. Turn OFF the power.

CAUTIONS

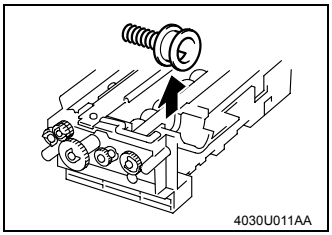
- *Clear the PC counter before removing the IU.*
- *After clearing the PC counter, be sure to turn OFF the power.*



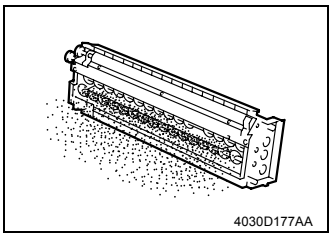
4. Remove the IU.
5. Remove four screws (silver) and disassemble the PC Drum Unit and the Developing Unit.



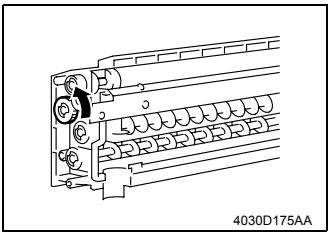
6. Remove three screws and the Developer Scattering Prevention Plate.



7. Remove the Toner Supply Port.

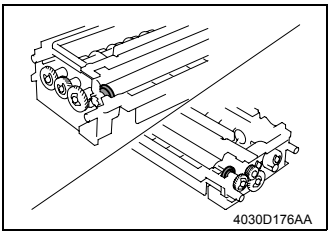


8. Remove the developer.



<Removal of the Developer>

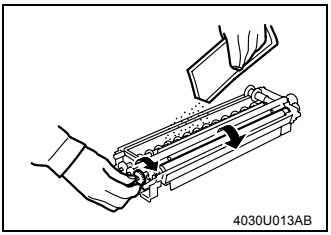
- Dump the developer on the Sleeve Roller by rotating the gear in the direction of the arrow.
- If you rotate the gear in reverse, mylar for cleaning the ATDC Sensor.
- Dump developer until almost no developer sticks to the Sleeve Roller.



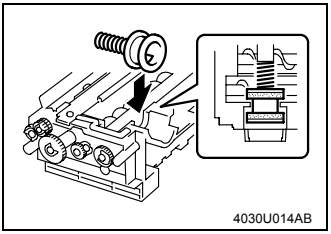
9. Using a soft cloth dampened with alcohol, wipe the Ds Collar.

CAUTION

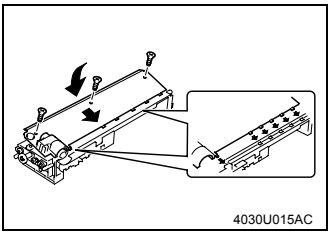
- *Make sure the alcohol does not touch the Developer Roller.*



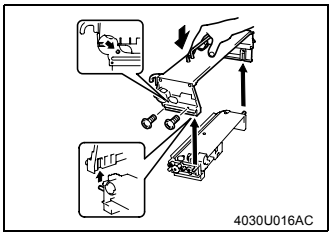
10. Set the developer while rotating the gear in the direction of the arrow.



11. Reinstall the Toner Supply Port.



12. Using three screws, secure the Developer Scattering Prevention Plate.



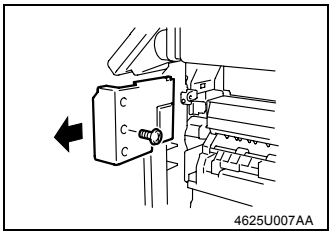
13. Install the PC Drum Unit and the Developing Unit.
14. Install the IU in the copier.

15. Turn ON the power.
16. Select Tech. Rep. Mode → Function → F8 and press the Start key.

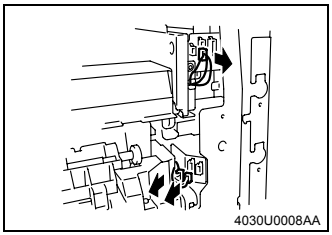
CAUTIONS
- *After replacing the developer, be sure to execute F8 under Function of Tech. Rep. Mode.*
- *When the power is turned ON, execute F8 quickly.*

(6) Replacement of the Fusing Unit (When the Switch Back Unit is Not Installed)

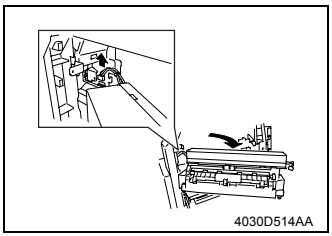
1. Open the Right Door.
2. Remove the Rear Right Cover.



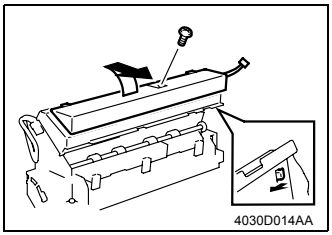
3. Remove one screw and the Front Right Cover.



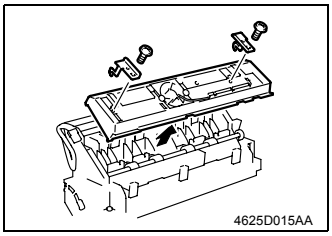
4. Unplug three connectors.
5. Remove the harness from the cord clamp.



6. Remove two screws and unplug one connector. Then, remove the Fusing Unit.



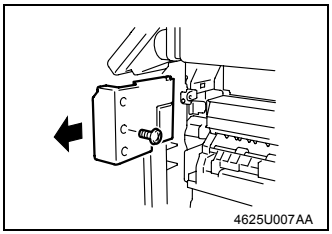
7. Remove one screw and the Fusing Upper Cover.



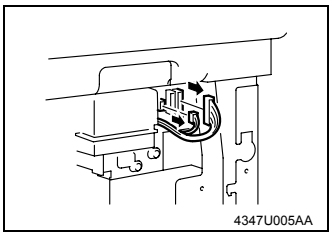
8. Remove two screws, and the guide plate.
9. Remove the Fusing Cover.

(7) Replacement of the Fusing Unit (When the Switch Back Unit is Installed)

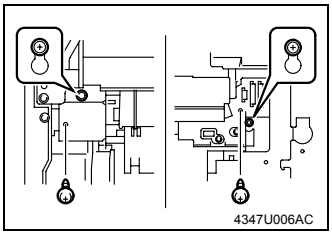
1. Open the Right Door.
2. Remove the Rear Right Cover.



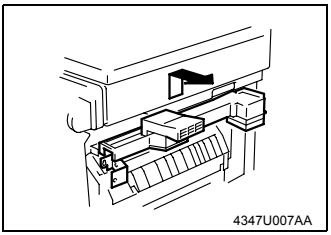
3. Remove one screw and the Front Right Cover.



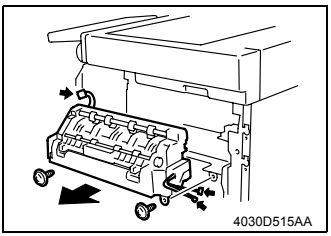
4. Unplug two connectors of the Switch Back Unit.



5. Remove two screws in front.
6. Loosen the two screws in the back.



7. Remove the Switch Back Unit.



8. Remove two screws and unplug three connectors. Then, remove the Fusing Unit.

DIS/REASSEMBLY, ADJUSTMENT

1. SAFETY INFORMATION

1-1. LASER SAFETY

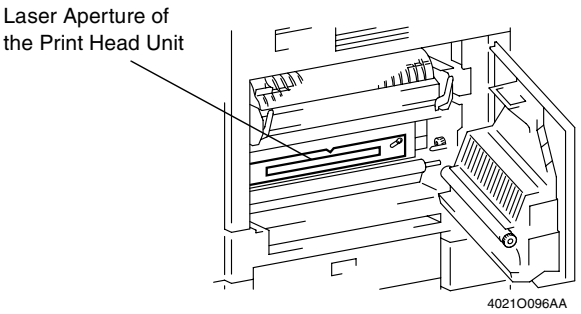
- This is a digital machine certified as a class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

1-2. INTERNAL LASER RADIATION

Semiconductor laser	
Maximum average radiation power(*)	28.9 µW
Wavelength	770-795 nm

*:Laser Aperture of the Print Head Unit

- 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 SERVICE ITEM. Therefore, the print head unit should not be opened under any circumstances.



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

- This machine is certified as a Class I 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 to page D-4 indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

CAUTION
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	5 mW
Wavelength	770-795 nm

All Areas

CAUTION
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	5 mW
Wavelength	770-795 nm

Denmark

ADVARSEL
Usynlig Laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. Klasse 1 laser produkt der opfylder IEC60825 sikkerheds kravene.

Halvlederlaser	
Laserdiodens højeste styrke	5 mW
Bølgelængden	770-795 nm

Finland, Sweden

VARO!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

LOUKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

VAROITUS!
Laitteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

Puolijohdelaser	
Laserdiodin suurin teho	5 mW
Aallonpituus	770-795 nm

VARNING!
Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

Halvledarlaser	
Den maximala effekten för laserdioden	5 mW
Våglängden	770-795 nm

VARNING!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

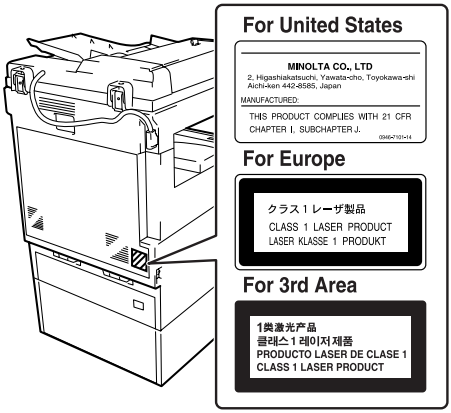
Norway

ADVERSEL
Dersom apparatet brukes på annen måte enn spesifisert i denne bruksanvisning, kan brukeren utsettes for unsynlig laserstråling som overskrider grensen for laser klass 1.

Halvleder laser	
Maksimal effekt till laserdiode	5 mW
Bølgelengde	770-795 nm

1-3. LASER SAFETY LABEL

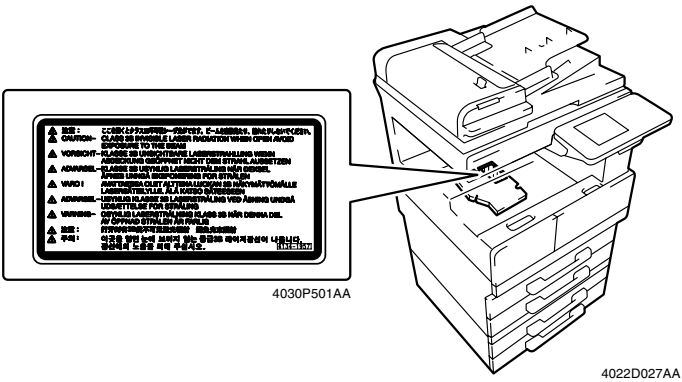
- A laser safety labels is attached to the outside of the machine as shown below.



4030o004CB

1-4. LASER CAUTION LABEL

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



4030P501AA

4022D027AA

1-5. PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- When laser protective goggles are to be used, select ones with a lens conforming to the above specifications.
- When a disassembly job needs to be performed in the laser beam path, such as when working around the printerhead and PC Drum, be sure first to turn the copier OFF.
- If the job requires that the copier be left ON, take off your watch and ring and wear laser protective goggles.
- A highly reflective tool can be dangerous if it is brought into the laser beam path. Use utmost care when handling tools on the user's premises.

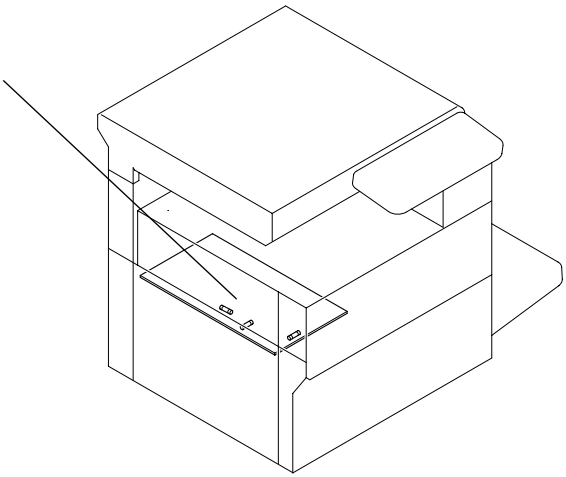
2. Disassembly/Reassembly Instructions

2-1. Identification of Fuses

DC Power Supply (PU1)

100 V Area
F101: 125 V 3.15 A
F103: 125 V 12 A
F104: 125 V 12 A

200 V Area
F101: 250 V 1.6 A
F103: 250 V 6.3 A
F104: 250 V 6.3 A



4030D183AB

2-2. Parts Which Must Not Be Touched

(1) Red Painted Screws

Purpose of Application of Red Paint

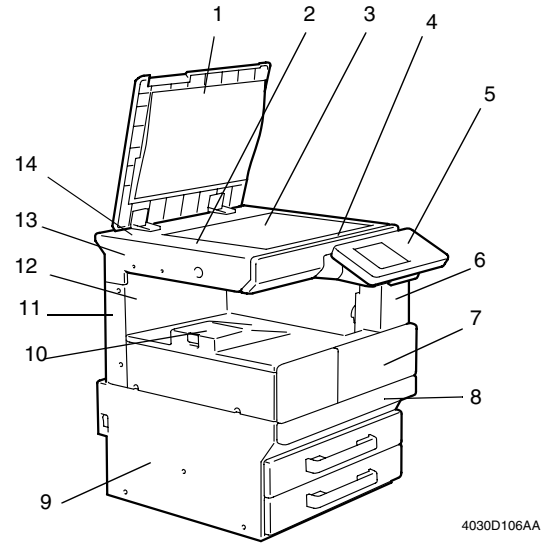
Red painted screws show that the assembly or unit secured can only be adjusted or set at the factory and shall not be readjusted, set, or removed in the field.
Red-painted screws must not be removed or loosened.
Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.

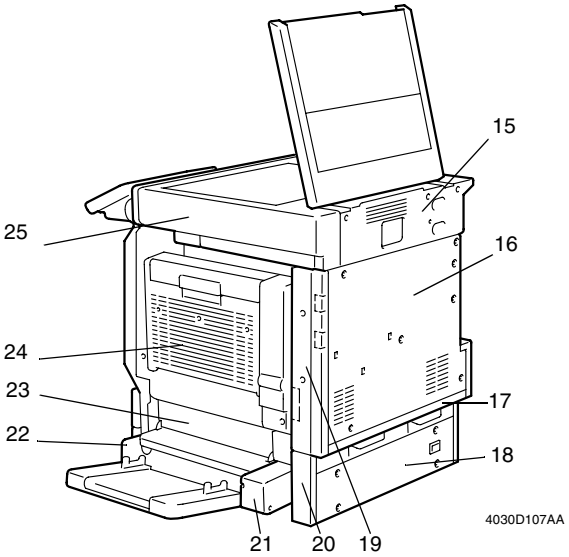
(2) Variable Resistors on Board

Do not turn the variable resistors on boards for which no adjusting instructions are given in ADJUSTMENT.

3. Disassembly/Reassembly

3-1. Doors, Covers, and Exterior Parts Identification and Removal Procedures



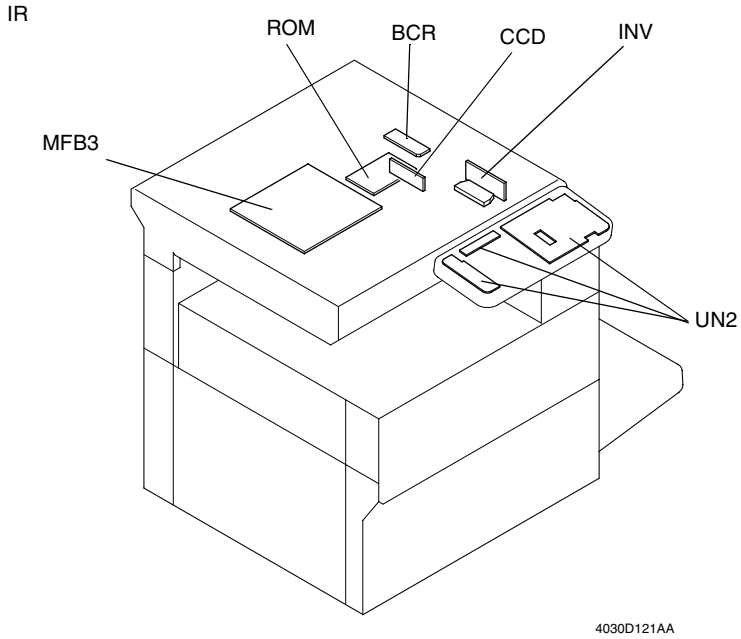


No.	Name	Removal Procedure
1	Original Cover	–
2	Original Scanning Glass	Remote 14. → Remove the Original Scanning Glass.
3	Original Glass	Remove the Original Scanning Glass. → Remove 4. → Remove two screws and the Original Glass.
4	Front Holding Bracket	Remove two screws and the Front Holding Bracket.
5	Control Panel	☞ D-11
6	Front Cover	Remove 7. → Open the Right Door. → Remove one screw and the Toner Hopper. → Remove 8. → Remove six screws and the Front Cover.
7	Front Door	Remove one screw, C clip, and the Front Door.
8	Lower Front Cover	Remove 7. → Remove 10. → Remove two screws and the Connector Cover. → Remove six screws and the Lower Front Cover.
9	Left Cover	Remove 15. → Remove 16. → Remove seven screws and the Left Cover.
10	Paper Output Cover	Remove 5. → Remove three screws and the Paper Output Cover.
11	Rear Left Cover	Remove two points and the Rear Left Cover.
12	Front Right Cover	Remove one screw and the Front Right Cover.
13	Left IR Cover	Remove 15. → Remove the Left IR Cover.
14	Upper Left IR Cover	Remove two screws and the Upper Left IR Cover.
15	Upper Rear Cover	Remove three screws and the Upper Rear Cover.
16	Rear Cover	Remove 15. → Remove 12 screws and the Rear Cover.
17	Lower Rear Cover	Remove 18. → Remove 6 screws and the Lower Rear Cover.
18	Drawer Rear Cover	Remove four screws and the Drawer Rear Cover.
19	Rear Right Cover	Open the Right Door. → Remove two screws and the Rear Right Cover.
20	Lower Right Rear Cover	Open the Right Door. → Remove 18. → Remove two screws and the Lower Right Rear Cover.
21	Rear Manual Bypass Cover	Remove two screws and the Rear Manual Bypass Cover.
22	Front Manual Bypass Cover	Remove one screw and the Front Manual Bypass Cover.
23	Lower Right Door Cover	Remove the Manual Bypass Unit. → Remove two tabs and the Lower Right Door Cover.
24	Duplex Unit	☞ D-26
25	Right IR Cover	Remove 15. → Remove the Right IR Cover.

3-2. Removal of Circuit Boards and Other Electrical Components

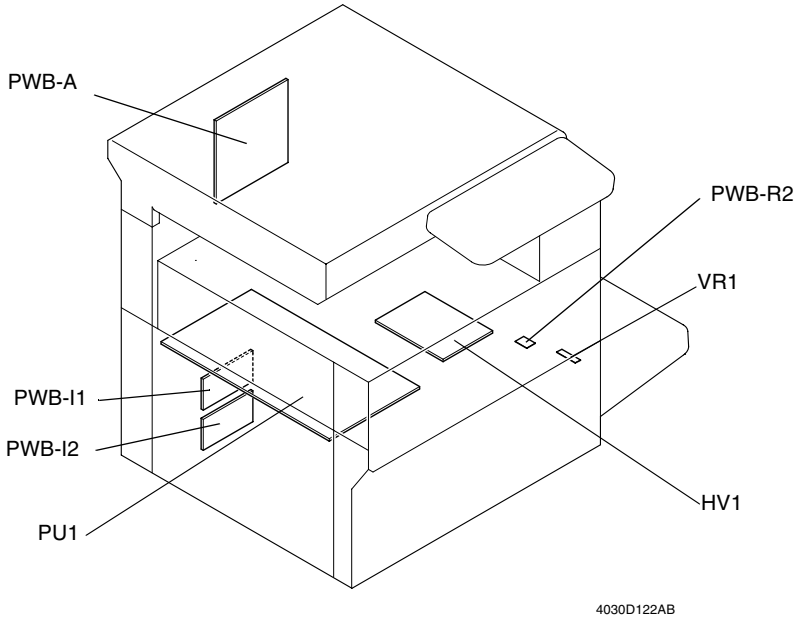
NOTES

- *When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal 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.*



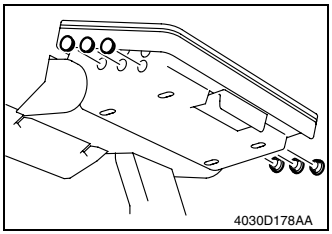
Symbol	Name	Removal Procedure
INV	Inverter Board	Remove the Original Scanning Glass. → Remove the Front Holding Bracket. → Remove the Reinforcement Bracket. → Remove the Original Glass. → Remove the Inverter Board from the Stopper.
BCR	BCR Board	Remove the Upper Rear Cover. → Remove the Right IR Cover. → Remove four screws and the BCR Board.
CCD	CCD Unit	☞ D-35
MFB3	MFB3 Board	☞ D-40
ROM	ROM Board	☞ D-41
UN2	Control Panel	☞ D-11

Printer Section

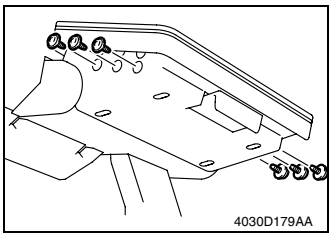


Symbol	Name	Removal Procedure
PWB-A	Master Board	☞ “Removal of the Master Board” on page 12
PWB-I1	Paper Size Detecting Board 1	☞ “Removal of Paper Size Detecting Board 1” on page 13
PWB-I2	Paper Size Detecting Board 2	☞ “Removal of Paper Size Detecting Board 2” on page 14
PWB-R2	Pre-Transfer Guide Plate Resistor Board	Open the Right Door. → Remove the IU. → Remove one screw and the Pre-Transfer Plate Resistor Board Assy.
HV1	High Voltage Unit	☞ “Removal of the High Voltage Unit” on page 17
VR1	Manual Paper Size Detection Unit	Remove the Manual Bypass Unit. → Remove four screws and the Manual Bypass Unit Cover. → Remove the wiring and the Manual Paper Size Detection Unit.
PU1	DC Power Supply	☞ “Removal of the DC Power Supply” on page 15

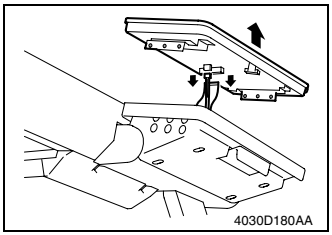
(1) Removal of the Control Panel



1. Remove six screw covers.



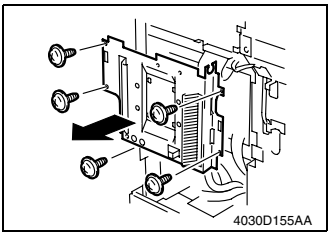
2. Remove the six screws on the sides of the Control Panel.



3. Unplug two connectors and the Control Panel.

(2) Removal of the Master Board

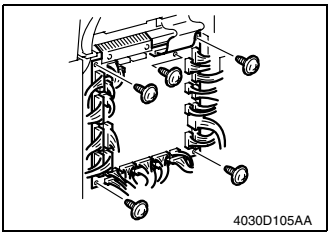
1. Remove the Upper Rear Cover.
2. Remove the Rear Cover.



3. Remove five screws and the HDD Assy Cover.

NOTE

- *When the printer is equipped with a HDD, first unplug the HDD connector and then remove the HDD cover.*



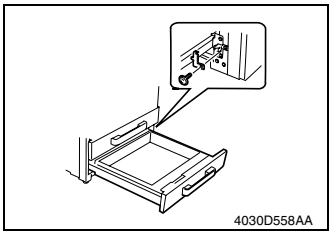
4. Unplug the all connectors.
5. Remove five screws and the master board.

NOTE

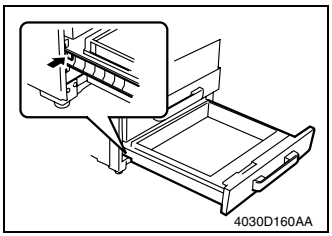
- *When replacing the master board, be sure to replace the EEPROM.*

☞ D-81

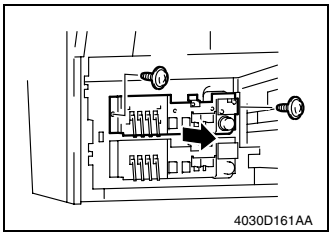
(3) Removal of Paper Size Detecting Board 1



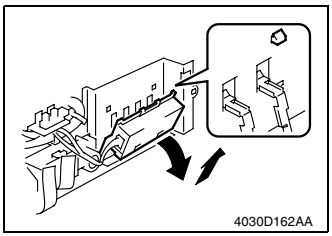
1. Remove one screw.



2. Release the stopper and slide out the 1st Drawer.

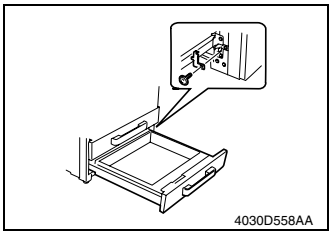


3. Unplug two connectors from the master board.
4. Remove two screws and the Lift-Up Assy.

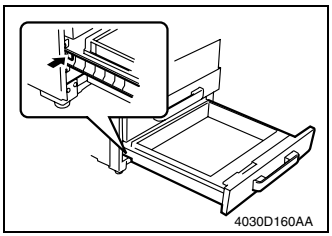


5. Remove four screws and the Paper Size Detecting Board Assy.

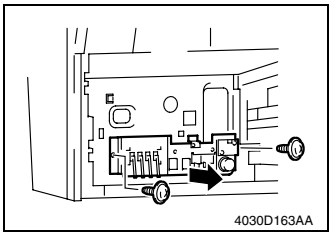
(4) Removal of Paper Size Detecting Board 2



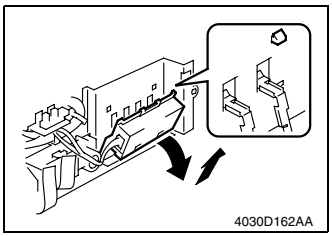
1. Remove one screw.



2. Release the stopper and slide out the 2nd drawer.



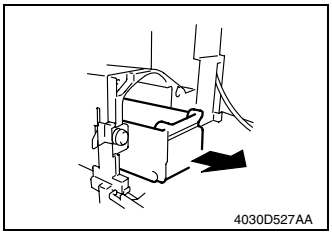
3. Unplug two connectors from the master board.
4. Remove two screws and the Lift-Up Assy.



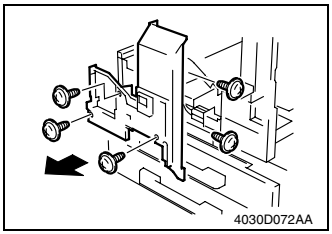
5. Remove four screws and the Paper Size Detecting Board Assy.

(5) Removal of the DC Power Supply

1. Remove the Front Right Door.
2. Open the Right Door.
3. Remove the Exit Cover.

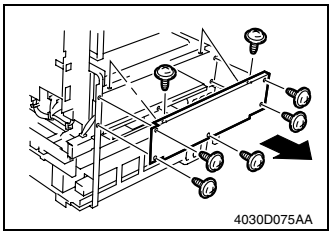


4. Slide out the Toner Hopper Unit.



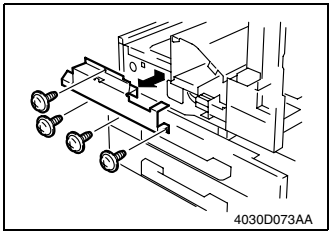
5. Remove five screws and the Front Cover.

6. Remove the Lower Front Cover.
7. Remove the Left Cover.

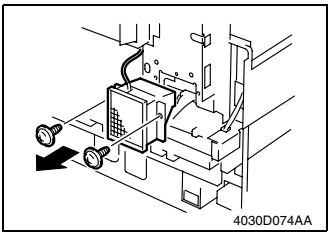


8. Remove four screws and the DC Power Supply Cover.

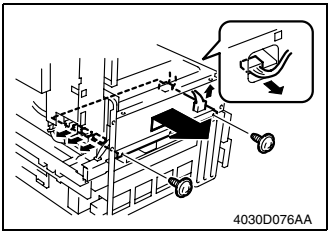
9. Remove the Rear Left Cover.



10. Remove four screws and the harness protective metal bracket.



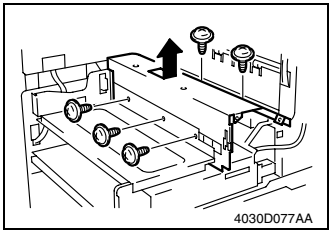
11. Remove two screws and the Power Supply Fan Motor.



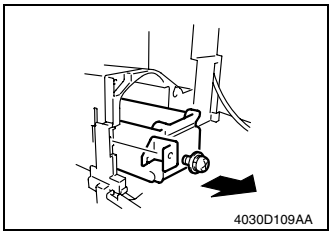
12. Unplug eight connectors and remove two screws and the DC Power Supply Assy.

(6) Removal of the High Voltage Unit

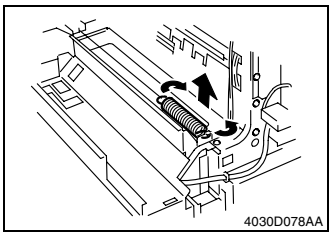
1. Remove the Imaging Unit.
2. Remove the Front Right Door.
3. Remove the Exit Cover.
4. Open the Right Door.
5. Remove the Front Cover.
6. Remove the Lower Front Cover.



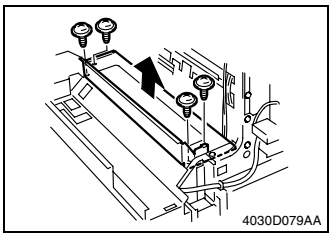
7. Remove five screws and the toner hopper protective metal bracket.



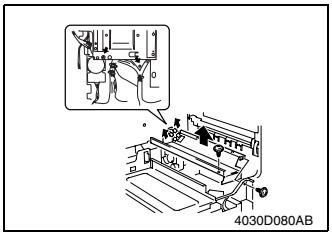
8. Remove one screw and the Toner Hopper Unit.



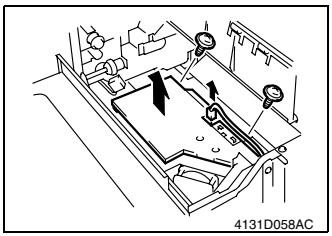
9. Close the right door and remove the pressure spring.



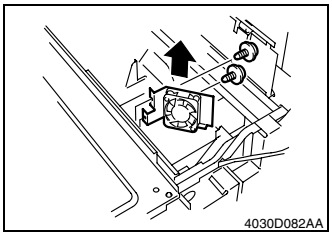
10. Remove four screws and the imaging unit protective metal bracket.



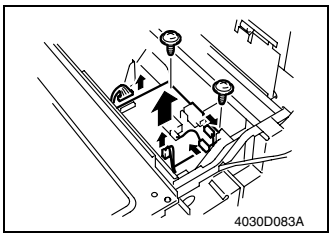
11. Unplug four connectors and remove four screws and the Toner Hopper Assy.



12. Unplug one connector and remove two screws and the High Voltage Unit Cover.



13. Remove two screws and the IU Cooling Fan Motor.

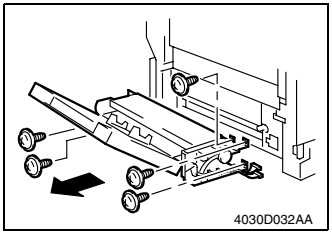


14. Unplug four connectors and remove two screws and the High Voltage Unit.

3-3. Removal of Units

(1) Removal of the Manual Bypass Unit

1. Remove the Lower Right Rear Cover.
2. Remove the Front Manual Bypass Cover.
3. Remove the Rear Manual Bypass Cover.



4. Remove five screws and unplug three connectors. Then, remove the Manual Bypass Unit.

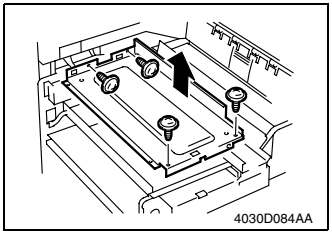
NOTE

- *When the Manual Bypass Unit has been mounted, be sure to perform the Manual Bypass Unit Installation Check procedures.*

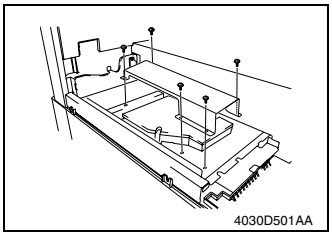
☞ D-49

(2) Removal of the PH Unit

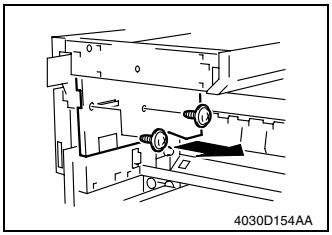
1. Remove the Upper Rear Cover.
2. Remove the Rear Cover.
3. Open the Front Door.
4. Remove the Exit Cover.



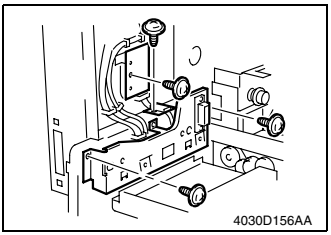
5. Remove nine screws and the PH protective metal bracket.



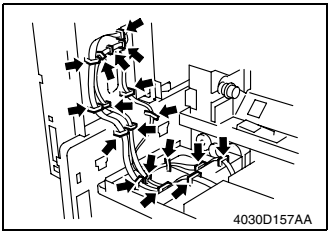
6. Remove nine screws and the harness protective metal bracket.



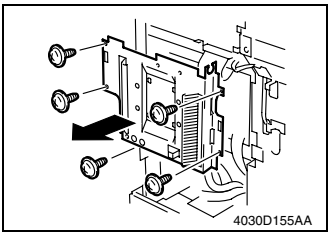
7. Remove two screws and the Paper Output Tray Rear Cover.



8. Remove five screws and three harness protective metal brackets.



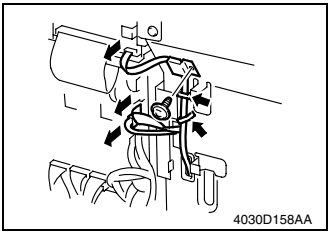
9. Remove the harness from the cord holder.



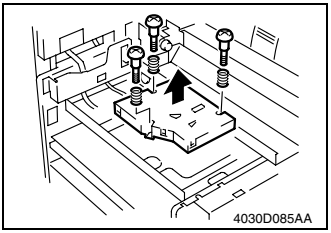
10. Remove five screws and the HDD Cover.

NOTE

- *When the printer is mounted with a HDD, first unplug the HDD connector and then remove the HDD cover.*



11. Remove one screw and unplug three connectors. Then, remove two flat cables.



12. Remove three screws and the PH Unit.

Precaution for PH Reinstallation

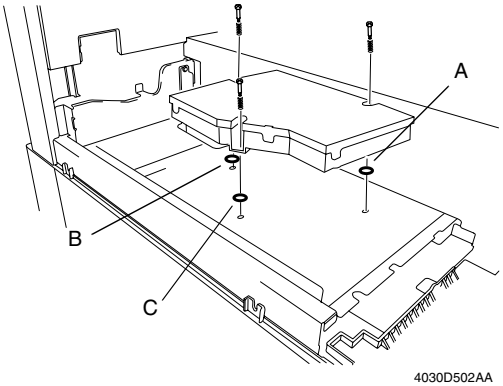
- *When replacing the PH, install spacers according to the color of the labels affixed to the PH.*

	Screw Position		
PH label color	A	B	C
Green label	No spacer	No spacer	No spacer
Blue label	No spacer	0.1 mm spacer	0.2 mm spacer
Yellow label	0.2 mm spacer	0.1 mm spacer	No spacer

Spacers Used

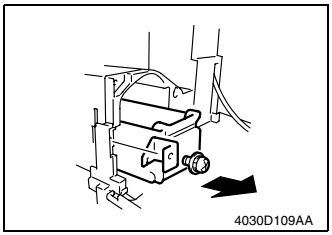
	Part No.	Spacer Color
0.1 mm spacer	4030-2053-01	Black
0.2 mm spacer	4030-2054-01	White

Should be screw installation position



(3) Removal of the Toner Hopper Unit

1. Open the Front Door.

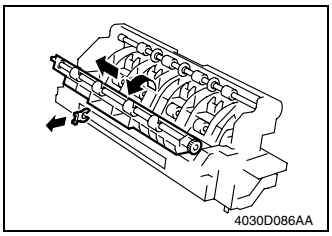


2. Remove one screw and the Toner Hopper Unit.

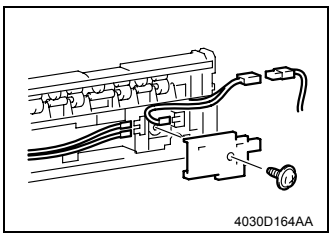
(4) Disassembly of the Fusing Unit

NOTE

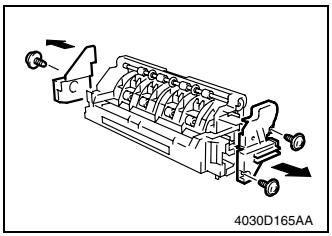
- *When removing and reinstalling each of the different covers and electrical components, make sure that the correct type of screw is used.*
- *For the procedures to be followed when removing the Fusing Unit, see E-38.*



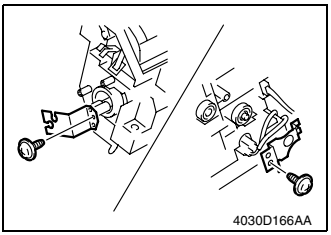
1. Remove one C clip and the Fusing Entrance Guide Plate.



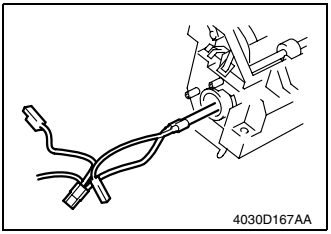
2. Remove the wiring from the cord holder.
3. Remove one screw and the harness protective metal bracket.



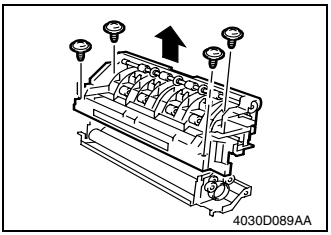
4. Unplug four connectors.
5. Remove three screws and two side covers.



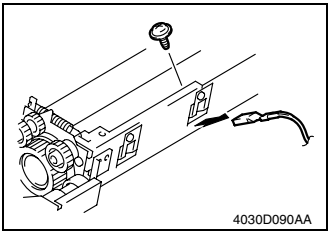
6. Remove two screws and two heat lamp mounting plates.



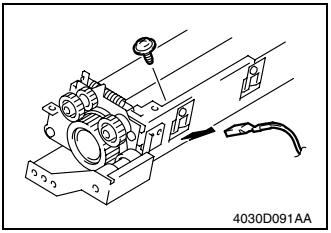
7. Remove the Heat Lamp.



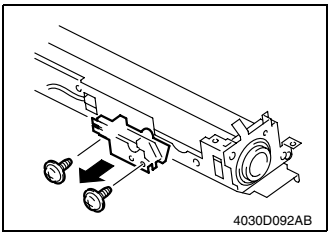
8. Unplug the connector and remove the wiring from the cord holder.
9. Remove four screws and the Fusing Exit Assy.



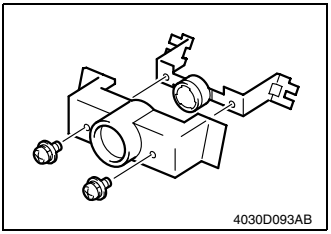
10. Remove one screw and the Fusing Roller Thermistor.



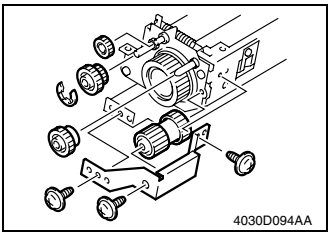
11. Remove one screw and the Fusing Roller Sub Thermistor.



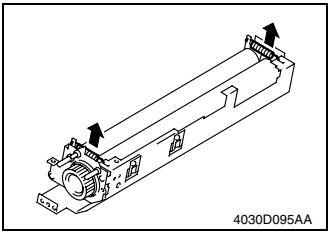
12. Remove two screws and the Fusing Roller Thermostat Assy.



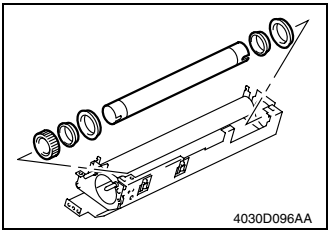
13. Remove two screws and the Fusing Thermostat.



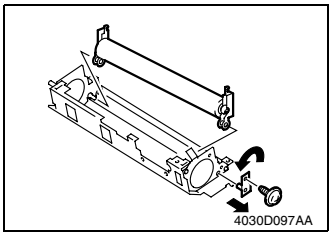
14. Remove three screws, one E-ring, and the drive gear.



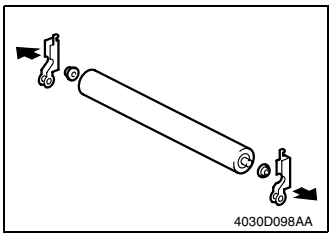
15. Remove the pressure spring.



16. Remove two bearings, two bushings, one gear, and the Fusing Roller.



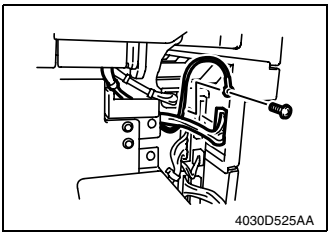
17. Remove one screw and the Fusing Pressure Roller Assy.



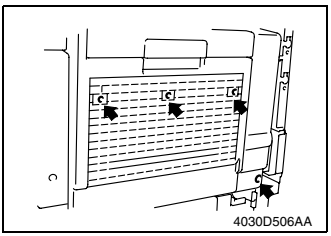
18. Remove two bearings, two pressure levers, and the Fusing Pressure Roller.

(5) Removal of the Duplex Unit

1. Remove the Rear Lower Right Cover.



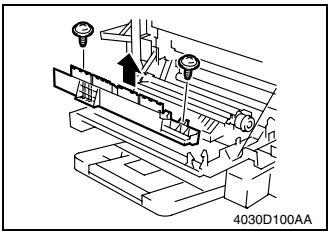
2. Unplug one connector and remove one screw, the harness, and the earth.



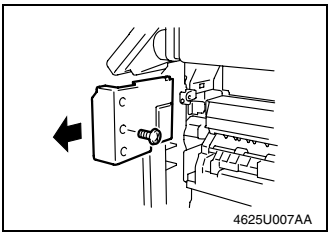
3. Remove four screws and the Duplex Unit.

(6) Removal of the Switch Back Unit

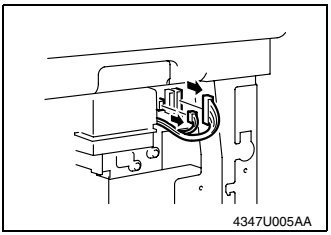
1. Open the Right Door.
2. Remove the Rear Right Cover.



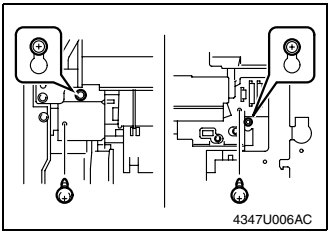
3. Remove two screws and the lower Switch Back Unit.



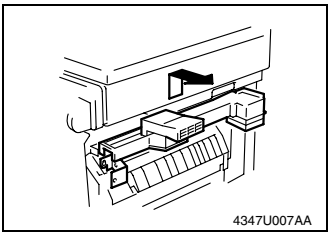
4. Remove one screw and the Front Right Cover.



5. Unplug two connectors of the Switch Back Unit.



6. Remove two screws in front.
7. Loosen the two screws in the back.

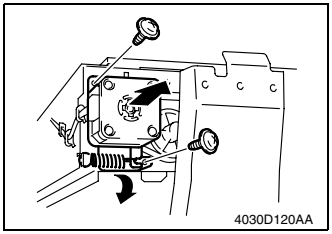


8. Remove the Switch Back Unit.

3-4. Disassembly of the IR Unit

(1) Removal of the Scanner Motor

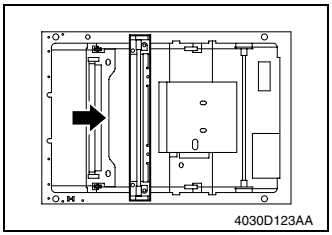
1. Remove the Upper Rear Cover.
2. Remove the Right IR Cover.



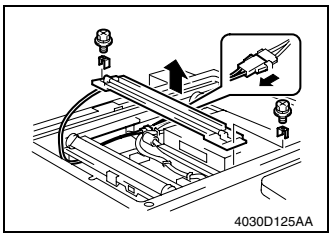
3. Remove one spring, two screws and the scanner motor.

(2) Removal of the Exposure Lamp

1. Remove the Original Scanning Glass.
2. Remove the Front Holding Bracket.
3. Remove two reinforcement plates.
4. Remove the Original Glass.



5. Move the Scanner Assy to the removal position.



6. Unplug one connector and remove two screws and the Scanner Assy.

NOTE

- *When installing the Scanner Assy, be sure to perform scanner position adjustment.*

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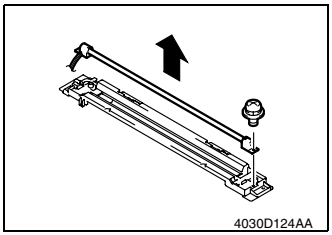
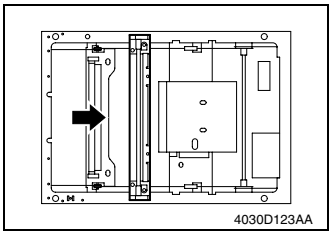


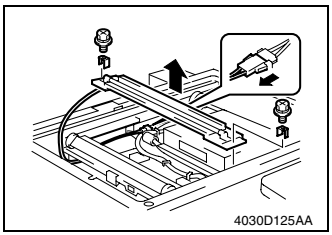
7. Remove one screw, and the Exposure Lamp.

(3) Removal of the Scanner Assy

1. Remove the Original Scanning Glass.
2. Remove the Front Holding Bracket.
3. Remove two reinforcement plates.
4. Remove the Original Glass.



5. Move the Scanner Assy to the removal position.



6. Remove the wire from the Scanner Assy.
7. Unplug one connector and remove two screws and the Scanner Assy.
8. To reinstall, reverse the order of removal.

NOTE

- *When installing the Scanner Assy, be sure to perform scanner position adjustment.*

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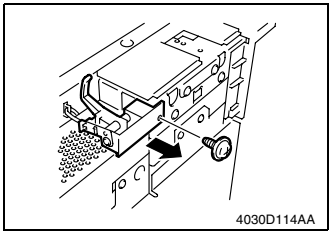
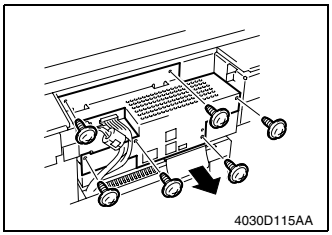
(4) Removal of the Scanner Drive Cables

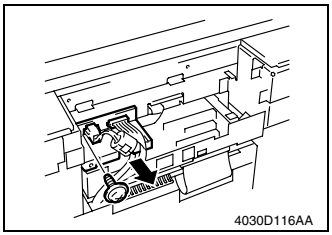
1. Remove the Original Scanning Glass.
2. Remove the Front Holding Bracket.
3. Remove two reinforcement plates.
4. Remove the Original Glass.



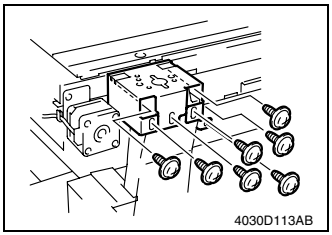
5. Remove six screws and the MFB Board Upper Cover.



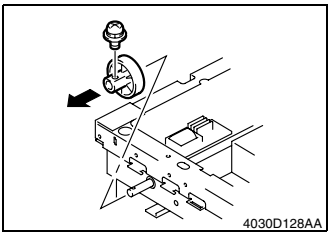
6. Remove six screws and the MFB Board Upper Cover.



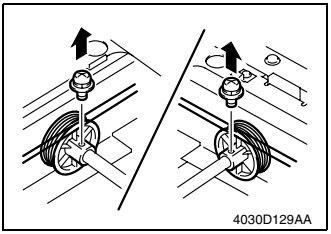
7. Unplug two connectors and remove one screw and the connector cover.



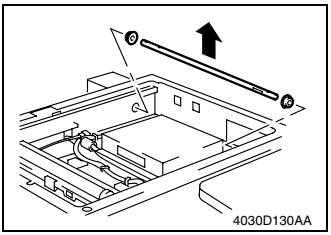
8. Remove seven screws and the Original Cover hinge support.



9. Remove one screw and the Scanner Drive Gear from the shaft.

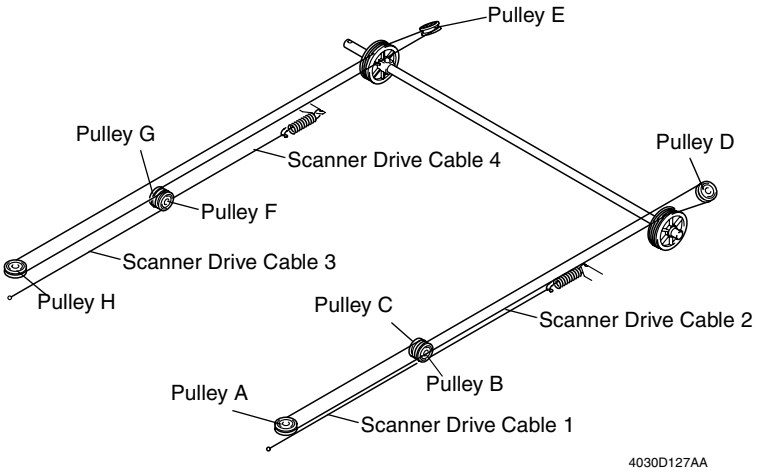


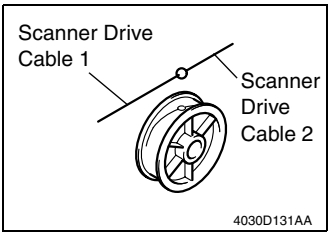
10. Remove two screws and the front and rear pulleys.



11. Remove the bearing and shaft.
12. Remove the Scanner Drive Cables from each hook.

(5) Winding of the Scanner Drive Cables



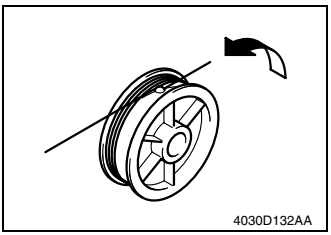


Front

1. Position the round bead of the Scanner Drive Cable in the pulley as shown.

NOTE

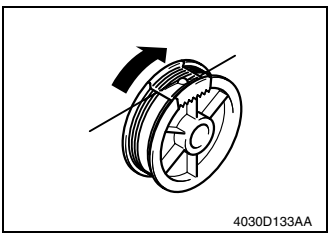
- *Make sure that the bead snugly rests in the slit in the pulley.*



2. Wind the Scanner Drive Cable 1 end around the pulley four turns clockwise, from the rear toward the front side.

NOTE

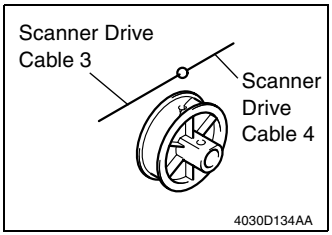
- *Make sure that no part of the cable rides on the other.*



3. Wind the Scanner Drive Cable 2 end four turns clockwise from the rear to the front. Then, secure the cable with tape.

NOTE

- *Make sure that no part of the cable rides on the other.*

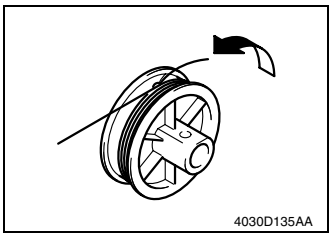


Rear

4. Position the round bead of the Scanner Drive Cable in the pulley as shown.

NOTE

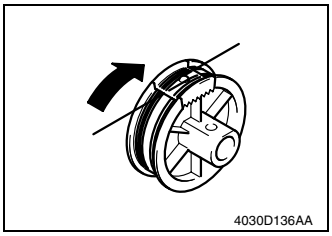
- *Make sure that the bead snugly rests in the slit in the pulley.*



5. Wind the Scanner Drive Cable 3 end around the pulley four turns clockwise, from the rear toward the front side.

NOTE

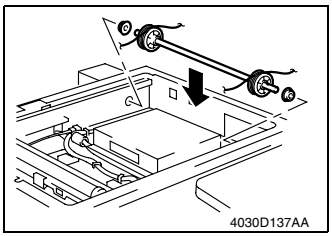
- *Make sure that no part of the cable rides on the other.*



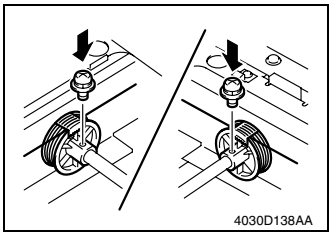
6. Wind the Scanner Drive Cable 4 end four turns clockwise from the rear to the front. Then, secure the cable with tape.

NOTE

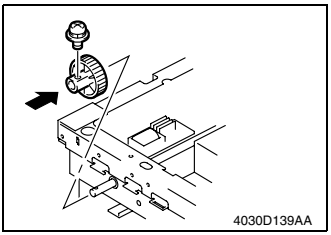
- *Make sure that no part of the cable rides on the other.*



7. Install two pulleys (front and rear) to the shaft. Attach two bushings to the shaft.

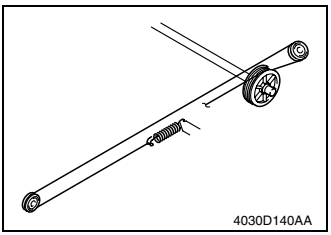


8. Secure the front and rear pulleys using one screw each.



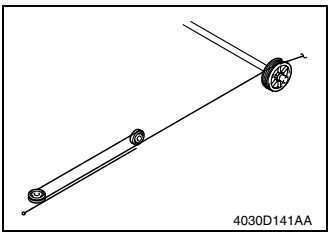
9. Attach the Drive Gear using one screw.

10. Mount the Scanner Motor Assy.

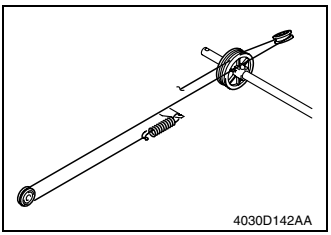


✻ Front

11. Wind the Scanner Drive Cable 2 end of the cable around pulley D and pulley B, hook the bead to the fixed spring, and then hook the spring to the catch in the frame.

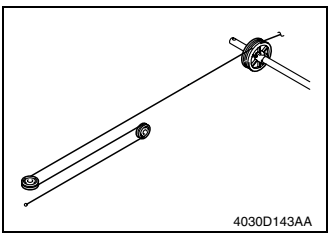


12. Wind the Scanner Drive Cable 1 end of the cable around pulley A and pulley C and hook the bead to the side of the Scanner Frame.



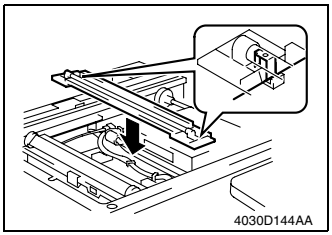
✻ Rear

13. Wind the Scanner Drive Cable 4 end of the cable around pulley E and pulley G and hook the bead to the side of the Scanner Frame.

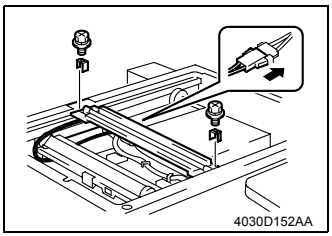


14. Wind the Scanner Drive Cable 3 end of the cable around pulley H and pulley F, hook the bead to the fixed spring, and then hook the spring to the catch in the frame.

15. Remove the pulley tape.



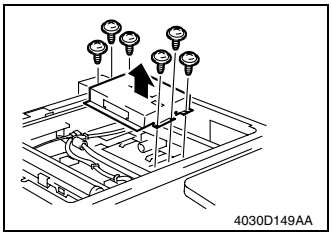
16. Mount the cable to the Scanner Assy.



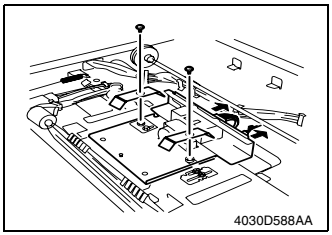
17. Readjust the position of the Scanner Assy.
☞ D-50
18. Attach two guide plates using two screws and secure the Scanner.
19. Attach all the parts that have been removed.
20. Perform a test copy and check the produced image.

(6) Removal of the CCD Unit

1. Remove the Original Scanning Glass.
2. Remove the Front Holding Bracket.
3. Remove two reinforcement plates.
4. Remove the Original Glass.



5. Remove six screws and the CCD Unit Cover.



6. Move the Scanner Assy and unplug two connectors of the CCD Unit.
7. Remove two screws and the CCD Unit.

NOTE
- *When the CCD Unit has been replaced with a new one, make the installation adjustment that must be made when the CCD Unit is replaced.*

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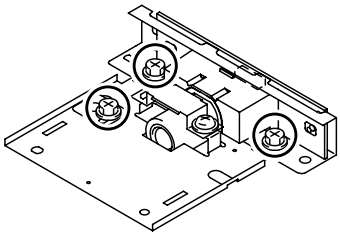
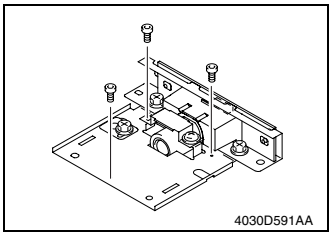
(7) Installation Adjustment to be Made when CCD Unit is Replaced

NOTES

- *Make this adjustment only when the CCD Unit has been replaced with a new one.*
- *Before attempting to make this adjustment, make sure that registration and erase adjustments for the printer have been completed.*
- *Do not loosen or remove the screws shown below.*

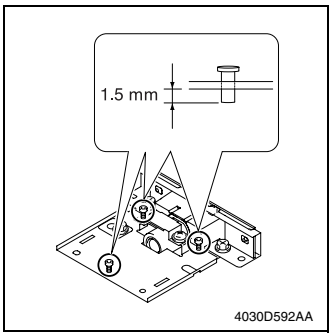


4030D601AA



4030D591AA

1. Screw the three adjusting screws into the CCD Unit only to half the thread length of each screw.



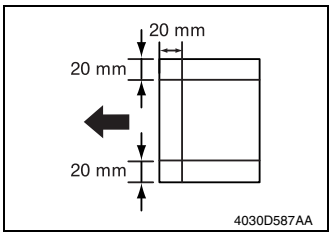
4030D592AA

2. From the bottom side of the CCD Unit, adjust the dimension of the screw thread protrusion to 1.5 mm (at three places).

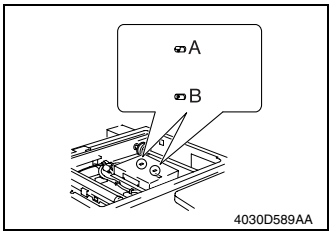
3. Using two screws and a flat spring, install the CCD Unit in position.
4. Fit two cables to the CCD Unit.
5. Using six screws, install the CCD Unit cover.
6. Install the Document Scanning Glass and Original Glass.

NOTE

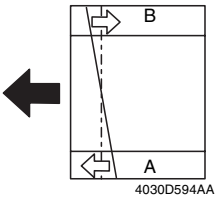
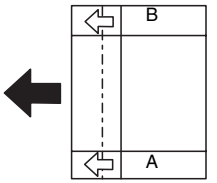
- *There is no need of tightening the screws of the Document Scanning Glass and Original Glass, since the CCD Unit is to be adjusted in later steps.*

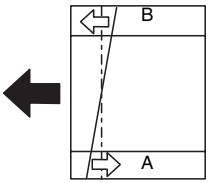
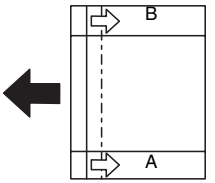


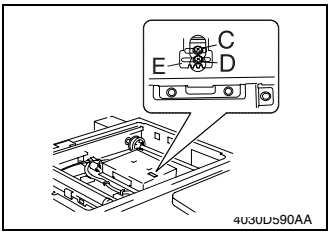
7. Turn ON the printer.
8. If the setting in IR Registration or IR Zoom Adjust available from the Adjust mode has been changed, set the function to 0 (zero) or 1.000 (zoom ratio).
9. Prepare a test chart as shown on the left and make a copy of it.



10. Measure tilt and deviation in the FD direction of the produced copy as compared with reference to the reference line in the FD direction of the test chart.
11. If there is any tilt or deviation in the FD direction, follow the steps given below to make an adjustment using screws A and B.

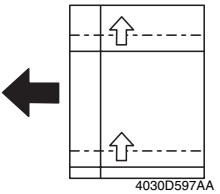
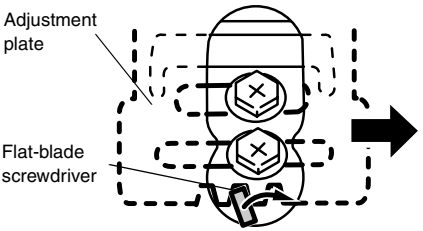
Tilt and FD Deviation	Adjustment Procedure Using Screws A and B
 4030D594AA  4030D595AA	• If tilt or deviation in the FD direction is as shown on the left A: Using an Allen wrench (3 mm), turn screw A counterclockwise. B: Using an Allen wrench (3 mm), turn screw B clockwise. ✻ A 1/4 turn of the screw results in deviation of 1 mm.

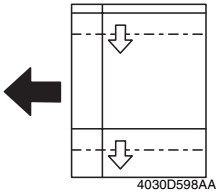
Tilt and FD Deviation	Adjustment Procedure Using Screws A and B
 4030D593AA  4030D596AA	• If tilt or deviation in the FD direction is as shown on the left A: Using an Allen wrench (3 mm), turn screw A counterclockwise. B: Using an Allen wrench (3 mm), turn screw B clockwise. ✻ A 1/4 turn of the screw results in deviation of 1 mm.



4030D590AA

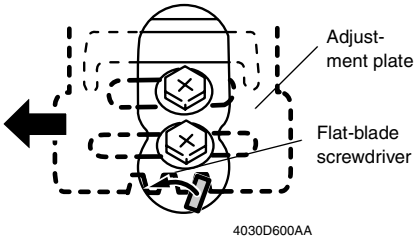
12. Measure deviation in the CD direction of the produced copy as compared with reference to the reference line in the CD direction of the test chart.
13. If there is any deviation in the CD direction, loosen screws C and D and follow these steps to make an adjustment using adjustment plate E.

CD Deviation	Adjustment Procedure Using Adjustment Plate E
 4030D597AA	• If deviation in the CD direction is as shown on the left 1. Using a flat-blade screwdriver, turn adjustment plate E counterclockwise.  4030D599AA 2. Tighten screws C and D.



- If deviation in the CD direction is as shown on the left

1. Using a flat-blade screwdriver, turn adjustment plate E clockwise.

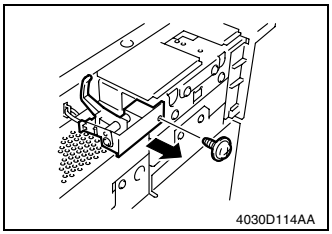


2. Tighten screws C and D.

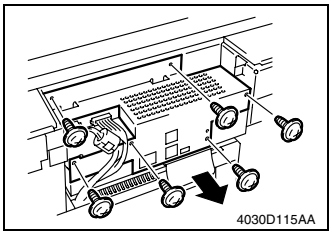
14. Remove the CCD Unit cover.
15. Apply lock paint to adjusting screws A, B, C, and D.
16. Reinstall the CCD Unit cover.
17. Reinstall the Document Scanning Glass and Original Glass.
18. Reinstall all covers that have been removed.

(8) Removal of the MFB3 Board

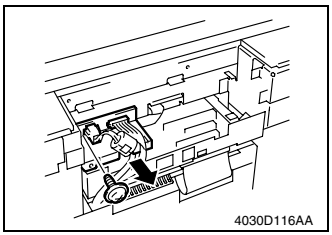
1. Remove the Upper Rear Cover.
2. Remove the Rear Cover.
3. Remove the Right IR Cover.



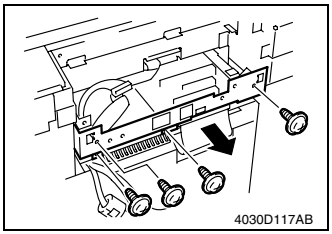
4. Remove one screw and the Original Cover Detecting Sensor.



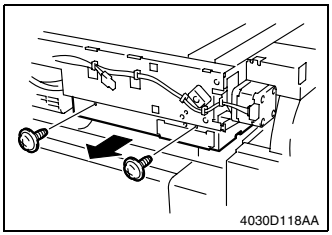
5. Remove six screws and the MFB Board Upper Cover.



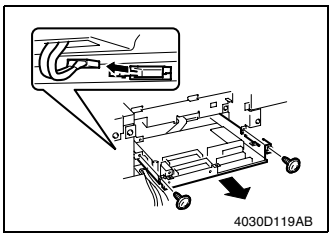
6. Unplug two connectors and remove one screw and the connector cover.



7. Remove four screws and the MFB Board Lower Cover.
8. Remove two screws and the ground plate.



9. Remove two screws and the ROM Board Assy.



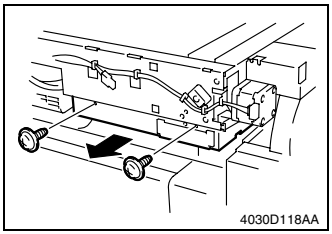
10. Unplug two connectors and remove three flat cables and the MFB3 Board Assy.

NOTE

- *When removing the MFB3 Board Assy, unplug the cable in the rear of the ROM Board Assy.*

(9) Removal of the ROM Board

1. Remove the Upper Rear Cover.
2. Remove the Right IR Cover.

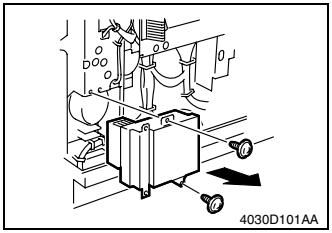


3. Remove two screws and the ROM Board Assy.

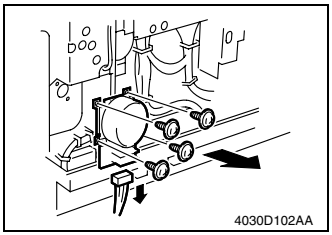
3-5. Cleaning and Disassembly of Engine Parts

(1) Removal of the Transport Motor

1. Remove the Upper Rear Cover.
2. Remove the Rear Cover.
3. Remove the Rear Right Cover.
4. Remove the Rear Lower Right Cover.



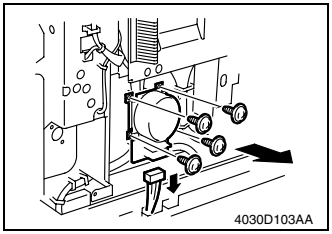
5. Remove two screws and the Ozone Filter Assy.



6. Remove four screws and the Transport Motor.

(2) Removing the IU Motor

1. Remove the Upper Rear Cover.
2. Remove the Rear Cover.



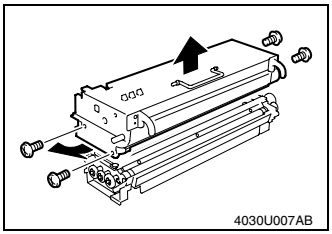
3. Remove four screws and the IU Motor.

(3) Removal of the ATDC Sensor

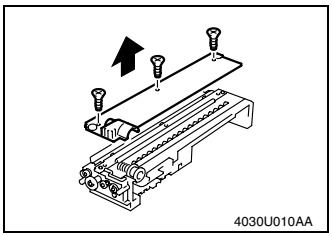
1. Select Tech. Rep. Mode → Counter → PM → Developer and clear the counter.
2. Turn OFF the power.
3. Remove the IU.

NOTES

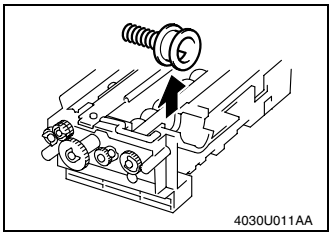
- *Clear the counter before removing the IU.*
- *After clearing the counter, be sure to turn OFF the power.*



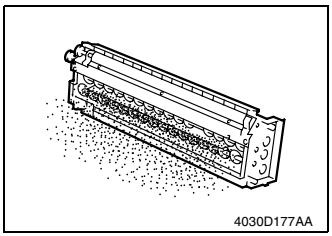
4. Remove four screws (silver) and disassemble the PC Drum Unit and the Developing Unit.



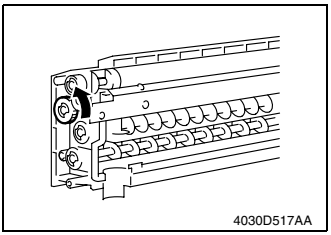
5. Remove three screws and the Developer Scattering Prevention Plate.



6. Remove the Toner Supply Port.

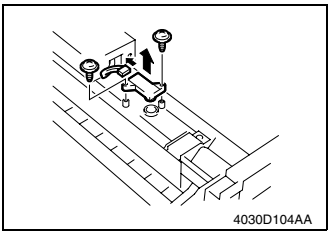


7. Remove the developer.

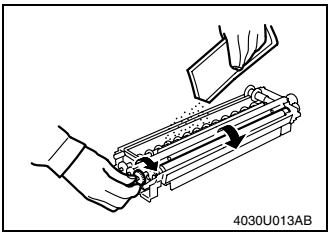


<Removal of the Developer>

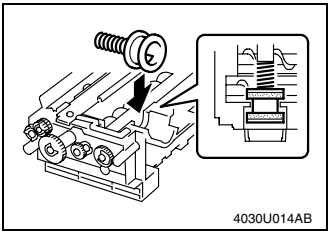
- Dump the developer on the Sleeve Roller by rotating the gear in the direction of the arrow.
- If you rotate the gear in reverse, mylar for cleaning the ATDC Sensor
- Dump developer until almost no developer sticks to the Sleeve Roller.



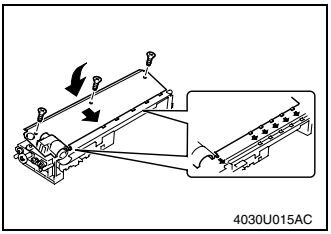
8. Remove two screws and remove the ATDC Sensor.



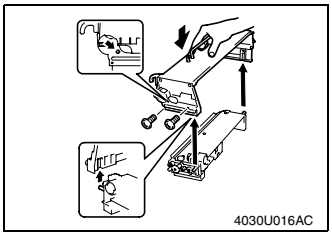
9. Set the developer while rotating the gear in the direction of the arrow.



10. Reinstall the Toner Supply Port.



11. Using three screws, secure the Developer Scattering Prevention Plate.



12. Install the PC Drum Unit and the Developing Unit.
13. Install the IU in the copier.

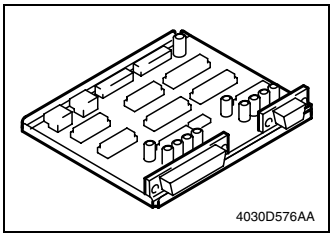
14. Turn ON the power.
15. Select Tech. Rep. Mode → Function → F8 and press the Start key.

NOTES

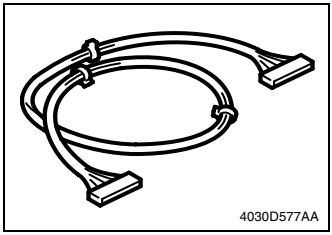
- *After replacing the developer, be sure to execute F8 under Function of Tech. Rep. Mode.*
- *When the power is turned ON, execute F8 quickly.*

4. Adjustment

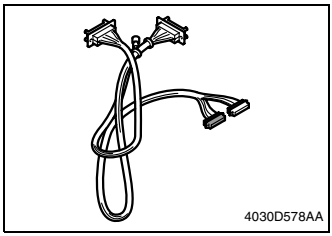
4-1. Adjustment Jigs and Tools



Converter



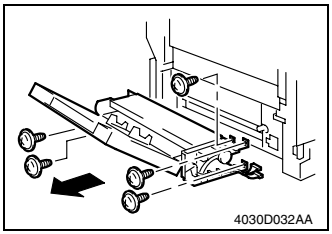
Interface Cable



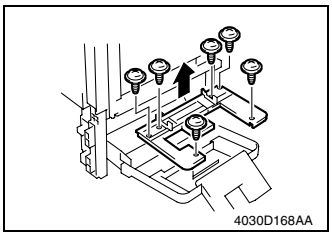
Connection Cable

4-2. Mechanical Adjustment

(1) Adjustment of the Manual Paper Size Detection Unit

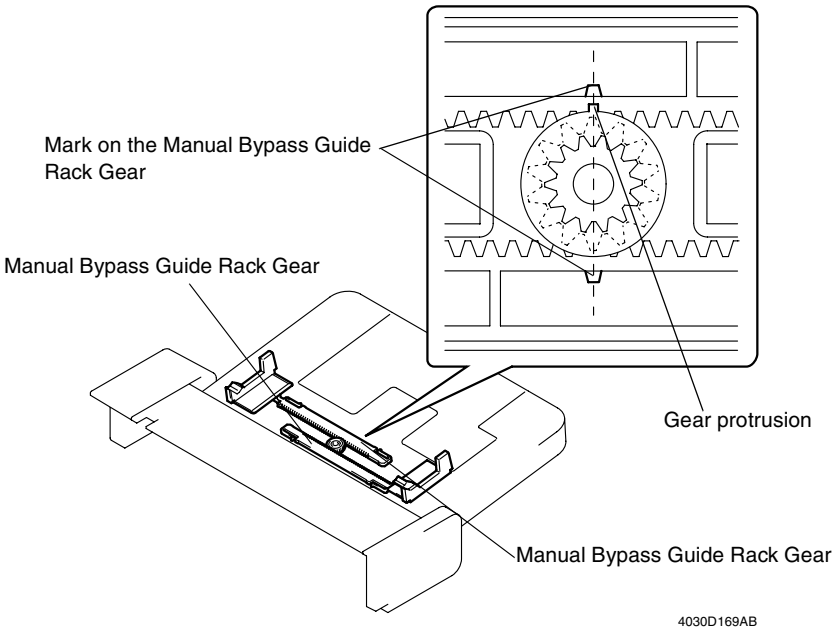


1. Remove the Rear Right Cover.
2. Remove the Rear Lower Right Cover.
3. Remove the Manual Bypass Front Cover.
4. Remove the Manual Bypass Rear Cover.
5. Remove five screws, unplug three connectors, and then remove the Manual Bypass Unit.

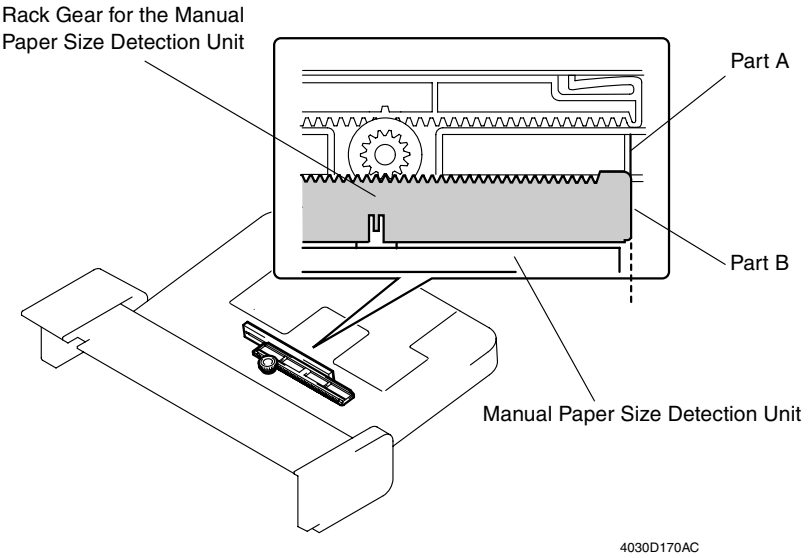


6. Remove six screws and the Manual Bypass Unit Cover.

7. Install the gear so that the protrusion of the gear and the mark on the Manual Bypass Guide Rack Gear are aligned in a straight line.



8. Install the Manual Bypass Unit Cover so that part A (edge) of the Rack Gear for the Manual Paper Size Detection Unit and part B of the Manual Bypass Unit Cover are aligned in a straight line.



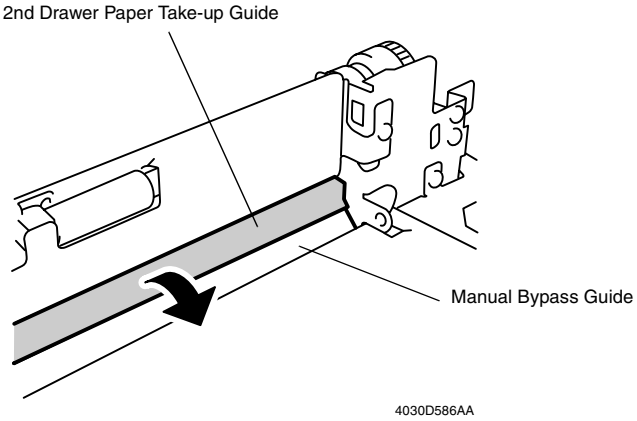
9. Install the Manual Bypass Unit in the copier.
10. Select the Tech. Rep. Mode → Function → FD.
11. Set paper with a width of 301 mm in the tray of the Manual Bypass Unit.
12. Select the maximum size key on the Control Panel and press the Start key to make the automatic adjustment.
13. Place the paper of the minimum size 89 mm in the Manual Bypass Unit.
14. Select the minimum size key on the Control Panel and press the Start key to make the automatic adjustment.

(2) Manual Bypass Unit Installation Check

1. Remove the Rear Right Cover.
2. Remove the Rear Lower Right Cover.
3. Remove the Manual Bypass Front Cover.
4. Remove the Manual Bypass Rear Cover.
5. Check the 2nd Drawer Paper Take-up Guide and Manual Bypass Guide for correct operation.

NOTES

- *Pull open the 2nd Drawer Paper Take-up Door in the direction of the arrow and check that it opens smoothly without binding.*
- *If the door binds, perform the installation procedures again for the 2nd Drawer Paper Take-up Roll Assy and Manual Bypass Unit.*



(3) Scanner Position Adjustment

NOTE

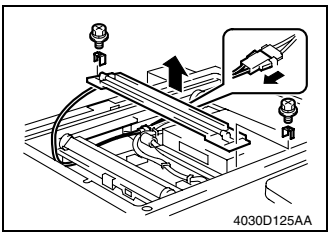
Make this adjustment after any of the following procedures has been performed:

- *After the Scanner Drive Cables have been replaced.*
- *When the Scanner has been removed.*
- *When the Scanner Drive Cables has become loose.*

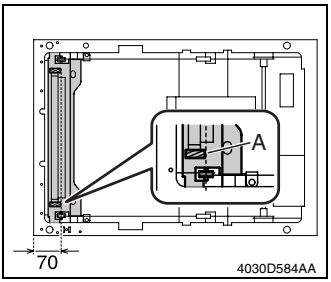
Requirement

- *At a given distance from the side of the scanner with the Scanner Assy fixed to the Scanner Drive Cables.*

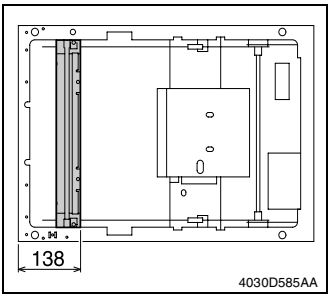
Adjustment Procedure



1. Remove the Original Scanning Glass.
2. Remove the Front Holding Bracket.
3. Remove the Original Glass.
4. Remove two screws and the Scanner Assy.



5. Slide the 2nd/3rd Mirrors Carriage to the position shown on the left.
6. Left side of the IR to part A: 70 mm



7. Hook the Scanner Assy to the cable.
8. Install the Scanner Assy at the position shown on the left.
9. Left side of the IR to the right side of the Scanner Assy: 138 mm

4-3. Electrical/Image Adjustment

(1) Accessing the Tech. Rep. Mode

1. Press the Utility key.
2. Press the Meter Count key.
3. Press the following keys in this order.

Stop → 0 → 0 → Stop → 0 → 1

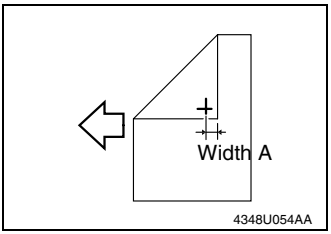
NOTE

- *Ensure appropriate security for Tech. Rep. mode function setting procedures. They should never be given to any unauthorized person not involved with service jobs.*

✻ Printer

(2) Registration CD

Requirement



- Width A on the test pattern produced should fall within the following range.

Specification	Adjust Mode	Setting Range
10.3 mm ± 2.0 mm	Registration (CD)	-4.0 to +4.0

This adjustment must be made in any of the following cases:

- *When the PH Unit has been replaced.*
- *When the paper type has been changed.*
- *When the image on the copy is offset in the CD direction.*
- *When a faint image occurs on the leading edge of the image.*

Adjustment Procedure

1. Load the 1st Drawer with A3L or A4C paper.
2. Enter the Adjust Mode.
3. Touch Printer → Registration (CD).
4. Touch Test Print.
5. Select the 1st Drawer and press the Start key.
6. Check the dimension of width A on the test pattern.
7. If width A falls outside the specified range, change the setting using the 10-Key Pad.

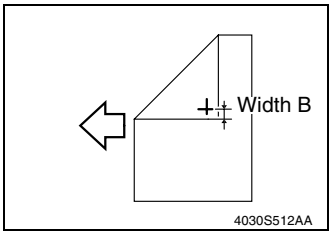
Adjustment Procedure

If width A on the test pattern is wider than specifications.
Longer than the actual scale: increase the setting value.
Shorter than the actual scale: decrease the setting value.

8. Touch Test Print and select the 1st Drawer.
9. Press the Start key.
10. Check the dimension of width A on the test pattern.
11. If it fails to meet the specifications, change the setting and redo the check.
12. If it meets the specifications, touch END.
13. Following the same procedure, adjust for all other paper sources.

(3) Registration FD

Requirement



- Width B on the test pattern produced should fall within the following range.

Specification	Adjust Mode	Setting Range
11.3 mm ± 1.5 mm	Registration (FD)	-4.0 to +4.0

This adjustment must be made in any of the following cases:

- *When the PH Unit has been replaced.*
- *When the paper type has been changed.*
- *When the image on the copy is offset in the FD direction.*

Adjustment Procedure

1. Load the 1st Drawer with A3L or A4C paper.
2. Enter the Adjust Mode.
3. Touch Printer → Registration (FD).
4. Touch Test Print.
5. Select the 1st Drawer and press the Start key.
6. Check the dimension of width B on the test pattern.
7. If width B falls outside the specified range, change the setting using the 10-Key Pad.

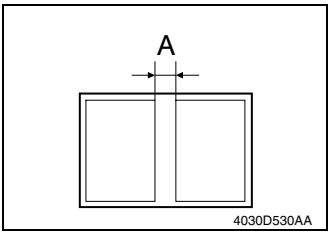
Adjustment Procedure

If width B on the test pattern is wider than specifications.
Longer than the actual scale: increase the setting value.
Shorter than the actual scale: decrease the setting value.

8. Touch Test Print and select the 1st Drawer.
9. Press the Start key.
10. Check the dimension of width B on the test pattern.
11. If it fails to meet the specifications, change the setting and redo the check.
12. If it meets the specifications, touch END.
13. Following the same procedure, adjust for all other paper sources.

(4) Book Center Erase

Requirement



- Set the erase width at the center of the paper (width A) in the range between 2 and 20 mm.

Adjust Mode	Setting Range
Book Center Erasure	2 mm to 20 mm

NOTES

- *This setting determines the erase width when Book Center Erase is selected.*
- *This adjustment must be made when a shadow is produced at the center of the copy made from an open book.*

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch Tech. Rep. Choice → Book Center Erase.
3. Press the Clear key to clear the current setting value.
4. Enter the new setting value from the 10-Key Pad.

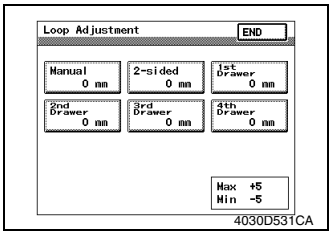
Adjustment Procedure

To make the erase width at the center of the paper (width A)
To make it smaller: decrease the setting value.
To make it greater: increase the setting value.

5. Touch “END” to validate the setting value.

(5) Loop Adjustment

Requirement



- Adjust so that a correct loop is formed before the Synchronizing Rollers when paper is fed through.

Adjust Mode	Setting Range
Printer/Loop adjustment	-5 mm to +5 mm

This adjustment must be made in any of the following cases:

- *When variations in print leading edge void amount, skewed feeding, dog-ear, or misfeed occur.*

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch Tech. Rep. Choice → Printer → Loop Adjustment.
3. Select the paper source, for which the adjustment is to be made.
4. Press the Clear key to clear the current setting value.
5. Enter the new setting value from the 10-Key Pad.

✻ Use the Access Mode key or "✻" to change the + or - sign.

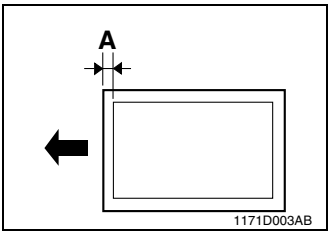
Adjustment Procedure

Change the setting value as necessary until there are no variations in the amount of void image along the leading edge, skewed feeding, dog-ear, or misfeed.

6. Touch "END" to validate the setting value.
7. Perform the same steps to adjust for other paper sources.

(6) Edge Erase (Leading Edge Erase)

Requirement



- Set the erase width on the leading edge of paper (width A) in the range between 0 and 5 mm.

Adjust Mode	Setting Range
Printer/Edge Erase/Leading	0 mm to 5 mm

This adjustment must be made in any of the following cases:
When the PH has been replaced.
Perform this adjustment after the Registration (CD/FD) (Printer).

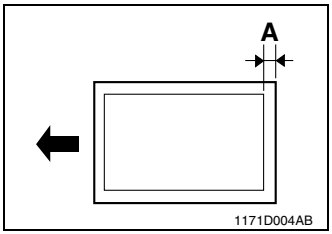
Adjustment Procedure
1. Call the Tech. Rep. mode to the screen.
2. Touch Tech. Rep. Choice → Printer → Edge Erase → Leading.
3. Press the Clear key to clear the current setting value.
4. Enter the new setting value from the 10-Key Pad.

Adjustment Procedure
To make the leading edge erase width (width A)
To make it smaller: decrease the setting value.
To make it greater: increase the setting value.

5. Touch “END” to validate the setting value.

(7) Edge Erase (Trailing Edge Erase)

Requirement



- Set the erase width on the trailing edge of paper (width A) in the range between 0 and 5 mm.

Adjust Mode	Setting Range
Printer/Edge Erase/Trailing	0 mm to 5 mm

This adjustment must be made in any of the following cases:

- *This adjustment must be made when the PH Unit has been replaced.*
- *In the case of duplex printing, perform this adjustment after the Registration (CD/FD) (Printer).*

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch Tech. Rep. Choice → Printer → Edge Erase → Trailing.
3. Press the Clear key to clear the current setting value.
4. Enter the new setting value from the 10-Key Pad.

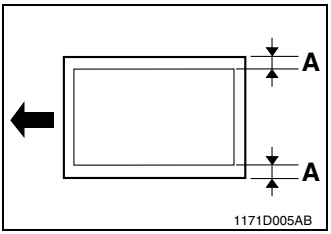
Adjustment Procedure

To make the trailing edge erase width (width A)
To make it smaller: decrease the setting value.
To make it greater: increase the setting value.

5. Touch “END” to validate the setting value.

(8) Edge Erase (Right/Left Edge Erase)

Requirement



- Set the erase width on the right/left edge of paper (width A) in the range between 0 and 5 mm.

Adjust Mode	Setting Range
Printer/Edge Erase/Right/Left	0 mm to 5 mm

This adjustment must be made in any of the following cases:

- *This adjustment must be made when the PH Unit has been replaced and after Registration (CD/FD) (Printer) has been made.*

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch Tech. Rep. Choice → Printer → Edge Erase → Right/Left.
3. Press the Clear key to clear the current setting value.
4. Enter the new setting value from the 10-Key Pad.

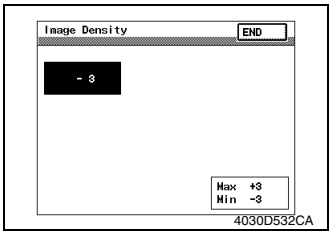
Adjustment Procedure

To make the right/left edge erase width (width A)
To make it smaller: decrease the setting value.
To make it greater: increase the setting value.

5. Touch “END” to validate the setting value.

(9) Image Density Setting

Requirement



- Set the image density by varying Vg and Vb on the printer.

Adjust Mode	Setting Range
Printer/Image Density Setting	-3 to +3

This adjustment must be made in any of the following cases:

- *When the image density is high or low.*

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch Tech. Rep. Choice → Printer → Image Density.
3. Press the Clear key to clear the current setting value.
4. Enter the new setting value from the 10-Key Pad.

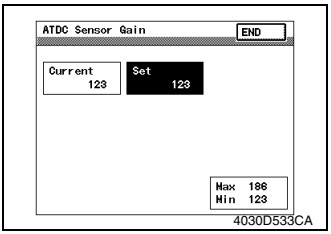
Adjustment Procedure

If the image density is
If high: decrease the setting value.
If low: decrease the setting value.

Touch “END” to validate the setting value.

(10) ATDC Sensor Gain Adjustment

Requirement



- Display the value that has been automatically adjusted using Function F8 and change the value.

Adjust Mode	Setting Range
Printer/ATDC Sensor Gain Adjustment	123 to 186

This adjustment must be made in any of the following cases:

- *When using the spare Imaging Unit temporarily.*

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch Tech. Rep. Choice → Printer → ATDC Sensor Gain.
3. Press the Clear key to clear the current setting value.
4. Enter the new setting value from the 10-Key Pad.

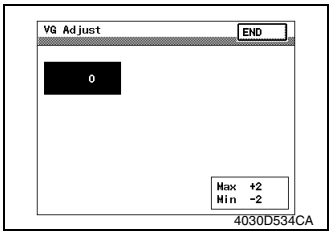
NOTE

- *If an old Imaging Unit is installed, enter the setting value for that Imaging Unit.*

5. Touch “END” to validate the setting value.

(11) VG Adjust

Requirement



- Adjust the image density by varying the Vg setting against changes in the PC Drum sensitivity due to deterioration.

Adjust Mode	Setting Range
Printer/VG Adjust	-2 to +2

This adjustment must be made in any of the following cases:

- *When a foggy background or carrier adhesion occurs.*

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch Tech. Rep. Choice → Printer → VG Adjust.
3. Press the Clear key to clear the current setting value.
4. Enter the new setting value from the 10-Key Pad.

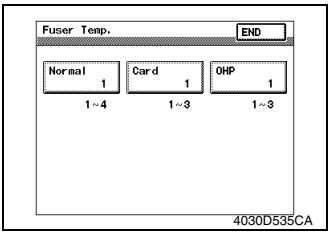
Adjustment Procedure

If a foggy background occurs: set to the + direction.
If a carrier adhesion occurs: set to the - direction.

5. Touch “END” to validate the setting value.

(12) Fuser Temp.

Requirement



- Because the fusing performance vary depending on the environmental conditions and paper type, adjust the temperature of the Heating Roller for each paper type.

Adjust Mode	Setting Range
Printer/Fuser Temp.	Plain paper: 1 to 4 Thick paper: 1 to 3 OHP: 1to 3

This adjustment must be made in any of the following cases:

- *When poor fusing has occurred.*
- *When the paper type has been changed.*

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch Tech. Rep. Choice → Printer → Fuser Temp.
3. Press the Clear key to clear the current setting value.
4. Enter the new setting value from the 10-Key Pad.

Adjustment Procedure

If fusing performance is poor: increase the setting.

5. Touch “END” to validate the setting value.

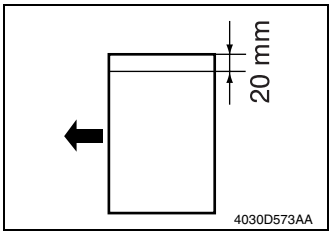
✻ See the Fusing Temperature Table

☞ S-25

✻ IR

(13) Registration (IR)

<Registration CD>



- After the Registration (CD) for the printer has been made, place the test pattern on the Original Glass and make a copy.

✻ Draw a reference line 20 mm from the left edge.

Specification	Adjust Mode	Setting Range
20 mm ± 1.0 mm	Registration (CD)	-24 to +72

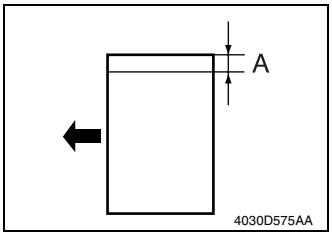
✻ 1 mm = 24 bits

This adjustment must be made in any of the following cases:

- *When the PH Unit has been replaced and after Registration (CD) for the printer has been made.*

Adjustment Procedure

1. After the Registration (CD) for the printer has been made, place the test pattern on the Original Glass and make a copy.
2. Touch IR → Registration → CD.
3. Press the Clear key to clear the setting value. Enter the setting value using the 10-Key Pad.

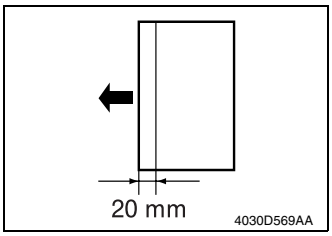


Adjustment Procedure

If width A of the output copy falls outside the specified range and
if width A is 19 mm or less: increase the setting value.
if width A is 21 mm or greater: decrease the setting value.

4. Touch “END” to validate the setting value.

<Registration FD>



- After the Registration (FD) for the printer has been made, place the test pattern on the Original Glass and make a copy.

✻ Draw a reference line 20 mm from the top edge.

Specification	Adjust Mode	Setting Range
20 mm ± 1.0 mm	Registration (FD)	-72 to +72

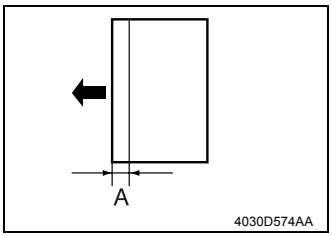
✻ 1 mm = 24 bits

This adjustment must be made in any of the following cases:

- *When the PH Unit has been replaced and after Registration (FD) for the printer has been made.*

Adjustment Procedure

5. After the Registration (CD) for the printer has been made, place the test pattern on the Original Glass and make a copy.
6. Touch IR → Registration → FD.
7. Press the Clear key to clear the setting value. Enter the setting value using the 10-Key Pad.



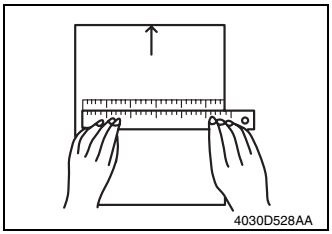
Adjustment Procedure

If width A of the output copy falls outside the specified range and
if width A is 19 mm or less: increase the setting value.
if width A is 21 mm or greater: decrease the setting value.

8. Touch “END” to validate the setting value.

(14) IR-Mag Adjustment

<Zoom Adjust CD>



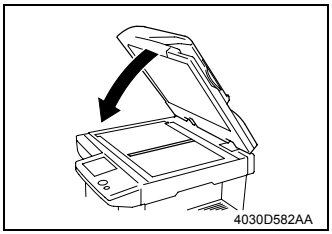
- Measure the scale error and adjust so that the measured length falls within the following range.
- Adjust so that the following specifications are satisfied with a scale length of 200 mm.

Zoom Adjust	Specification	Adjust Mode	Setting Range
Full size	200 ± 2.0 mm	Zoom adjust (CD)	0.990 to 1.010

This adjustment must be made in any of the following cases:

- *After the cables have been replaced.*
- *After the CCD has been replaced.*

Adjustment Procedure



1. Place a scale vertical to the Length Scale and make a copy.

✻ Copy using the full size (x1.000) mode and paper with a width of 200 mm or more.

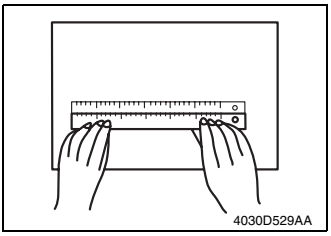
2. Measure the error between the output image and the scale.
3. If outside the range, enter the adjust mode.
4. Touch IR → Zoom Adjust → CD.
5. Press the Clear key to clear the setting value. Enter the setting value using the 10-Key Pad.

Adjustment Procedure

If the copy sample length is
Longer than the actual scale: decrease the setting value.
Shorter than the actual scale: increase the setting value.

6. Touch “END” to validate the setting value.

<Zoom adjust FD>



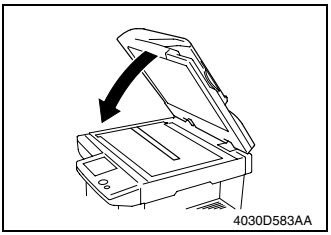
- Measure the scale error and adjust so that the measured length falls within the following range.
- Adjust so that the following specifications are satisfied with a scale length of 300 mm.

Zoom Adjust	Specification	Adjust Mode	Setting Range
Full size	300 ± 3.0 mm	Mag (FD)	0.990 to 1.010

This adjustment must be made in any of the following cases:

- *After the CCD Unit has been replaced.*

Adjustment Procedure



7. Place a scale parallel to the Length Scale and make a copy.

✻ Copy using the full size (x1.000) mode and A3 paper.

8. Measure the error between the output image and the scale.
9. If outside the range, enter the adjust mode.
10. Touch IR → Zoom Adjust → FD.
11. Press the Clear key to clear the setting value. Enter the setting value using the 10-Key Pad.

Adjustment Procedure

If the copy sample length is
Longer than the actual scale: decrease the setting value.
Shorter than the actual scale: increase the setting value.

12. Touch “END” to validate the setting value.

(15) Touch Panel Adjustment

NOTE

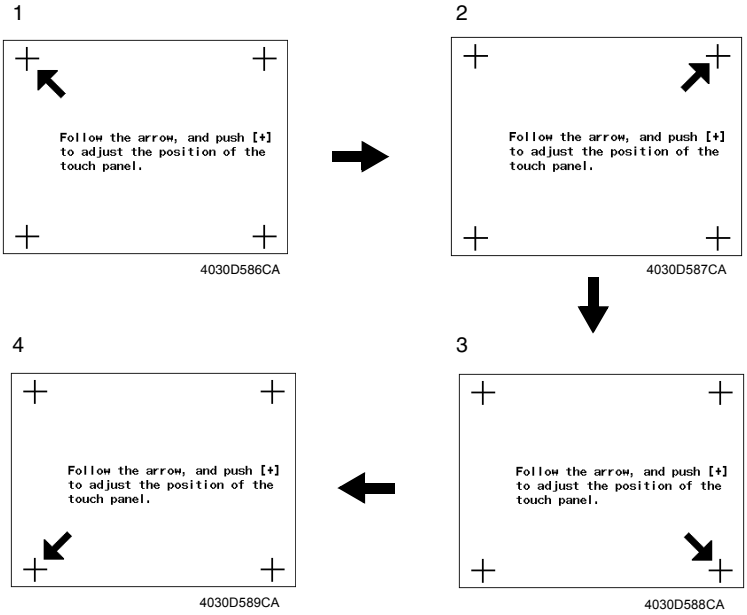
Make this adjustment after any of the following procedures have been performed.

- *Memory Clear*
- *Control Panel replacement*
- *ROM/RAM Board replacement*

1. Enter the initial mode.
2. Touch “Touch Panel Adj.”.
3. Using the tip of a pen or similar object, touch the four crosses (+) on the screen in sequence.

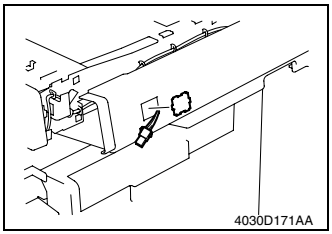
NOTES

- *Be sure to touch the center of each cross.*
- *Use care not to damage the screen with the tip of a ballpoint pen.*

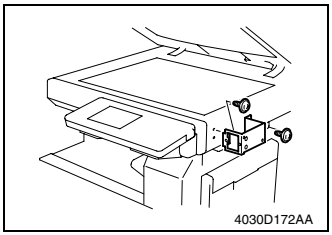


5. Miscellaneous

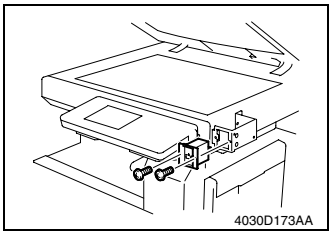
5-1. Installation of the Key Counter (Option)



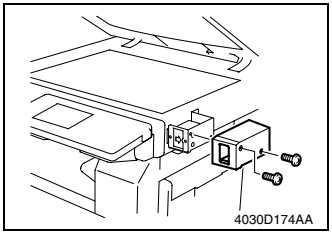
1. Remove the Upper Rear Cover.
2. Remove the Right IR Cover.
3. Remove the knockout from the Right IR Cover.
4. Pass the Key Counter Harness through the Right IR Cover.



5. Reinstall the Right IR Cover.
6. Using two screws, secure the Counter Mounting Bracket.



7. Connect the Key Counter Socket connector.
8. Using two screws, secure the counter socket.

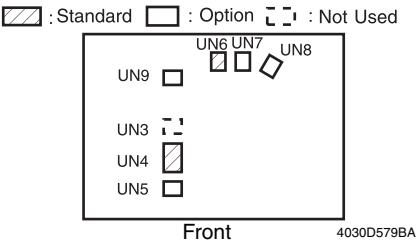


9. Using two screws, secure the Key Counter Cover.

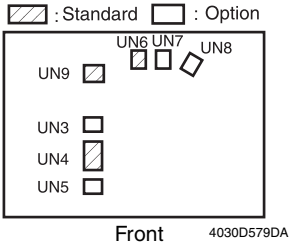
5-2. Mounting of the Original Size Detecting Sensors (Option)

Original Size Detecting Sensor Layout

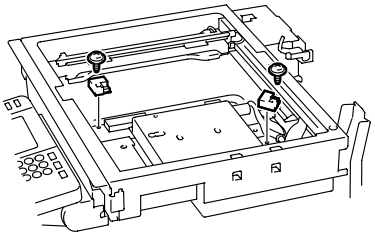
for U.S.A and CANADA



for European and 3rd Area



1. Remove the Original Scanning Glass.
2. Remove the Front Holding Bracket.
3. Remove two reinforcement plates.
4. Remove the Original Glass.
5. Mount the Original Size Detecting Sensor (option).



6. Reinstall all parts which have been removed.
7. Select the functions as follows: Tech. Rep. Mode → System Input → Original Size Detecting Option. Then, change the setting for Original Size Detecting Option from Off to On.
8. Select the Tech. Rep. Mode → Function → F7-1.
9. Stack five sheets of blank A3 paper on the Original Glass.
10. Press the Start key to perform automatic adjustment by the Original Size Detecting Sensor
11. Turn ON the Power Switch.

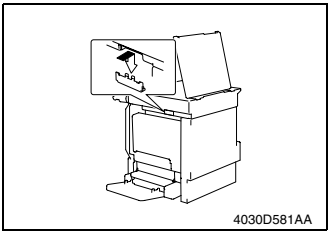
NOTE

- *The Start key remains lit up orange while this function is being run and lights up green as soon as the sequence is completed.*

5-3. Firmware Upgrade (MSC)

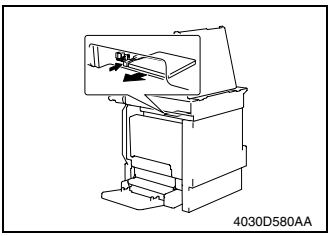
NOTES

- *When ejecting the Compact Flash Card on the ROM board, turn OFF the power first.*
- *Leave the upgraded Compact Flash Card installed.*



4030D581AA

1. Turn OFF the power.
2. Remove Compact Flash Card Cover of the Right IR Cover.

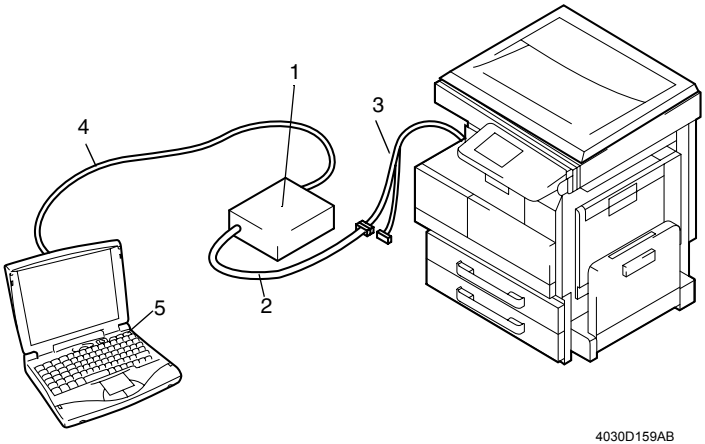


4030D580AA

3. Eject the Compact Flash Card.
4. Insert the upgraded Compact Flash Card.
5. To reinstall, reverse the order of removal.

5-4. Firmware Upgrade (Printer/Finisher)

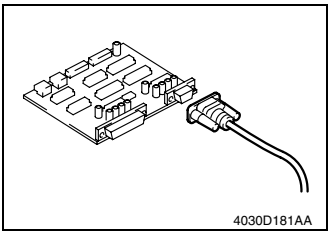
(1) Composition of the Service Jigs



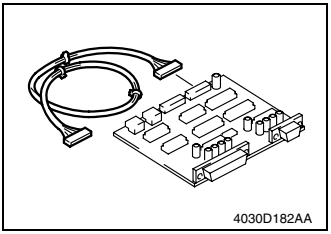
No.	Name	Description	Reference
1	Converter	Interface Board	Service Jig Setting
2	Interface Cable	Connects the converter and the connection cable.	Service Jig Setting
3	Connection Cable	Connects the Interface Cable and the printer.	Service Jig Setting
4	RS-232C cable (cross)	Connects the PC and the Converter.	Commercially sold product
5	FW upgrade software *1	Upgrades the FW on the PC.	Supplied by Minolta.
	Notebook PC	Install the FW upgrade software for use.	Commercially sold product

✻ 1: It is recommended that a PC running Windows 98, Windows Me, Windows 2000, or Windows XP be used to run the FW upgrade software.

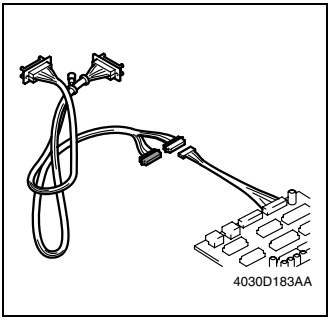
(2) Service Jigs Setup



1. Turn OFF the printer power.
2. Connect the COM1 port of the PC to the connector of the Converter using an RS-232C cross cable.



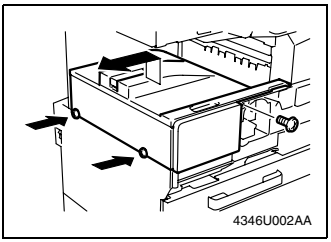
3. Connect the Converter and the Interface Cable.



4. Connect the Interface Cable and the Connection Cable.

NOTES

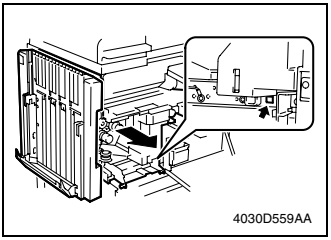
- *To upgrade the firmware of the printer (PWB-A), connect the Interface Cable to the connector (not marked with a blue line) of the Connection Cable.*
- *To upgrade the firmware of the finisher (PWB-A FN), connect the Interface Cable to the connector (marked with a blue line) of the Connection Cable.*



5. Remove the Exit Cover. (If the optional FN-117 is mounted, slide the Horizontal Transport Section out about 10 cm to the front, or remove the FN-117.)

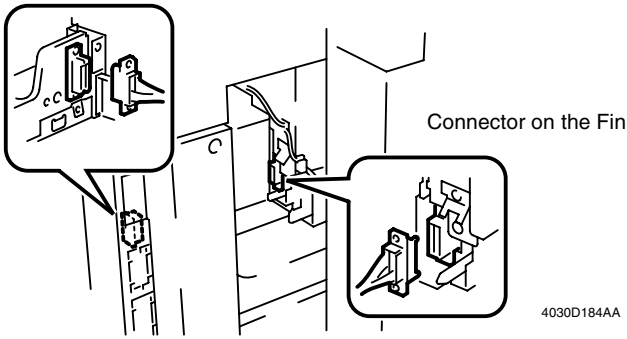
NOTE

- *Be careful that the Horizontal Transport Section can fall, if it has been slid out more than 10 cm.*



6. Connect the Connection Cable to the connector on the Printer and Finisher.

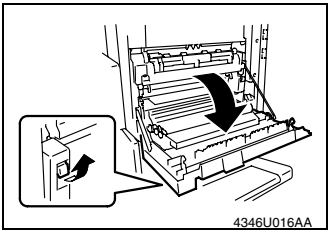
Connector on the Printer



(3) Firmware Upgrade Procedure

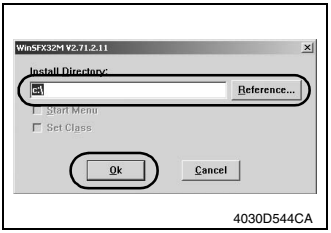
NOTES

- *Be sure to open the Right Door before starting the upgrading procedure.*
- *An error message appears on the Control Panel during the upgrade process. However, this is not an error. Do not power cycle.*
- *If Sleep Mode is enabled, disable or change the time (10 minutes or longer).*



4346U016AA

1. Turn ON the printer power.
2. Open the Right Door.

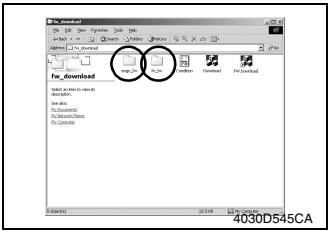


4030D544CA

3. Copy the FW upgrade software to the PC.
4. Double-click the file and click OK.

NOTE

- *When you click the OK button, a folder named fw_download is created automatically on the C drive.*

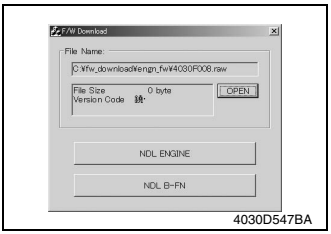


4030D545CA

5. Copy the new firmware in the folder shown below.

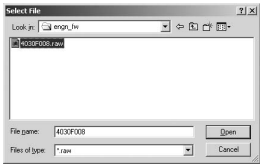
Printer (PWB-A):
c:\fw_download\engn_fw

Finisher (PWB-A FN):
c:\fw_download\fn_fw



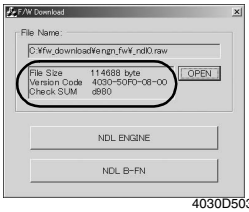
4030D547BA

6. Click the FW Download icon and start the FW upgrade software.



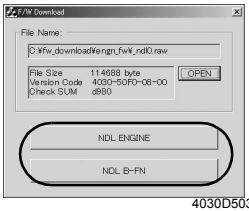
4030D548CA

7. Click Open and select the folder containing the firmware to be upgraded.



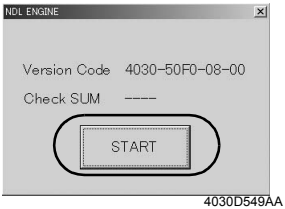
4030D503AA

8. When the folder is selected, a file is selected in File Name.
If a wrong file is selected, select the correct file.



4030D503AA

9. To upgrade the firmware on the Printer, click NDL ENGINE.
To upgrade the firmware on the Finisher, click NDL B-FN.



4030D549AA

10. Click the Start button to upgrade.

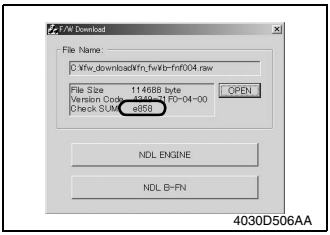


4030D507AA

11. When the upgrade is complete, a completion screen appears.

✻ If an error or hang-up occurs during the upgrade, see Firmware Upgrade Troubleshooting.

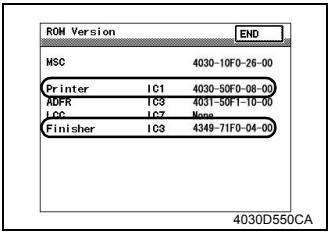
☞ D-77



4030D506AA

12. Check whether the Check SUM in the brackets on the completion screen and the Check SUM on the download result screen match.

✻ If they do not match, start the FW upgrade software and upgrade again.



4030D550CA

13. If they match, the upgrade is complete.
14. Turn OFF the power, unplug all connectors, and turn ON the power.
15. Select Tech. Rep. Mode → ROM Version and check that the Printer version has been changed.

(4) Firmware Upgrade Troubleshooting

✻ FILE SIZE ERROR



4030D536AA

Section	Cause	Action
PC Section	The download file is corrupt.	• Download the file again. • Select the download file.
	Select a file other than the download file.	

✻ CONNECT ERROR



4030D537AA

Section	Cause	Action
Cable Connection Section	The connection of the connector is unstable.	• Check the cable connection between the PC and the Converter. • Check the cable connection between the Converter and the Interface Cable. • Check the cable connection between the Interface Cable and the Connection Cable. • Check the cable connection between the Connection Cable and the Printer.
	Bad Connection Cable	• Replace the Connection Cable.
	Bad Master Board (PWB-A) Bad Control Board (PWB-A FN)	• Replace the Master Board. • Replace the Control Board.

✻ ROM TYPE ERROR



4030D538AA

Section	Cause	Action
Printer Section Finisher Section	The CPU on the Master Board (PWB-A) is a masked ROM.	• Replace the Master Board. • Replace the Control Board.

✻ MACHINE CODE ERROR



4030D539AA

Section	Cause	Action
PC Section	Selected a firmware of a different product for the download file.	• Select the download file.

✻ ERASE ERROR



4030D540AA

Section	Cause	Action
Printer Section	The connection of the harness is unstable.	• Check the harness for proper connection, and correct as necessary.
	The CPU on the Master Board is malfunctioned.	• Power cycle the PC and the power to the copier. • If the error persists, replace the Master Board.

✻ WRITE ERROR



4030D541AA

Section	Cause	Action
Printer Section	The connection of the harness is unstable.	• Check the harness for proper connection, and correct as necessary. • Power cycle the PC and the power to the copier. • If the error persists, replace the Master Board.
	The CPU on the Master Board is malfunctioned.	

✻ CHECK SUM ERROR



4030D542AA

Section	Cause	Action
Printer Section	The connection of the harness is unstable.	• Check the harness for proper connection, and correct as necessary.
	The download file is corrupt.	• Download the file again.

NOTE

- *If an error occurs, an Application error screen may appear on the PC. If this happens, power cycle the PC and the copier.*

5-5. Remounting of the EEPROM

NOTE

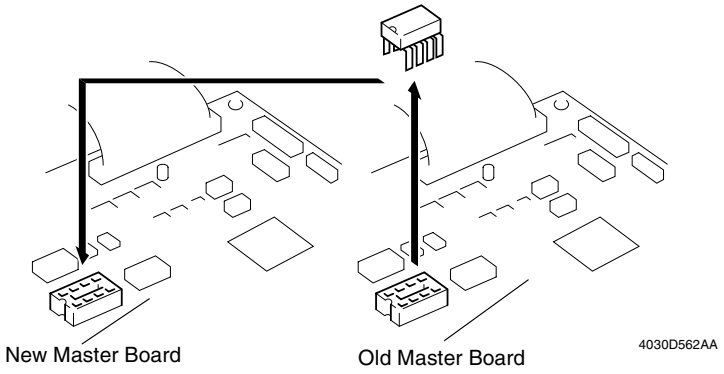
- *When the Master Board is replaced with a new one, be sure to demount the EEPROM (IC3A) from the old Master Board and mount it on the new Master Board.*

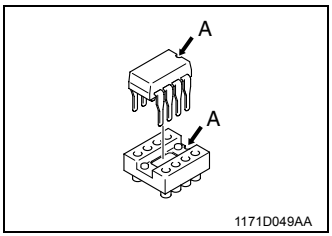
1. Remove the Upper Rear Cover.
2. Remove the Rear Cover.
3. Remove the HDD Assy Cover.

NOTE

- *When the printer is mounted with a HDD, first unplug the HDD connector and then remove the HDD cover.*

4. Remove the Master Board.
5. Demount the EEPROM (IC3A) from the new Master Board.
6. Mount the EEPROM (IC3A) from the old Master Board to the new Master Board.





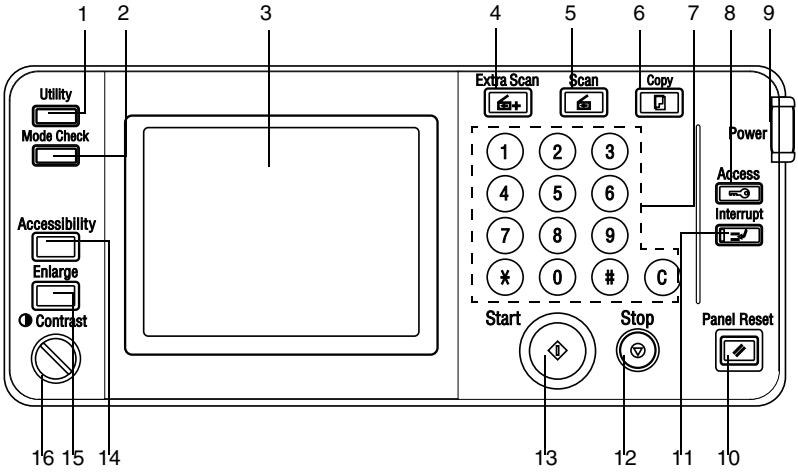
NOTE

- *Note the alignment notch on the EEPROM (IC3A) when mounting the IC.*

SWITCHES ON PWBs, TECH. REP. SETTINGS

1. Functions of switches and parts on PWBs

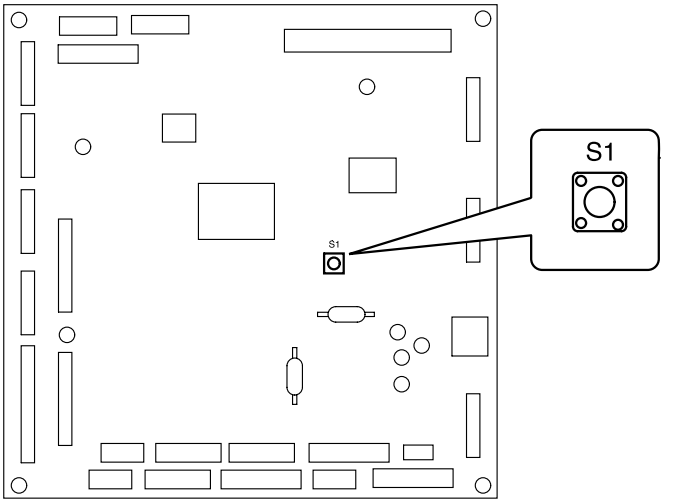
1-1. Control Panel



4030S511CA

No.	Name	Function
1	Utility Key	• Press to display the Utility screen.
2	Mode Check Key	• Lists the current settings on the screen. • Allows access to register the current settings in a program.
3	Touch Panel	• Shows various screens and messages.
4	Extra Scan Key	• Press to use the scanning functions.
5	Scan Key	• Press to select the Scan mode.
6	Copy Key	• Press to select the Copy mode.
7	Keypad	• Use to specify the number of copies to be made. • Use to type in the various numeric values.
8	Access Key	• If account access codes have been set, type in the account access code, and then press this key to display the Basics screen.
9	Sub power switch	• Use to turn the copier on and off.
10	Panel Reset Key	• Resets the screen to its initial display.
11	Interrupt Key	• Enters the Interrupt mode. • Cancels the Interrupt mode.
12	Stop Key	• Stops the print cycle.
13	Start Key	• Starts a print cycle.
14	Accessibility Key	• Allows the user accessibility functions to be activated.
15	Enlarge Key	• Enlarges the screens that appear in the Touch Panel.
16	Contrast Dial	• Adjusts the contrast of the Touch Panel.

1-2. PWB-A (Master Board)



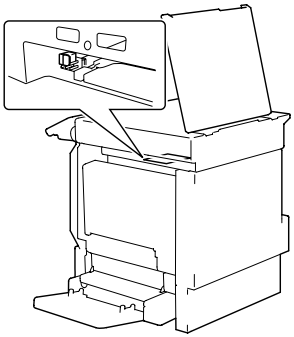
4030S517AA

Symbol	Name	Description
S1	Test Print Switch	Produces the test pattern for Function F12.

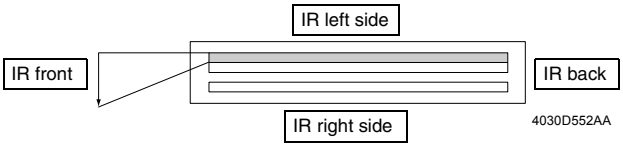
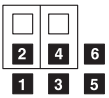
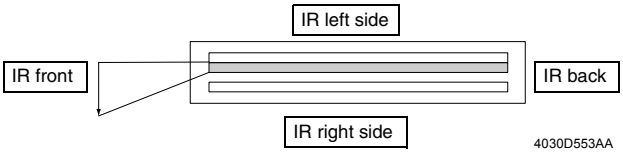
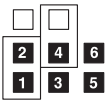
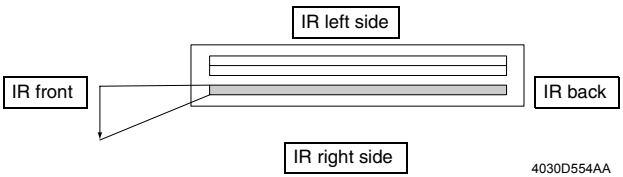
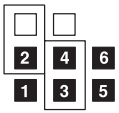
<Procedure>

1. Press S1 to start the feed operation.
2. Press S1 a second time to stop the feed operation.

1-3. ROM Board (Image Reading Section)



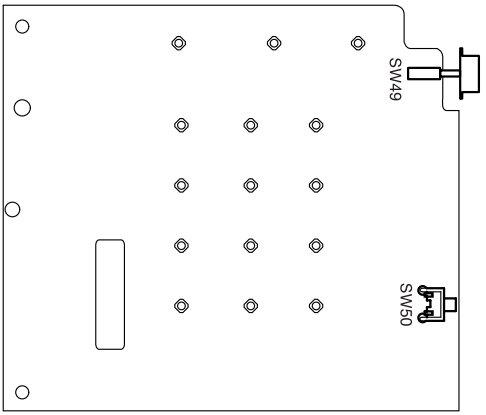
Symbol	Name	Description
U1	Jumper Switch	Adjusts the position of the scanning white reference of a shading sheet.

Shading Sheet Scanning Position	Jumper Switch Setting
Scanning position1 	 4030D555AA
Scanning position 2 	 4030D556AA
Scanning position 3 	 4030D557AA

NOTE

- *Do not change the jumper switch until you are specifically instructed to.*

1-4. UN1 (Control Panel)



4030S518AB

Symbol	Name	Description
SW49	Sub-Switch	Set the Sub-Switch to OFF to enter Sleep mode and turn off the Touch Panel. Copying cannot be performed if the Sub-Switch remains set to OFF.
SW50	Warm Restart Switch	Used to enter the initial mode.

2. Utility mode

2-1. Utility Mode Function Setting Procedure

<Procedure>

1. Press the Utility key.
2. The Utility screen will appear.

<Exiting Procedure>

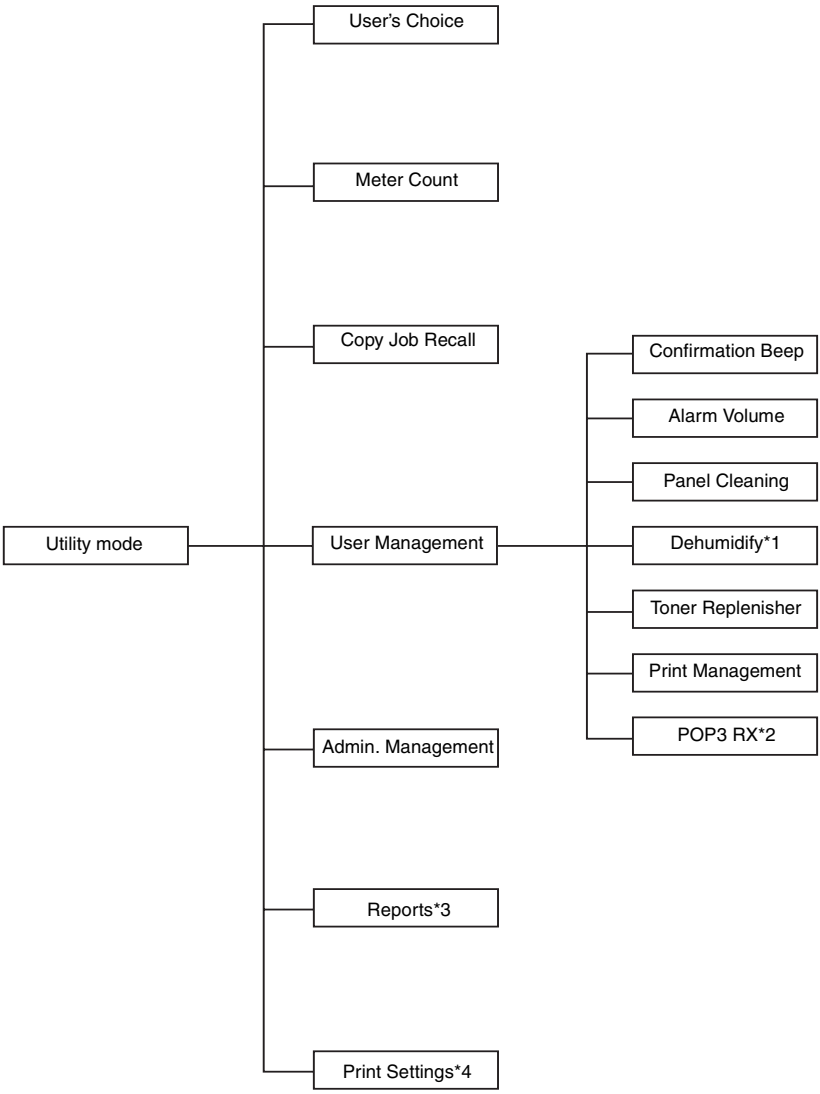
- Touch [Exit].

<Changing the Settings for Utility Mode Functions>

- Use the Access key to switch the value between positive (+) and negative (-).
- Use the up and down arrow buttons to change the setting value.

Use the Keypad to type in the setting value. (To change the setting value, first press the C (clear) key before typing in the new value.)

2-2. Utility Mode Function Tree



*1: Appears when the corresponding Tech. Rep. Choice setting is specified

*2: Appears if a network is not installed

*3: Appears if a network is not installed and Maintenance Mode is set to "ON"

*4: Appears when the Controller is installed

2-3. Settings in the Utility Mode

(1) User's Choice Functions

User's Choice 1/6

Item	Purpose	Setting Details/Precautions
Memory Recall	To select whether or not to permit recalling and copying of image data that has previously been copied.	The default setting is "OFF". ON **OFF**
Mixed Original Detection	To select whether or not the "Mixed Original Detection" function is set when the Power Switch is set to ON or the Panel Reset key is pressed.	The default setting is "OFF". ON **OFF**
Language Selected for LCD	To select the language of the Touch Panel messages.	Select the language, and then touch [Enter] to set the language. **Japanese** English

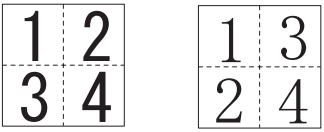
User's Choice 2/6

Item	Purpose	Setting Details/Precautions
Original → Copy Default	To select the default Original → Copy setting selected when the Power Switch is set to ON or the Panel Reset key is pressed. ✻ Some settings are not available depending on the options configured with the copier and the settings made in Tech. Rep. Choice.	• If the "Copy Mode" parameter in System Set of Tech. Rep. Choice is set to "Simplex/Duplex": **1-Sided → 2-Sided** 2-Sided → 2-Sided 1-Sided → 1-Sided • If the "Copy Mode" parameter of Tech. Rep. Choice is set to "Duplex": **1-Sided → 2-Sided** 2-Sided → 2-Sided
Auto Paper/ Auto Size	To select the default copy setting selected when the Power Switch is set to ON or the Panel Reset key is pressed.	The default setting is "Auto Paper". **Auto Paper** Auto Size Manual
Drawer Priority	To select the priority paper source that is selected when the copier is set to "Auto Size" or "Manual".	The default setting is the 1st drawer. **1st Drawer** 2nd Drawer 3rd Drawer 4th Drawer

Item	Purpose	Setting Details/Precautions
Special Paper	To specify the type of paper used in each paper drawer.	The default setting is “Normal”. (Normal, Recycled, Not for 2 Sided, Special)
Multiple-in-1 and Booklet Copy Zoom	To select whether or not the preset Zoom setting is specified when a 2in1, 4in1, or Booklet setting is selected.	The default setting is “ON”. **ON** OFF 4in1: x 0.500 2in1/Booklet: x 0.707

User’s Choice 3/6

Item	Purpose	Setting Details/Precautions
Energy Save Mode	To specify the time until the copier enters Energy Saver mode after a copy cycle has been completed or after the last key operation.	• Use the Keypad to type in the time (1 to 240 min.). • The default setting is 15 minutes. 15 min. (1 to 240 min.)
Sleep Mode Setting	To specify the time until the copier enters Sleep mode after a copy cycle has been completed or after the last key operation. ✻ If the system consists of only a copier, all power is shut down, but if a printer controller is mounted on the copier, only the 5 V line turns ON.	• Use the Keypad to type in the time (1 to 240 min.). • The default setting is 1 min. 1 min. (1 to 240 min.) • The setting “No Reset” becomes available only if the “Disable Sleep Mode” parameter of Admin. 1 is set to “Yes”.
LCD Back-light Off	To specify the time until the backlight for the Touch Panel goes off after a copy cycle has been completed or after the last key operation.	• Use the Keypad to type in the time (1 to 240 min.). • The default setting is 1 min. 1 min. (1 to 240 min.)
Auto Panel Reset	To specify the time until the auto panel reset operation is performed after a copy cycle has been completed or after the last key operation.	The default setting is 1 min. 30 seconds **1 min** 2 min 3 min 5 min No Reset
Plug-In Counter, ID Key Reset	To select whether to reset the copy functions to the default settings when the Plug-In Counter is unplugged, the data controller card is pulled out, or the account access code is typed in.	The default setting is “ON”. **ON** OFF

Item	Purpose	Setting Details/Precautions
4in1 Copy Order	To select the layout of copied images when a 4in1 Copy setting is selected.	The default setting is as follows. **Default** 
Density Priority	To select the Density settings that are selected when the Power Switch is set to ON or the Panel Reset key is pressed.	The default settings are as follows. <Output Density> **Auto** Manual <Original Image Type> Text Photo **Text/Photo**
Default Copy Output Levels	To specify the default density level when either "Auto" is selected or when the density is manually selected.	The default setting for each mode is as follows. When "Auto" is selected: Lighter **Normal** Darker When the density is adjusted manually:  Lighter Darker ✻ EXP1. (light) through EXP9. (dark)
Printing Density	To specify the default print density.	The default setting is "0". -2 -1 **0** 1 2
Output Priority	To select the default Finishing settings. ✻ The contents of the display vary depending on the types of finishing options mounted on the machine.	The default setting is "Non-Sort". **Non-Sort** Corner Staple Sort 2-Point Staple Group Hole Punch

User's Choice 5/6

Item	Purpose	Setting Details/Precautions
Intelligent Sorting	To select whether to enable or disable the function that automatically switches between "Sort" and "Non-Sort" according to the number of originals and the number of copy sets to be made.	The default setting is "OFF". **ON** OFF
Output Tray	To specify the output tray for copies and computer printouts when output options are mounted on the copier.	The default settings for each mode are as follows. (When a Finisher is mounted) Printer **1** 2 Copier 1 **2** ✻ The screen that appears differs depending on the options that are mounted on the copier.
"Small" Originals	To select whether or not to enable copying when an original, whose size falls outside the detectable range, is loaded with the "Auto Paper" setting selected.	The default setting is "OFF" (disable copying). ON **OFF** If "ON" is selected, the copy can be made after a paper source is selected.
Scanner Dry	To specify the time to dehumidify the scanner. ✻ This function appears if the corresponding Tech. Rep. Mode setting is specified.	Use the Keypad to type in the time. Hours 00 to 24 Minutes 00 to 59
Crease/Center Staple	To specify the folding position when the "Crease" setting is selected. To specify the binding position when the "Corner Staple" setting is selected.	• Separately adjust the positions for creasing and center stapling.

User's Choice 6/6

Item	Purpose	Setting Details/Precautions
Density (ADF only)	To adjust the copy image density level when the ADF is being used.	The default setting is as follows. **Mode 1:**  When a standard original (text, etc.) is used Mode 2:  To improve the reproduction of a faint original.

(2) Meter Count

Purpose
To check the count of each counter or print a list of counters.

(3) Copy Job Recall

Purpose	Setting Details/Precautions
To recall a program registered using the "Job Memory Input" function.	Select the program number, and then touch [Exit] to read the program.

(4) User Management

Item	Purpose	Setting Details/Precautions
Confirmation Beep	To set whether or not to produce a sound when a key in the Keypad is pressed.	The default setting is “3”. The setting range is 0 to 5.
Alarm Volume	To specify the volume of the alarm that sounds when an error occurs or an incorrect operation is specified.	The default setting is “3”. The setting range is 0 to 5.
Panel Cleaning	To disable Control Panel operations, allowing the Touch Panel to be cleaned without having to turn off the copier.	To cancel this function, press the Panel Reset key to display the Basics screen.
Dehumidify	To prevent condensation on the PC Drum when there are environmental changes. ✻ This button appears if the corresponding Tech. Rep. Choice setting is specified.	• Touch [Dehumidify] to operate and stop the PC Drum and Exposure Lamp for a set amount of time, according to the selected Tech. Rep. Choice settings. • While dehumidifying, a print operation can be performed; however, the dehumidifying operation will be paused.
Toner Replenisher	To adjust the set toner-to-carrier level by providing an auxiliary supply of toner when a low image density occurs due to a lowered toner-to-carrier ratio after large numbers of copies have been made of originals having a high image density.	• Touch [Toner Replenisher] for the copier to detect the current toner density and, if the density is lower than the standard value, a toner-replenishing sequence, then a developer agitation sequence are performed. If the toner density is detected to be higher than the standard value, only a developer agitation sequence is performed.

(5) Admin. Management

- To enter the 8-digit administrator access code set in Tech. Rep. Mode, allowing you to enter Administrator Management mode. (Default value: 00000000)

Admin. 1

Initial Settings

Item	Purpose	Setting Details/Precautions
Date/Time Set	To set the date and time of day.	• Use the Keypad to type in the date (month, day, and year) and time of the day. • Touch [Enter] to start the clock.
TimeZone	To specify the time difference from Greenwich Mean Time, which is added to the header of e-mail messages that are sent. For Japan, "+9:00" is the standard.	• The time zone can be set between -12:00 and +12:00, in 30-minute intervals.

Admin. Set

Item	Purpose	Setting Details/Precautions
Administrator Code Input	To change the programmed administrator access code.	Use the Keypad and C (clear) key to program or change the administrator access code.
Max. Copy Sets	To set the maximum number of copies that can be made at a time.	• Use the Keypad to type in the maximum number of copies (1 to 99). • The default setting is "OFF". Number of copies **OFF** 1 to 99
Disable Sleep Mode	To display the setting "No Reset" in the Sleep Mode Setting screen, available from the User's Choice screen.	The default setting is "No". Yes **No**

Account Management

Item	Purpose	Setting Details/Precautions
Copy Track Mode	To select the number of accounts to be controlled.	• The default setting is “OFF”. 100 Accounts 1 100 Accounts 2 1000 Accounts **OFF** • With the “100 Accounts 1” setting, a maximum limit can be set for the total number of prints allowed and the Size Counter and the Total Counter can be managed by specifying an access code for each account. • With the “100 Accounts 2” setting, a maximum limit can be set for the total number of prints allowed and the Size Counter and the Total Counter can be managed, whether or not an access code for each account is specified. • With the “1000 Accounts” setting, the Total Counter can be managed for each account. • If the setting is changed, the account data is initialized and the selected Copy Track Mode setting is applied. • The “100 Accounts 2” setting does not appear if a fax is not installed.
Copy Track Data	• To register the account to be managed, then specify the total number of prints allowed and the access code when managing 100 accounts. • To display or print out the list of account data. • To clear either all counters for an account or all account data.	• Select the account, and then output the account data. ✻ The counter data can be cleared by clearing either individual counter data for each account (can be cleared by pressing the C (clear) key) or all counter data for all accounts. If the “100 Accounts 1” setting is selected: • Accounts can be managed by typing in the access code for each account. • Up to 99 accounts can be registered. If the “1000 Accounts” setting is selected: • Accounts can be managed by typing in the account code for each account. • Up to 999 accounts can be registered.

Report Print

Item	Purpose
Settings List	To print a list of the corresponding selected settings. • Transmission Activity Report • Reception Activity Report • One-Touch Key List • Fax Programs • Bulletin List • Progress List
Transmission List	To print each list of type of transmission. • Transmission Activity Report • Reception Activity Report

Admin. 2

Soft SW Settings

✻ Refer to the FAX Service Manual.

2-4. Tech. Rep. Mode Function Setting Procedure

NOTE

- *Be sure to keep the setting procedures for Tech. Rep. Mode functions from any unauthorized persons not involved with service operations.*

<Procedure>

1. Press the Utility key.
2. Touch [Meter Count].
3. Press the following keys in order.
   Stop → 0 → 0 → Stop → 0 → 1
4. The Tech. Rep. Mode screen appears.

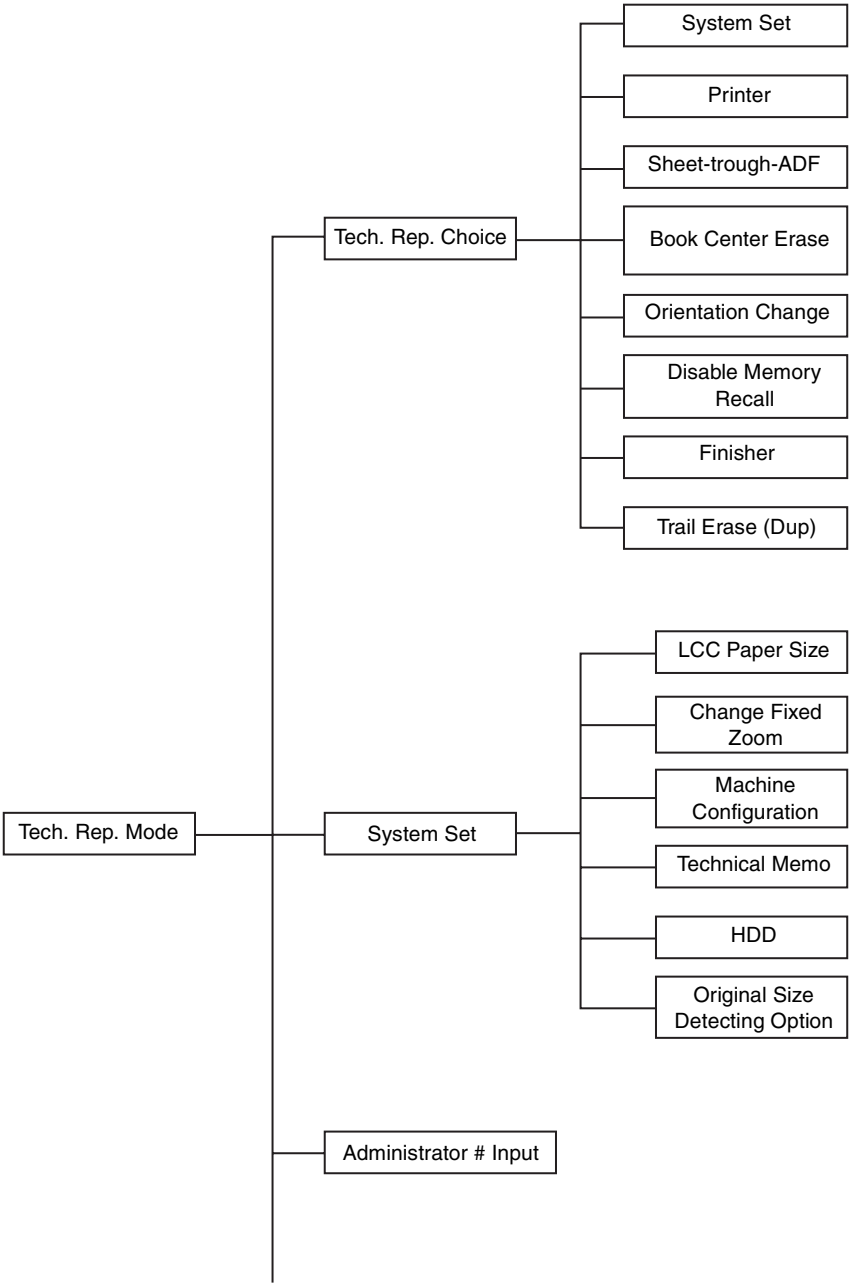
<Exiting Procedure>

- Touch [END].

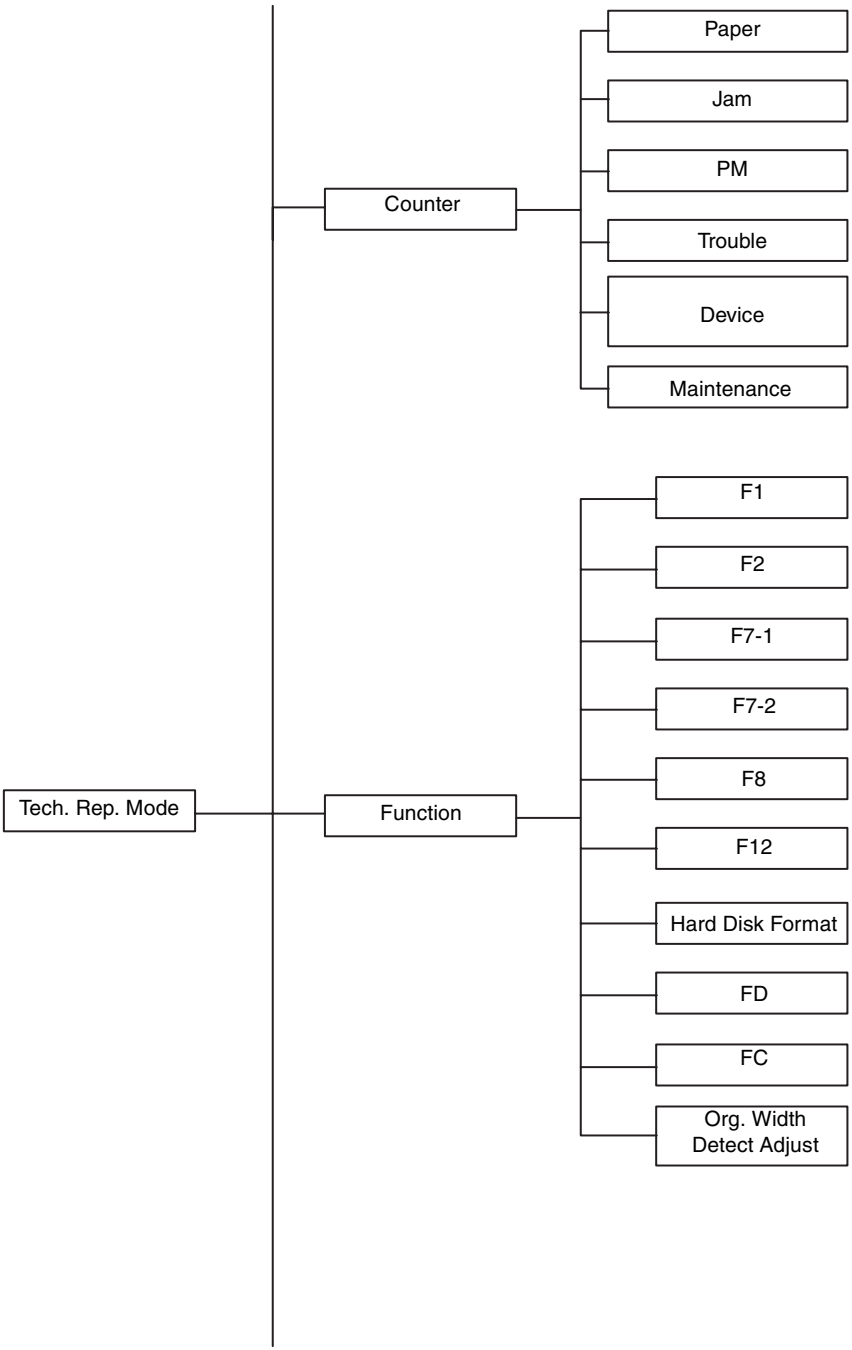
<Changing the Settings for Tech. Rep. Mode Functions>

- Use the Access key to switch the value between positive (+) and negative (-).
- Use the up and down arrow buttons to change the setting value.
- Use the Keypad to type in the setting value. (To change the setting value, first press the C (clear) key before typing in the new value.))

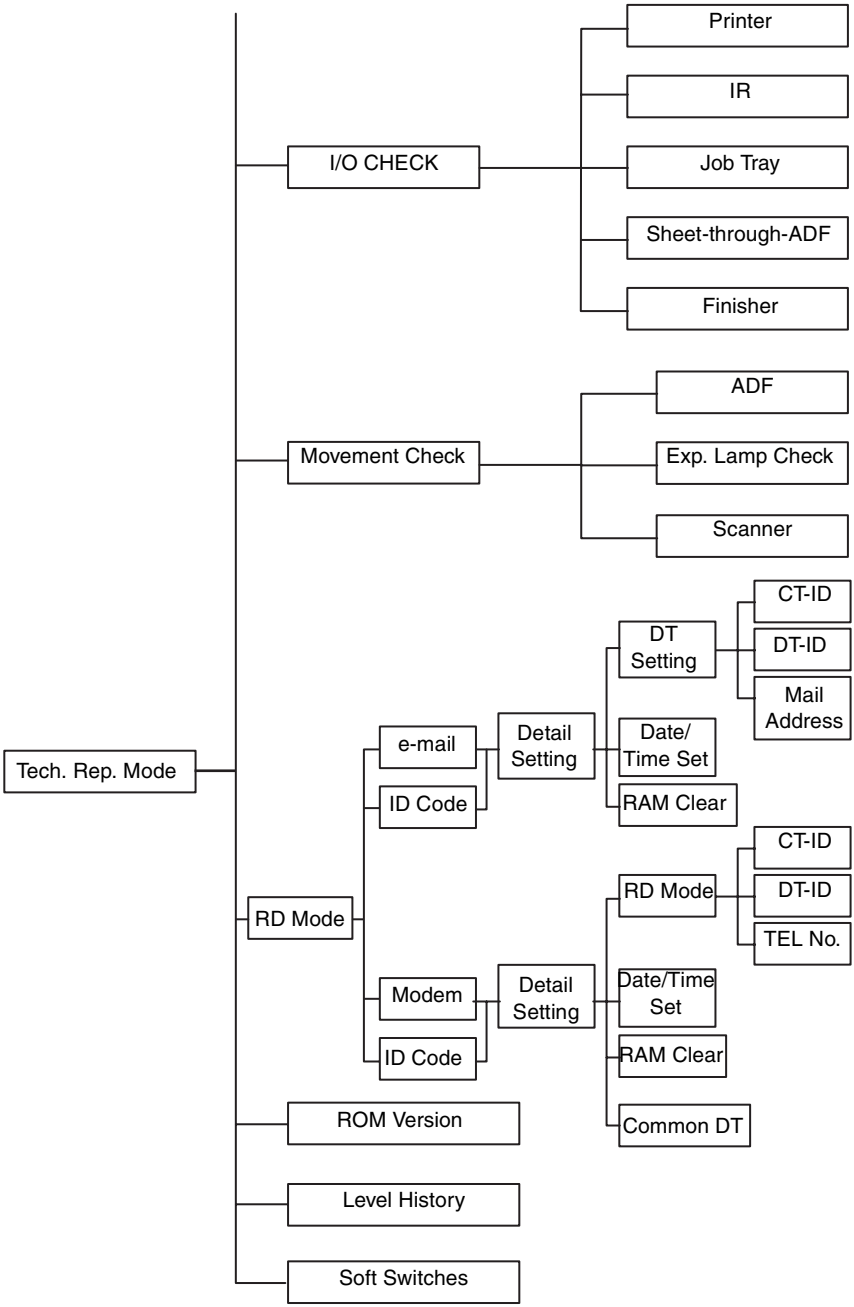
(1) Tech. Rep. Mode Function Tree



4030S505AA


Tech. Rep. Mode
Counter
Paper
Jam
PM
Trouble
Device
Maintenance
Function
F1
F2
F7-1
F7-2
F8
F12
Hard Disk Format
FD
FC
Org. Width
Detect Adjust

4030S506AA


Tech. Rep. Mode
I/O CHECK
Printer
IR
Job Tray
Sheet-through-ADF
Finisher
Movement Check
ADF
Exp. Lamp Check
Scanner
RD Mode
e-mail
ID Code
Detail Setting
DT Setting
CT-ID
DT-ID
Mail Address
Date/ Time Set
RAM Clear
Modem
ID Code
Detail Setting
RD Mode
CT-ID
DT-ID
TEL No.
Date/Time Set
RAM Clear
Common DT
ROM Version
Level History
Soft Switches

4030S507AA

(2) Settings in the Tech. Rep. Mode

Tech. Rep. Choice

Item		Purpose	Setting Details/Precautions
System Set	Auto Paper Configuration	To select whether the paper source is selected according to the results of the original size detection or whether the nearest larger size is selected according to the marketing region. ✻ Upon setup ✻ As requested by the user	• The default setting is as follows. **Inch/Metric** Inch Inch/Metric • *Selects the most appropriate size, regardless of the marketing area of the detected original size.* Inch • Separates the detected original sizes into metric sizes and inch sizes according to the marketing area, and selects the appropriate set.
	FLS Paper	To set the paper size for foolscap. ✻ When the FLS paper size is changed ✻ Upon setup	Select the foolscap paper size from among the following four. F: 330 mm F: **330 mm** F: 330 mm C: 203 mm C: **210 mm** C: 216 mm F: 330 mm C: 220 mm
	Simplex/ Duplex	To select whether or not the "1-Sided → 1-Sided" setting is available for the "Original → Copy Default" function in User's Choice. ✻ Upon setup ✻ As requested by the user	• The default setting is "Duplex Only". **Simplex/Duplex** Duplex Only Simplex/Duplex • All settings are available. Duplex Only • Permits selection of 2-sided copying modes only.

Item		Purpose	Setting Details/Precautions
System Set	Dry Key Set	To select whether or not the “Dehumidify” button is available on the User Management screen of the Utility mode. ✻ Upon setup ✻ When the image density is low	• The default setting is “Scanner Only”. **Scanner** Scanner & Drum Disable • Scanner Only The “Dehumidify” button appears and the operation is performed only for the scanner. • Scanner & Drum The “Dehumidify” button appears and the operation is performed for both the scanner and the PC Drum. • Disable The “Dehumidify” button does not appear.
	Function Limit	To select whether or not access to some of the copy functions is restricted. ✻ Upon setup ✻ As requested by the user	The default setting is “OFF”. ON **OFF** If “ON” is selected: • The Orig. / Copy settings and Auxiliary functions cannot be used. If “OFF” is selected: • All copy functions are available.
	Special Image	To select whether or not the “Special Image” setting is available on the Density screen. ✻ Upon setup ✻ As requested by the user	*If the key appears selected: The “Special Image” setting is available on the Density screen. *If the key does not appear selected: The “Special Image” setting is not available on the Density screen.
Printer	Edge Erase	To change the laser emission timing to adjust the width of the image area that is erased at the leading edge, trailing edge and top and bottom. ✻ When the PH unit is replaced	• The setting range is 0 to 5 mm, with 4 mm being the default. • The default setting for the amount erased at the trailing edge of a 2-sided page is 2 mm.

Item		Purpose	Setting Details/Precautions
Printer	Loop Adjustment	To adjust the length of the loop formed in the paper before the Synchronizing Rollers. ✻ When a paper skew occurs ✻ When a paper jam occurs	• Adjust for each of the drawers, Manual Bypass Paper Take-Up, and Duplex Unit. The adjustment range is -5 mm to +5 mm. • Use function F1 to check the paper feeding.
	Image Density	To change the Vg and Vb of the engine to select the image density. ✻ When the image density is high or low:	✻ With the Printing Density setting specified in User's Choice as a reference point, the density can be set to one of seven settings. The adjustment range is -3 mm to +3 mm.
	ATDC Sensor Gain	To display the value automatically adjusted using function F8 and to change that value. ✻ When the spare Developing Unit or the Imaging Unit has been temporarily used	Current ATDC control voltage automatically adjusted using function F8 Set Change the current value. Normally, the value displayed here is the same as that displayed for Current. ✻ If a Developing Unit other than a new one is installed, type in the setting for the installed product. The setting range is 123 to 186.
	VG Adjust	To change the Vg setting for sensitivity variations due to the durability of the PC Drum and adjust the image density. ✻ When the PC Drum Unit is replaced	• The adjustment range is -2 mm to +2 mm. Foggy background • Set a larger Vg setting (toward the + end). Carrier adhesion • Set a smaller Vg setting (toward the - end).
	Fuser Temp.	To adjust the temperature of the Fusing Roller for each paper type in order to change the fusing performance according to the operating environment and paper type. ✻ When a fusing failure occurs ✻ When the paper type is changed	Adjust the fusing temperature for each paper type. Plain paper: 1 to 4 Thick paper: 1 to 3 OHP transparencies: 1 to 3 ✻ For details, refer to the table of fusing temperatures. ☞ S-25

Item		Purpose	Setting Details/Precautions
Sheet-throuth-ADF	Registration Loop	To adjust the length of the loop formed in the paper before the Registration Rollers. ✻ When a document misfeed or a paper skew occurs	• Use the Keypad to type in the loop length, and then check the paper feeding. • If slippage occurs due to a worn Document Take-Up Roller, which sometimes results in misfeeds, the loop length may be increased as a temporary measure until the part can be replaced with a new one. The adjustment range is -5 mm to +5 mm.
	Zoom Adjust	To set the scanning zoom ratio in the main and sub scanning directions of the Sheet-throuth-ADF. ✻ Upon setup of the Automatic Document Feeder	• The range for the main scanning direction is 0.990 to 1.010, with 1.000 being the default. • The range for the sub scanning direction is 0.980 to 1.020, with 1.000 being the default.
	Feed (CD)	To adjust the scan start position in the main scanning direction (CD) of the Sheet-throuth-ADF. ✻ Upon setup of the Sheet-throuth-ADF	The default setting is “0”. The adjustment range is -72 mm to +72 mm.
	Feed (FD)	To adjust the scan start position in the sub scanning direction (FD) of the Sheet-throuth-ADF. ✻ Upon setup of the Sheet-throuth-ADF	The default setting is “0”. The adjustment range is -4.0 mm to +4.0 mm.
Book Center Erase		To change the amount erased along the center of a book. ✻ As requested by the user	The setting range is 2 to 20 mm, with 12 mm being the default.
Orientation Change		• To set the orientation of the image that is fed out (eject direction) when performing normal copy operations and when stapling or punching holes.	If “OFF” is selected: • The eject direction (image orientation) differs for normal copy operations and when stapling and punching holes. If “ON” is selected: • The eject direction (image orientation) is the same for normal copy operations and when stapling and punching holes.

Item		Purpose	Setting Details/Precautions
Disable Memory Recall		To set whether or not the “Memory Recall” function can be set in User’s Choice.	If “Yes” is selected, the “Memory Recall” function in User’s Choice can be set. **Yes** No
Finisher	Punch Stop Position	To adjust the position of the punched holes.	Adjust the position of the punched holes. The adjustment range is -10 mm to +10 mm.
	Punch Loop	To form a loop at the leading edge of the paper in order to reduce errors in paper feeding when holes are punched. To adjust in order to form a loop.	Adjust the length of the loop at the leading edge of the punched paper. The adjustment range is -4 mm to +4 mm.
Trail Erase (Dup)		To set the adjustment value for the amount of forced image loss at the trailing edge of a 2-sided page (back side).	The amount erased at the trailing edge of the second side of a 2-sided print is the Trailing setting for Edge Erase + Duplex Trailing Erase setting. The adjustment range is 0 mm to 5 mm.

Table of Temperatures for Adjusting the Fusing Temperature

✻ Plain Paper

Touch Panel Setting		Paper width	Marketing region	Tech. Rep. Choice Setting	
				Mode 1	Mode 3
				Heater temperature (main/sub)	
1	Di3510	221 or more	MSJ/MC	180 °C	
			ME	200 °C	190 °C
		220 mm or less	MSJ/MC	170 °C	
			ME	180 °C	
	Di3010 Di2510	221 or more	MSJ/MC	180 °C	
			ME		
		220 mm or less	MSJ/MC	160 °C	
			ME	180 °C	
2	Di3510	221 or more	MSJ/MC	190 °C	
			ME	200 °C	
		220 mm or less	MSJ/MC	180 °C	
			ME	190 °C	
	Di3010 Di2510	221 or more	MSJ/MC	190 °C	
			ME		
		220 mm or less	MSJ/MC	170 °C	
			ME	190 °C	
3	Di3510	221 or more	MSJ/MC	200 °C	
			ME	190 °C	
		220 mm or less	MSJ/MC	190 °C	
			ME	170 °C	
	Di3010 Di2510	221 or more	MSJ/MC	200 °C	
			ME		
		220 mm or less	MSJ/MC	180 °C	
			ME	200 °C	
4	Di3510	221 or more	MSJ/MC	170 °C	
			ME	180 °C	
		220 mm or less	MSJ/MC	160 °C	
			ME		
	Di3010 Di2510	221 or more	MSJ/MC	170 °C	
			ME		
		220 mm or less	MSJ/MC	160 °C	
			ME	170 °C	

✻ Special Paper

Touch Panel Setting	Tech. Rep. Choice Setting	
	Mode 1	Mode 3
	Heater temperature (main/sub)	
1	200 °C	
2	190 °C	
3	180 °C	

✻ OHP Transparencies

Touch Panel Setting	Tech. Rep. Choice Setting	
	Mode 1	Mode 3
	Heater temperature (main/sub)	
1	155 °C	
2	165 °C	
3	145 °C	

(3) System Input

Item	Purpose	Setting Details/Precautions
LCC Paper Size	To enter the paper size when the LCC is installed.	Select the paper size.
Change Fixed Zoom	To change the fixed zoom ratio.	• Use the Keypad to type in the zoom ratio. • Touch [Input] to apply the new setting. • If the setting is accidentally cleared, press the Interrupt key to restore the original value.
Machine Configuration	Displays the machine configuration.	"Yes" or "No" indicates whether or not the option is installed.
Technical Memo	Enter the serial number and other data.	Use the buttons in the Touch Panel to type in the characters.
HDD	✻ Appears if a hard disk drive is installed	The default setting is "Unset".
Original Size Detecting Option	To set that the copier recognizes an optional Original Size Detecting Sensor when one is mounted. ✻ When an optional sensor is mounted	After an optional Original Size Detecting Sensor has been mounted, select "Set". Set Unset ✻ After an optional Original Size Detecting Sensor has been mounted, run function F7-1 to adjust the sensor.
Server Setup (RD)	Appears if a Data Terminal is installed	To specify the settings necessary when a Data Terminal is mounted.

(4) Administrator # Input

- To enter the 8-digit administrator access code set in Tech. Rep. Mode, allowing you to enter Administrator Management mode. (Default setting: 00000000)

Purpose	Setting Details/Precautions
To register the administrator access code for entering the Administrator Management mode on the Utility screen.	• Use the Keypad to change the setting. • A number up to 8 digits long can be entered.

(5) Counter

- To clear all data in a counter, touch [Counter Reset], select the counter to be cleared, and touch [END].

Item	Purpose	Setting Details/Precautions
Paper	To display the number of sheets used for each paper size and each paper type. To clear the data for any counter.	• Test prints made in Tech. Rep. Mode to check the operation are not counted. • To clear a counter, select the counter to be cleared, and then press the C (clear) key. • If the counter is accidentally cleared, press the Interrupt key to restore the original value.
Jam	To display the number and frequency of misfeeds. To clear the data for any counter.	• To clear a counter, select the counter to be cleared, and then press the C (clear) key. • If the counter is accidentally cleared, press the Interrupt key to restore the original value.
PM	To display the number of times that each PM part is used. To clear the data for any counter. ✻ When any maintenance part is replaced	• To clear a counter, select the counter to be cleared, and then press the C (clear) key. • If the counter is accidentally cleared, press the Interrupt key to restore the original value. PC Life . . . . . Is the ratio of the PC Drum roration compared to PC Drum Life I/C Life . . . . . Displays the number of prints according to the length of the paper Developer . . . . . Number of times that the Developing Unit is replaced

Item	Purpose	Setting Details/Precautions
PM	To display the number of times that each PM part is used. To clear the data for any counter. ✻ When any maintenance part is replaced	Bypass . . . . . Number of sheets of paper fed from the Manual Feed Tray 1st Drawer . . . . . Number of sheets of paper fed from the 1st Drawer 2nd Drawer . . . . . Number of sheets of paper fed from the 2nd Drawer 3rd Drawer . . . . . Number of sheets of paper fed from the 3rd Drawer 4th Drawer . . . . . Number of sheets of paper fed from the 4th Drawer LCC Part 1 . . . . . Number of sheets of paper fed from the LCC Other PM Parts 1 . . Number of sheets of paper fed Other PM Parts 2 . . Number of sheets of paper fed Other PM Parts 3 . . Number of sheets of paper fed ADF Take-up . . . . . Number of document pages fed through the take-up section of the ADF ADF Reverse . . . . . Number of document pages fed through the turnover unit of the ADF Scanner Clean 1 . . Number of IR scans Scanner Clean 2 . . Number of IR scans Toner Pages. . . . . Number of pages equivalent to the number of black dots on A4 original with B/W 5% Fusing Unit. . . . . Number of pages fed out
Trouble	To check the number of malfunctions that have occurred for each type of malfunction. To clear the data for the counter.	• To clear a counter, select the counter to be cleared, and then press the C (clear) key. • If the counter is accidentally cleared, press the Interrupt key to restore the original value.
Device	To display the number of times each operation has been used. To clear the data for the counter.	• To clear a counter, select the counter to be cleared, and then press the C (clear) key. • If the counter is accidentally cleared, press the Interrupt key to restore the original value.

Item	Purpose	Setting Details/Precautions
Maintenance	To set the counter value at which maintenance should be performed for any given part. ✻ When the part is replaced	<Maintenance (Setting)> • Use the Keypad to type in the maintenance counter value. <Maintenance (Count)> • Counts up when a sheet of paper is fed through the copier. Pressing the C (clear) key will clear the counter. • If the counter is accidentally cleared, press the Interrupt key to restore the original value. • When the counter value reaches the specified setting, a message to request maintenance appears in the Touch Panel.

(6) Function

Item	Purpose	Setting Details/Precautions
F1	To check the paper feeding in the paper take-up/transport sections without printing on the paper with the engine unit. 1. When a paper misfeed occurs	• Touch [2 Sided] to feed out the paper along the paper path for 2-sided copying. • Select the paper source, and then press the Start key. • The sequence is halted when the Stop key is pressed or there is no paper. These pages are not counted with the counters.
F2	This test is for factory adjustment only and should NOT be used.	
F7-1	To automatically adjust the Original Size Detecting Sensor. ✻ When the Original Size Detecting Sensor is replaced ✻ When an optional sensor is mounted	• Place a sheet of white paper on the Original Glass. • Press the Start key to start the operation. ✻ For details, refer to “Disassembly/Assembly/Adjustment”. ☞ D-69
F7-2	To automatically adjust the Original Size Detecting Sensor. (only for a FAX) ✻ When the Original Size Detecting Sensor is replaced ✻ When an optional sensor is mounted	• Refer to the FAX Service Manual.

Item	Purpose	Setting Details/Precautions
F8	To automatically adjust the ATDC sensor. ✻ When developer is replaced	• Press the Start key to perform the ATDC sensor gain adjustment. • After the adjustment is finished, the operation stops automatically. • The adjusted setting overwrites the current setting for ATDC Sensor Gain in Printer of Tech. Rep. Mode.
F12	To print on paper with the engine unit and check the printing and paper feeding in the paper take-up/transport sections.	• Touch [2 Sided] to feed out the paper along the paper path for 2-sided copying. • Select the paper source, and then press the Start key. The sequence is halted when the Stop key is pressed or there is no paper.
Hard Disk Format	To format the hard disk. ✻ When a hard disk drive is installed ✻ When the hard disk is initialized	• Press the Start key to begin the HDD formatting operation. • All data on the hard disk is erased.
FD	To set the maximum and minimum sizes for manually fed paper. ✻ When the Manual Feed Unit is replaced	• Load paper with a maximum size of 301 mm into the Manual Feed Tray. • In the Touch Panel, touch [Maximum Size], and then press the Start key to automatically adjust the setting. • Load paper with a minimum size of 89 mm into the Manual Feed Tray. • In the Touch Panel, touch [Minimum Size], and then press the Start key to automatically adjust the setting.

Item	Purpose	Setting Details/Precautions
FC	To check the Finisher operations.	Select an operation, and then press the Start key to begin the operation. Mode 1 • Performs the move operation for the Stapling Unit. Mode 2 • Performs the move operation for the Aligning Plate. Mode 3 • Performs the ascent operation for the Elevator Tray. Mode 4 • Performs the descent operation for the Elevator Tray. Mode 5 (*1) • Performs the Punch drive operation. Mode 6 (*1) • Performs the Punch drive operation. (2 holes) Mode 7 • Performs the open/close operations for the Exit. Mode 8 (*2) • Performs the drive operation for the Creasing Unit. Mode 9 (*2) • Performs the open/close operations for the Saddle Exit. Mode 10 • Drives the transport section. Mode 11 • Performs the open/close operations for the Shutter. Mode 12 (*3) • Drives the Mail Bin Solenoid. Mode 13 • Performs the single rotate operation for the Storage Paddle. Mode 14 • Performs the single rotate operation for the Exit Paddle.
Document Width Detection	ADF Original Size Detecting	Refer to the Service Manual for the relevant option.

✻ 1: appears only when the Punch Kit PK-6 is installed

✻ 2: appears only when the Saddle Kit SK-1 is installed

✻ 3: appears only when the Mail Bin Kit MK-1 is installed

(7) I/O CHECK

Item	Purpose	Setting Details/Precautions
Printer	To display the statuses of the copier sensors and switches. ✻ Use when a malfunction or misfeed occurs.	• Sensor status are indicated with “0” (low) and “1” (high). • The sensor and switch operations can be checked in real time.
IR	To display the statuses of the sensors in the Image Reading Section. ✻ Use when a malfunction or misfeed occurs.	• Sensor status are indicated with “0” (low) and “1” (high). • The sensor and switch operations can be checked in real time.
Job Tray	To display the statuses of the sensors in the Finishing Option. ✻ Use when a malfunction or misfeed occurs.	• Sensor status are indicated with “0” (low) and “1” (high). The sensor and switch operations can be checked in real time.
Sheet-through-ADF (2-Sided)	To display the sensors and variable resistors installed in the Sheet-through-ADF. ✻ Use when a malfunction or misfeed occurs.	• Sensor status are indicated with “0” (low) and “1” (high). The sensor and switch operations can be checked in real time.
Finisher	To display the statuses of the sensors and switches installed in the Finisher, Mail Bin Kit and Saddle Finisher. ✻ Use when a malfunction or misfeed occurs.	• Sensor status are indicated with “0” (low) and “1” (high). The sensor and switch operations can be checked in real time.

(8) Movement Check

Item	Purpose	Setting Details/Precautions
ADF	To check the operation of ADF.	Paper Passage • Load a document into the Automatic Document Feeder, and then press the Start key to begin the feed operation. • Press the Stop key to stop the feed operation. Sensor Adjust (Auto) • Press the Start key to begins the automatic adjustment of the sensors. Backup Data Initialization • Resets the settings specified with Sensor Auto Adjust. • After the reset operation is finished, the operation stops automatically.
Exp. Lamp Check	To check the intensity of the Exposure Lamp in the Image Reading Section.	Use the Keypad to type in the amount to move, and then touch [END]. • Drives the CCD (for factory adjustment only and should NEVER be used). • Turns on the Exposure Lamp. • Moves the Scanner.
Scanner	To check the operation of the Scanner.	

(9) RD Mode

- To specify the settings necessary when a Data Terminal is mounted. (For details, refer to the Service Manual for the Data Terminal.)

Item	Purpose	Setting Details/Precautions
e-mail / Modem	To select the RD system type.	Select either “e-mail” or “Modem”.
ID Code	To register the Tech. Rep. ID code and perform a maintenance start transmission.	• Use the Keypad to type in a 7-digit code. (0000001 to 9999999) <Registration> When the ID code is entered, it is registered. <Maintenance Start Transmission> Touch [ID Code], and then type in the ID code to begin the transmission to the Center.
DT Setting	To specify the DT setting and perform the initial transmission.	<DT Setting> Specify settings for Password, DT-ID, and TEL No. ✻ If “e-mail” was selected for ID Setting, TEL No. becomes the e-mail address. <Initial Transmission> Touch [Initial Transmission] to send the transmission to the Center and register the copier. (only if Modem is selected for System Input)
Date/Time Set	To set the date and time of day.	Use the Keypad to type in the date (month, day, and year) and time of the day. Touch [Enter] to start the clock.
Common DT	To specify tone/pulse and automatic reception settings.	The default settings are “Tone” and “Disable” (disable automatic reception).
RAM Clear	To clear the data for the Center.	• The data for the following are cleared. ID Code, DT Setting, Date/Time Input, and Common DT

(10) ROM Version

Purpose	Setting Details/Precautions	
To check the ROM version. ✻ When the firmware is upgraded or a PWB is replaced.	MSC	PWB-PIC
	Printer	PWB-A
	LCC	PWB-A
	Finisher	PWB-A
	✻ If the option is not installed, “None” appears.	

(11) Level History

Purpose	Setting Details/Precautions
To display the various level histories. ✻ Used for troubleshooting of image problems.	ATDC Set • Displays the voltage set with the automatic ATDC sensor adjustment. ATDC Current • Displays the T/C ratio for the ATDC sensor. Vg Current • Displays the current value of the grid voltage. Vb Current • Displays the current value of the developing bias voltage.

(12) Software Switch Settings

✻ Refer to the FAX Service Manual.

3. Security Mode

3-1. Security Mode Setting Procedure

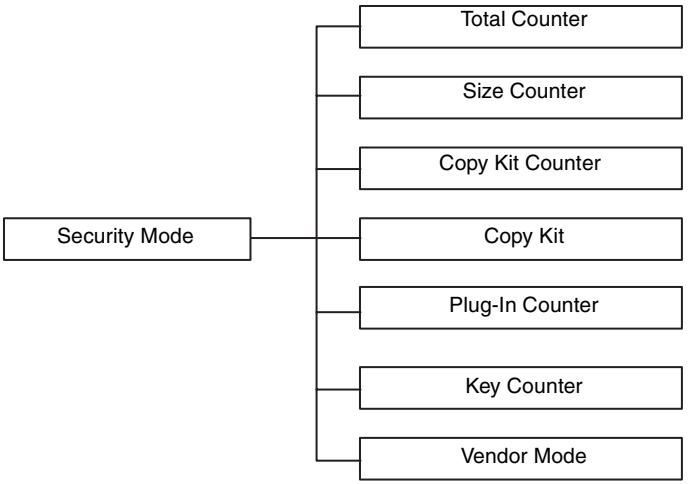
<Procedure>

1. Display the Tech. Rep. Mode screen.
2. Press the following keys in order.
   Stop → 9
3. Select a function.

<Exiting Procedure>

- Touch [END].

3-2. Security Mode Function Tree



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3-3. Settings in the Security Mode

(1) Total Counter Count

Purpose	Setting Details/Precautions
To set the counting method for the Total Counter.	The default setting is “Mode 1”. **Mode 1** Mode 2 Mode 3 Mode 1: 1 count per copy cycle Mode 2: Paper size

(2) Size Counter Count

Purpose	Setting Details/Precautions
To set the counting method for the Size Counter.	The default setting is “No Count”. • **No Count** • A3/11x17 • A3/B4/11x17/Legal • A3/B4/11x17/11x14/FLS/Legal

Count Table for the Total Counter and Size Counter

Copy Mode		For 1-sided copies						For 2-sided copies					
Setting	Size Counter Count	Non-standard size			Standard size			Non-standard size			Standard size		
	Total Counter Count	Modes			Modes			Modes			Modes		
		1	2	3	1	2	3	1	2	3	1	2	3
Count	Total Counter	1			1	2	2	2			2	4	4
	Size Counter	0			1	1	2	0			2	2	0
	2-Sided Total Counter	0			0			1	1	2	1	1	4
	2-Sided Size Counter	0			0			0			1	1	4
	Total by Account	1			1	2	2	2			2	4	4
	Size by Account	0			1	1	2	0			2	2	4

(3) Copy Kit Counter

Purpose	Setting Details/Precautions
To select whether to enable or disable the Copy Kit Counter.	The default setting is “Mode 1”. **Mode 1** Mode 2 Mode 3 Mode 1: The Copy Kit Counter is disabled. Mode 2: Copying continues even after the set value is reached. Mode 3: Copying is prohibited after the set value is reached.

(4) Copy Kit

Purpose	Setting Details/Precautions
To enter a value for the Copy Kit Counter.	When the current value reaches the set value, the following appears. Mode 2: The icon “ ” appears in the Additional Message Display. Mode 3: The maintenance call reminder “M4” appears and copying is prohibited. • Press the C (clear) key to clear the set value. • Use the Keypad to type in the set value. • If the set value is accidentally cleared, press the Interrupt key to restore the original value.

(5) Plug-In Counter

Purpose	Setting Details/Precautions
To select the counting method.	• The default setting is “Copy Mode”. **Copy Mode** Copy Cycle Number of Pages • The count increments according to the number of pages that is outputted. Copies • The count increments according to the number of copies.

Count Table for the Plug-In Counter

Copy Mode		For 1-sided copies						For 2-sided copies					
Setting	Size Counter Count	Non-standard size			Standard size			Non-standard size			Standard size		
	Total Counter Count	Modes			Modes			Modes			Modes		
		1	2	3	1	2	3	1	2	3	1	2	3
Count	With “Number of Pages” selected	1			1	2	2	2			2	4	4
	With “Copies” selected	1			1	1	2	0			2	2	4

(6) Key Counter

Purpose	Setting Details/Precautions
To select whether to enable or disable the Key Counter.	• If the Key Counter is installed, select “ON”. ***NOTE*** • *If “OFF” is selected, copies can be made without having to plugging the Key Counter into the socket.* • The default setting is “OFF”. ON **OFF**

(7) Vendor Mode

Purpose	Setting Details/Precautions
When the Key Counter, Coin Vendor or Data Controller is installed, select the appropriate option.	To select the mounted option. Key Coin Card

4. Adjust Mode

4-1. Adjust Mode Setting Procedure

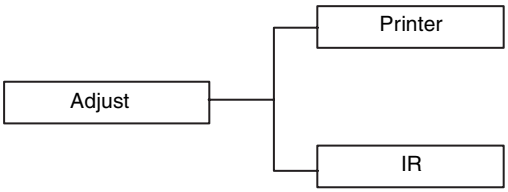
<Procedure>

1. Display the Tech. Rep. Mode screen.
2. Press the following keys in order.
   Stop → Start
3. Select a function.

<Exiting Procedure>

- Touch [END].

4-2. Adjust Mode Function Tree



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4-3. Settings in the Adjust Mode

(1) Printer

Item	Purpose	Setting Details/Precautions
Registration (CD)	To vary and adjust the print start position in the main scanning direction for each paper source. ✻ When the image on the copy deviates horizontally ✻ When a Paper Take-Up Unit is installed ✻ When the PH unit is replaced	• Select the paper source, touch [Test Print] to print out a test pattern. The adjustment range is -4 mm to +4 mm.
Registration (FD)	To adjust the print start position in the sub scanning direction for the 1st Drawer. ✻ When the PH unit is replaced ✻ When the paper type is changed	• Use the Keypad to type in the registration adjustment value. • After specifying a value, touch [Test Print], select the specified paper source, and then press the Start key to print a test page. Di3510 The adjustment range is -19 mm to +19 mm. Di3010/Di2510 The adjustment range is -21 mm to +21 mm.

(2) IR

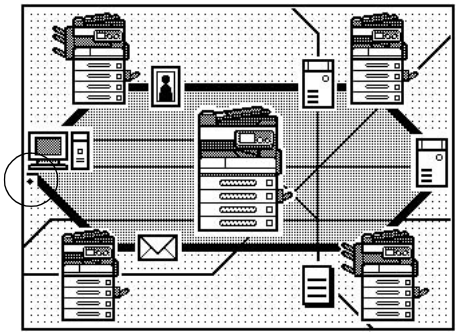
Item	Purpose	Setting Details/Precautions
Registration	To adjust for variations in the accuracy of IR parts and their mounting accuracy by varying the scan start position in the main and sub scanning directions. ✻ When the Original Glass is replaced ✻ When the CCD Unit is replaced	Select “CD” (main scanning direction) or “FD” (sub scanning direction), and then use the Keypad to type in a value. CD (1 mm = 24 dots) The adjustment range is -74 mm to +74 mm. FD (1 mm = 24 dots) The adjustment range is -24 mm to +24 mm.
Zoom Adjust	To adjust for variations in the accuracy of IR parts and their mounting accuracy by varying the scanning zoom ratio in the main and sub scanning directions. ✻ When the CCD Unit is replaced	Select “CD” (main scanning direction) or “FD” (sub scanning direction), and then use the Keypad to type in a value. CD/FD The adjustment ranges are 0.990 to 1.010.

5. Initial Mode

5-1. Initial Mode Function Setting Procedure

<Procedure>

1. Press the Warm Restart button. "●" appears at the center on the left side of the screen.
2. Use the Keypad to type in "3".
3. Select a function.



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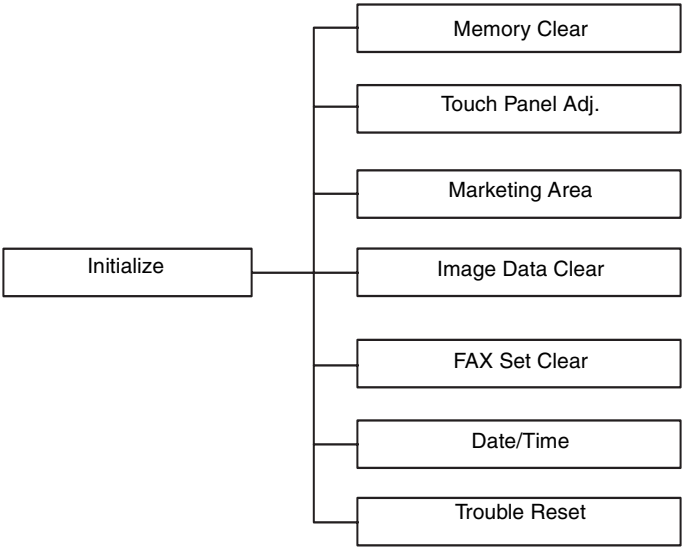
<Exiting Procedure>

- Touch [Exit].

5-2. Initial Mode Function Tree



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5-3. Settings in the Initial Mode

(1) Memory Clear

Purpose	Setting Details/Precautions
To clear all data.	The following settings are cleared. • FATAL status • User's Choice settings • Tech. Rep. Choice settings • Zoom settings • ID (program) settings • Paper source data • Backed up copy settings • Copy Job Program Recall programs

(2) Touch Panel Adj.

Purpose	Setting Details/Precautions
To correct deviations in the sensitive area of the Touch Panel.	As indicated by the arrow, sequentially touch the four points marked with "+" on the screen. ***NOTE*** • *Be sure to touch the exact center of the "+" mark.*

(3) Marketing Area

Purpose	Setting Details/Precautions
To specify the marketing region.	Select the marketing regions, and then touch [OK]. MSJ MC ME Others

(4) Image Data Clear

Purpose	Setting Details/Precautions
To clear all image data stored on the memory of the MFB Board.	If "Yes" is selected, all data is cleared.

(5) FAX Set Clear

Purpose	Setting Details/Precautions
To clear all fax settings.	Refer to the FAX Service Manual.

(6) Date/Time

Purpose	Setting Details/Precautions
To specify the date and time.	Use the Keypad to type in the date and time.

(7) Trouble Reset

Purpose	Details/Precautions
To clear all malfunctions, including fusing errors (C05XX).	For malfunctions other than fusing errors, turn the copier off, then on again, and open, then close the Side Cover.

TROUBLESHOOTING

1. Introduction

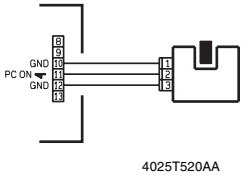
- Information required for troubleshooting and steps that must be performed are described in this chapter.

1-1. Electrical Components Check Procedure

- If a paper misfeed or malfunction occurs, perform the following operations to check the condition of the electrical components.

(1) Sensor

Step	Check	Result	Action
1	Does the input signal of the control board change when the sensor light is interrupted? (H → L, L → H)	NO	Replace the sensor.
		YES	Replace the control board.



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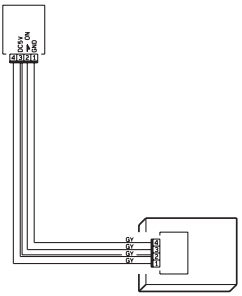

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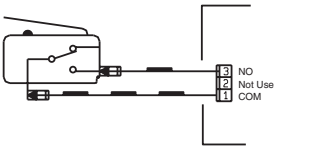
(2) Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the control board change from L to H when the switch is activated?	NO	Replace the switch.
		YES	Replace the control board.



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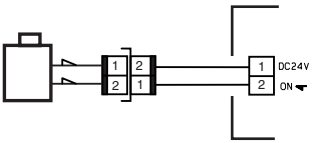
(3) Solenoid

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the solenoid is activated?	NO	Replace the control board.
		YES	Replace the solenoid.



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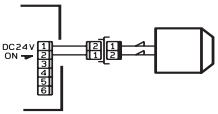
(4) Clutch

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.



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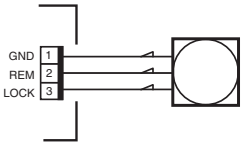
(5) Motor

Step	Check	Result	Action
1	Does the LOCK signal of the control board switch to H when the machine goes into standby?	NO	Replace the control board. Replace the motor.
2	Does the REM signal of the control board change from H to L when the motor is turned on?	YES	Replace the motor.



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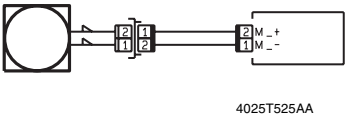
Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.



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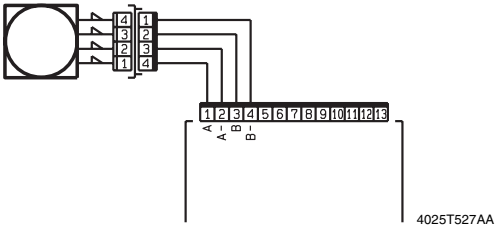
Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack of the control board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.



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1-2. I/O CHECK

(1) Check Procedure

To allow the operation of electrical components to be checked easily and safely, whether signals are properly input to an electrical component can be determined by checking data applied to the IC on the board with the copier in the standby state (including a misfeed, malfunction, and closure failure condition).

<Electrical Components Check Procedure Through Input Data Check>

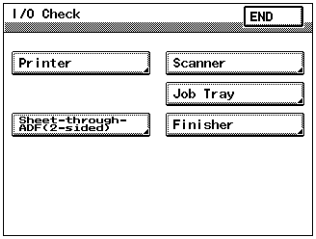
Example
When a paper misfeed occurs in the paper take-up section of the copier, the 2nd Drawer Paper Take-Up Sensor is considered to be responsible for it.

<Procedure>

1. Remove the sheet of paper misfeed.
2. From the I/O Check List that follows, check the panel display of the 2nd Drawer Paper Take-Up Sensor. For the 2nd Drawer Paper Take-Up Sensor, you check the data of "Take-Up" of "2nd Drawer."
3. Call the Tech. Rep. mode to the screen.
4. Select "State Confirm" → "I/O Check" and then select the screen that contains "Take-Up" under "2nd Drawer." For "Take-Up" under "2nd Drawer," select "1" on the left-hand side of the screen.
5. Check that the data for "Take-Up" under "2nd Drawer" is "0" (sensor blocked).
6. Move the actuator to unblock the 2nd Drawer Paper Take-Up Sensor.
7. Check that the data for "Take-Up" under "2nd Drawer" changes from "0" to "1" on the screen.
8. If the input data is "0," change the sensor.

(2) I/O Check List

<I/O Check Screens>



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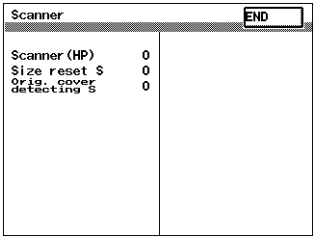

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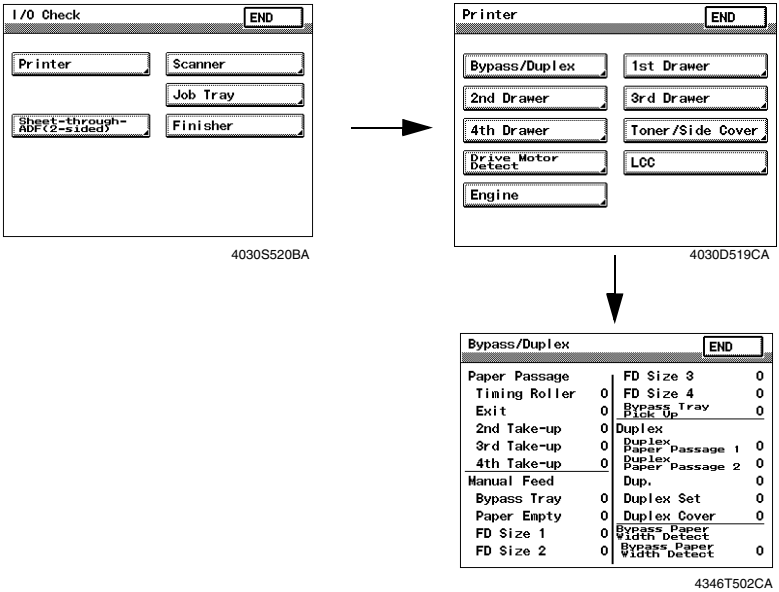
[IR]

Symbol	Panel Display	Parts/Signal Name	Operation Characteristics/ Panel Display		Input Board	CN/PJ No.
			1	0		
PC30	Scanner (HP)	Scanner Home Position Sensor	At home	Not at home	MFB3 Board (MFB3)	CN12MFB3-25
S6	Size Reset S	Size Reset Switch	When closed	When opened		CN4BCR-1
PC31	Orig. Cover Detecting S	Orig. Cover Detecting Sensor	Within 15 °	15 ° or more		CN12MFB3-24

<I/O Check Screens>

The following screens are only samples; port data may appear differently on individual copiers.



<I/O Check List>

[Printer]

Symbol	Panel Display		Parts/Signal Name	Operation Characteristics/Panel Display		Input Board	CN/PJ No.
				1	0		
PC1	Bypass/ Duplex	Timing Roller	Synchronizing Roller Sensor	Paper present	Paper not present	Master Board (PWB-A)	PJ11A-5
PC4		Exit	Exit Sensor	Paper present	Paper not present		PJ18A-11
PC2		2nd Take-up	2nd Drawer Vertical Transport Sensor	Paper present	Paper not present		PJ22A-9
PC116-PF		3rd Take-up	3rd Drawer Vertical Transport Sensor	Paper present	Paper not present		PJ6C2 PF-8
PC126-PF		4th Take-up	4th Drawer Vertical Transport Sensor	Paper present	Paper not present		PJ11C2 PF-2
—		Bypass Tray	Manual Bypass Tray Set signal	Not set	Set		—
PC18		Paper Empty	Manual Feed Tray Paper Empty Sensor	Paper not present	Paper present		PJ23A-3
PC19		FD Size 1	Manual Feed Tray FD Paper Size Detecting Sensor 1	Paper present	Paper not present		PJ13A-6
PC20		FD Size 2	Manual Feed Tray FD Paper Size Detecting Sensor 2	Paper present	Paper not present		PJ13A-9
PC21		FD Size 3	Manual Feed Tray FD Paper Size Detecting Sensor 3	Paper present	Paper not present		PJ13A-12
PC22		FD Size 4	Manual Feed Tray FD Paper Size Detecting Sensor 4	Paper present	Paper not present		PJ12A-3
PC29		Bypass Tray Pick-up	Manual Feed Tray Lift-Up Sensor	Unblocked	Blocked		PJ12A-11
PC24		Duplex Paper Passage 1	Duplex Unit Upper Transport Sensor	Paper present	Paper not present		PJ20A-5
PC25		Duplex Paper Passage 2	Duplex Unit Lower Transport Sensor	Paper present	Paper not present		PJ20A-8
PC26		Dup.	Switch Back Unit Sensor	Paper present	Paper not present		PJ19A-9
—		Duplex Set	Duplex Unit Set signal	Out of position	Set		PJ20A-1
PC23		Duplex Cover	Duplex Unit Door Set Sensor	When opened	When closed		PJ20A-11
VR1		Bypass Paper Width Detect	Manual Paper Size Detection Unit	Analog value			PJ12A-7

Symbol	Panel Display		Parts/Signal Name	Operation Characteristics/Panel Display		Input Board	CN/PJ No.
				1	0		
PC7	1st Drawer	Drawer Set	1st Drawer Set Sensor	Set	Out of position	Master Board (PWB-A)	PJ23A-6
PC8		Paper Near Empty	1st Drawer Paper Near Empty Sensor	Unblocked	Blocked		PJ23A-3
PC9		Paper Empty	1st Drawer Paper Empty Sensor	Paper not present	Paper present		PJ15A-8
PC6		Surface	1st Drawer Paper Lift-Up Sensor	At upper limit	Not at upper limit		PJ15A-11
PC11		CD Size 1	1st Drawer CD Paper Size Detecting Sensor 1	Maximum value	Not at maximum value		PJ23A-9
PC10		CD Size 2	1st Drawer CD Paper Size Detecting Sensor 2	Maximum value	Not at maximum value		PJ23A-12
PWB-I1		FD Size 1	Paper Size Detection Board 1	Maximum value	Not at maximum value		PJ24A-1
		FD Size 2		Maximum value	Not at maximum value		PJ24A-2
		FD Size 3		Maximum value	Not at maximum value		PJ24A-3
		FD Size 4		Maximum value	Not at maximum value		PJ24A-4
PC13	2nd Drawer	Drawer Set	2nd Drawer Set Sensor	Set	Out of position	Master Board (PWB-A)	PJ25A-6
PC14		Paper Near Empty	2nd Drawer Paper Near-Empty Sensor	Unblocked	Blocked		PJ25A-3
PC15		Paper Empty	2nd Drawer Paper Empty Sensor	Paper not present	Paper present		PJ22A-3
PC12		Surface	2nd Drawer Paper Lift-Up Sensor	At upper limit	Not at upper limit		PJ22A-6
PC17		CD Size 1	2nd Drawer CD Paper Size Detecting Sensor 1	Maximum value	Not at maximum value		PJ26A-3
PC16		CD Size 2	2nd Drawer CD Paper Size Detecting Sensor 2	Maximum value	Not at maximum value		PJ26A-6
PWB-I2		FD Size 1	Paper Size Detection Board 2	Maximum value	Not at maximum value		PJ26A-7
		FD Size 2		Maximum value	Not at maximum value		PJ26A-8
		FD Size 3		Maximum value	Not at maximum value		PJ26A-9
		FD Size 4		Maximum value	Not at maximum value		PJ26A-10
PC3		2nd Take-up	Right Lower Door Set Sensor	Out of position	Set		PJ22A-12
S2	Toner/ Side Cover	Side Cover	Door Interlock Switch	Out of position	Set	Master Board (PWB-A)	PJ17A-3
PC5		Front Cover	Front Door Set Sensor	Out of position	Set		PJ15A-14
S4		Sub Hopper	Sub Hopper Toner Empty Switch	Toner not loaded: 1 and 0 alternately displayed. Toner loaded: 0 displayed			PJ21A-4

Symbol	Panel Display		Parts/Signal Name	Operation Characteristics/Panel Display		Input Board	CN/PJ No.
				1	0		
M2	Drive Motor Detect	Main Motor	Transport Motor	When turning	When stopped	Master Board (PWB-A)	PJ28A-7
M1		I/U Motor	Imaging Unit Motor	When turning	When stopped		PJ28A-14
M9		Polygon Motor	Polygon Motor	When turning	When stopped		PJ2A-4
M4		Cooling Fan (Power Supply)	Power Unit Cooling Fan Motor	When turning	When stopped		PJ33A-3
M5		Cooling Fan Motor	Cooling Fan Motor	When turning	When stopped		PJ11A-8
M6		IU Cooling Fan	I/U Cooling Fan Motor	When turning	When stopped		PJ15A-3
TH1	Engine	Fusing Thermistor 1	Fusing Roller Thermistor	Analog value		Master Board (PWB-A)	PJ18A-6
TH2		Fusing Thermistor 2	Fusing Roller Sub Thermistor	Analog value			PJ18A-2
UN2		ATDC Sensor	ATDC Sensor	Analog value			PJ5A-1
TH4		Drum Thermistor	Drum Thermistor	Analog value			PJ11A-10
TH3		Temperature	Temperature/Humidity Sensor	Analog value			PJ16A-6
		Humidity		Analog value			PJ16A-4
—		I/C Discrimination	I/C Type Detection signal	Analog value			PJ5A-5 PJ5A-6

2. Misfeeds

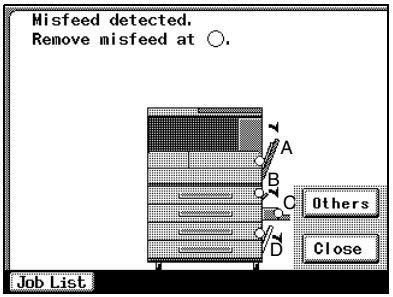
2-1. Initial Checks

- When a paper misfeed occurs, first perform the following initial checks.

Check Item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or change the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operational and checked for correct operation?	Correct or change the defective actuator.

2-2. Misfeed Display

When a paper misfeed occurs, the misfeed message, misfeed location (flashing), and paper location (lit) are displayed on the Touch Panel of the copier.



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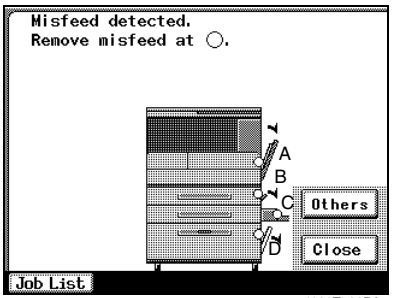

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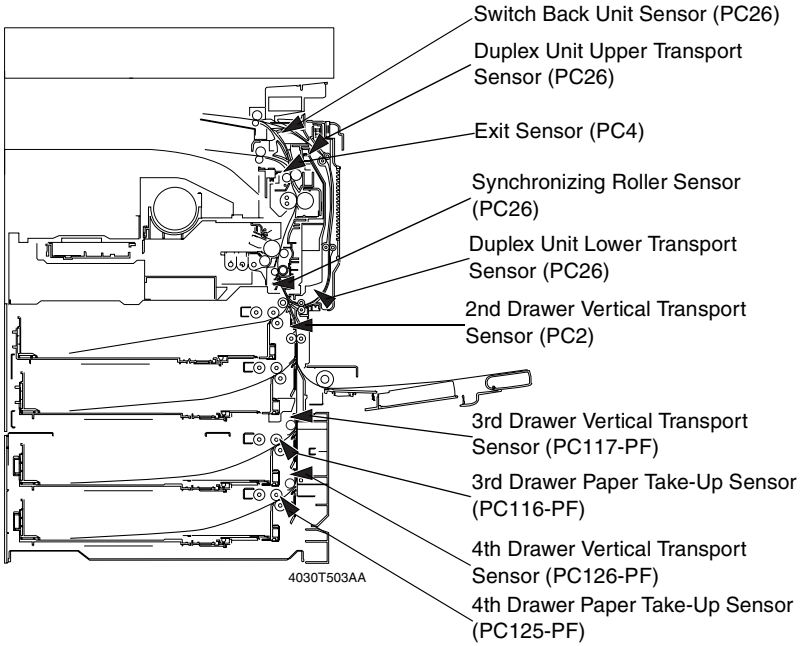
Display	Misfeed location	Action
A	1st Drawer Take-Up Section Image Transfer Section Fusing Section/Paper Exit Section Duplex Unit Transport Section Duplex Unit Take-Up Section	☞ T-15 ☞ T-16 ☞ T-18 ☞ T-19
B	2nd Drawer Take-Up Section Vertical Transport Section	☞ T-20
C	Manual Bypass Take-Up Section	☞ T-21
D	3rd Drawer Take-Up Section 4th Drawer Take-Up Section	☞ T-22 ☞ T-23

<Misfeed Display Resetting Procedure>

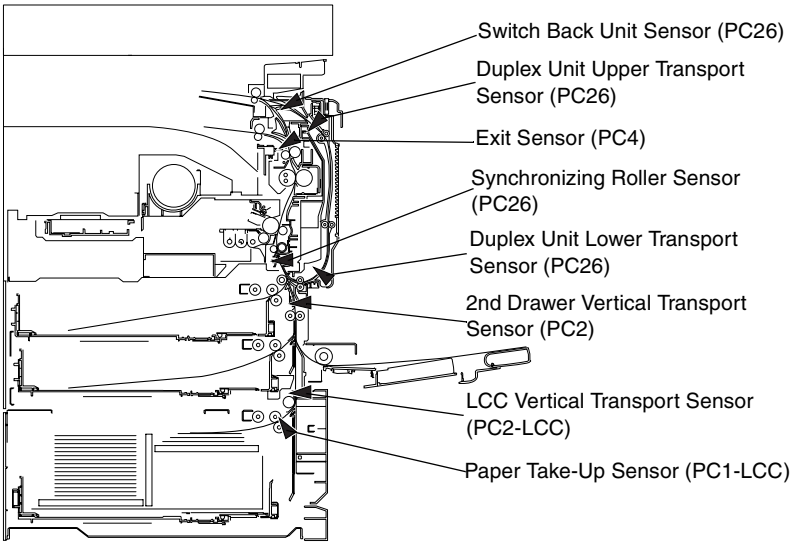
- Open the corresponding door, clear the misfed sheet of paper, and then close the door.

2-3. Misfeed-Detecting Sensor Layout

- With PF-210, SB-1 and AD-16 installed



- With PF-122, SB-1 and AD-16 installed



2-4. Misfeed Detection Timing/Troubleshooting Procedures

(1) 1st Drawer Paper Take-Up Section Misfeed

<Detection Timing>

Type	Description
Paper Take-Up Section misfeed detection	• The leading edge of the paper does not block the Synchronizing Roller Sensor (PC1) even after the set period of time has elapsed after the 1st Drawer Paper Take-Up Clutch has been energized.
Size error detection	• The Synchronizing Roller Sensor (PC1) is not unblocked even after the set period of time has elapsed after the sensor has been blocked by the paper. • The Synchronizing Roller Sensor (PC1) is unblocked before the set period of time.

Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) 1st Drawer Paper Take-Up Clutch 1 (CL3)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	☞ T-1	PWB-A PJ11A-5 (ON)	G-1
3	CL3 operation check	☞ T-3	PWB-A PJ11A-2 (ON)	G-1
4	Replace PWB-A	—	—	—

(2) Image Transfer Section Misfeed

<Detection Timing>

Type	Description
Image Transfer Section misfeed detection	• The Exit Sensor (PC4) is not blocked even after the set period of time has elapsed after the Synchronizing Roller Clutch is set to OFF.
	• The Synchronizing Roller Sensor (PC1) is not blocked even after the set period of time has elapsed after the sensor has been unblocked by the paper.
Detection of paper remaining at Image Transfer Section	• The Synchronizing Roller Sensor (PC1) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Exit Sensor (PC4) Synchronizing Roller Clutch (CL1)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	☞ T-1	PWB-A PJ11A-5 (ON)	G-1
3	PC4 sensor check	☞ T-1	PWB-A PJ18A-11 (ON)	I-1
4	CL1 operation check	☞ T-3	PWB-A PJ11A-2 (ON)	G-1
5	Replace PWB-A	—	—	—

(3) Fusing Section/Paper Exit Section Misfeed

<Detection Timing>

Type	Description
Fusing Section/ Paper Exit Section misfeed detection	• The Exit Sensor (PC4) is not unblocked even after the set period of time has elapsed after the Synchronizing Roller Sensor (PC1) has been blocked by the paper.
	• The Switch Back Unit Sensor (PC26) is not unblocked even after the set period of time has elapsed after the Exit Sensor (PC4) has been unblocked by the paper.
Detection of paper remaining at Fusing Section/Paper Exit Section	• The Exit Sensor (PC4) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Exit Sensor (PC4) Switch Back Unit Sensor (PC26)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	☞ T-1	PWB-A PJ11A-5 (ON)	G-1
3	PC4 sensor check	☞ T-1	PWB-A PJ18A-11 (ON)	I-1
4	PC26 sensor check	☞ T-1	PWB-A PJ19A-9 (ON)	Refer to the Service Manual for the relevant option.
5	Replace PWB-A	—	—	—

(4) Turnover Unit/Duplex Unit Transport Section Misfeed

<Detection Timing>

Type	Description
Turnover Unit/ Duplex Unit Transport Section misfeed detection	• The Switch Back Unit Sensor (PC26) is not blocked even after the set period of time has elapsed after the Exit Sensor (PC4) has been unblocked by the paper.
	• The Duplex Unit Upper Transport Sensor (PC24) is not blocked even after the set period of time has elapsed after the Switch Back Unit Sensor (PC26) is blocked by the paper.
	• The Switch Back Unit Sensor (PC26) is not blocked even after the set period of time has elapsed after the Duplex Unit Upper Transport Sensor (PC24) is blocked by the paper.
Detection of paper remaining in the Turnover Unit/ Duplex Unit Transport Section	• The Switch Back Unit Sensor (PC26) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	• The Duplex Unit Upper Transport Sensor (PC24) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

Action

Relevant Electrical Components	
Exit Sensor (PC4) Switch Back Unit Sensor (PC26) Duplex Unit Upper Transport Sensor (PC24)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC4 sensor check	☞ T-1	PWB-A PJ18A-11 (ON)	I-1
3	PC26 sensor check	☞ T-1	PWB-A PJ19A-9 (ON)	Refer to the Service Manual for the relevant option.
4	PC24 sensor check	☞ T-1	PWB-A PJ20A-5 (ON)	Refer to the Service Manual for the relevant option.
5	PC25 sensor check	☞ T-1	PWB-A PJ20A-8 (ON)	Refer to the Service Manual for the relevant option.
6	Replace PWB-A	—	—	—

(5) Duplex Unit Take-Up Section Misfeed

<Detection Timing>

Type	Description
Duplex Unit Take-Up Section misfeed detection	• The Synchronizing Roller Sensor (PC1) is not blocked even after the set period of time has elapsed after the Duplex Unit Lower Transport Sensor (PC25) has been blocked by the paper.
Detection of paper remaining in the Duplex Unit Take-Up Section	• The Duplex Unit Lower Transport Sensor (PC25) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Duplex Unit Lower Transport Sensor (PC26)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	☞ T-1	PWB-A PJ11A-5 (ON)	G-1
3	PC25 sensor check	☞ T-1	PWB-A PJ20A-8 (ON)	Refer to the Service Manual for the relevant option.
4	Replace PWB-A	—	—	—

(6) 2nd Drawer Take-Up Section/Vertical Transport Section Misfeed

<Detection Timing>

Type	Description
Take-Up Section/ Vertical Transport Section misfeed detection	• The leading edge of the paper does not block the 2nd Drawer Vertical Transport Sensor (PC2) even after the set period of time has elapsed after the 2nd Drawer Paper Take-Up Clutch has been energized.
	• The Synchronizing Roller Sensor (PC1) is not blocked even after the set period of time has elapsed after the leading edge of the paper has blocked 2nd Drawer Vertical Transport Sensor (PC2).
Detection of paper remaining in the Take-Up Section/Vertical Transport Section	• The 2nd Drawer Vertical Transport Sensor (PC2) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) 2nd Drawer Vertical Transport Sensor (PC2) 2nd Drawer Paper Take-Up Clutch 2 (CL4)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	☞ T-1	PWB-A PJ11A-5 (ON)	G-1
3	PC2 sensor check	☞ T-1	PWB-A PJ22A-9 (ON)	H-1
4	CL4 operation check	☞ T-3	PWB-A PJ21A-10 (ON)	E-11
5	Replace PWB-A	—	—	—

(7) Manual Bypass Take-Up Section Misfeed

<Detection Timing>

Type	Description
Paper Take-Up Section misfeed detection	• The leading edge of the paper does not block the 2nd Drawer Vertical Transport Sensor (PC2) even after the set period of time has elapsed after the Manual Feed Paper Take-Up Clutch has been energized.
Detection of paper remaining in the Paper Take-Up section	• The 2nd Drawer Vertical Transport Sensor (PC2) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

Action

Relevant Electrical Components	
2nd Drawer Vertical Transport Sensor (PC2) Manual Feed Paper Take-Up Clutch (CL5)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC2 sensor check	☞ T-1	PWB-A PJ22A-9 (ON)	H-1
3	CL5 operation check	☞ T-3	PWB-A PJ13A-14 (ON)	D-2
4	Replace PWB-A	—	—	—

(8) 3rd Drawer Take-Up Section Misfeed (PF-210)

<Detection Timing>

Type	Description
Paper Take-Up Section misfeed detection	• The leading edge of the paper does not block the 3rd Drawer Vertical Transport Sensor (PC117-PF) even after the set period of time has elapsed after the 3rd Drawer Paper Feed Motor has been energized.
Detection of paper remaining in the Paper Take-Up section	• The 3rd Drawer Vertical Transport Sensor (PC117-PF) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset. • The 3rd Drawer Paper Take-Up Sensor (PC116-PF) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

Action

Relevant Electrical Components	
3rd Drawer Vertical Transport Sensor (PC117-PF) 3rd Drawer Paper Take-Up Sensor (PC116-PF) 3rd Drawer Paper Feed Motor (M122-PF)	Control Board (PWB-C2 PF)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC117-PF sensor check	☞ T-1	Refer to the Service Manual for the relevant option.	
3	PC116-PF sensor check	☞ T-1		
4	M122-PF operation check	☞ T-3		
5	Replace PWB-C2 PF	—	—	—

(9) 4th Drawer Take-Up Section Misfeed (PF-210)

<Detection Timing>

Type	Description
Paper Take-Up Section misfeed detection	• The leading edge of the paper does not block the 4th Drawer Vertical Transport Sensor (PC126-PF) even after the set period of time has elapsed after the 4th Drawer Paper Feed Motor has been energized.
Detection of paper remaining in the Paper Take-Up section	• The 4th Drawer Vertical Transport Sensor (PC126-PF) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset. • The 4th Drawer Paper Take-Up Sensor (PC125-PF) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

Action

Relevant Electrical Components	
4th Drawer Vertical Transport Sensor (PC126-PF) 4th Drawer Paper Take-Up Sensor (PC125-PF) 4th Drawer Paper Feed Motor (M123-PF)	Control Board (PWB-C2 PF)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC126-PF sensor check	☞ T-1	Refer to the Service Manual for the relevant option.	
3	PC125-PF sensor check	☞ T-1		
4	M123-PF operation check	☞ T-3		
5	Replace PWB-C2 PF	—	—	—

(10) LCC Paper Take-Up Section Misfeed (PF-122)

<Detection Timing>

Type	Description
Paper Take-Up Section misfeed detection	• The leading edge of the paper does not block the Paper Take-Up Sensor (PC1-LCC) even after the set period of time has elapsed after the LCC Paper Feed Motor has been energized.
	• The leading edge of the paper does not block the LCC Vertical Transport Sensor (PC2-LCC) even after the set period of time has elapsed after the Paper Take-Up Sensor has been energized.
Detection of paper remaining in the Paper Take-Up section	• The Paper Take-Up Sensor (PC1-LCC) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	• The LCC Vertical Transport Sensor (PC2-LCC) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

Action

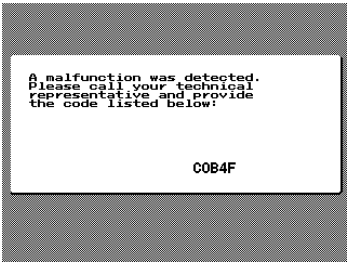
Relevant Electrical Components	
Paper Take-Up Sensor (PC1-LCC) LCC Vertical Transport Sensor (PC2-LCC) LCC Paper Feed Motor (M1-LCC)	Control Board (PWB-C1 LCC)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1-LCC sensor check	☞ T-1	Refer to the Service Manual for the relevant option.	
3	PC2-LCC sensor check	☞ T-1		
4	M1-LCC operation check	☞ T-3		
5	Replace PWB-C1 LCC.	—	—	—

3. Malfunctions

- The copier's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the Touch Panel.

<Trouble>



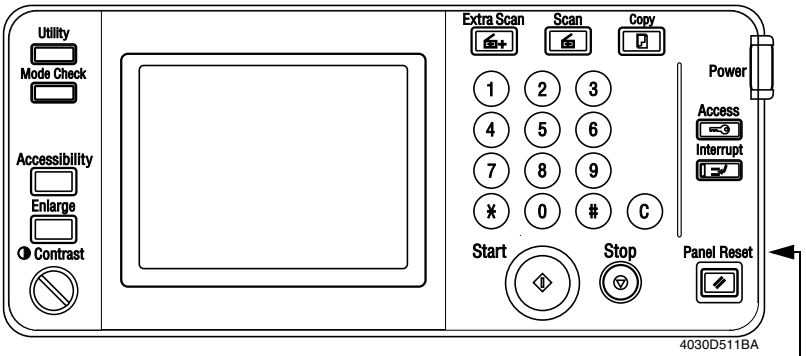
4030T505CA

3-1. Resetting a Malfunction

- Press the Warm Restart button in the Initial Mode to reset malfunctions related to the fusing (C05XX).

☞ S-44

- For any other malfunctions, open and close the Front Door or set the Power Switch to OFF, then ON.



4030D511BA

Press the button in the small hole on the side of the Control Panel.

3-2. List of Malfunction Codes

Malfunction Code	Malfunction Name	Detection Timing
C0000	Main Motor Failure	• The Transport Motor Lock signal remains set to H for a set period of time while the Transport Motor is turning.
C0010	Imaging Unit Motor Failure	• The Imaging Unit Motor Lock signal remains set to H for a set period of time while the Imaging Unit Motor is turning. • The Imaging Unit Motor Lock signal remains set to L for a set period of time while the Imaging Unit Motor remains stopped.
C0044	EDH Fan Motor Failure	• Refer to the Service Manual for the relevant option.
C0045	Cooling Fan Failure	• The Cooling Fan Motor Lock signal remains set to H for a set period of time while the Cooling Fan Motor is turning. • The Cooling Fan Motor Lock signal remains set to L for a set period of time while the Cooling Fan Motor remains stopped.
C004E	Power Unit Cooling Fan Failure	• The Power Unit Cooling Fan Motor Lock signal remains set to H for a set period of time while the Power Unit Cooling Fan Motor is turning. • The Power Unit Cooling Fan Motor Lock signal remains set to L for a set period of time while the Power Unit Cooling Fan Motor remains stopped.
C004F	IU Cooling Fan Failure	• The I/U Cooling Fan Motor Lock signal remains set to H for a set period of time while the I/U Cooling Fan Motor is turning. • The I/U Cooling Fan Motor Lock signal remains set to L for a set period of time while the I/U Cooling Fan Motor remains stopped.
C0214	Abnormal Image Transfer Voltage	• The image transfer voltage exceeds 100 V for the set period of time while the Imaging Unit Motor remains stopped.
C0500	Fusing Warm-Up Failure (Main)	• The Fusing Roller Thermistor does not detect the required temperature within 30 sec. after a warm-up cycle has begun; therefore, the copier does not complete the warm-up cycle. • The temperature of the Fusing Rollers does not reach the required level even after the set period of time has elapsed during a warm-up cycle.
C0501	Fusing Warm-Up Failure (Sub)	• The Fusing Roller Sub Thermistor does not detect the required temperature within 30 sec. after a warm-up cycle has begun; therefore, the copier does not complete the warm-up cycle. • The temperature of the Fusing Rollers does not reach the required level even after the set period of time has elapsed during a warm-up cycle.

Malfunction Code	Malfunction Name	Detection Timing
C0510	Low Fuser Temperature Failure (Main)	• The Fusing Roller Thermistor and Fusing Roller Sub Thermistor are detected to be at a temperature below 105 ×C during standby. • The Fusing Roller Thermistor and Fusing Roller Sub Thermistor are detected to be at a temperature below 105 ×C during printing.
C0511	Low Fuser Temperature Failure (Sub)	
C0520	High Fuser Temperature Failure (Main)	• The Fusing Roller Thermistor and Fusing Roller Sub Thermistor are detected to be at a temperature above 240 ×C when the Power Switch is set to ON. • The Fusing Roller Thermistor and Fusing Roller Sub Thermistor are detected to be at a temperature above 240 ×C when the Power Switch is set to ON.
C0521	High Fuser Temperature Failure (Sub)	
C0900	3rd Drawer Lift-Up Motor Failure	• The Lift-Up Sensor is not unblocked even after the set period of time has elapsed after the paper lift-up operation for the drawer has begun.
C0910	2nd Drawer Lift-Up Motor Failure	
C0920	1st Drawer Lift-Up Motor Failure	
C0950	4th Drawer Lift-Up Motor Failure	
C0960	Manual Bypass Paper-Lifting Failure	• The Manual Feed Tray Lift-Up Sensor (PC29) is not blocked or unblocked even after the set period of time has elapsed after the Manual Paper Feed Pick-Up Solenoid (SL3) is energized after the manual feed paper take-up operation has begun.
C0990	LCC Elevator Motor Failure	• The Elevator Motor Pulse Sensor (PC10-LCC) cannot detect both edges of H/L even after the set period of time has elapsed while the Elevator Motor (M5-LCC) is turning backward/forward (raise/lower).

Malfunction Code	Malfunction Name	Detection Timing
C0991	LCC Lift Failure	• The Tray Upper Limit Sensor (PC4-LCC) is not unblocked even after the set period of time has elapsed after the paper lift-up operation has begun. • The Tray Upper Limit Sensor (PC4-LCC) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCC) after the paper lift-up operation has begun. • The Tray Upper Limit Sensor (PC4-LCC) is not unblocked even after the set period of time has elapsed with paper loaded during the paper lift-up operation. • The Tray Lower Position Sensor (PC13-LCC) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCC) after the paper lift-up operation has begun. • The Tray Lower Position Sensor (PC13-LCC) is not blocked even after the set period of time has elapsed after the lowering operation has begun. • The Tray Lower Position Sensor (PC13-LCC) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCC) after the lowering operation has begun. • The Tray Upper Limit Sensor (PC4-LCC) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCC) after the paper lift-up operation has begun. • The Lower Limit Sensor (PC7-LCC) is not unblocked during the lowering operation.
C0996	LCC Lock Release Failure	• The drawer cannot be determined to be out of position even after the set period of time has elapsed after the Tray Lock Solenoid (SL1-LCC) is energized after the lowering operation is finished.
C0997	LCC Shift Gate Operation Failure	• The Shift Gate Home Position Sensor (PC14-LCC) cannot be set to L even after the set period of time has elapsed after the operation of the Shift Gate Motor (M3-LCC) has begun with the Shift Gate Home Position Sensor (PC14-LCC) set to L.

Malfunction Code	Malfunction Name	Detection Timing
C0998	LCC Shift Failure	• The Shifter Return Position Sensor (PC11-LCC) is not unblocked even after the set period of time has elapsed after the shift operation has begun (shifter is moved to the right). • The Shifter Return Position Sensor (PC11-LCC) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCC) after the shift operation has begun (shifter is moved to the right). • The Shifter Home Position Sensor (PC12-LCC) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCC) after the shift operation has begun (shifter is moved to the right). • The Shifter Home Position Sensor (PC12-LCC) is not unblocked even after the set period of time has elapsed after the return operation has begun (shifter is moved to the left). • The Shifter Home Position Sensor (PC12-LCC) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCC) after the return operation has begun (shifter is moved to the left). • The Shifter Return Position Sensor (PC11-LCC) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCC) after the return operation has begun (shifter is moved to the left).
C099C	LCC Shift Motor Failure	• The Shift Motor Pulse Sensor (PC8-LCC) cannot detect both the rising and falling edges of H/L even after the set period of time has elapsed while the Shift Motor (M4-LCC) is turning backward/forward (raise/lower).
C099D	LCC Communication Failure	• Due to a software malfunction, etc., the time on the watchdog timer has run out and a reset is performed.

Malfunction Code	Malfunction Name	Detection Timing
C0B20	Staple Unit CD Drive Failure	• Refer to the Service Manual for the relevant option.
C0B30	Aligning Plate 1 Drive Failure	
C0B32	Aligning Plate 2 Drive Failure	
C0B47	Paper-Lifter Drive Failure	
C0B48	Exit Roller Pressure/ Retraction Failure	
C0B4A	Saddle Exit Roller Pressure/Retraction Failure	
C0B4B	Shutter Drive Failure	
C0B4C	Saddle Exit Motor Failure	
C0B4D	Saddle Advance/ Retract Guide Motor Failure	
C0B4F	Saddle Movable Guide Drive Failure	
C0B50	Staple Drive Failure	
C0B56	Saddle Staple 1 Drive Failure	
C0B57	Saddle Staple 2 Drive Failure	
C0B73	Punch Cam Motor Unit Failure	
C0BA0	Elevator Motor Ascent/ Descent Drive Failure	
C0BC2	Crease Motor Drive Failure	
C0F32	ATDC Sensor Failure	• The scanning value of the ATDC Sensor is less than 7% while the Imaging Unit Motor is turning. • The scanning value of the ATDC Sensor is more than 19% while the Imaging Unit Motor is turning.
C0F33	ATDC Adjustment Failure	• The adjustment of the ATDC control voltage could not be completed in the set period of time when function F8 is run. • The ATDC control voltage was not within the range of 5.39 V to 8.15 V when function F8 is run.
C12D0	MIO Device Failure	• The MIO device does not operate properly.

Malfunction Code	Malfunction Name	Detection Timing
C1300	Polygon Motor Failure	• The Polygon Motor Lock signal could not be detected within the set period of time after the Polygon Motor is energized. (Faulty start detection) • No First Lock signals are detected during the 1-second period that starts 1 second after a First Lock signal. (Faulty lock signal detection) • The Polygon Motor Lock signal could not be detected after the set period of time has elapsed while the Polygon Motor is turning. (Out-of-timing lock detection) • The Polygon Motor Lock signal is set to ON for longer than the set period of time while the Polygon Motor remains stopped. (Abnormal lock detection)
C1330	Main Unit Communication Failure	• Communications with the Master Board and the MFB3 Board fail.
C133A	Main Unit G/A Communication Failure	• Communications with the gate array for expansion I/O (the IC mounted on the Master Board) fail.
C133B	Exit Option Paper Transport Failure	• The connection status of a finishing option is changed after the copier has been turned on.
C13D0	EEPROM Failure	• An EEPROM where no initial data is written is detected.
C13E0	Flash ROM Failure	• The Flash ROM data was determined to be faulty when the unit was turned on.
C13F0	HSYNC Detection Failure	• No SOS falling edges are detected within the set period of time after laser emission began while the Polygon Motor is turning. • No SOS falling edges are detected while VIA remains ON.

3-3. Malfunction Detection Timing and Troubleshooting Procedure

(1) C0000: Transport Motor Failure

<Detection Timing>

Trouble Code	Description
C0000	• The Transport Motor Lock signal remains set to H for a set period of time while the Transport Motor is turning.

Action

Relevant Electrical Components	
Transport Motor (M2)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the M2 connector for proper connection, and correct as necessary	—	—	—
2	Check the M2 for proper drive coupling, and correct as necessary	—	—	—
3	M2 operation check	☞ T-3	PWB-A PJ28A-4 (REM)	H-1
4	Replace PWB-A	—	—	—
5	Replace PU1	—	—	—

(2) C0010: Imaging Unit Motor Failure

<Detection Timing>

Trouble Code	Description
C0010	• The Imaging Unit Motor Lock signal remains set to H for a set period of time while the Imaging Unit Motor is turning.

Action

Relevant Electrical Components	
Imaging Unit Motor (M1)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the M1 connector for proper connection, and correct as necessary	—	—	—
2	Check the M1 for proper drive coupling, and correct as necessary	—	—	—
3	M1 operation check	☞ T-3	PWB-A PJ28A-11 (REM)	B-14
4	Replace PWB-A	—	—	—
5	Replace PU1	—	—	—

(3) C0045: Cooling Fan Motor Failure

(4) C004E: Power Unit Cooling Fan Motor Failure

(5) C004F: I/U Cooling Fan Motor Failure

<Detection Timing>

Trouble Code	Description
C0045	• The Cooling Fan Motor Lock signal remains set to H for a set period of time while the Cooling Fan Motor is turning. • The Cooling Fan Motor Lock signal remains set to L for a set period of time while the Cooling Fan Motor remains stopped.
C004E	• The Power Unit Cooling Fan Motor Lock signal remains set to H for a set period of time while the Power Unit Cooling Fan Motor is turning. • The Power Unit Cooling Fan Motor Lock signal remains set to L for a set period of time while the Power Unit Cooling Fan Motor remains stopped.
C004F	• The I/U Cooling Fan Motor Lock signal remains set to H for a set period of time while the I/U Cooling Fan Motor is turning. • The I/U Cooling Fan Motor Lock signal remains set to L for a set period of time while the I/U Cooling Fan Motor remains stopped.

Action

Relevant Electrical Components	
Cooling Fan Motor (M5) Power Unit Cooling Fan Motor (M4) I/U Cooling Fan Motor (M6)	Master Board (PWB-A) Power Supply Unit (PU1)

*C0045

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the motor connectors for proper connection, and correct as necessary	—	—	—
2	Check the fan for possible overload, and correct as necessary	—	—	—
3	M5 operation check	☞ T-3	PWB-A PJ11A-6 (REM)	F-17
4	Replace PWB-A	—	—	—

*C004E

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the motor connectors for proper connection, and correct as necessary	—	—	—
2	Check the fan for possible overload, and correct as necessary	—	—	—
3	M4 operation check	☞ T-3	PWB-A PJ33A-1 (REM)	H-22
4	Replace PWB-A	—	—	—

*C004F

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the motor connectors for proper connection, and correct as necessary	—	—	—
2	Check the fan for possible overload, and correct as necessary	—	—	—
3	M6 operation check	☞ T-3	PWB-A PJ15A-1 (REM)	C-14
4	Replace PWB-A	—	—	—

(6) C0214: Abnormal Image Transfer Voltage

<Detection Timing>

Trouble Code	Description
C0214	• The image transfer voltage exceeds 100 V for the set period of time while the Imaging Unit Motor remains stopped.

Action

Relevant Electrical Components	
Image Transfer Roller	High Voltage Unit (TH1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the installation of the Image Transfer Roller	—	—	—
2	Replace TH1	—	—	—

(7) C0500: Fusing Warm-Up Failure (Main Heater)

(8) C0501: Fusing Warm-Up Failure (Sub Heater)

(9) C0520: High Fuser Temperature Failure (Main Heater)

(10) C0521: High Fuser Temperature Failure (Sub Heater)

<Detection Timing>

Trouble Code	Description
C0500	• The Fusing Roller Thermistor does not detect the required temperature within 30 sec. after a warm-up cycle has begun; therefore, the copier does not complete the warm-up cycle.
	• The temperature of the Fusing Rollers does not reach the required level even after the set period of time has elapsed during a warm-up cycle. From room temperature to 60 °C: Within 4 sec. From 60 to 100 °C: Within 4 sec. From 100 to 130 °C: Within 2 sec. From 130 °C to the completion of warm-up (170 °C): Within 1 sec.
C0501	• The Fusing Roller Sub Thermistor does not detect the required temperature within 30 sec. after a warm-up cycle has begun; therefore, the copier does not complete the warm-up cycle.
	• The temperature of the Fusing Rollers does not reach the required level even after the set period of time has elapsed during a warm-up cycle. From room temperature to 60 °C: Within 7 sec. From 60 to 100 °C: Within 7 sec. From 100 to 130 °C: Within 2 sec. From 130 °C to the completion of warm-up (160 °C): Within 1 sec.
C0520	The Fusing Roller Thermistor and Fusing Roller Sub Thermistor are detected to be at a temperature above 240 °C when the Power Switch is set to ON.
C0521	The Fusing Roller Thermistor and Fusing Roller Sub Thermistor are detected to be at a temperature above 240 °C when the Power Switch is set to ON.

Action

Relevant Electrical Components	
Fusing Roller Heater Lamp (H1) Fusing Roller Sub Heater Lamp (H2) Fusing Roller Thermistor (TH1) Fusing Roller Sub Thermistor (TH2)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check that the Fusing Roller Heater Lamp comes on when the Power Switch is set to ON, and correct or replace as necessary.	—	—	—
2	Check that the Fusing Roller Sub Heater Lamp comes on when the Power Switch is set to ON, and correct or replace as necessary.	—	—	—
3	Check the installation of the Fusing Roller Thermistor and the Fusing Roller Sub Thermistor, and correct or clean as necessary.	—	—	—
4	Check the operation of the Fusing Roller Thermistor. Remove CN80 (4P), and then check that the resistance across CN80-2 and -3 on the Thermistor is infinity.	—	—	—
5	Check the operation of the Fusing Roller Sub Thermistor. Remove CN81 (4P), and then check that the resistance across CN81-2 and -3 on the Thermistor is infinity.	—	—	—
6	Check the continuity of the Fusing Roller Heater Lamp. Correct or replace as necessary.	—	—	—
7	Check the continuity of the Fusing Roller Sub Heater Lamp. Correct or replace as necessary.	—	—	—
8	Replace PU1.	—	—	—
9	Replace PWB-A.	—	—	—

(11) C0510: Low Fuser Temperature Failure (Main Heater)

(12) C0511: Low Fuser Temperature Failure (Sub Heater)

<Detection Timing>

Trouble Code	Description
C0510	• The Fusing Roller Thermistor and Fusing Roller Sub Thermistor are detected to be at a temperature below 105 °C during standby. • The Fusing Roller Thermistor and Fusing Roller Sub Thermistor are detected to be at a temperature below 105 °C during printing.
C0511	

Action

Relevant Electrical Components	
Fusing Roller Heater Lamp (H1) Fusing Roller Sub Heater Lamp (H2) Fusing Roller Thermistor (TH1) Fusing Roller Sub Thermistor (TH2)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check that the Fusing Roller Heater Lamp comes on when the Right-Side Door is opened, then closed, and correct or replace as necessary.	—	—	—
2	Check that the Fusing Roller Sub Heater Lamp comes on when the Right-Side Door is opened, then closed, and correct or replace as necessary.	—	—	—
3	Check the installation of the Fusing Roller Thermistor and the Fusing Roller Sub Thermistor, and correct or clean as necessary.	—	—	—
4	Check the operation of the Fusing Roller Thermistor. Remove CN80 (4P), and then check that the resistance across CN80-2 and -3 on the Thermistor is infinity.	—	—	—
5	Check the operation of the Fusing Roller Sub Thermistor. Remove CN81 (4P), and then check that the resistance across CN81-2 and -3 on the Thermistor is infinity.	—	—	—
6	Check the continuity of the Fusing Roller Heater Lamp. Correct or replace as necessary.	—	—	—

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
7	Check the continuity of the Fusing Roller Sub Heater Lamp. Correct or replace as necessary.	—	—	—
8	Replace PU1.	—	—	—
9	Replace PWB-A.	—	—	—

(13) C0900: Lift-Up Motor 1 Failure

(14) C0910: 2nd Drawer Lift-Up Motor Failure

(15) C0920: 1st Drawer Lift-Up Motor Failure

(16) C0950: 4th Drawer Lift-Up Motor Failure

<Detection Timing>

Trouble Code	Description
C0900	• The Lift-Up Sensor is not unblocked even after the set period of time has elapsed after the paper lift-up operation for the drawer has begun.
C0910	
C0920	
C0950	

Action

Relevant Electrical Components	
1st Drawer Lift-Up Motor (M7) 2nd Drawer Lift-Up Motor (M8) Lift-Up Motor 1 (M124-PF) Lift-Up Motor 2 (M125-PF) 1st Drawer Paper Lift-Up Sensor (PC6) 2nd Drawer Paper Lift-Up Sensor (PC12) Lift-Up Sensor 1 (PC114-PF) Lift-Up Sensor 2 (PC123-PF)	Master Board (PWB-A) Power Supply Unit (PU1) Control Board (PWB-C2 PF)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the connectors of each motor and sensor for proper connection, and correct as necessary.	—	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—	—
3	Check the PU1 connector for proper connection, and correct as necessary.	—	—	—
4	PC6 sensor check	☞ T-1	PWB-A PJ15A-11 (ON)	B-8
5	PC12 sensor check	☞ T-1	PWB-A PJ22A-6 (ON)	B-11
6	PC114-PF sensor check	☞ T-1	Refer to the Service Manual for the relevant option.	
7	PC123-PF sensor check	☞ T-1	Refer to the Service Manual for the relevant option.	

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
8	M7 operation check.	☞ T-3	—	B-8
9	M8 operation check.	☞ T-3	—	D-11
10	M124-PF operation check.	☞ T-3	Refer to the Service Manual for the relevant option.	
11	M125-PF operation check.	☞ T-3		
12	Replace PWB-A.	—	—	—
13	Replace the PWB-C2 PF Control Board.	—	Refer to the Service Manual for the relevant option.	
14	Replace PU1.	—	—	—

(17) C0960: Manual Bypass Paper-Lifting Failure

<Detection Timing>

Trouble Code	Description
C0960	• The Manual Feed Tray Lift-Up Sensor (PC29) is not blocked or unblocked even after the set period of time has elapsed after the Manual Paper Feed Pick-Up Solenoid (SL3) is energized after the manual feed paper take-up operation has begun.

Action

Relevant Electrical Components	
Manual Paper Feed Pick-Up Solenoid (SL3) Manual Feed Tray Lift-Up Sensor (PC29)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the SL3 connector for proper connection, and correct as necessary.	—	—	—
2	PC29 sensor check.	☞ T-1	PWB-A PJ12A-11 (ON)	B-2
3	SL3 operation check.	☞ T-2	PWB-A PJ12A-5 (ON)	A-2
4	Replace PWB-A.	—	—	—
5	Replace PU1.	—	—	—

(18) C0990: LCC Elevator Motor Failure

<Detection Timing>

Trouble Code	Description
C0990	• The Elevator Motor Pulse Sensor (PC10-LCC) cannot detect both edges of H/L even after the set period of time has elapsed while the Elevator Motor (M5-LCC) is turning backward/forward (raise/lower).

Action

Relevant Electrical Components	
Elevator Motor (M5-LCC) Elevator Motor Pulse Sensor (PC10-LCC)	Control Board (PWB-C1 LCC)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the motor connectors and other connectors for proper connection, and correct as necessary.	—	—	—
2	PC10-LCC sensor check	☞ T-1	Refer to the Service Manual for the relevant option.	
3	M5-LCC operation check	☞ T-3		
4	Replace PWB-A.	—	—	—

(19) C0991: LCC Lift Failure

<Detection Timing>

Trouble Code	Description
C0991	• The Tray Upper Limit Sensor (PC4-LCC) is not unblocked even after the set period of time has elapsed after the paper lift-up operation has begun.
	• The Tray Upper Limit Sensor (PC4-LCC) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCC) after the paper lift-up operation has begun.
	• The Tray Upper Limit Sensor (PC4-LCC) is not unblocked even after the set period of time has elapsed with paper loaded during the paper lift-up operation.
	• The Tray Lower Position Sensor (PC13-LCC) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCC) after the paper lift-up operation has begun.
	• The Tray Lower Position Sensor (PC13-LCC) is not blocked even after the set period of time has elapsed after the lowering operation has begun.
	• The Tray Lower Position Sensor (PC13-LCC) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCC) after the lowering operation has begun.
	• The Tray Upper Limit Sensor (PC4-LCC) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCC) after the paper lift-up operation has begun.
	• The Lower Limit Sensor (PC7-LCC) is not unblocked during the lowering operation.

Action

Relevant Electrical Components	
Tray Upper Limit Sensor (PC4-LCC) Tray Lower Position Sensor (PC13-LCC) Elevator Motor Pulse Sensor (PC10-LCC) Lower Limit Sensor (PC7-LCC)	Control Board (PWB-C1 LCC)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the sensor connector for proper connection, and correct as necessary.	—	—	—
2	PC4-LCC sensor check.	☞ T-1	Refer to the Service Manual for the relevant option.	
3	PC13-LCC sensor check.	☞ T-1		
4	PC10-LCC sensor check.	☞ T-1		
5	PC7-LCC sensor check.	☞ T-1		
6	Replace PWB-C1 LCC.	—	—	—

(20) C0996: LCC Lock Release Failure

<Detection Timing>

Trouble Code	Description
C0996	• The drawer cannot be determined to be out of position even after the set period of time has elapsed after the Tray Lock Solenoid (SL1-LCC) is energized after the lowering operation is finished.

Action

Relevant Electrical Components	
Tray Lock Solenoid (SL1-LCC)	Control Board (PWB-C1 LCC)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the SL1-LCC connector for proper connection, and correct as necessary.	—	—	—
2	SL1-LCC operation check.	☞ T-2	Refer to the Service Manual for the relevant option.	
3	Replace PWB-C1 LCC.	—	—	—

(21) C0997: LCC Shift Gate Operation Failure

<Detection Timing>

Trouble Code	Description
C0997	• The Shift Gate Home Position Sensor (PC14-LCC) cannot be set to L even after the set period of time has elapsed after the operation of the Shift Gate Motor (M3-LCC) has begun with the Shift Gate Home Position Sensor (PC14-LCC) set to L.

Action

Relevant Electrical Components	
Shift Gate Home Position Sensor (PC14-LCC) Shift Gate Motor (M3-LCC)	Control Board (PWB-C1 LCC)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the PC14-LCC connector for proper connection, and correct as necessary.	—	—	—
2	PC14-LCC sensor check.	☞ T-1	Refer to the Service Manual for the relevant option.	
3	M3-LCC operation check.	☞ T-3		
4	Replace PWB-C1 LCC.	—	—	—

(22) C0998: LCC Shift Failure

<Detection Timing>

Trouble Code	Description
C0998	• The Shifter Return Position Sensor (PC11-LCC) is not unblocked even after the set period of time has elapsed after the shift operation has begun (shifter is moved to the right).
	• The Shifter Return Position Sensor (PC11-LCC) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCC) after the shift operation has begun (shifter is moved to the right).
	• The Shifter Home Position Sensor (PC12-LCC) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCC) after the shift operation has begun (shifter is moved to the right).
	• The Shifter Home Position Sensor (PC12-LCC) is not unblocked even after the set period of time has elapsed after the return operation has begun (shifter is moved to the left).
	• The Shifter Home Position Sensor (PC12-LCC) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCC) after the return operation has begun (shifter is moved to the left).
	• The Shifter Return Position Sensor (PC11-LCC) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCC) after the return operation has begun (shifter is moved to the left).

Action

Relevant Electrical Components	
Shift Motor Pulse Sensor (PC8-LCC) Shifter Return Position Sensor (PC11-LCC) Shifter Home Position Sensor (PC12-LCC)	Control Board (PWB-C1 LCC)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the connector for proper connection, and correct as necessary.	—	—	—
2	PC8-LCC sensor check.	☞ T-1	Refer to the Service Manual for the relevant option.	
3	PC11-LCC sensor check.	☞ T-1		
4	PC12-LCC sensor check.	☞ T-1		
5	Replace PWB-C1 LCC.	—	—	—

(23) C099C: LCC Shift Motor Failure

<Detection Timing>

Trouble Code	Description
C0990	• The Shift Motor Pulse Sensor (PC8-LCC) cannot detect both the rising and falling edges of H/L even after the set period of time has elapsed while the Shift Motor (M4-LCC) is turning backward/forward (raise/lower).

Action

Relevant Electrical Components	
Shift Motor (M4-LCC) Shift Motor Pulse Sensor (PC8-LCC)	Control Board (PWB-C1 LCC)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the motor connectors and other connectors for proper connection, and correct as necessary.	—	—	—
2	PC8-LCC sensor check.	☞ T-1	Refer to the Service Manual for the relevant option.	
3	M4-LCC operation check.	☞ T-3		
4	Replace PWB-C1 LCC.	—	—	—

(24) C099D: LCC Communication Failure

<Detection Timing>

Trouble Code	Description
C099D	• Due to a software malfunction, etc., the time on the watchdog timer has run out and a reset is performed.

Action

Relevant Electrical Components	
Control Board (PWB-C1 LCC)	

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Turn the copier off, then on again.	—	—	—
2	Check the connector for proper connection, and correct as necessary.	—	—	—
3	Replace PWB-C1 LCC.	—	Refer to the Service Manual for the relevant option.	

(25) C0F32: ATDC Sensor Failure

(26) C0F33: ATDC Adjustment Failure

<Detection Timing>

Trouble Code	Description
C0F32	• The scanning value of the ATDC Sensor is less than 7% while the Imaging Unit Motor is turning. • The scanning value of the ATDC Sensor is more than 19% while the Imaging Unit Motor is turning.
C0F33	• The adjustment of the ATDC control voltage could not be completed in the set period of time when function F8 is run. • The ATDC control voltage was not within the range of 5.39 V to 8.15 V when function F8 is run.

Action

Relevant Electrical Components	
ATDC Sensor (UN2)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the ATDC sensor connector for proper connection, and correct as necessary.	—	—	—
2	Remove the Developing Unit from the Imaging Unit, and then replace UN2.	—	—	—
3	Run F8.	—	—	—
4	Replace PWB-A.	—	—	—
5	Replace PU1.	—	—	—

(27) C12D0: MIO Device Failure

<Detection Timing>

Trouble Code	Description
C12D0	• The MIO device does not operate properly

Action

Relevant Electrical Components	
CLAN Board	MFB3 Board

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Turn OFF, then ON, the power.	—	—	—
2	Check the CLAN Board connectors for proper connection and correct as necessary.	—	—	—
3	Check the MFB3 Board connectors for proper connection and correct as necessary.	—	—	—
4	Change the CLAN Board.	—	—	—
5	Change the MFB3 Board.	—	—	—

(28) C1300: Polygon Motor Failure

<Detection Timing>

Trouble Code	Description
C1300	• The Polygon Motor Lock signal could not be detected within the set period of time after the Polygon Motor is energized. (Faulty start detection)
	• No First Lock signals are detected during the 1-second period that starts 1 second after a First Lock signal. (Faulty lock signal detection)
	• The Polygon Motor Lock signal could not be detected after the set period of time has elapsed while the Polygon Motor is turning. (Out-of-timing lock detection)
	• The Polygon Motor Lock signal is set to ON for longer than the set period of time while the Polygon Motor remains stopped. (Abnormal lock detection)

Action

Relevant Electrical Components	
PH Unit	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the PH connector for proper connection, and correct as necessary.	—	—	—
2	Replace PH Unit.	—	—	—
3	Replace PWB-A.	—	—	—

(29) Main Unit Communication Failure

<Detection Timing>

Trouble Code	Description
C1330	• Communications with the Master Board and the MFB3 Board fail.

Action

Relevant Electrical Components	
MFB3 Board (MFB3)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the MFB3 Board connector for proper connection, and correct as necessary.	—	—	—
2	Check the PWB-A Board connector for proper connection, and correct as necessary.	—	—	—
3	Check the flat cable between MFB3 and lPWB-A for proper connection, and correct as necessary.	—	—	—
4	Turn the copier off, then on again.	—	—	—
5	Replace the MFB3 Board.	—	—	—
6	Replace the PWB-A Board.	—	—	—

(30) C133A: Main Unit G/A Communication Failure

<Detection Timing>

Trouble Code	Description
C133A	• Communications with the gate array for expansion I/O (the IC mounted on the Master Board) fail. • The Light Emitting Diode on the PWB-A Board does not flash.

Action

Relevant Electrical Components	
Master Board (PWB-A)	

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Turn the copier off, then on again.	—	—	—
2	Check each control board and the Master Board for proper connection, and correct as necessary.	—	—	—
3	Replace the Master Board if necessary.	—	—	—

(31) C133B: Exit Option Paper Transport Failure

<Detection Timing>

Trouble Code	Description
C133B	• The connection status of a finishing option is changed after the copier has been turned on.

Action

Relevant Electrical Components	
Control Board (PWB-A FN) Control Board (PWB-A)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Turn the copier off, then on again.	—	—	—
2	Check each control board and the Master Board for proper connection, and correct as necessary.	—	—	—
3	Replace the appropriate Control Board and the Master Board if necessary.	—	—	—

(32) C13D0: EEPROM Failure

<Detection Timing>

Trouble Code	Description
C13D0	• An EEPROM where no initial data is written is detected.

Action

Relevant Electrical Components	
Master Board (PWB-A)	

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Unplug and plug in the power cord, and then turn off and turn on the copier.	—	—	—
2	Check the EEPROM on the Master Board for proper connection, and correct as necessary.	—	—	—
3	Replace PWB-A.	—	—	—
4	Replace the EEPROM.	☞ D-81	—	—

(33) C13E0: Flash ROM Failure

<Detection Timing>

Trouble Code	Description
C13E0	• The Flash ROM data was determined to be faulty when the unit was turned on.

Action

Relevant Electrical Components	
Master Board (PWB-A)	

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Unplug and plug in the power cord, and then turn off and turn on the copier.	—	—	—
2	The firmware data is overwritten.	☞ D-71	—	—
3	Replace PWB-A.	—	—	—

(34) C13F0: HSYNC Detection Failure

<Detection Timing>

Trouble Code	Description
C13F0	• No SOS falling edges are detected within the set period of time after laser emission began while the Polygon Motor is turning.
	• No SOS falling edges are detected while VIA remains ON.

Action

Relevant Electrical Components	
PH Unit (PH)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Turn the copier off, then on again.	—	—	—
2	Check PH Unit and the Master Board connectors for proper connection, and correct as necessary.	—	—	—
3	Replace the PH Unit.	—	—	—
4	Replace PWB-A.	—	—	—

3-4. Power-Supply-Related Malfunctions

(1) Copier is not receiving power.

Relevant Electrical Components	
Power Switch (S1) Power Supply Unit (PU1)	Master Board (PWB-A)

Step	Operations	WIRING DIAGRAM (Location)	Result	Action
1	Is a voltage being applied to the electrical outlet?	—	NO	Provide a power supply.
2	Is the wiring to terminal S1 correct?	F-25	NO	Rewire
3	Is there continuity across the fuse (F101) on PU1?	—	NO	Replace the fuse.
4	Is there continuity across the fuse (F103) on PU1?	—	NO	Replace the fuse.
5	Is DC 5 V being output from PJ8A-2 on the Master Board?	D-5	NO	Replace the Master Board.
			YES	Replace the Power Supply Unit.

(2) Only the Power Unit Cooling Fan Motor turns.

Relevant Electrical Components	
Power Supply Unit (PU1) Control Panel (UN1)	MFB3 Board (MFB3) Master Board (PWB-A)

Step	Check	WIRING DIAGRAM (Location)	Result	Action
1	Is DC 4.5 V being output from PJ8A-3 on the Master Board?	C-6	NO	Replace the Master Board.
2	Is DC 5 V being output from PJ9PU1-1 on PU1?	H-19	NO	Replace the Power Supply Unit.
			YES	Replace the Control Panel.

4. Image Quality Problems

4-1. Image Failure Troubleshooting

- This chapter is divided into two parts: “Initial Check Items” and “Troubleshooting Procedures for Specific Image Quality Problems”.
- If an image quality problem occurs, first go through the “Initial Check Items” and, if the cause is still not identified, continue to “Troubleshooting Procedures for Specific Image Quality Problems”.

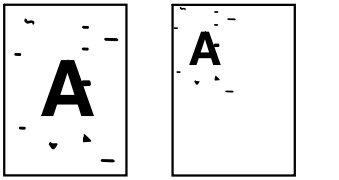
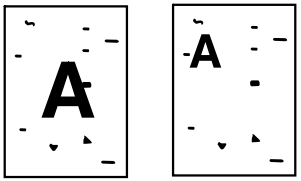
4-2. Initial Check Items

- Determine if the failure is attributable to a basic cause or causes.

Section	Step	Check	Result	Action
Installation site	1	“PRECAUTIONS FOR INSTALLATION” contained in “GENERAL”	NO	Change the installation site.
Paper	2	Recommended paper is used.	NO	Instruct user.
	3	Paper is damp.	YES	Replace paper. Instruct user on proper paper storage.
Original	4	Original not flat.	YES	Correct
	5	Faint original (light pencil, etc.)	YES	Instruct user.
	6	Highly transparent original (OHP transparencies, etc.)	YES	Instruct user.
	7	Dirty or scratched Original Glass.	YES	Clean or Replace.
PM parts	8	PM parts relating to image formation have reached the end of cleaning/ replacement cycles.	YES	Clean or Replace.
Adjustment items	9	There are settings that can be readjusted to remedy the image failure.	YES	Readjust.

- Determine if the failure is attributable to the input system (Image Reading Section) or the output system (Engine section).

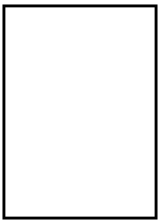
<table>
<tr><th>Check</th><th>Result</th><th>Cause</th></tr>
<tr><td rowspan="2">Make copies at different zoom ratios.

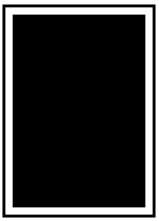
1177T03YA</td><td>Full size Reduction

1177T04YA</td><td>Input system</td></tr>
<tr><td>Full size Reduction

1177T05YA</td><td>Output system</td></tr>
</table>

4-3. Troubleshooting Procedures for Specific Image Quality Problems

(1) Image Reading Section: Blank copy or black copy

<Typical Faulty Images>


4011T516AA

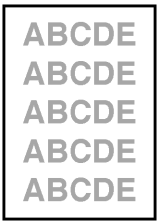

4011T537AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
PWBs and Connection Cables	1	Connectors are securely connected with no bent pins and no breaks in the connection cables.	NO	Reconnect Replace the connection cable.
Scanner Ass'y.	2	The Exposure Lamp comes on.	NO	Replace Exposure Lamp. Replace Scanner Assy.
Inverter Board	3	Connectors on the Inverter Board are connected properly.	NO	Reconnect
	4	The problem has been eliminated after performing step 3.	NO	Replace the Inverter Board.
BCR Board	5	Connectors on the BCR Board are connected properly.	NO	Reconnect
	6	The problem has been eliminated after performing step 5.	NO	Replace the BCR Board.
MFB3 Board	7	Connectors on the MFB3 Board are connected properly.	NO	Reconnect
	8	The problem has been eliminated after performing step 7.	NO	Replace the MFB3 Board.
CCD Unit	9	Connectors on the CCD Unit Board are connected properly.	NO	Reconnect
	10	The problem has been eliminated after performing step 9.	NO	Replace the CCD Unit.

(2) Image Reading Section: Low image density or rough image

<Image Sample>



4011T517AA



4011T517AA

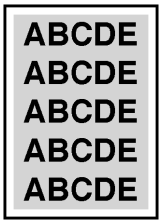
<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Shading Sheet	1	Shading sheet is dirty.	YES	Clean
Mirrors/ Lens/Original Glass	2	Mirrors, lens and/or Original Glass are dirty.	YES	Clean
Exposure Lamp	3	Exposure Lamp is dirty.	YES	Clean Replace Exposure Lamp.
PWBs and Connection Cables	4	Connectors are securely connected with no bent pins and no breaks in the connection cables.	NO	Reconnect Replace the connection cable.
MFB3 Board	5	Connectors on the MFB3 Board are connected properly.	NO	Reconnect
	6	The problem has been eliminated after performing step 6.	NO	Replace the MFB3 Board.
CCD Unit	7	Connectors on the CCD Unit Board are connected properly.	NO	Reconnect
	8	The problem has been eliminated after performing step 7.	NO	Replace the CCD Unit.

(3) Image Reading Section: Foggy background

<Image Sample>

Image Reading Section Failure



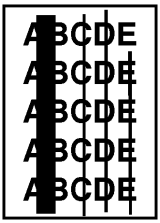
4011T538AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
—	1	Sunlight or any other extraneous light enters the machine.	YES	Protect the copier from extraneous light.
Original	2	Original is damaged or dirty.	YES	Change original.
Original Cover	3	Original Pad is dirty.	YES	Clean
	4	Original Cover does not lie flat.	YES	Replace Original Cover if it is deformed or the hinges are broken.
Shading Sheet	5	Shading sheet is dirty.	YES	Clean
Mirrors/ Lens/Original Glass/ Reflectors	6	Mirrors, lens, Original Glass and/or reflectors are dirty.	YES	Clean
Exposure Lamp	7	Exposure Lamp is dirty.	YES	Clean Replace Exposure Lamp.
PWBs and Connection Cables	8	Connectors are securely connected with no bent pins and no breaks in the connection cables.	NO	Reconnect Replace the connection cable.
MFB3 Board	9	Connectors on the MFB3 Board are connected properly.	NO	Reconnect
	10	The problem has been eliminated after performing step 9.	NO	Replace the MFB3 Board.
CCD Unit	11	Connectors on the CCD Unit Board are connected properly.	NO	Reconnect
	12	The problem has been eliminated after performing step 8.	NO	Replace the CCD Unit.

(4) Image Reading Section: Black streaks or bands

<Image Sample>



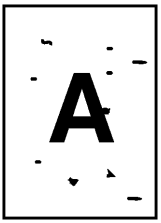
4011T520AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Original	1	Original is damaged or dirty.	YES	Change original.
Original Cover	2	Original Pad is dirty.	YES	Clean
	3	Original Cover does not lie flat.	YES	Replace Original Cover if it is deformed or the hinges are broken.
Shading Sheet	4	Shading sheet is dirty.	YES	Clean
Mirrors/ Lens/Original Glass/ Reflectors	5	Mirrors, lens, Original Glass and/or reflectors are dirty.	YES	Clean
Exposure Lamp	6	Exposure Lamp is dirty.	YES	Clean Replace Exposure Lamp.
ROM Board	7	The problem has been eliminated after performing step 7.	NO	Change the U1 setting on the ROM Board. ☞ S-3
PWBs and Connection Cables	8	Connectors are securely connected with no bent pins and no breaks in the connection cables.	NO	Reconnect Replace the connection cable.
MFB3 Board	9	Connectors on the MFB3 Board are connected properly.	NO	Reconnect
	10	The problem has been eliminated after performing step 10.	NO	Replace the MFB3 Board.
CCD Unit	11	Connectors on the CCD Unit Board are connected properly.	NO	Reconnect
	12	The problem has been eliminated after performing step 12.	NO	Replace the CCD Unit.

(5) Image Reading Section: Black spots

<Image Sample>



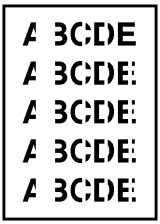
4011T521AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Original	1	Original is damaged or dirty.	YES	Change original.
Original Cover	2	Original Pad is dirty.	YES	Clean
Original Glass	3	Original Glass is dirty.	YES	Clean
—	4	The problem has been eliminated after performing step 3.	NO	Replace Scanner Ass'y. Replace the CCD Unit.

(6) Image Reading Section: White streaks or bands

<Image Sample>



4011T522AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Original	1	Original is damaged or dirty.	YES	Change original.
Original Cover	2	Original Pad is dirty.	YES	Clean
	3	Original Cover does not lie flat.	YES	Replace Original Cover if it is deformed or the hinges are broken.
Shading Sheet	4	Shading sheet is dirty.	YES	Clean
Mirrors/ Lens/Original Glass/ Reflectors	5	Mirrors, lens, Original Glass and/ or reflectors are dirty.	YES	Clean
Exposure Lamp	6	Exposure Lamp is dirty.	YES	Clean Replace Exposure Lamp.
ROM Board	7	The problem has been eliminated after performing step 7.	NO	Change the U1 setting on the ROM Board. ☞ S-3
	8	The white lines or bands are blurry or opaque.	YES	Replace Scanner Assy. Replace the CCD Unit.

(7) Image Reading Section: Uneven pitch

<Image Sample>



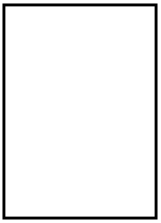
4011T528AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Scanner Motor	1	Scanner Motor drive is being transmitted.	NO	Correct or change drive coupling mechanism.
Exposure Lamp	2	Exposure Lamp harness is not hooked.	NO	Correct
Scanner Drive Cable	3	Scanner Drive Cable is taut.	NO	Correct the wiring or replace the cable.
Scanner Rails	4	Scanner Rails are scratched or dirty.	NO	Clean or Replace.
PWBs and Connection Cables	5	Connectors are securely connected with no bent pins and no breaks in the connection cables.	NO	Reconnect Replace the connection cable.
MFB3 Board	6	Connectors on the MFB3 Board are connected properly.	NO	Reconnect
	7	The problem has been eliminated after performing step 9.	NO	Replace the MFB3 Board.
CCD Unit	8	Connectors on the CCD Unit Board are connected properly.	NO	Reconnect
	9	The problem has been eliminated after performing step 11.	NO	Replace the CCD Unit.

(8) Printer Section: Blank copy or black copy

<Typical Faulty Images>



4011T516AA



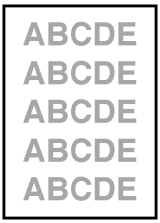
4011T537AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Imaging Unit	1	Developing Unit drive is being transmitted.	NO	Correct or change drive coupling mechanism.
	2	Image transfer current contact terminal is dirty or deformed.	YES	Clean Replace the PC Drum Unit.
	3	Developing bias contact terminal is dirty or deformed.	YES	Clean Replace the PC Drum Unit.
PH Unit	4	PH Shutter (shutter in the path of the laser beam from the PH Unit to the PC Drum) opens and closes properly.	NO	Correct
Imaging Unit	5	PC Drum Protective Shutter opens and closes properly.	NO	Correct
PWBs	6	Connectors are securely connected with no bent pins on the Master Board or PH Unit.	NO	Correct
—	7	The problem has been eliminated after performing step 6.	NO	Replace the PC Drum Unit. Replace the PH Unit. Replace the High Voltage Unit. Replace the Master Board.

(9) Printer Section: Low image density or rough image

<Image Sample>



4011T517AA



4011T517AA

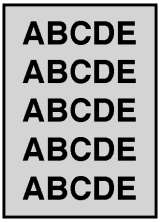
<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Imaging Unit	1	Image transfer current contact terminal is dirty or deformed.	YES	Clean Replace the PC Drum Unit.
	2	Developing bias contact terminal is dirty or deformed.	YES	Clean Replace the PC Drum Unit.
Tech. Rep. Mode → Image Density	3	Select Tech. Rep. Mode → Tech. Rep. Choice → Printer → Image Density. The image problem can be corrected by selecting an Image Density setting toward the + end.	YES	Make setting again.
Tech. Rep. Mode → VG Adjust	4	Select Tech. Rep. Mode → Tech. Rep. Choice → Printer → VG Adjust. The image problem can be corrected by selecting an VG Adjust setting toward the + end.	YES	Make setting again.
—	5	The problem has been eliminated after performing step 4.	NO	Replace the PC Drum Unit. Replace the PH Unit. Replace the High Voltage Unit. Replace the Master Board.

(10) Printer Section: Foggy background

<Image Sample>

Engine Section Failure



4011T519AA

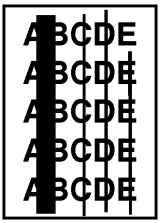
<Troubleshooting Procedures>

Section	Step	Check	Result	Action
—	1	Sunlight or any other extraneous light enters the machine.	YES	Protect the copier from extraneous light.
Imaging Unit	2	PC Drum is dirty.	YES	Replace the PC Drum Unit.
	3	Comb Electrode contact terminal is dirty or deformed.	YES	Clean Replace the PC Drum Unit.
	4	Grid voltage contact terminal is dirty or deformed.	YES	Clean Replace the PC Drum Unit.
	5	Charge Neutralizing Sheet contact terminal is dirty or deformed.	YES	Clean Replace the PC Drum Unit.
Eraser Lamp	6	Eraser Lamp is dirty.	YES	Clean
	7	Is there continuity across the Eraser Lamp?	NO	Replace Eraser Lamp.
Tech. Rep. Mode → Image Density	8	Select Tech. Rep. Mode → Tech. Rep. Choice → Printer → Image Density. The image problem can be corrected by selecting an Image Density setting toward the + end.	YES	Make setting again.
Tech. Rep. Mode → VG Adjust	9	Select Tech. Rep. Mode → Tech. Rep. Choice → Printer → VG Adjust. The image problem can be corrected by selecting an VG Adjust setting toward the + end.	YES	Make setting again.

Section	Step	Check	Result	Action
—	10	The problem has been eliminated after performing step 9.	NO	Replace the PC Drum Unit. Replace the Developing Unit. Replace the PH Unit. Replace the High Voltage Unit. Replace the Master Board.

(11) Printer Section: Black streaks or bands

<Image Sample>



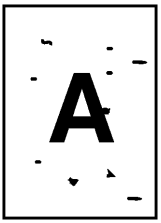
4011T520AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Paper Path	1	Toner is on the paper path.	YES	Clean
Imaging Unit	2	PC Drum is dirty.	YES	Replace the PC Drum Unit.
Fusing Unit	3	Fusing Rollers are dirty or scratched.	YES	Replace the PC Drum Unit.
—	4	The problem has been eliminated after performing step 3.	NO	Replace the PC Drum Unit. Replace the Developing Unit. Replace the Master Board.

(12) Printer Section: Black spots

<Image Sample>



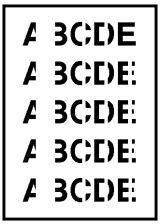
4011T521AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Paper Path	1	Toner is on the paper path.	YES	Clean
Imaging Unit	2	PC Drum is dirty.	YES	Replace the PC Drum Unit.
Fusing Unit	3	Fusing Rollers are dirty or scratched.	YES	Replace the Fusing Unit.
Imaging Unit	4	Comb Electrode contact terminal is dirty or deformed.	YES	Clean Replace the PC Drum Unit.
	5	Grid voltage contact terminal is dirty or deformed.	YES	Clean Replace the PC Drum Unit.
	6	Charge Neutralizing Sheet contact terminal is dirty or deformed.	YES	Clean Replace the PC Drum Unit.
Eraser Lamp	7	Eraser Lamp is dirty.	YES	Clean
	8	There is continuity across the Eraser Lamp.	NO	Replace Eraser Lamp.
—	9	The problem has been eliminated after performing step 8.	NO	Replace the PC Drum Unit. Replace the Developing Unit. Replace the High Voltage Unit. Master Board

(13) Printer Section: White streaks or bands

<Image Sample>



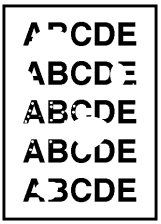
4011T522AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Image Transfer Roller	1	Image Transfer Roller is dented or scratched.	YES	Replace the Image Transfer Roller.
Imaging Unit	2	PC Drum is dirty.	YES	Replace the PC Drum Unit.
Fusing Unit	3	Fusing Rollers are dirty or scratched.	YES	Replace the Fusing Unit.
PH Unit	4	Window glass of the PH Unit is dirty.	YES	Clean
—	5	The problem has been eliminated after performing step 4.	NO	Replace the PC Drum Unit. Replace the Developing Unit. Replace the Master Board.

(14) Printer Section: Void areas

<Image Sample>



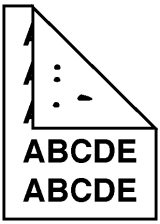
4011T523AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Imaging Unit	1	PC Drum is dirty.	YES	Replace the PC Drum Unit.
Image Transfer Roller	2	Image Transfer Roller is dented or scratched.	NO	Replace the Image Transfer Roller.
Fusing Unit	3	using Rollers are scratched or deformed.	YES	Replace the Fusing Unit.
—	4	The problem has been eliminated after performing step 3.	NO	Replace the PC Drum Unit. Replace the Developing Unit. Replace the Master Board.

(15) Printer Section: Smears on back of paper

<Image Sample>



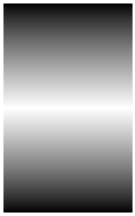
4011T524AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Paper Path	1	Toner is on the paper path.	YES	Clean
Image Transfer Roller	2	Image Transfer Roller is dirty.	YES	Replace the Image Transfer Roller.
Fusing Unit	3	Fusing Roller is dirty.	YES	Replace the Fusing Unit.

(16) Printer Section: Uneven image density

<Image Sample>



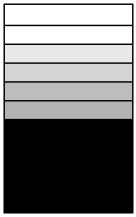
4011T525AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Image Transfer Roller	1	Image Transfer Roller is dirty or deformed.	YES	Replace the Image Transfer Roller.
—	2	The problem has been eliminated after performing step 1.	NO	Replace the PC Drum Unit. Replace the Developing Unit. Master Board

(17) Printer Section: Gradation reproduction failure

<Image Sample>



4011T526AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Image Transfer Roller	1	Image Transfer Roller is dirty or deformed.	YES	Replace the Image Transfer Roller.
—	2	The problem has been eliminated after performing step 1.	NO	Replace the PC Drum Unit. Replace the Developing Unit. Master Board

(18) Printer Section: Uneven pitch

<Image Sample>



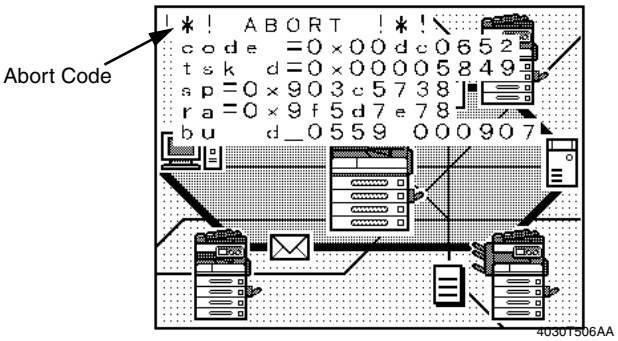
4011T528AA

<Troubleshooting Procedures>

Section	Step	Check	Result	Action
Imaging Unit	1	Developing Unit drive is being transmitted.	NO	Correct or change drive coupling mechanism.
Developing Section	2	PC Drum and Image Transfer Roller drive is being transmitted.	NO	Correct or change drive coupling mechanism.
Transport Section	3	Synchronizing Rollers Unit drive is being transmitted.	NO	Correct or change drive coupling mechanism.
Fusing Section	4	Fusing Unit drive is being transmitted.	NO	Correct or change drive coupling mechanism.
Imaging Unit	5	Ds Collar is dirty.	YES	Clean
PH Unit	6	PH Unit is securely installed.	YES	Correct
—	7	The problem has been eliminated after performing step 6.	NO	Replace the PC Drum Unit. Replace the Developing Unit. Replace the Master Board.

5. ABORT CODES

- The copier displays an abort code on the Touch Panel as it becomes unable to process tasks properly through its software control.



5-1. List of Abort Codes

- When the system program is aborted, the copier attempts to restart it automatically. If it fails to restart the program, check the electrical component, unit, option, and connection relating to the specific type of the abort condition.

Description	Code	Relevant Electrical Components, Units, and Options
OS processing system failure	0x00000000 to 0x000fffff	MFB3 Board
Device control system failure	0x00100000 to 0x001fffff	MFB3 Board, FAX Board, Memory Board[*1], CLAN Board[*2], FN-117, JS-203, MK-1, SK-1,
Copy control system failure	0x00200000 to 0x002fffff	MFB3 Board
Operation system failure	0x00300000 to 0x003fffff	MFB3 Board, Touch Panel, Panel Board
Network function Web processing system failure	0x00400000 to 0x004fffff	MFB3 Board, Memory Board[*1], CLAN Board[*2]
Conversion processing system failure	0x00500000 to 0x005fffff	MFB3 Board
Encoding processing system failure	0x00600000 to 0x006fffff	MFB3 Board, Memory Board[*1]
File control system failure	0x00700000 to 0x007fffff	MFB3 Board, Memory Board[*1]
G3 protocol processing system failure	0x00800000 to 0x008fffff	MFB3 Board, FAX Board, Memory Board[*1]
G3 device control system failure	0x00900000 to 0x009fffff	MFB3 Board, FAX Board, Memory Board[*1]

Description	Code	Relevant Electrical Components, Units, and Options
Scanner control system failure	0x00c00000 to 0x00c0ffff	MFB3 Board, BCR Board, INV Board, AFR-19
Scanner control system failure	0x00c10000 to 0x00c2ffff	MFB3 Board, BCR Board, INV Board, AFR-19
Scanner control system failure	0x00c30000 to 0x00c4ffff	MFB3 Board, BCR Board, INV Board, AFR-19
Scanner control system failure	0x00c50000 to 0x00c5ffff	MFB3 Board, BCR Board, INV Board, AFR-19
Scanner device control system failure	0x00d00000 to 0x00d3ffff	MFB3 Board, BCR Board, INV Board
Scanner device control system failure	0x00d40000 to 0x00d7ffff	MFB3 Board, BCR Board, INV Board
Scanner device control system failure	0x00d80000 to 0x00dbffff	MFB3 Board, BCR Board, INV Board, AFR-19
Scanner device control system failure	0x00dc0000 to 0x00dfffff	MFB3 Board, Scanner Home Position Sensor. BCR Board
Printer sequence system failure	0x00e00000 to 0x00e000ff	MFB3 Board, CLAN Board, Pi3505e/, Memory Board
Printer sequence system failure	0x00e00100 to 0x00e001ff	MFB3 Board, Memory Board[*1], CLAN Board[*2]
Printer sequence system failure	0x00e00200 to 0x00e002ff	MFB3 Board, Memory Board[*1], CLAN Board[*2]
Printer sequence system failure	0x00e00300 to 0x00e003ff	MFB3 Board, Memory Board[*1], CLAN Board[*2]
Printer sequence system failure	0x00e00400 to 0x00e004ff	MFB3 Board, Memory Board[*1], CLAN Board[*2]
Printer system failure	0x00f00000 to 0x00f0ffff	MFB3 Board, Memory Board[*1], CLAN Board[*2]
EP-NET sequence system failure (U.S.A. and Canada only)	0x00f10000 to 0x00f1ffff	MFB3 Board, DT-105
Counter sequence system failure	0x00f20000 to 0x00f2ffff	MFB3 Board
Other failures	0x01100000 to 0x011000ff	MFB3 Board
Copy sequence system failure	0x01100100 to 0x011001ff	MFB3 Board
Overseas controller print sequence system failure	0x01100200 to 0x011002ff	MFB3 Board
Overseas controller reception system failure	0x01100300 to 0x011003ff	MFB3 Board

Description	Code	Relevant Electrical Components, Units, and Options
Function sequence system failure	0x01100400 to 0x011004ff	MFB3 Board
OS message processing system failure	0x02000000 to 0x020fffff	MFB3 Board, Memory Board*1, CLAN Board*2
Network processing system failure	0x03000000 to 0x030fffff	MFB3 Board, Memory Board*1, CLAN Board*2

✻ 1: Attached to Network Scan Kit, Internet Fax & Network Scan Kit and Printer Controller, Expansion Memory.

✻ 2: Attached to Network Interface Card.

FAX section

INDEX

GENERAL

DIS/REASSEMBLY,
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TROUBLESHOOTING

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GENERAL

1. SPECIFICATIONS

1-1. List of Specifications

	Specifications
Memory Capacity	64 MB (For Image memory manager 32 MB)
Communication mode	ECM / G3
Scanning resolution (main line x feed line)	8 x 3.85 line/mm, 8 x 7.7 line/mm 8 x 15.4 line/mm 16 x 15.4 line/mm
Data speed	G3 / ECM: 2.4 Kbps - 33.6 Kbps
Transmission time	G3 / ECM: Image signal - 2 sec approx. (V.34 JBIG)
Coding method	MH / MR / MMR / JBIG
Applicable network	G3 / ECM: Phone line, FAX communication network, dedicated line
Options	TX Marker Stamp 2

1-2. List of Functions

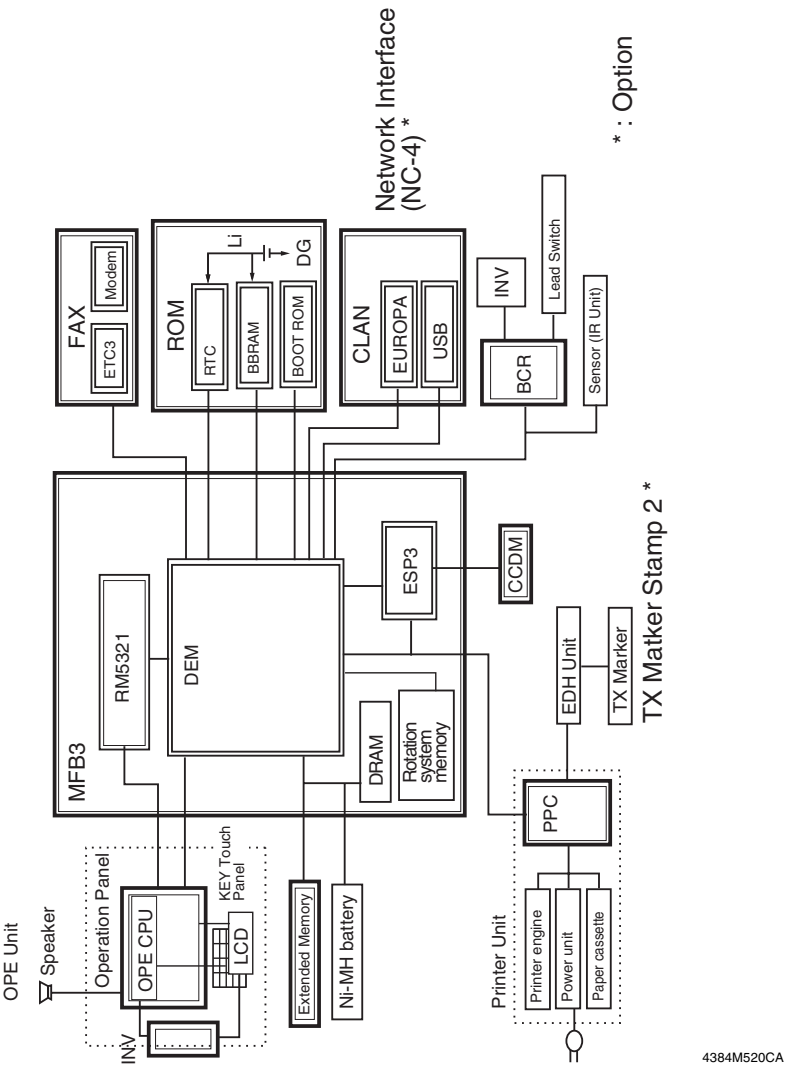
	Function	(●: available X: unavailable)
Speed	High speed scanning	● (0.55 sec, A4/Letter Crosswise fine)
	High speed printout	● (35 CPM: 35 ppm, A4/Letter Crosswise) (30 CPM: 30 ppm, A4/Letter Crosswise) (25 CPM: 25 ppm, A4/Letter Crosswise) (20 CPM: 20 ppm, A4/Letter Crosswise)*
	ECM mode	● (2 sec approx. / Std. document)
	High speed half tone	●
Resolution	Super fine mode	●
	Half tone transmission	●
	Auto retransmission after error	● (ECM)
	Full automatic exposure control	● (Copy/FAX)
	Smoothing	● (FAX function)
	Mixed mode (Text + Photo)	●
Operability	One-touch dialing	● (540 destinations)
	Abbreviated dialing	X
	One-touch program dialing	● (30 destinations) # of one-touch dialing number
	Auto re-dialing	●
	Transmission Booking	● (200)
	Broadcast Destination	● (300)
	Origination Selecting	● (8 types)
	Destination retrieval	●

*: USA and Canada only

Function		(●: available X: unavailable)
Utility functions	2-in-1 printout	●
	2-to-1 page transmission	●
	TX marker	● (option)
	FAX/Phone automatic switch	X
	Password communication	●
	Multi polling	X
	Polling at regular times	X
	Non storage transmission	●
	Priority transmission	●
	Insert destination	●
	Automatic pause for PSTN number	●
	Display communication result	●
	Record TSI information	●
	ID display/record	● (Received date and time record)
	Power Source saving mode	● (ENERGY STAR®)
	Switch document reading length	X
	ADF 2 sided transmission	●
Report functions	Activity report (TX/RX)	●
	Transmission report	● (with document margins, Result report)
	Incompleted transmission report	● (with document margins, Result report)
	Serial broadcast report	● (with document margins, Result report)
	User account report	●
	One-touch dial# list	●
	Fax program list	●
	Bulletin Board list	●
	Forwarding list	●
	Confidential list	●

Function		(●: available X: unavailable)
Memory functions	Multi access	● (Interruption key exists)
	Transmission Booking Document Number	● (200)
	Retransmission	● (destination changeable)
	Document retransmission	●
	Reception by memory	●
	Transmission Management Document Number	● (200)
	Transmission post	● (30 destinations)
	Memory polling transmission	●
	confidential transmission confidential print	● (F code)
	Serial broadcast	● (300 destinations, Full dial broadcast 12 (Included number))
	Relay broadcast	● (F code)
	Memory full control	● (Separate Tx)
	Quick memory transmission	●
	File backup	● (12 hours)
	Rotated Rx	●
	Selective polling	●
System Configuration	Relay transmission	X
	Extra telephone	● (PB forwarding receivable)
	Management function per business section	● (100 sections, 1000 sections)
	Chain dialing	●
	Inch/mm conversion	●
	PC print	● (Option)
Mutual Connectivity	ITU-T G4	X
	ITU-T G3/ECM	●
	Facsimile communication network	●
Maintenance	Self diagnostics	● (Memory dump/display, protocol trace, S/W switch list, service call setup
	Counter per application	●
	Adjust touch panel registration.	●
	Switch display of communication error code	●
	Adjust ADF zoom ratio (main/sub)	● (FAX independently)
	Adjust BS zoom ratio (main/sub)	● (FAX independently)

2. CIRCUITRY OPERATION



3. FUNCTION OF CIRCUIT BOARD

Name	Description
MFB3	This board is a micro program control circuit that forms the nucleus of the PMC RM5231A external 32 bit RISC processor possessing software circuit controls, reading circuit, recording controls, structural controls, operating controls, reading controls, CCD driver circuit, CCD output image process circuit, binary image process circuit, motor controls circuit, battery backup circuit (Ni-MH battery) for file memory and different types of sensor I/F circuits.
FAX	This board possesses a line controller to detect line signals such as line connection and ringer as well as different types of communication system I/Fs.
ROM	This board possesses BOOTROM, clock IC circuit, SRAM circuit for storing different types of registration information, battery back-up circuit (lithium battery) for clock IC circuit, SRAM circuit and compact flash I/F. Install program ROM (compact flash: 32MB) when using the board.
CLAN	PC printer (USB) and network functions are achieved via connection of this board to the MFB3 board.
MEM	This board has 32MB, 64MB and 128MB capacity used for image data recording.

3-1. MFB3 Board

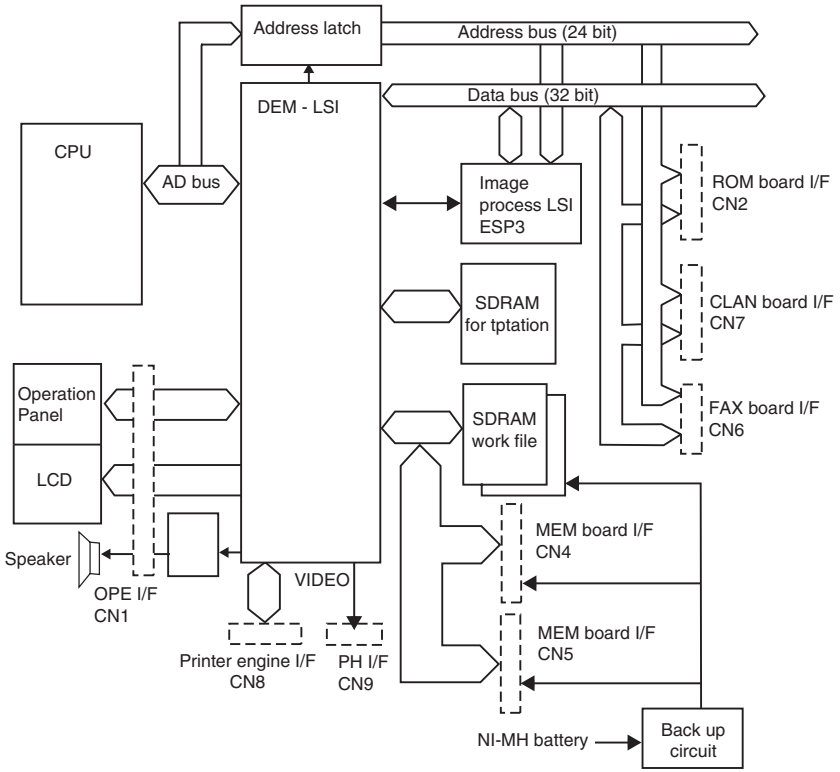
- The MFB3 board is a main controller that has an external 32 (internal 64) bit RISC processor. It controls several units of the system (e.g., circuitry of each unit, transmitter, reader, printer, mechanically moving parts, and operation) according to system software. The MFB3 board has 4 main blocks:

(1) Main Controller

1. Overview

- The main controller has a RM5231A CPU and a DEM LSI for controlling several blocks, and work memory (SDRAM).
- The main controller also uses the information of the backup memory (SRAM) mounted on ROM board for various controls.

✻ Block diagram



2. Function

- CPU
  This is the CPU of the system. It uses an external 32 (internal 64) bit RISC processor.
- DEM LSI
  It connects the CPU and the controller for controlling overall operation of the system.
- Program memory (ROM board section)
  The program board with software for operating the system is mounted here.
- Work memory (SDRAM)
  This memory serves the work area of the system operation.
- Backup memory (SRAM: ROM board section)
  It is a 512 KB memory that stores the status information of the system.

3. Backup function

- Method

Backup location	Method	Lifetime	Voltage/current
Battery backup RAM	Lithium battery (discharge type)	5 years approx	3 V / 1000 mAh
Clock LSI			

4. Backup contents

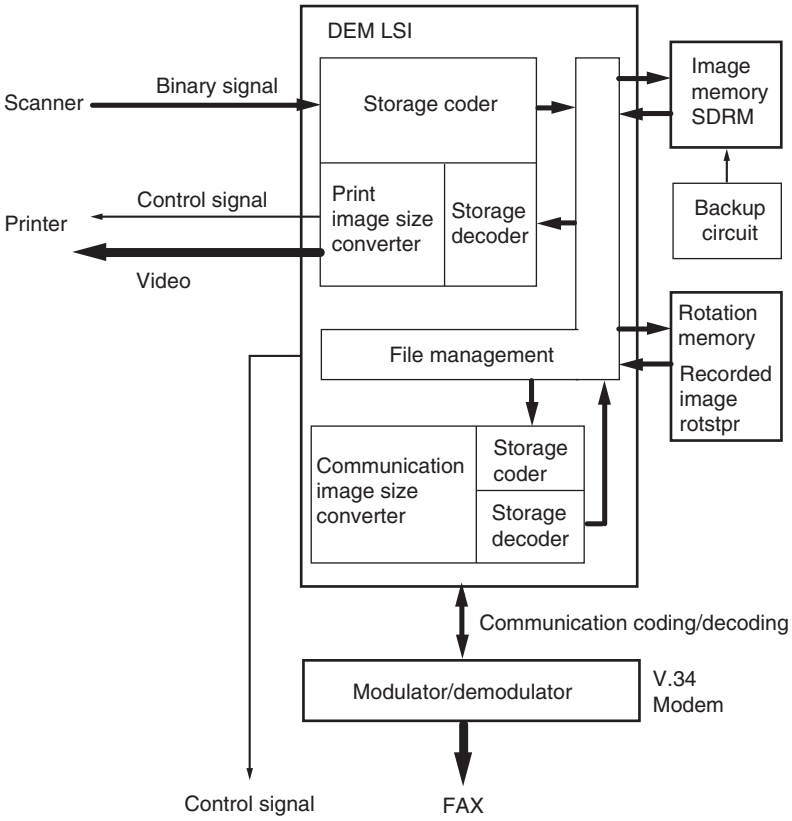
Back up location	Contents
Battery Backup RAM	• Phone number..... Abbreviated phone numbers • Self-data.....TSI information and serial number are backed up • Soft switch.....Registration data of soft switches • Communication management....Information on activity reports
Clock LSI	Time count

(2) Image data processor

1. Overview

- This processor has interface blocks with the BS unit or the printer units, and the FAX communication block.
- It has a storage coder/decoder and a storage code memory manager (DEM LSI), image memory (SDRAM FILE), a printer controller (DEM LSI), a modem (V.34), and a communication controller (DEM LSI).
- Each block is controlled by the CPU (RM5231A) of the MFB3 board.
- The image memory has an external Ni- MH battery for backup.

✻ Block diagram



2. Function

A. Storage coder/decoder (DEM LSI)

- The coder function codes image data into stored code data. The decoder function decodes stored code data into image data.

B. Image memory manager (DEM LSI)

- This block reads/writes the stored code data through interface units (the scanner, the printer, and the communication units) from/into SDRAM FILE by the unit of 1 block.

C. Image memory (SDRAM FILE)

- Standard system comes equipped with 32 MB on the MFB3 board.
- The maximum capacity is 224 MB by installing another MEM board.

D. Printer controller (DEM LSI)

- It processes the line density conversion for print image data (serial data) from the storage decoder, and stores it in the internal frame memory.
- The converted data is read synchronized with the PPC printer, added information on the left margin and the white mask, and then output to the printer as serial data.
- The frame memory can hold up to 20 KB of data to be output to the printer.
- The printer controller exchanges commands/statuses for controlling the printer unit.

E. Image memory backup circuit

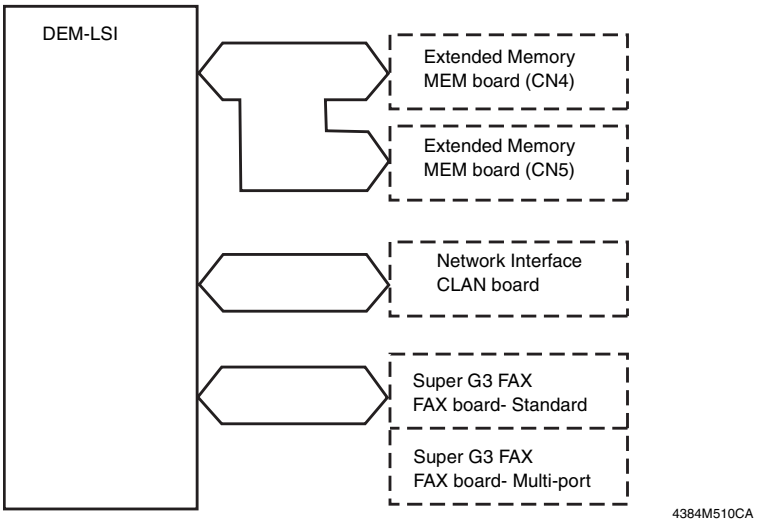
- It retains memory contents for the maximum of 224 MB image memory by switching power source from the battery to it when the device power is off or the power supply is cut off.

(3) Expansion Interface

1. Overview

- This interface block has CLAN interface with a USB and a PCI bus for use as a LAN board or a PC printer and an expansion interface for various system options.

✻ Block diagram



2. Function

A. Special connector Expansion slot
Use them to add file memories at expansion slot. There are 3 boards that can be connected.

B. CLAN board interface (dedicated connector: 100-pin)
A connector equipped with a CLAN board loaded with a network LAN interface a USB 1.1 interface.

C. FAX board interface (dedicated connector: 40-pin)
A connector equipped with the FAX board for V.34 FAX. This interface is shared by the basic port and a multi-port of the FAX board.

3. Interface List (for reference)

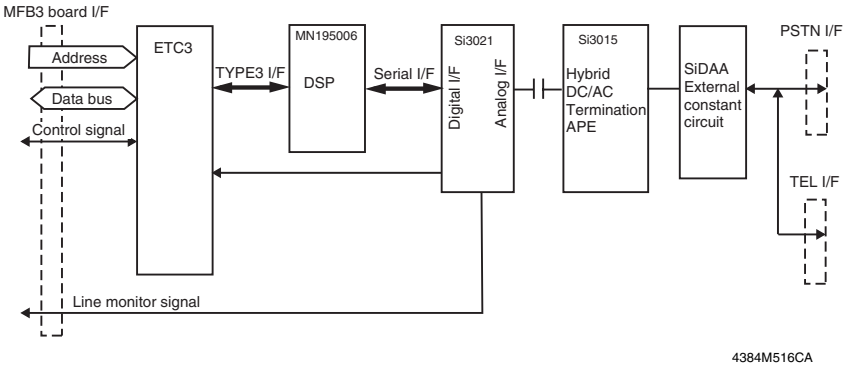
Connector	Pin	Function	Note
CN1	26	OPE unit I/F	
CN2	100	ROM board I/F	
CN3	3	Ni-MH battery connector	
CN4	144	File memory I/F for expansion	
CN5	144	File memory I/F for expansion	
CN6	40	FAX (E) board I/F	
CN7	100	CLAN board I/F	
CN8	50	Printer unit I/F	
CN9	6	Printer unit I/F	
CN10	14	CCDM board I/F	
CN11	100		Unused
CN12	30	BCR, sensor I/F	
CN13	38		Unused (not mounted)
CN14	38		Unused (not mounted)
CN15	3	Power connector (+3.3V)	
CN16	6	Printer clock I/F	
CN17	6	Printer clock I/F	
CN18	26		Unused
CN19	11		Unused (not mounted)

3-2. FAX Board

(1) Function

- This board comes loaded with a G3 modem for communicating Super G3 facsimile communications.
- It also has a line I/F (modular jack). Functions separated into a modem board and a line controller (NCU) before are integrated in one board.
- Cascade connection of two identical fax boards easily achieves a multi-port.

✻ Block diagram



(2) Modem DSP (MN195006-E V.34 modem)

1. Modem (V.34 modem)

- Modem DSP (MN195006-E V.34 modem)
- A digital signal processor (DSP) and a ROM/RAM are integrated in this modem tip.
- A modem F/W ROM and Book memory (SRAM) on the board before are built in the modem.
- The communication operation conforms to the ITU-T recommendation V.8, V.34, V.17, V.29, V.27ter and V.21ch2. It can be operated at speeds from 33.6 kbps to 2.4 kbps (2.4 kbps steps) and 300 bps. The basic specification for the recommendation is the same as before.
- It also transmits PB tones when calling PB via Line controller (3).
- This modem is positioned on the memory map on the MFB3 board.
- The analog circuit block following the analog front-end section (AFE) to convert A/D and D/A are processed in the Line controller (3).

2. Communication controller (ETC3 LSI)

- It possesses an interface for the host (MFB3 board) to access to the modem DSP (data, address, interruption and CS decoding).
- It possesses a ringer detection function using binary output from the silicone DAA.
- It has a cascade connection function to achieve multi-port. (It enables multi-port communication by connecting two identical fax boards.)

3. Image memory backup circuit

- The silicone DAA (Direct Access Arrangement) processes almost all kinds of analog communications for blocks following the modem DSP or blocks from the analog front-end section (AFE) to the line.

✻ Its main functions are as follows.

- Isolation function for line side first system line and the second system line (Note 1)
- A/D and D/A conversion function (CODEC)
- Analog hybrid (HYB) circuit
- Monitoring function for Tx/Rx analog circuit and line
- Direct current loop (DC termination) adjustment function (Note 2)
- 600 W termination alignment (AC termination) function
- Ringer signal detection (binary) function
- Dial pulse generation and output function
- Line direct current polarity monitoring function (Note 3)

Note 1: The function substitutes for the existing transformer and a photo coupler.
Note 2: Performs CML on/off (connection/release) and detects connected telephone off-hook.
Therefore no relay operation sound occurs unlike before.
Note 3: Outputs to ETC3 LSI by using the external comparator circuit at the same time.

- This board consists of 2 tips (Si3021 and Si3015) and is positioned on the same memory area with the modem DSP. All communication protocol signals, image signals, ringer binary signals and tonal signals are superposed on a 2MHz modulation signal unique for the silicone DAA and transmitted.
- The Si3021 tip on the DSP side uses +3.3V power supply in common with the modem DSP. The Si3015 tip operates by the line superposition DC 48V.
- Therefore, the board does not operate in the communication line without power supply (Back to back). It always needs to be connected with such as the pseudo exchange in the communication test.
- The board has two modular connection ports (for line connection and connected telephone connection).
- When connecting the public line to the line connection modular port of the board, use the attached 2-core cable.
- When operating the device with the 4-core cable connected, malfunction may occur.

(3) Line controller (Si3044 silicone DAA)

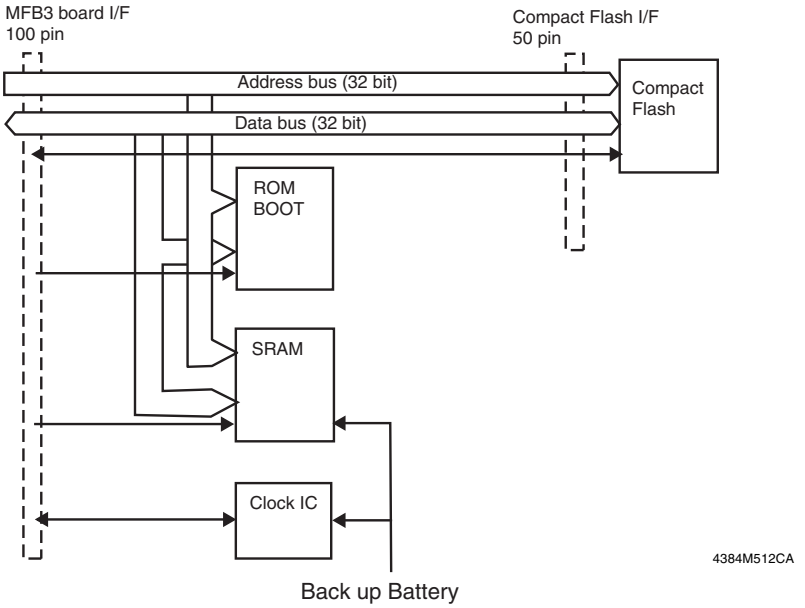
Connector	Pin	Function	Note
CN1	40	MFB3 board I/F	
CN2	16		Unused
CN3	50	FAX board I/F for expansion (for the front step)	
CN4	50	FAX board I/F for expansion (for the rear step)	
CN5	6		Unused (not mounted)
CN6	8	LINE/EXT Connector	

3-3. ROM Board

1. Overview

- This board possesses a compact flash interface storing the program to operate the system. 32 MB compact flash can be mounted on it.
- It also has a clock IC circuit and SRAM circuit for storing different types of registration information.

✻ Block diagram



2. Interface List

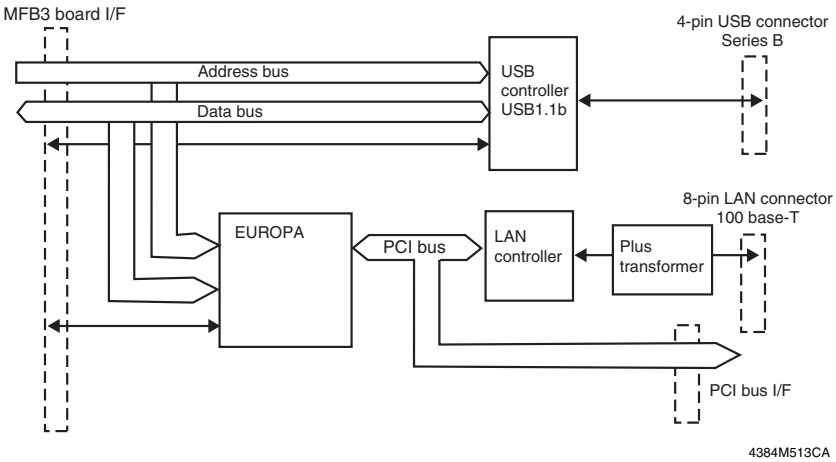
Connector	Pin	Function	Note
CN1	100	MFB3 board I/F	
CN2	50	Compact Flash I/F	

3-4. CLAN Board

(1) Overview

- This board is configured with a USB1.1b interface for use as a PC printer, a network LAN interface using a PCI bus, and a PCI interface for expansion.
- The communication protocol is TCP/IP, SMTP, POP3, MIME and HTTP

✻ Block diagram



(2) Function

1. USB1.1b interface
- The PC printer can be used as the USB connector.

2. Network LAN interface
- The network connector can be used as a network scanner and a network printer.

3. PCI bus interface for expansion
- The board equipped with the PCI bus interface connector (dedicated connector: 100-pin) as the interface for future expansion.

4. LED indicator display

LED	Function	
Green	Lighted	Normally connected to LAN
	Unlit	Does not send or receive data No power is input Not connected to LAN normally
	Flashing	While sending and receiving data
Red	Lighted	While operating at 100 Mbps
	Unlit	While operating at 10 Mbps

5. Interface List

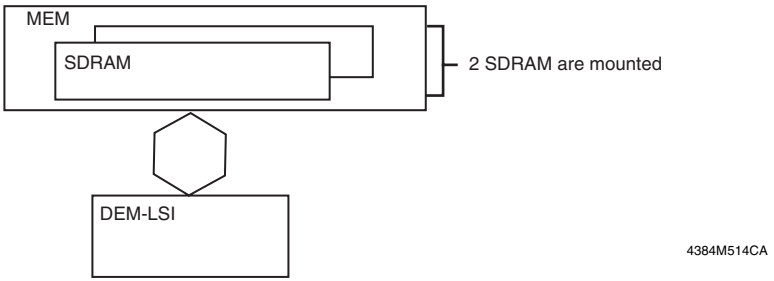
Connector	Pin	Function	Note
CN1	100	MFB3 board I/F	
CN2	4	USB connector	
CN3	100		Unused
CN4	44		Unused
CN5	2		Unused
CN6	100		Unused
CN7	Lacking number		
CN8	8	LAN connector	

3-5. MEM Board

(1) Overview

- This board is used as memory for image information for expansion.
- Its memory capacity is 32MB by using the option kit.
- Insert this board into a memory expansion slot of the MFB3 board.

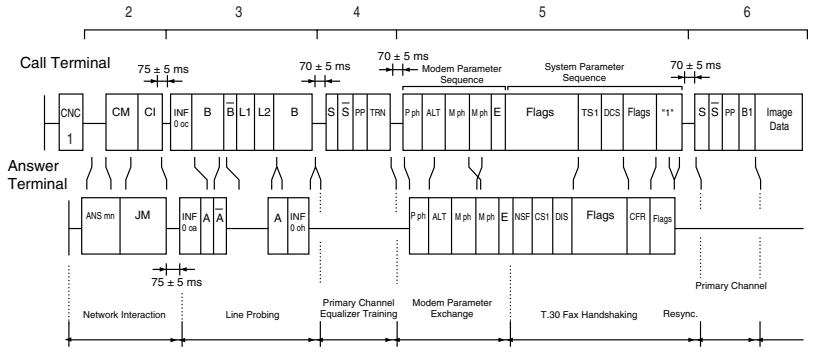
✻ Block diagram



4. COMMUNICATION CONTROL

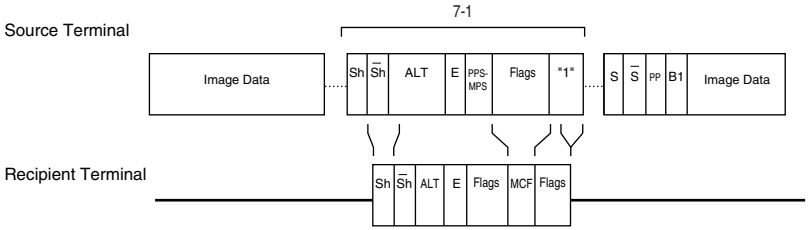
- Communication control of this system follows ITU-T (previously known as CCITT) recommended T.30 binary procedure (G3/ECM; error collection mode).
- Communication mode will be selected automatically with the type of phone line (PSTN) and the ID signal from a remote terminal.

4-1. V3.4 Mode Communication Procedure



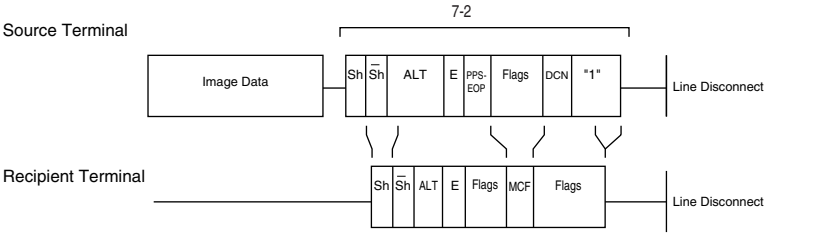
Pre-control

4015M509AA



Between pages

4015M510AA



Post-control

4015M511AA

(1) V3.4 Mode Communication Procedure

V3.4 mode does not always select the transmission speed of 36.6 Kbit/s. An optimal transmission speed will be selected according to the sequences described in the item 3 and 4 below in order to establish communication.

- Transmission speed : 2.4 to 36.6 Kbit/s (by 2.4 K step)
- Symbol rate : 6 rates (5 rates are supported)
  3429, 3200, 3000, 2800, (2743), 2400 symbol/s

1. CNG
- Calling tone
  A monotone signal of 1100 Hz, transmitted with the period of 0.5 sec ON and 3 sec OFF.

2. V.8
- Modem ID sequence
  A 300 bit/sec signal.
- This sequence exchanges information on function types and modulation methods with a remote terminal. The following sequences will be proceeded with the modulation method that both terminals have among the exchanged system information.

3. Line probing
- Sequence to measure line characteristics.
- This sequence measures the line characteristics by exchanging signals between two modems.
  The symbol rate will be determined by this sequence. This sequence will be one of basis for data to determine the transmission sequence.

4. TRN
- Equalizer training sequence
- This sequence corresponds to the conventional procedure TCF. Sending a signal with the fastest transmission speed specified by the remote terminal sets the equalizer of the modem of the receiver terminal.

5. Control channel
- Sequence to determine modem parameters and system parameters.
- A signal of 1200 bit/sec.
- It corresponds to the conventional procedure of phase B.

A. A sequence for determining modem parameters
- It determines the transmission speed of the primary channel by the results of the line probing sequence and TRN (equalizer training sequence).

B. Sequence to determine system parameters
- The same sequence as the conventional phase B procedure.

6. Primary channel
- Sequence for transmitting image data.
- It corresponds to the conventional phase C procedure.

7. Control channel
- It corresponds to the conventional phase D procedure. A signal of 1200 bit/s.

A. Sequences between pages when there are multiple pages.
B. Page termination sequence.

4-2. Communication Mode

(1) Priority

- This system has two communication modes: ECM and G3. Communication will be established with an appropriate mode determined by the capability of the remote terminal. The priority of the communication modes is as follows:

Priority	Communication mode	Remark
1st	ECM	Followed ITU-T (Previously CCITT) recommendation (Can communicate with other company's system). Error correction by procedure signals.
2nd	G3	Followed ITU-T (Previously CCITT) recommendation (Can communicate with other company's system)

Note

• G4/UHS/G2/MF modes are unavailable to the system.

(2) Communication modes of ECM/G3

An optimal mode will be selected according to the capabilities of both terminals:

		RX (Receiver)				
		V.34/ECM	V.17/ECM	V.17/G3	V.29/ECM	V.29/G3
TX (Sender)	V.34/ECM	V.34/ECM	V.17/ECM	V.17/G3	V.29/ECM	V.29/G3
	V.17/ECM	V.17/ECM	V.17/ECM	V.17/G3	V.29/ECM	V.29/G3
	V.17/G3	V.17/G3	V.17/G3	V.17/G3	V.29/G3	V.29/G3
	V.29/ECM	V.29/ECM	V.29/ECM	V.29/G3	V.29/ECM	V.29/G3
	V.29/G3	V.29/G3	V.29/G3	V.29/G3	V.29/G3	V.29/G3

V.34: 2400 ~ 33600 bps starting mode
V.17: 14000 bps starting mode
V.29: 9600 bps starting mode

4-3. Encoding Method

- There are 4 encoding methods available to this system: JBIG, MMR, MR, MH. An optimal method will be selected according to the capabilities and image quality of both terminals.

Encoding method	Binary priority	Remark
JBIG	1st	ECM
MMR	2nd	ECM
MR	3rd	G3
MH	4th	G3

Note

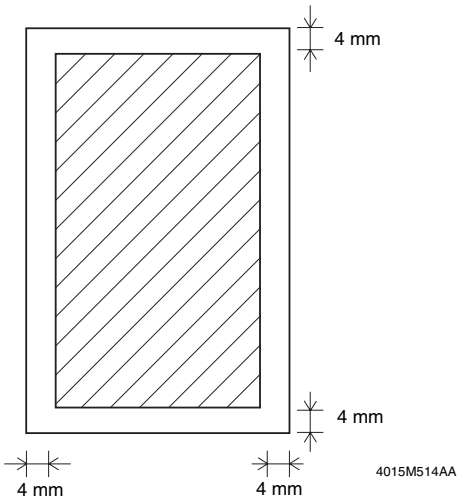
• UMH/UMR are unavailable to the system.

5. SELECTING PRINT PAPER

5-1. Printing Area

- The figure below shows the printable area on the paper.
- The minimum margins are 4 mm*.

*: The minimum margins can be adjusted with Edge erase adjustment.



5-2. Printing Mode

- There are 2 printing modes available to this system. The soft switch (MODE 007) toggles these modes. They are valid only for printing received documents.

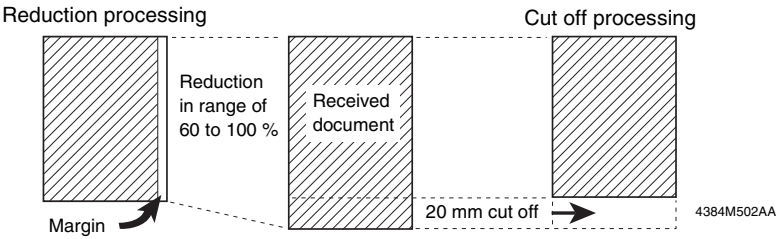
(1) Automatic reduction mode

- If the length of a received document exceeds the printable area, this mode cuts off the document within the cutting length specified with the soft switch (MODE 007). If the excess length is longer than the specified cutting off length, the document will be reduced within the upper limit of reducing the size specified with the soft switch (MODE 007).

(2) Cut off mode

- If the length of a received document exceeds the printable area, this mode cuts off the document within the cutting length specified with the soft switch (MODE 007). (No reduction.)

(Example)



5-3. Print Paper Selection Mode

- This system has the following modes for selecting print paper. The soft switch (MODE 008) toggles these modes.
- They are valid only for printing received documents.

(1) Standard mode

- This mode selects print paper to avoid document splitting as much as possible.

<Example : Metric area>

Available sizes of paper : A4 Lengthwise and A3 Lengthwise
Size of received document : B4 Lengthwise
Printing mode : Automatic reduction (Upper reduction limit of 65 %)

In this case, the system will use the A3 paper without reduction. If the A3 paper has run out, the A4 Lengthwise paper will be used with reduction.

<Example : Inch area>

Available sizes of paper: Letter Lengthwise and 11 X 17 Lengthwise
Size of received document : Letter Lengthwise
Printing mode : Automatic reduction (Upper reduction limit of 60 %)

In this case, the system will use the Letter paper without reduction. If the Letter Lengthwise paper is run out, the 11 X 17 Lengthwise paper will be used with reduction.

(2) Width preference mode

- This mode selects paper whose width is the same as or smaller than a received document.

<Example : Metric area>

Available sizes of print paper : A4 Lengthwise and A3 Lengthwise
Size of received document : B4 Lengthwise
Printing mode : Automatic reduction (Upper reduction limit of 65 %)

In this case, the system will use the A3 paper with reduction. If the A3 paper has run out, the printing job will be halted and wait for new paper.

<Example : Inch area>

Available sizes of print paper : 11 X 17 Lengthwise
Size of received document : Letter Lengthwise
Printing mode : Automatic reduction (Upper reduction limit of 60 %)

In this case, the system will not print. If the Letter L paper is run out, the printing job will be halted and wait for new paper.

(3) Fixed width mode

This mode selects print paper whose width is the same as a received document.

<Example : Metric area>

Available sizes of print paper : A4 Lengthwise and A3 Lengthwise
Size of received document : B4 Lengthwise
Printing mode : Automatic reduction (Upper reduction limit of 65 %)

In this case, the system will use the B4 paper with reduction. If the B4 paper has run out, the printing job will be halted and wait for new paper.

<Example : Inch area>

Available sizes of print paper : 11 X 17 Lengthwise
Size of received document : Letter Lengthwise
Printing mode : Automatic reduction (Upper reduction limit of 60 %)

In this case, the system will not print. If the Letter L paper is run out, the printing job will be halted and wait for new paper.

Note

- *The standard and the preference modes have 4 different submodes. Each of them has priorities for selection. (Users can select only submode1.)*

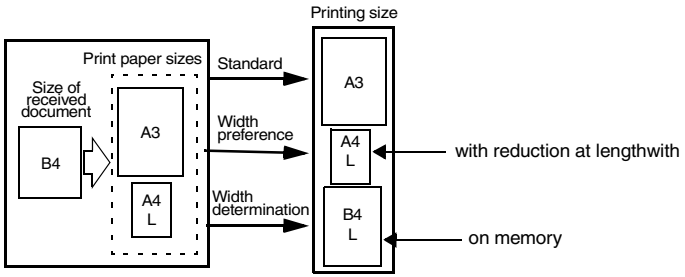
  Submode 1 : Selecting a print paper whose width is the same as a received document without reduction.

  Submode 2 : Selecting a print paper whose width is the same as a received document with minimum margins (minimum nonprinting area).

  Submode 3 : Selecting a print paper to print out without reduction. (The width will not be considered.)

  Sub mode 4 : Selecting a print paper with minimum nonprinting area. (The width will not be considered.)

✻ Example Metric area



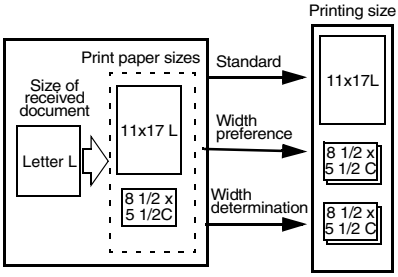
- The following table summarizes the effective print length for print paper which this system can use :

L: Lengthwise, C: Crosswise (Unit: mm)

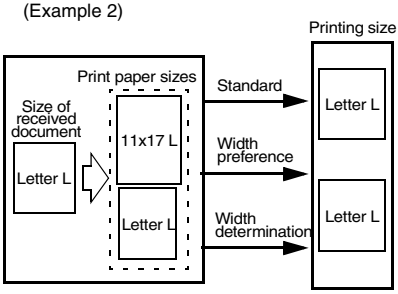
Print paper size	Print paper size		Effective print size		Remark
	Sub scanning length	Main scanning length	Sub scanning length	Main scanning length	
A5 L	210.0	148.0	202.0	140.0	
B5 C	182.0	257.0	174.0	249.0	
B5 L	257.0	182.0	249.0	174.0	copy only
A4 L	210.0	297.0	202.0	289.0	
B4 L	364.0	257.0	356.0	249.0	
A4 C	297.0	210.0	289.0	202.0	
A3 L	420.0	297.0	412.0	289.0	

✻ Example Inch area

(Example 1)



(Example 2)



- The following table summarizes the effective print length for print paper which this system can use :

L: Lengthwise, C: Crosswise (Unit: mm)

Print paper size	Print paper size		Effective print size		Remark
	Sub scanning length	Main scanning length	Sub scanning length	Main scanning length	
Letter L	215.9	279.4	207.4	271.4	
Letter C	279.4	215.9	271.4	207.9	
Legal L	215.9	355.6	207.9	347.6	
Ledger L (11" x 17")	279.4	431.8	271.4	423.8	
INVOICE L	139.7	215.9	131.7	207.9	**Note 1**
INVOICE C	215.9	139.7	207.9	131.7	**Note 1**

Note 1: Available only with a multi-purpose tray or manual feeding (Copy and PC print).

(4) Print paper size selections (when receiving)

- This system automatically selects and prints on the most suitable print paper for the received document from the available print paper cassettes.

✻ Print paper selection when factory set
Factory settings concerning print paper selection

• Paper detection	:	Paper priority	• Longer document processing	:	Reduction
• Paper selection	:	Standard			
• 2-page receiving	:	Yes	• Reduction rate	:	65 % (Metric area) 60 % (Inch area)
• Rolling printing	:	Yes (without sorting)	• Cut-off length	:	20 mm

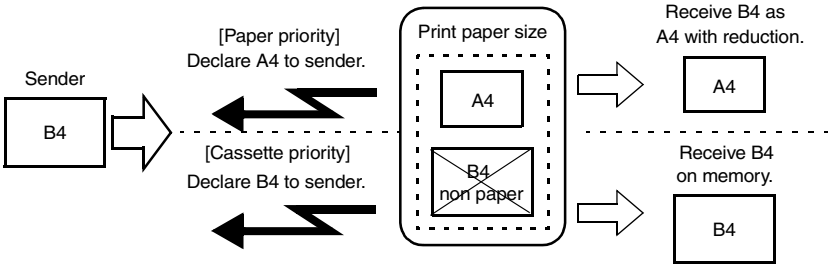
(5) Paper detection

- Method to declare print paper size to facsimile of other party when print paper has run out

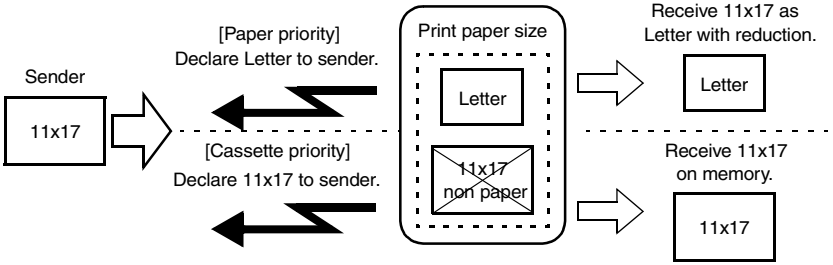
1. Paper priority mode (Initial setting)
- Declare only available print paper sizes to the facsimile of other party.
- Sizes of print paper that has run out are not declared.

2. Cassette priority mode
- Declare all sizes of cassettes to the facsimile of other party even if the print paper has run out.

✻ Example Metric area



✻ Example Inch area



6. LIST OF REPORTS

❍: available – : not available

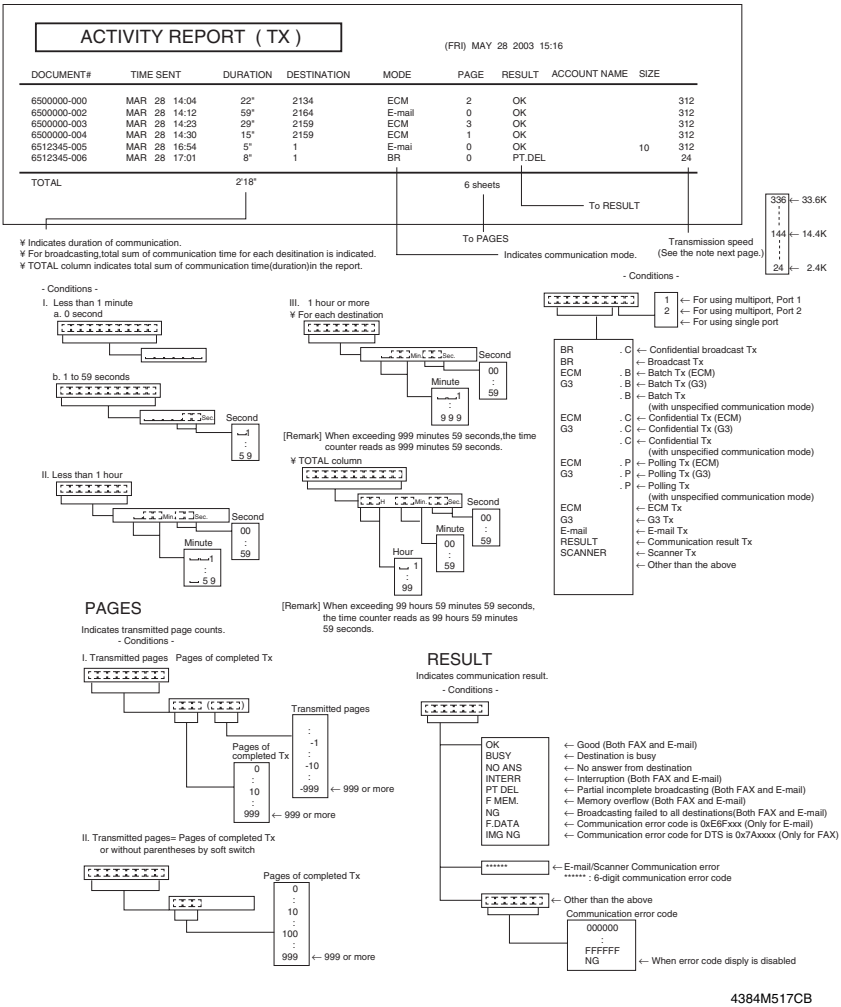
	Report name	Auto print	Manual print	Reference
Transmission management	TRANSMISSION REPORT	❍	–	Operator's Manual
	SERIAL BROADCAST REPORT	❍	–	Operator's Manual
	TRANSMISSION REPORT (for incompleted TX)	❍	–	Operator's Manual
Statistical management	ACTIVITY REPORT (TX)	❍	❍	☞ page 26
	ACTIVITY REPORT (RX)	❍	❍	☞ page 27
Memory management	MEMORY CLEAR REPORT	❍	–	Operator's Manual
List	ONE-TOUCH DIAL # LIST	–	❍	Operator's Manual
	FAX PROGRAM LIST	–	❍	Operator's Manual
	BULLETIN BOARD LIST	–	❍	Operator's Manual
	ACCOUNT LIST (for Account)	–	❍	Operator's Manual
	ACCOUNT LIST (Security)	–	❍	Operator's Manual
	SETTING LIST	–	❍	Operator's Manual
	FORWARDING LIST			
	CONFIDENTIAL LIST	–	❍	Operator's Manual
Maintenance	G3 PROTOCOL TRACE	❍	–	☞ page 28
	NETWORK PROTOCOL TRACE			☞ page 29
	MEMORY DUMP	–	❍	☞ page 30
	FILE DUMP	–	❍	☞ page 30
	SERVICE CALL REPORT	❍ (TX)	–	☞ page 31

Notes

- *Setting up the soft switch (MODE 020 Bit 3) is necessary to include communication error codes in a report.*
- *Setting up the soft switch (MODE 020 Bit 7) is necessary to include the number of pages in a report.*
- *The soft switch (MODE 023 Bit 3) can specify a transmission report with or without the image merge function.*
- *Setting up the soft switch (MODE 020 Bit 5) is necessary to include the transmission speed in an Activity Report (TX/RX).*

7. HOW TO READ DATA OF REPORTS

7-1. Activity Report (TX)



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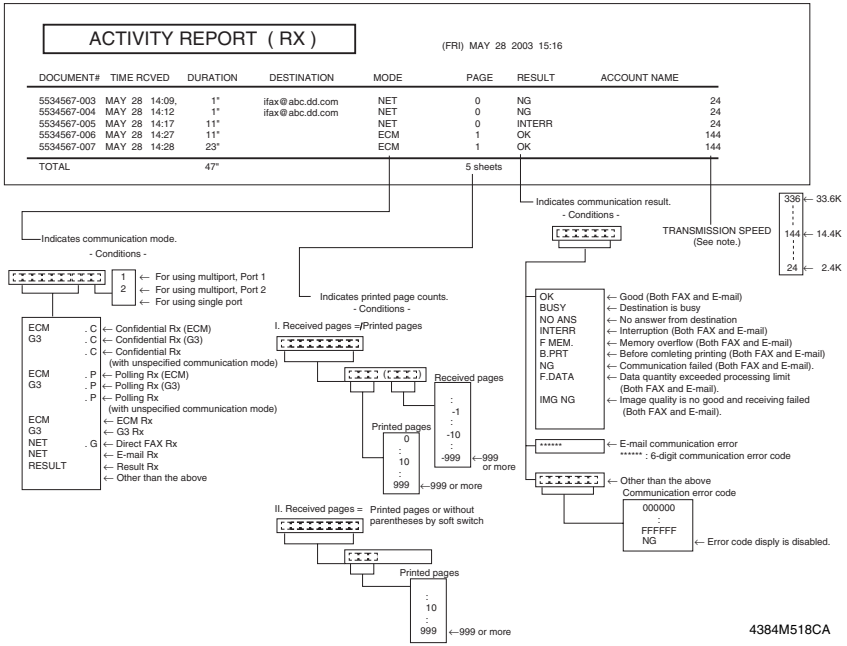
Notes

- *Printing reports:*
  With automatic LOGOUT: All information on 50 communication activities will be printed.
  With manual printing : All information on the last 50 communication activities (if there are over 50 activities).
- *Communication error codes will be listed only when requested to print (MODE 020 Bit 3).*
- *"Transmission speed" on the right side requires the soft switch setting (MODE 020 Bit 5).*

7-2. Activity Report (RX)



Notes

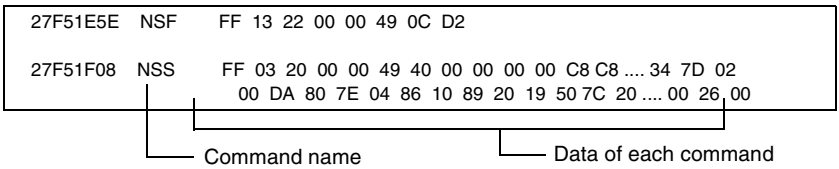
- *Printing reports:*
  With automatic LOGOUT: All information on 50 communication activities will be printed.
  With manual printing : All information on the last 50 communication activities (if there are over 50 activities).
- *Communication error codes will be listed only when requested to print (MODE 020 Bit 3).*
- *"Transmission speed" on the right side requires the soft switch setting (MODE 020 Bit 5).*

(1) Print by manual

1. Press the "Utility" key.
2. Press the "Report" key.
3. Press the "TX Act Report" key or "RX Act Report" key.

7-3. Protocol Trace

- Each communication processes information on a protocol trace.



Notes

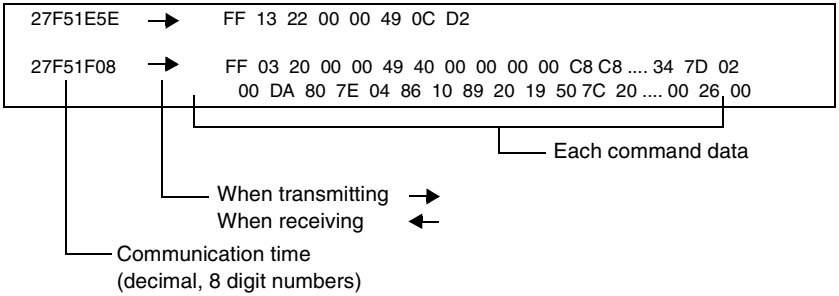
- *Specify FCF names with capital letters for signals at 300 bps, otherwise use small letters.*
- *If the information of a single frame is longer than a single line, the next line will also be used. This will be repeated as necessary.*
- *If there is no FCF name corresponds to the data in the FCF field, "?" will be displayed in the FCF name field.*
- *If the information cannot be printed in a single sheet of a specified paper, the excess information will be printed on the next paper.*

(1) Print by manual

1. Press the "Utility" key.
2. Press the "Meter Count" key.
3. Press the following keys in this order:
   Stop → 0 → 0 → Stop → 0 → 2
4. Press the "Report" key.
5. Press the "Protocol Trace" key.

7-4. Network Protocol Trace

• Each communication processes information on a protocol trace.
If you wish to print it, go to the maintenance mode to press <Utility>. Then touch [Report 1] to specify [Protocol Trace]



Notes

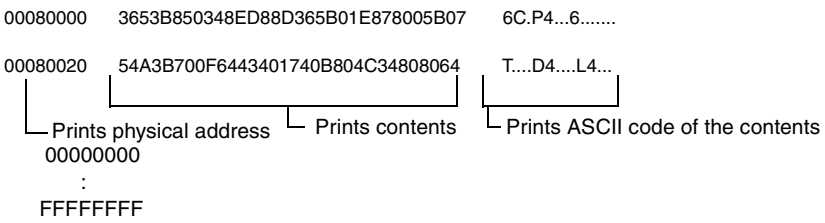
- *Protocol character strings are configured with all ASCII codes (0x20 to 0x7E). The protocol character strings are up to 84 digits per line. When there are protocol character strings of 85 digits or more, it returns to the next line after 84 characters are displayed. However, in this instance, the next line is displayed after 8+3+1+1=13 spaces are opened. It also returns in similar fashion when it exceeds 2 lines. The length of the protocol character string then becomes 1 to 998 characters.*
- *The lines where the report is displayed becomes as shown below in relation to paper size.*
  Letter size : 125 lines (including margin lines)
  INVOICE size : 58 lines (including margin lines)
- *The space has no instance where protocol character strings are returned. 1 line (2 mm) is opened when outside that instance.*

(1) Print by manual

1. Press the “Utility” key.
2. Press the “Meter Count” key.
3. Press the following keys in this order:
   Stop → 0 → 0 → Stop → 0 → 2
4. Press the “Report” key.
5. Press the “Protocol Trace” key.

7-5. Memory Dump & File Dump

- Memory dump and file dump have the same format.
- Produces hard copy data used for analysis of internal data.



(1) Print by manual

1. Press the “Utility” key.
2. Press the “Meter Count” key.
3. Press the following keys in this order:
   Stop → 0 → 0 → Stop → 0 → 2
4. Press the “Maintenance Mode” key.
5. Press the “Memory Dump” or “File Dump” key.

Note

- *The hard copy data involves about 100 pages.*

7-6. Service Call Report

(1) Content

- You can output the service call report to your terminal manually. The service call report will be transmitted to the Service Center automatically with a specified alarm.
- When this report is transmitted, it always includes "TSI" (even if this function is disabled).

```
                                SERVICE  CALL  REPORT                    P.1
REPORT CONTENTS :
DATE CALLED :
USER INFO   TEL1 :                              TEL2 :
            ID :
CALL CONDITION TRANS.METHED: DATA
  CALL# : G3-1  :
  E-MAIL MAINTENANCE : OFF      ADDRESS :
  FAX  DEST. # :                INFO. CALL :          User System Code :
  #  OF PRINT  : OFF            PRT MALFUNCTION : ON  PRT OPTION :OFF   SCANNER MALFUNCTION : ON
 NO TONER NOTICE : ON           TONER EMOTY : ON      DRUM LIFE   :ON
 TONER NEAR EMPTY : ON          DRUM NEAR LIFE : ON

SERIAL  #  : ABCDE12345
```

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1. REPORT CONTENTS
   This report has the reason for transmission and the date of transmission.

- # OF PRINT
- PRT MALFUNCTION
- PRT OPTION MALFUNCTION
- SCANNER OPTION MALFUNCTION
- NO TONER NOTICE
- TONER EMPTY
- DRUM LIFE
- TONER NEAR LIFE (Status C) 5 K
- TONER NEAR LIFE (Status C) 10 K
- DRUM NEAR LIFE (Status D)
- DATE CALLED

2. USER AND TERMINAL INFORMATION
   This report has various information on users and terminals of your facsimile system.

A. Phone number

- ID
- USER INFO TEL1
- USER INFO TEL2

B. Dialing conditions for service call report are printed.

- TRANS. METHED (DATA/REPORT/MAIL)
- CALL #
- E-MAIL MAINTENANCE - Not used
- ADDRESS
- FAX DEST. #
- INFO CALL
- USER SYSTEM CODE
- # OF PRINT
- PRT MALFUNCTION
- PRT OPTION MALFUNCTION

- SCANNER OPTION MALFUNCTION
- NO TONER NOTICE
- TONER EMPTY
- DRUM LIFE
- TONER NEAR LIFE (Status C)
- DRUM NEAR LIFE (Status D)

C. SERIAL#

D. ROM REV
- MAIN (MSC)
- PRINTER
- ADF
- LCC
- FINISHER

E. INSTALL DATE

F. MAINTENANCE DATE

G. MACHINE CONFIGURATION
- MEMORY (0MB or 32MB or 64MB or 128MB)
- PC PRT (ON or OFF)
- LAN (ON or OFF)
- USB (ON or OFF)
- PRINTER TYPE (PCL or PS)
- FAX (ON or OFF) -Always ON
- PORT (SINGL or MULTI)
- TEL BOARD (ON or OFF) -Always OFF
- NETWORK OPTION (OFF or NET. INTERFACE APP or NETWORK SCAN or IFAX&NETWORK SCAN)
- ADF (ON or OFF) -Always ON
- TX MARKER (ON or OFF)
- SCAN QLTY (400dpi or 600dpi)
- PRT SPD (25ppm or 35ppm)
- 2 SIDED (ON or OFF)
- B-FN (ON or OFF)
- SADDLE (ON or OFF)
- MAILFINISHER (ON or OFF)
- OPTION TRAY (ON or OFF)
- JOB SEP. (ON or OFF)
- TTL COUNT (ON or OFF)
- KEY COUNTER (ON or OFF)
- COPY COUNTER (ON or OFF)
- HDD (ON or OFF) -Always OFF
- SIZE SSR OPT (ON or OFF)
- CASSETTE 1 to 4 (Each paper size)
- MANUAL FEED (Each paper size)
- LCC (Letter or A4)

H. VARIOUS SETTING

- AUTO PPR MD (INCH/MM or MM)
- PRI FLS (F=330mm C=203mm or F=330mm C=210mm or F=330mm C=216mm or F=330mm C=220mm)
- COPY MD (1SIDED/2SIDED or 2SIDED ONLY)
- ANTI-DEW (DISABLE or SCAN or SCAN&DRUM)
- LTD COPY (ON or OFF)
- LCC PAPER SIZE (A4 or LETTER)
- ZOOM (A3/A4 → B4/B5) (Magnification value) *Metric area
- ZOOM (B4 → A4) (Magnification value) *Metric area
- ZOOM (A3/B4 → A4/B5) (Magnification value) *Metric area
- ZOOM (B4/B5 → A3/A4) (Magnification value) *Metric area
- ZOOM (A4 → B4) (Magnification value) *Metric area
- ZOOM (A4/B5 → A3/B4) (Magnification value) *Metric area
- ZOOM (LGL → LTR) (Magnification value) *Inch area
- ZOOM (11x15 → LTR) (Magnification value) *Inch area
- ZOOM (11x17 → LTR) (Magnification value) *Inch area
- ZOOM (LGL → 11x17) (Magnification value) *Inch area
- ZOOM (LTR → 11x17) (Magnification value) *Inch area
- ZOOM (51/2x81/2 → LGL) (Magnification value) *Inch area
- ZOOM (x0.5) (Magnification value)
- ZOOM (x2.0) (Magnification value)
- ZOOM (FULLSIZE) (Magnification value)
- TOTAL COUNTER (MODE1 or MODE2 or MODE3)
- SIZE COUNTER (DISABLE or A3/11x17 or A3/B4/11x17/Legal or A3/B4/FLS/11x17/11x14/Legal or A6)
- COPY KIT COUNTER (MODE1 or MODE2 or MODE3)
- PLUG-IN COUNTER (PAPER# or COPY#) :Not used
- KEY COUNTER (ON or OFF) :Not Used
- VENDER MODE (KEY COUNTER or COPY VENDER or CARD KEEPER)

3. Counter information (COUNTER INFO)

Counter Type		Count Timing			Counting Method
		Paper Feed	Paper Eject	Others	
Total Counter	Total		❍		Total number of printouts (2-sided copy is counted as two.)
	Copier Total		❍		Total number of copied sheets
	Copier Size		❍		Total number of copied sheets in an A3/11×17 (count size) copy paper size.
	Copier 2-sided		❍		Total number of 2-sided copied sheets in an A3/11×17 (count size) copy paper size.
	Printer Total		❍		Total number of printouts by PC printer
	Printer Size		❍		Total number of printouts by PC printer in an A3/11×17 (count size) printer paper size.
	Printer 2-sided		❍		The number of 2-sided printouts by PC printer
	Scanner				
	Fax Print		❍		
	Copy Print		❍		
	Report Print		❍		
	PC Print		❍		
	TX				
	TX E-mail				
Paper Counter	Per Paper size		❍		The number of used sheets
	Per Special paper setting		❍		The number of used sheets
Jam Counter	MCBJ System			Average	Average number of copied sheets per paper jam occurrence (including finisher jam)
	MCBJ Mech. Only			Average	Average number of copied sheets per paper jam occurrence (excluding finisher jam)
	Others			Jam	The number of jam occurrence for each part
Trouble Counter				The number of incidents	The number of trouble occurrence
PM Counter	PC Life, I/C LIFE			Ratio to life	Ratio of PC Drum running distance to the life value indicated by %
	Fusing Unit		❍		The number of paper ejection
	1ST to 4TH, Bypass Tray	❍			The number of paper feed
	Toner P#			Converted number of sheets	The number of sheets converted into the number of black dots in an A4 size paper with 5% black dotted documents

4. Adjustment information (ADJUST INFO)

✻ For scanner

- EDH RESGIST. LOOP 1-SIDED
- EDH RESGIST. LOOP 2-SIDED
- EDH ZOOM (CD) (COPY)
- EDH ZOOM (FD) (COPY)
- EDH ZOOM (CD) (FAX)
- EDH ZOOM (FD) (FAX)
- EDH FEED (CD)
- EDH FEED (FD) (F)
- EDH FEED (FD) (B)
- BK-S M-SCAN REG.
- BK-S S-SCAN REG.
- BK-S M-SCAN % (COPY)
- BK-S S-SCAN % (COPY)
- BK-S M-SCAN % (FAX)
- BK-S S-SCAN % (FAX)

✻ For printer

- REGIST. (CD) 1ST
- REGIST. (CD) 2ND
- REGIST. (CD) 3RD
- REGIST. (CD) 4TH
- REGIST. (CD) BYPASS
- REGIST. (CD) DUP
- REGIST. (CD) LCC
- REGIST. (FD)
- LOOP ADJ. (1ST)
- LOOP ADJ. (2ND)
- LOOP ADJ. (3RD)
- LOOP ADJ. (4TH)
- LOOP ADJ. (DUP)
- LOOP ADJ. (BYPASS)
- EDGE ERASE LEAD
- EDGE ERASE TRAIL
- EDGE ERASE (R/L)
- EDGE ERASE (DUP)
- EDGE ERASE (R/L)
- TRAIL ERASE (DUP)
- ID
- ADTC SENSOR GAIN
- VG
- PUNCH-LOOP
- PUNCH-STOP
- CENTER FOLD
- CENTER BIND
- FUSER TEMP. (NORMAL) (PATTERN1 or PATTERN2 or PATTERN3 or PATTERN4)
- FUSER TEMP. (CARD) (PATTERN1 or PATTERN2 or PATTERN3 or PATTERN4)
- FUSER TEMP. (OHP) (PATTERN1 or PATTERN2 or PATTERN3 or PATTERN4)

5. Error LOG information

A. History of jams
This report contains and prints the last 10 jamming incidents. When the number of incidents exceeds 10, the oldest one will be deleted.
- Date and time of misfeeds
- Location of jams (scanner or copier)

B. History of system malfunctions
This report contains and prints the last 10 incidents. When the number of incidents exceeds 10, the oldest one will be deleted.
- Date and time of malfunctions
- Malfunction codes

C. History of FAX communication errors
This report contains and prints the last 10 incidents. When the number of incidents exceeds 10, the oldest one will be deleted.
- Date and time of communication errors
- Communication error codes

D. History of E-mail communication errors
This report contains and prints the last 10 incidents. When the number of incidents exceeds 10, the oldest one will be deleted.
- Date and time of communication errors
- Communication error codes

6. Information on soft switches
- This report has information on the soft switches of the main unit (1000 bytes).
- The default setting will also be printed for the switch that was set up differently.

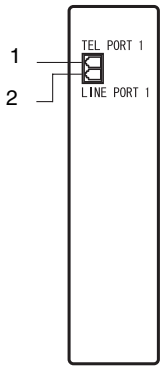
(2) Print by manual

1. Press the “Utility” key.
2. Press the Meter Count key.
3. Press the following keys in this order:
   Stop → 0 → 0 → Stop → 0 → 2
4. Press the “Report” key.
5. Press the “Service Call Report” key.

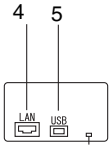
DIS/REASSEMBLY, ADJUSTMENT

1. CONNECT THE CABLES

- Connect cables from the phone line and other devices with the system as shown below.



Left side of the main product



Back side of the main product

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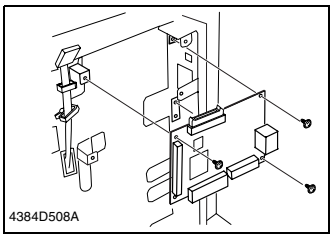
No.	Name	Connect to	Remark
1	TEL PORT1	Extra telephone set	Standard
2	LINE PORT1	Phone line (PORT1)	Standard
3	LAN	LAN (PC print option)	Option (Network Interface)
4	USB	Printer Controller	

2. DISASSEMBLY/REASSEMBLY

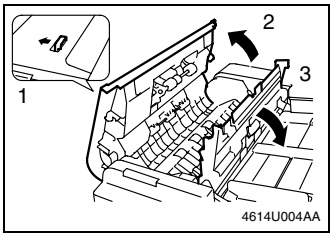
2-1. FAX Board

1. Remove three screws and the Rear Upper Cover.
2. Remove thirteen screws and the Rear Cover.

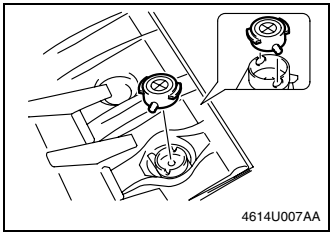


3. Remove three screws and the standard FAX Board.

2-2. TX Marker STAMP UNIT 2



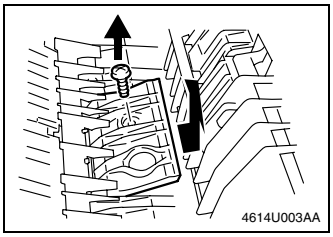
1. Unlock the Top Door of the Automatic Document Feeder.
2. Open the Top Door.
3. Open the Processing Guide.



4. Remove the used Stamp.

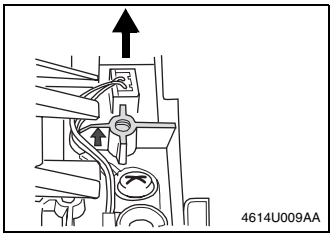
NOTE

- *Align the round pin of the stamp with the slit in the Automatic Document Feeder side.*

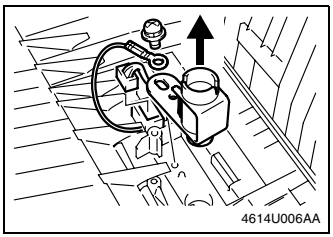


5. Remove one screw and the Guide Plate.

✻ To remove the Guide Plate, slightly shift it to the right as viewed from the front of the unit and then lift it toward the upper left direction.



6. Remove the hookup harness connector.



7. Remove one screw and TX Marker Stamp Unit 2.

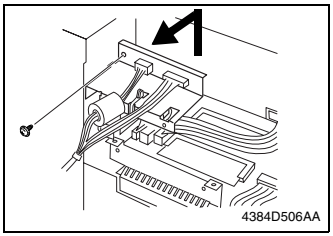
NOTE

- *The shaft of the TX Marker should not come out.*

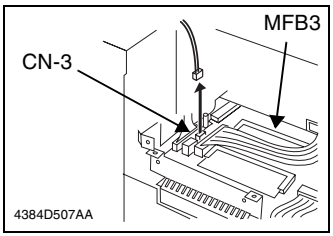
2-3. Battery Replacement

1. Check the amount of used memory displayed on the LCD.
   When the amount of the remainder of the memory is not 100%
- The content of the memory is output.
- Waits until becoming transmission completion of the document.

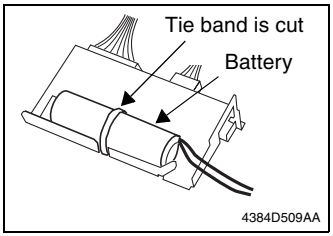
2. Turn OFF the machine.
3. Remove the Rear Upper Cover and the Rear Cover. (with screws)
4. Remove the CLAN board. *If CLAN board is mounted.



5. Remove one screw and the mounting Plate.



6. Unplug one connectors of the MFB3 Board.



7. Tie band is cut with nippers, and the Ni-MH battery is replace.
8. Turn ON the machine.

2-4. Adjustment for FAX

(1) Zoom Adjust for FD and CD (FAX)

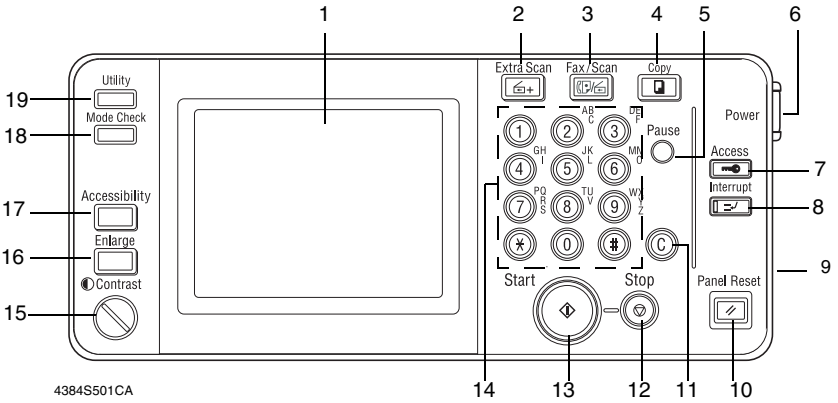
- This mode is for factory adjustment only and should NOT be used.

SOFT SWITCHES, SERVICE MODE

1. CONTROL PANEL KEYS AND TOUCH PANEL

1-1. Control Panel Keys

✻ FAX Machine



No	Part Name	Function
1	Touch Panel	• Displays various screens and messages. • Touch items in the touch panel to select screens and specify settings.
2	[Extra Scan] key	• Press to use the scanning functions. (In order to use the scanning functions, the network interface card must be installed.)
3	[Fax/Scan] key	• Used to change between Fax and Scan modes. (In order to use the scanning functions, the network interface card must be installed.)
4	[Copy] key	• Press to enter Copy mode.
5	[Pause] key	• An approximately 3 second wait can be set when dialing a fax number. • This is convenient when sending from an internal line to an external line and for the wait when information services are used.
6	Sub power switch	• Use to turn the machine on and off.
7	[Access] key	• Press when an access code must be entered.
8	[Interrupt] key	• Press to enter Interrupt mode. • To cancel Interrupt mode, press the [Interrupt] key again.
9	Warm Restart Switch	• Used to enter the initial mode.
10	[Panel Reset] key	• Press to reset all modes and functions to their default settings.

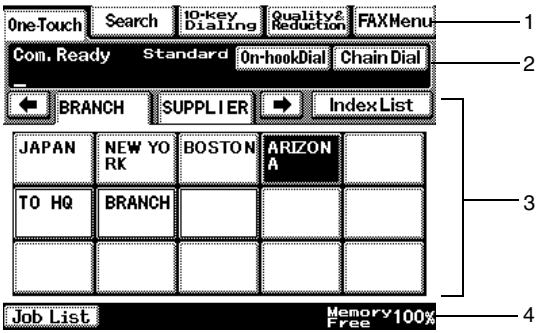
No	Part Name	Function
11	[C] (clear) key	• Press to reset the number of copies to “1”. • Press to erase a setting (such as the zoom ratio or size) selected using the keypad. • Any letters and numbers being entered are deleted.
12	[Stop] Key	• Press to stop a copy operation. • Press to stop the scanning of a document. • Fax transmission is stopped.
13	[Start] Key	• Press to start a scanning or copy operation. • Fax transmission starts.
14	10-Key Pad	• Used to display the Utility screen. • For more details, refer to “Utility Mode Operations” in the Advanced Operations volume of the User Manual.
15	[Contrast] dial	• Use to adjust the contrast of the touch panel.
16	[Enlarge] key	• Press to enlarge the screens that appear in the touch panel.
17	[Accessibility] key	• Press to activate or deactivate the user accessibility functions.
18	[Mode Check] key	• Press to display a list of all specified settings. From this list, the screen to specify each setting can be displayed and the setting can be changed. • From this screen, the current settings can also be stored as a copy program.
19	[Utility] key	• Used to display the Utility screen. • For more details, refer to “Utility Mode Operations” in the Advanced Operations volume of the User Manual.

1-2. Explanation of the Touch Panel

(1) FAX Screen

- Used to select various FAX functions.

[Example screen]



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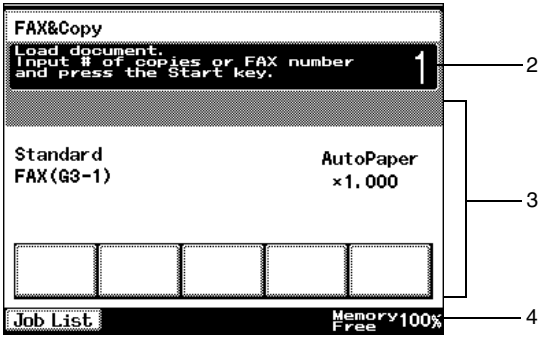
(2) Auto-mode Screen

- Used for both FAX and copying without specifying which function is to be used.

[Example screen]



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1. Mode Display
- Shows the classification of the set mode.

2. Message Display
- Shows the State of FAX, instruction of operation, and message of attention and warning.

3. Function Display
- Shows the basic function keys and the corresponding functions currently selected for use.

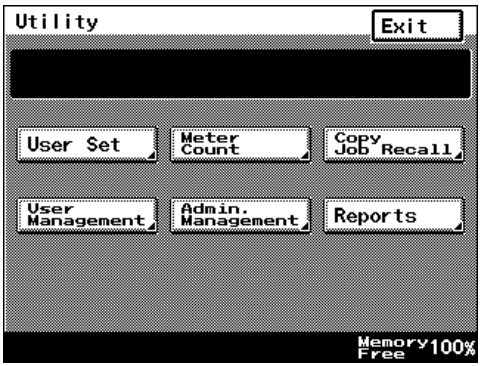
4. Sub-message Display
- Shows graphic representation of the operating status of a job.

2. UTILITY MODE

- Utility Mode is used to make various settings according to the user's need.

2-1. Utility Mode selection Screen

- Press the Utility key on the control panel.



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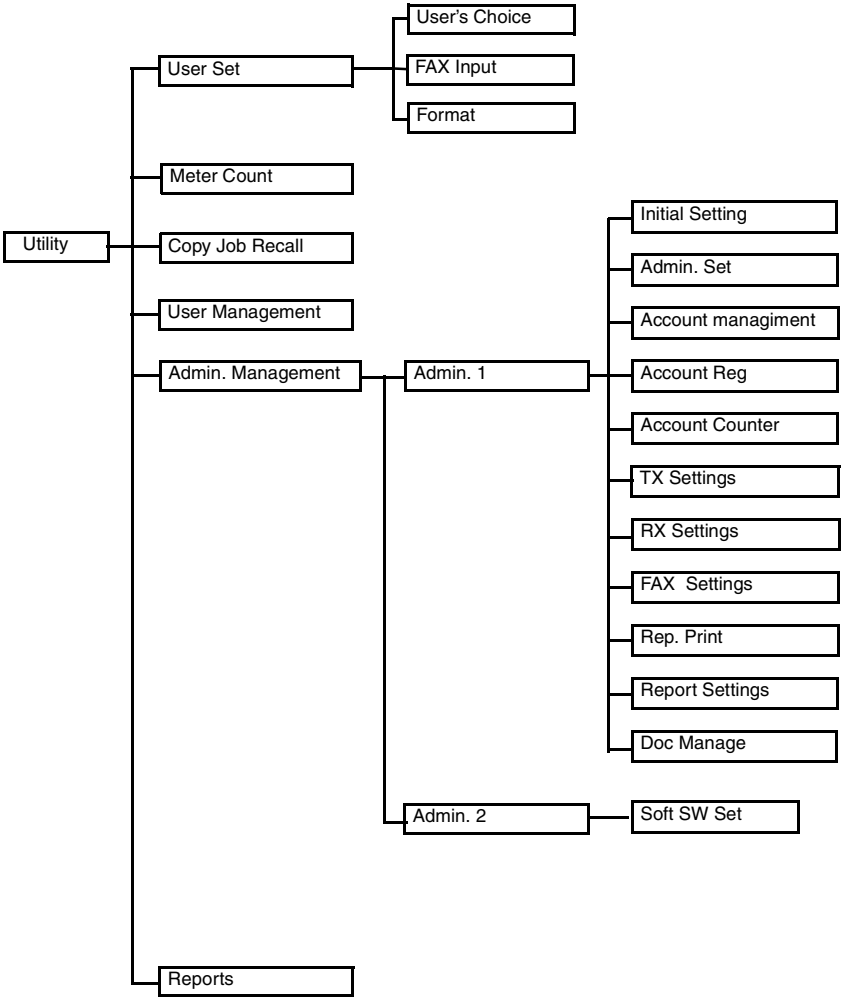
2-2. Utility Mode Function Setting Procedure

<Procedure>
1. Press the Utility key.
2. Select the appropriate function.

<Exiting the Mode>
3. Touch [END] to return to the Utility screen, and then touch [Exit] to return to the Basics screen.

2-3. Utility Mode Function Tree



2-4. Settings in the Utility Mode

- Only the FAX relation is described.

(1) User's Choice Mode

Utility Mode - User's Choice 1/6

Touch Panel Display	Setting (The default is **Highlighted**).
Language Selected for LCD	Select the language for the screen that appear in the touch panel.

Japaniess	**English**	German	French
Dutch	Italian	Spanish	Portuguese
Norwegian	Danish	Swedish	Finnish

Utility Mode - User's Choice 3/6

Touch Panel Display	Setting (The default is **Highlighted**).
Sleep Mode Setting	Select the time it takes the sleep function.

1 to 240 min. **"15 min"**	OFF

✻ The option of "OFF" becomes available on the screen if "Yes" is selected for "Disable Sleep Mode" of the "Admin. Management" function.

Utility Mode - User's Choice 5/6

Touch Panel Display	Setting (The default is **Highlighted**).
Output Tray	Select the output tray for each application when the system is equipped with a finishing option. <Fax> • Job Tray

1	2

• Finisher

1	2	3

Utility Mode - User's Choice 6/6

Touch Panel Display		Setting (The default is **Highlighted**).
Priority Screen		
	Default Device Property	Select the default setting of the standby screen.

Copier	FAX	Scanner	AUTO

Priority FAX Screen	Select the default screen that will appear when the "Fax" Key is pressed.

One-Touch	Search	10-key Dialing	Index

(2) FAX Input

Utility Mode - FAX Input

Touch Panel Display	Description
One-Touch	FAX numbers that are set for one-touch dialing. ✻ 15 one-touch dial screens, and up to 540 destinations can be registered. (15 destinations per screen × 36 screens)
Index	Index list for classifying the one-touch keys. ✻ Up to 15 recipients can be registered to each index key. (15 destinations per index × 36 index keys)
Fax Program	Program in advance the various functions that can be used for FAX transmission together with the information on a specific destination in one key. ✻ Up to 30 FAX program keys can be used ✻ The destinations for FAX programs must be preprogrammed in one-touch dialing or as abbreviated dialing before attempting to set up programs for them.
Bultn. Board	Setting are made required for setting up a bulletin board.
Conf. Box	Before saving a document to a confidential box, the box has to be registered. This section is register confidential boxes.

(3) User Management

Utility Mode - User Management

Touch Panel Display	Setting (The default is **Highlighted**).
Line Monitor Volume	Select the volume of the line monitor. 0 | 1 | 2 | **3** | 4 | 5

(4) Admin. Management

Admin. Management - Admin.1

Touch Panel Display			Setting (The default is **Highlighted**).
Initial Settings			The initial or default settings for FAX.
	Date/Time Set		———
		Time Date	Set the date and time for FAX.
		Time Zone	Specify the time difference from Greenwich Mean Time.
		D.S.T.	Sets the daylight saving function **Auto** | OFF
	Language (Com.)		Sets the language (English or other language) used for the TSI name and for reports.
	Self-telephone # information		If you are using the multi-port option, two general subscriber lines are possible. Select [Self-telephone # Information 1] and [Self-telephone # Information 2] and set the information for each.
		Self-telephone #	Telephone (FAX) number can be programmed
		PSTN/Ext Switch 1, 2	Setting can be made for use of this machine over an ordinary subscriber line connected via a PBX. (private branch exchange) Extension | **PSTN**
		Line Type	Two types of telephone line. DP20 | **DP10** | PB
	TSI		The TSI information can be programmed when you notify name to the destination.
	Self-ID		Name and FAX number are programmed as the ID in advance.
Admin. Set			———
	Disable Sleep Mode		This parameter is used to disable the Sleep function. Yes | **No**
	Forward to Administrator		The destination can be programmed where the activity report is transmitted.

Touch Panel Display	Setting (The default is **Highlighted**).
TX Settings	This settings for transmission functions carried out.
Quality/Mode	———
Priority Quality	Select the default setting of the image quality. **Standard** / Fine / Super Fine Text + Photo / GSR / Super GSR
Priority Contrast	Select the default setting of contrast. Lighter / Normal / Darker
Transmission mode	Select the default setting of the communication mode. **FAX(G3)** / Internet Fax * / PC * *: Only displays when the option is mounted.
Com. Menu	———
TX	Select the default setting of the transmission method. **Memory TX** / Real-Time
TSI	
TSI Position	Select whether or not to put TSI on the transmitted document. **On The Doc.** / Out Of Doc. / OFF
TSI Selection	To set the default TSI selection. Selection from sending TSI of 1-9.
Rotation TX	To set the rotation transmission default. **ON** / OFF
2-Sided TX	<2-Sided TX> To set the two-sided transmission default. **ON** / OFF <Document Margin> Select the default margin for two-sided transmissions. Standard Book / Top Margin / **AUTO**
Redial	———
No. of Auto-redial	The reduction ratio can be selected. 0 to 15 **"2 Time"**
Auto-redial Interval	The cut-off length can be selected. 1 to 15 **"3 min"** ✻ Only if "Cut Off" has been selected for how to handle long documents.

Touch Panel Display	Setting (The default is **Highlighted**).
RX Settings	—
Memory Lock	Setting Memory Lock and Batch Printing for Received Documents.
Memory Lock On/Off	Select the days of the week to set the time to.
Memory Lock Password	For security of the print start operation, register a Print Control Password. Enter a memory lock password (four digits) with the keypad.
FAX Setting	—
RX Functions	—
Reception Mode	Sets the receiving mode. **AUTO** | Manual
No. of RX Call Rings	Sets the number of rings before automatically picking up. 1 to 20 **"1 ring"**
Password Com.	—
Com. Password	The communication password is used for password TX and password RX. 00: No Password Communication 00 to 99 **"00"**
Rep. Print	—
Account List	Prints account management setting information for this machine. ✻ This function is available only when "100 Accounts 1" or "100 Accounts 2" is selected for "Copy Track".
Account List (Security)	Prints account management security setting information for this machine. ✻ This function is available only when "100 Accounts 1" or "100 Accounts 2" is selected for "Copy Track".
Setting List	Outputs information for machine settings in a list for verification.
Forward List	Prints the forwarding settings currently in use for verification.
Report Settings	—
TX Report	Specifies how to output the report for verifying FAX transmission activity. The default value is "One destination: when there is a failure, two destinations: when there is a failure". Output ON | **If TX Fail** | Output OFF
Activity Report	Select whether to automatically print the activity report even 50 communications. **Output ON** | Output OFF

Touch Panel Display	Setting (The default is **Highlighted**).
Doc Manage.	This sets up the method used for managing received faxes.
F-CODE	———
F-CODE	Sets the receiving mode for each F-CODE.
F-CODE	Select the mailbox that can be used for an account.
F-CODE Password	The password for the mailbox is programmed.
Remote Input Check	Select whether to use a password or not to restrict reception of documents into mailboxes from other FAX machines. ON / **OFF**
RX Doc. Settings	Select how a document received in a mailbox is to be handled. **Print** / Forward / Prt & Forward
Forwarding Dest.	Received documents are transmitted to a different fax.
Port.	Sets the receiving mode for each port (line).
Port are used.	Sets the usage condition of port. **YES** / NO
Port.	Select the port. **G3** / Network
RX Doc. Settings	Select how a document received in a mailbox is to be handled. **Print** / Forward / Prt & Forward
Forwarding Dest.	Received documents are transmitted to a different fax.
Public document	Document Management for Public Documents
RX Doc. Settings	Select how a document received in a mailbox is to be handled. **Print** / Forward / Prt & Forward / Save to Box
Forwarding Dest.	Received documents are transmitted to a different fax.

(5) Report

Utility Mode - Reports

Touch Panel Display		Description
Report		—
	TX Act. Report	Used to check the document number, time sent, duration, destination, communications mode, number of pages transmitted and result, etc.
	RX Act. Report	Used to check the document number, time received, duration, destination, communications mode, number of pages printed and result, etc.
	One-Touch List	The destinations registered in the one-touch keys can be printed out on a list in key number order for confirmation.
	Fax Program List	Details of communications settings (FAX programs) registered in one-touch programs can be printed as a report.
	Bulletin Board List	The list of documents registered on the bulletin board can be printed as a report.
	Confidential List	Outputs the contents registered to confidential boxes.

3. MAINTENANCE OVERVIEW

- Your facsimile has various maintenance features in addition to routine functions.
- They are categorized into 4 types:

1. Initialization mode
   This mode clears various data including initialization and default settings.
2. Maintenance mode
   This mode displays data on screen and reports. It is possible to carry out routine operations.
3. Service mode
   This mode is used for on-site adjustments such as setting service calls and printout papers.
4. Adjustment mode
   This mode is used for factory adjustments.

Note

- *The maintenance mode is not disclosed to end-users. You need to turn off the Power switch and then turn it on to exit the maintenance mode once you complete necessary maintenance jobs.*

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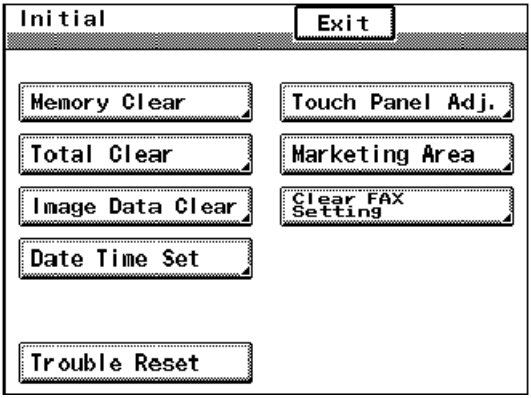
4. INITIAL MODE

- Used to initialize the various FAX functions.

4-1. Initial Mode Menu Screen



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4-2. Initial Mode Setting Procedure

<Procedure>

1. Press the Warm Restart switch.
2. Then " • " appears at the center on the left side of the screen.
3. Enter " 3 " from the 10-Key Pad.
4. Select the desired function.

<Exiting the Mode>

- Touch the "Exit" key.

4-3. Settings in the Initial Mode

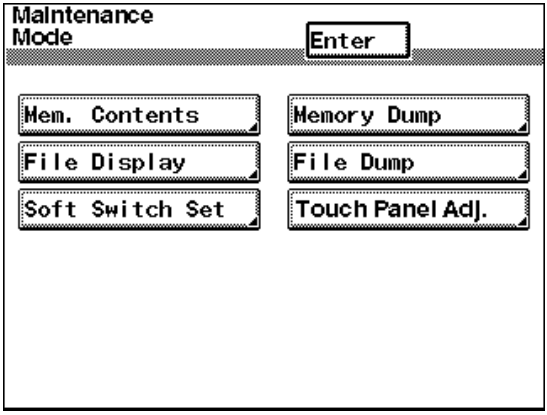
Initial Mode - FAX Set Clear

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted).</th></tr>
<tr><td>FAX Set Clear</td><td>Clears the FAX-related settings.
<table>
<tr><td>Own Setting</td><td rowspan="4">Yes</td><td rowspan="4">No</td></tr>
<tr><td>Destination</td></tr>
<tr><td>Activity</td></tr>
<tr><td>Soft Switch</td></tr>
</table>
• Procedure
1. Touch the FAX-related set item to be cleared (the item will be highlighted) and touch "END".
2. Select "Yes" or "No". (It is dose not clear data, touch "No".)
3. Touch "Enter", then select data will be reset.</td></tr>
</table>

5. MAINTENANCE MODE

- This mode is used by the displays data and print a report.

5-1. Maintenance Mode Menu Screen



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5-2. Maintenance Mode Function Setting Procedure

<Procedure>

1. Press the Utility key.
2. Press the Meter Count key.
3. Press the following keys in this order:
   Stop ' 0 ' 0 ' Stop ' 0 ' 2
4. Select the desired Maintenance Mode function.

<Exiting the Mode>

- Touch the “Exit” key.

5-3. Settings in the Maintenance Mode

(1) Maintenance Mode

- This mode displays data on screen and reports. It is possible to carry out routine operations.

Maintenance Mode

Touch Panel Display	Description
Mem. Contents	This displays the RAM data of MAIN-CPU on the LCD by specifying its absolute address which will be provided by our technical department. • Procedure 1. Press the Warm Restart switch. 2. Enter the Maintenance Mode. 3. Touch “Mem. Contents”. 4. Input the address with the 10-key pad or the touch keys and then touch “Enter”. It should be typed in the HEX code (0-9, A, B, C, D, E, F) 5. Touch “↑” or “↓” to change the address. 6. Touch “Enter” twice to return to the maintenance mode.
Memory Dump	This outputs a report on the RAM data of MAIN-CPU by specifying its absolute address which will be provided by our technical department. • Procedure 1. Press the Warm Restart switch. 2. Enter the Maintenance Mode. 3. Touch “Memory Dump”. 4. Input the address with the 10-key pad or the touch keys and then touch “Enter”. It should be typed in the HEX code (0-9, A, B, C, D, E, F) 5. Touch “Length”. 6. Input the length with the 10-key pad or the touch keys and then touch “Enter”. It should be typed in the HEX code (0-9, A, B, C, D, E, F). 7. Touch “Enter” to return to the standby mode.
File Display	This displays the RAM data of MAIN-CPU on the LCD by specifying its file name. • Procedure 1. Press the Warm Restart switch. 2. Enter the Maintenance Mode. 3. Touch “File Display”. 4. Type the file name and then touch “Enter”. It should be typed in the alphanumeric code (0-9, A-Z). (For typing the file name, refer to the input method of the destination of one-touch dialing.) 5. Touch “↑”or “↓” to change the displayed address. (↓ : beginning display address + 30H.) 6. Touch “Enter” to return to the maintenance mode.

Maintenance Mode

Touch Panel Display	Description
File Dump	This outputs a report on the RAM data of MAIN-CPU by specifying its file name. • Procedure 1. Press the Warm Restart switch. 2. Enter the Maintenance Mode. 3. Touch “File Dump”. 4. Type the file name and then touch “Enter”. It should be typed in the alphanumeric code (0-9, A-Z). (For typing the file name, refer the input method of the destination of one-touch dialing.) 5. File dumping will be started and returns to the standby mode. (The standard display is C:\TRCFILE.DAT.)
Soft Switch set	☞ See “Soft Switch Settings” on page 22.
Touch Panel Adj.	This mode is adjust the position of the touch panel. • Procedure 1. Enter the Maintenance Mode. 2. Touch “Touch Panel Adj”. 3. Touch “+” at the upper left corner. Touch the next “+” following the arrow symbol on screen in a clockwise direction. Repeat this step for all 4 corners. Push the center of each “+” with a fine soft felt pen. 4. The touch panel returns the maintenance mode.

(2) Report

- This report can be output only in the Maintenance Mode.

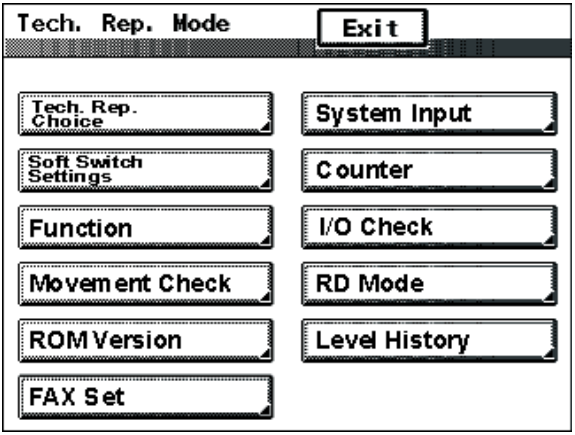
Utility Mode - Report

Touch Panel Display		Description
Report		———
	Protocol Trace	Each communication processes information on a protocol trace.
	Service Call Report	Service Call Report is output with the manually.

6. TECH. REP. MODE

- This mode is used by the Tech. Rep. to check, set, adjust, and/or program various service functions.

6-1. Tech. Rep. Mode Menu Screen



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6-2. Tech. Rep. Mode Function Setting Procedure

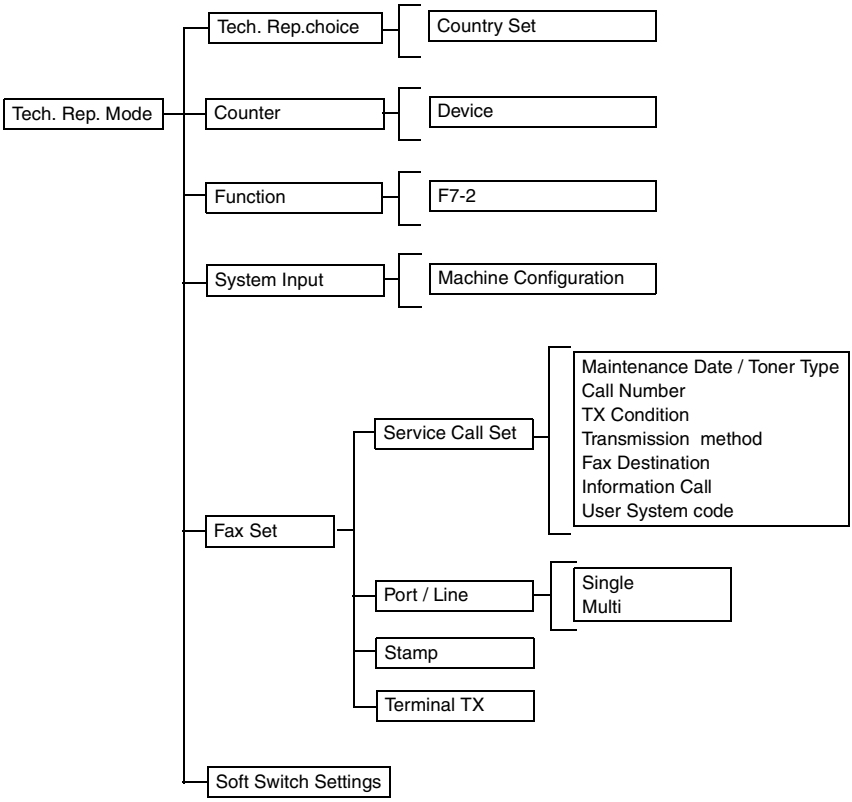
<Procedure>

1. Press the Utility key.
2. Press the Meter Count key.
3. Press the following keys in this order:
   Stop ' 0 ' 0 ' Stop ' 0 ' 1
4. Select the desired Tech. Rep. Mode function.

<Exiting the Mode>

- Touch the “Exit” key.

6-3. Tech. Rep. Mode Menu Function Tree



(1) Tech. Rep. choice

- This function allows the Tech. Rep. to make marketing area setting.
- If change the country set. Soft switch will change automatically.

Tech. Rep. Mode - Tech. Rep. choice

Touch Panel Display	Setting (The default is **Highlighted**).
Country Set	Select whether to use marketing area.

	France	U.K.	Italy	Austria
Swiss	Belgium	Holland	Spain	Portugal
Denmark	Norway	Sweden	Finland	Czech
Hungary	Poland			

(2) Counter

- Shows the number of FAX made on each paper size or type.

<Clearing a Count>
1. Open the counter menu screen.
2. Select the counter to be cleared.
3. Press the Clear key.
4. Touch “END”.
   Press the Interrupt key to undo the clearing operation, restoring the original count.

<Clearing All Counts of a Counter Type at Once>
1. Touch the “Counter Reset” key.
2. Select the counters to be cleared all at once.
3. Touch “OK.”

Tech. Rep. Mode - Counter

<table>
<tr><th>Touch Panel Display</th><th>Description</th></tr>
<tr><td>Device</td><td>Shows the numbers of prints for different applications. It also allows the Tech. Rep. to clear each counter.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Copier</td><td>Number of printouts of copy</td></tr>
<tr><td>Printer</td><td>Number of printouts of PC print</td></tr>
<tr><td>Report Print</td><td>Number of printouts of report</td></tr>
<tr><td>FAX Print</td><td>Number of printouts of fax print and printouts of received e-mail files</td></tr>
<tr><td>FAX Transmission</td><td>Number of transmitted fax sheets</td></tr>
<tr><td>Mail Transmission</td><td>Number of transmitted mail/scanner sheets</td></tr>
</table></td></tr>
</table>

(3) Function

- This function allows the Tech. Rep. to make the various function tests and adjustments.

Tech. Rep. Mode - Function

<table>
<tr><th>Touch Panel Display</th><th>Description</th></tr>
<tr><td>F7-2</td><td><Original Size Detecting Sensor Adjustment for FAX Mode>
Automatically adjusts the threshold level of the Original Size Detecting Sensor.
<Adjustment Procedure>
1. Stack five sheets of blank A3 or 11×17 paper on the Original Glass and lower the Original Cover.
2. Call the Tech. Rep. Mode to the screen.
3. Touch “Function” to display the Function menu.
4. Touch “F7-2”.
5. Press the Start key to run the Original Size Detecting Sensor Adjustment function.
6. Turn OFF and ON the Power Switch.

NOTE
• The Start key remains lit up orange while this function is being run and lights up green as soon as the sequence is completed.</td></tr>
</table>

(4) System Input

- The function allows the Tech. Rep. to define the paper size input, and make settings.

Tech. Rep. Mode - System Input

Touch Panel Display	Description
Machine Configuration	Displays the machine configuration status.

(5) Fax Set

- The function allows the Fax settings.

Tech. Rep. Mode - Fax Set

Touch Panel Display	Setting (The default is **Highlighted**).
Service Call Set	When the pre-set condition of the system occurs, the system informs its status to the call center automatically.
Maintenance Date	Select “Year”, “Month”, and “Day” on the screen of the maintenance date to specify the date for maintenance
Toner Type	Select whether to use toner type. 5 K | **10 K**
Call Number	• Procedure 1. Select “Com. Mode” on the screen of the call number to specify the communication mode. **G3** | Mail 2. Enter “TEL#” on the screen of the call number to specify the phone number
TX Condition	Set of the transmission condition.
No. of Print	Service call for exceeding specified number of papers. **ON** | OFF ✻ Input exceeding specified number of paper, when is selected for “ON”
Toner Empty	Service call for empty toner. **ON** | OFF
Drum Life	Service call for reaching life cycle of drum. **ON** | OFF
Malfunction	Service call for **ON** | OFF
Transmission Method	Select whether to use transmission method. **Report** | Data | E-mail
Service Fax Number	Enters the Fax number on a report when a notification to the call center fails.
Contact Number	Enters the information call number on a report when a notification to the call center fails.
User System Code	Enters the memo

Tech. Rep. Mode - Fax Set

<table>
<tr><td>Touch Panel Display</td><td>Setting (The default is Highlighted).</td></tr>
<tr><td>Port/Line</td><td>—————</td></tr>
<tr><td>Port</td><td>Setting per port type.<table><tr><td>Display</td><td>Description</td></tr><tr><td>Single</td><td>G3 type system</td></tr></table></td></tr>
<tr><td>Line</td><td>Setting per line type.
• Single: PSTN</td></tr>
<tr><td>Stamp</td><td>Used to indicate when the TX marker option is installed.<table><tr><td>ON</td><td>OFF</td></tr></table></td></tr>
<tr><td>Terminal TX</td><td>You can receive data on the one touch dial or send the data stored in the system to the call center.
• Procedure
1. Enter “Function ID Code” and “Extended ID Code” on the screen of the terminal transmission and touch “Execute”.
2. Start remote diagnostics on the screen of the remote diagnostics.
When the service call is in the data transmission mode, the same call number will be used to make a terminal transmission to the call center.
✻ The service call is in the fax transmission mode, you need to switch it to the data transmission mode and also change the call number. Always restore the service call setup after you complete a terminal transmission.</td></tr>
</table>

(6) Soft Switch Setting

• The function allows the soft switch settings.

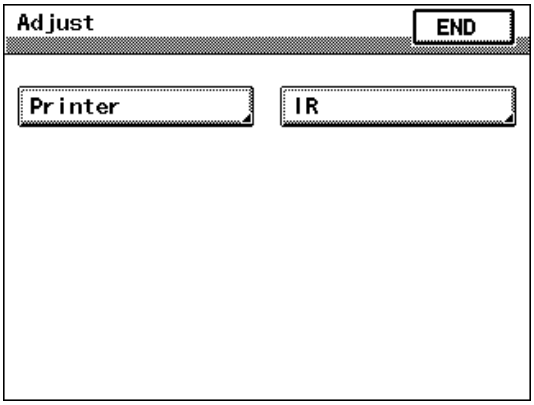
Tech. Rep. Mode - Soft Switch Settings

Touch Panel Display	Description
Soft Switch Settings	This sets up the soft switches for maintenance. • Procedure 1. Touch “Mode Selection”. 2. Type the value for a mode of the soft switch and then touch “Enter”. 3. Touch “Bit Selection” or “HEX Selection”. 4. Type the value of the soft switch with the 10-key pad and then touch “Enter”. Use <0> and <1> of the 10-key pad to type bit values. For hex numbers, use 0-9, A, B, C, D, E, and F. 5. The last “Enter” returns to the screen of the maintenance menu.

7. ADJUST MODE

- Used at the factory for making adjustments.

7-1. Adjust Mode Menu Screen



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7-2. Adjust Mode Setting Procedure

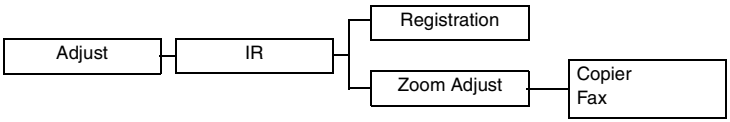
<Procedure>
1. Show the Tech. Rep. mode menu screen.
2. Press the following keys in this order:
   Stop ' Start
3. Select the desired function.

✻ Use the Access Mode key to enter a + or - sign.

<Exiting the Mode>
- Touch the "END" key.

7-3. Adjust Mode Function Tree

Only FAX adjust



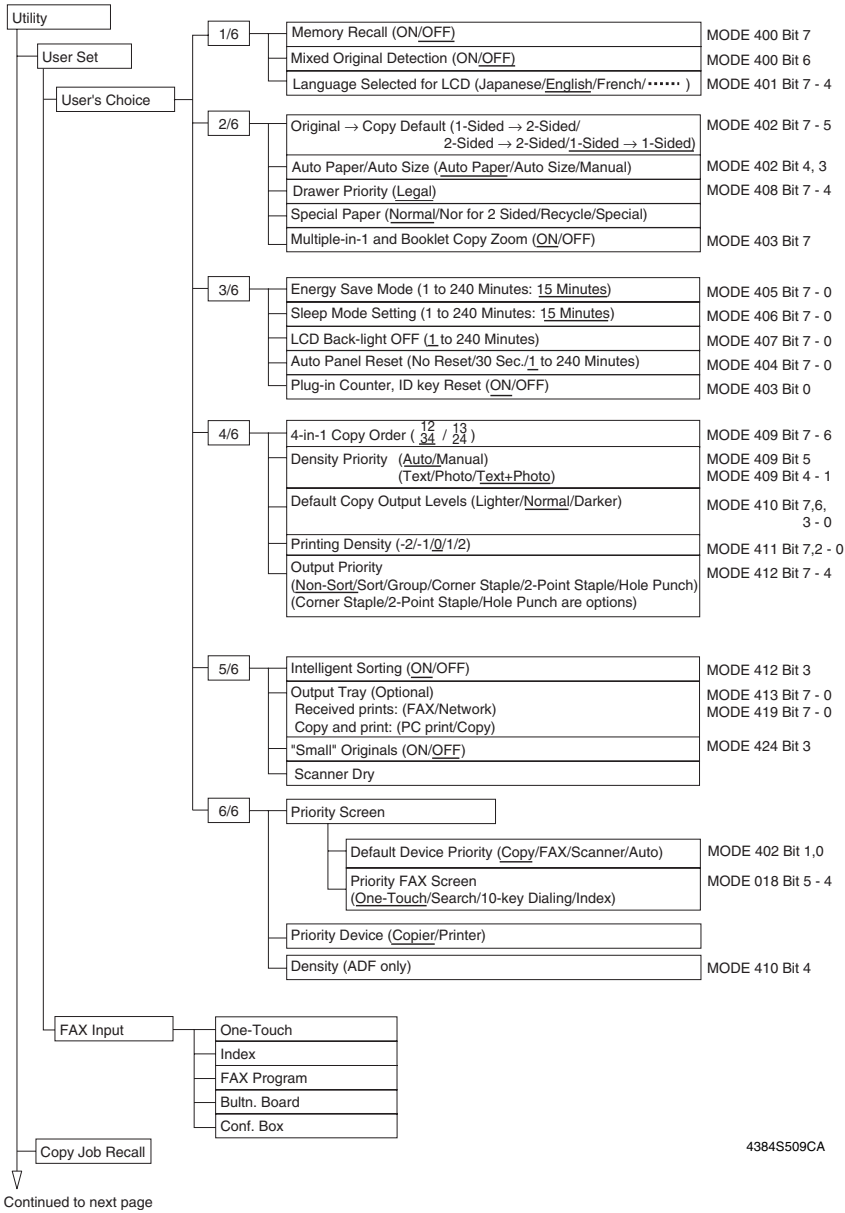
7-4. Settings in the Adjust Mode

(1) IR

NOTE
- *This mode is for factory adjustment only and should NOT be used.*

8. SOFT SWITCH LIST

8-1. Soft Switches Disclosed to Users



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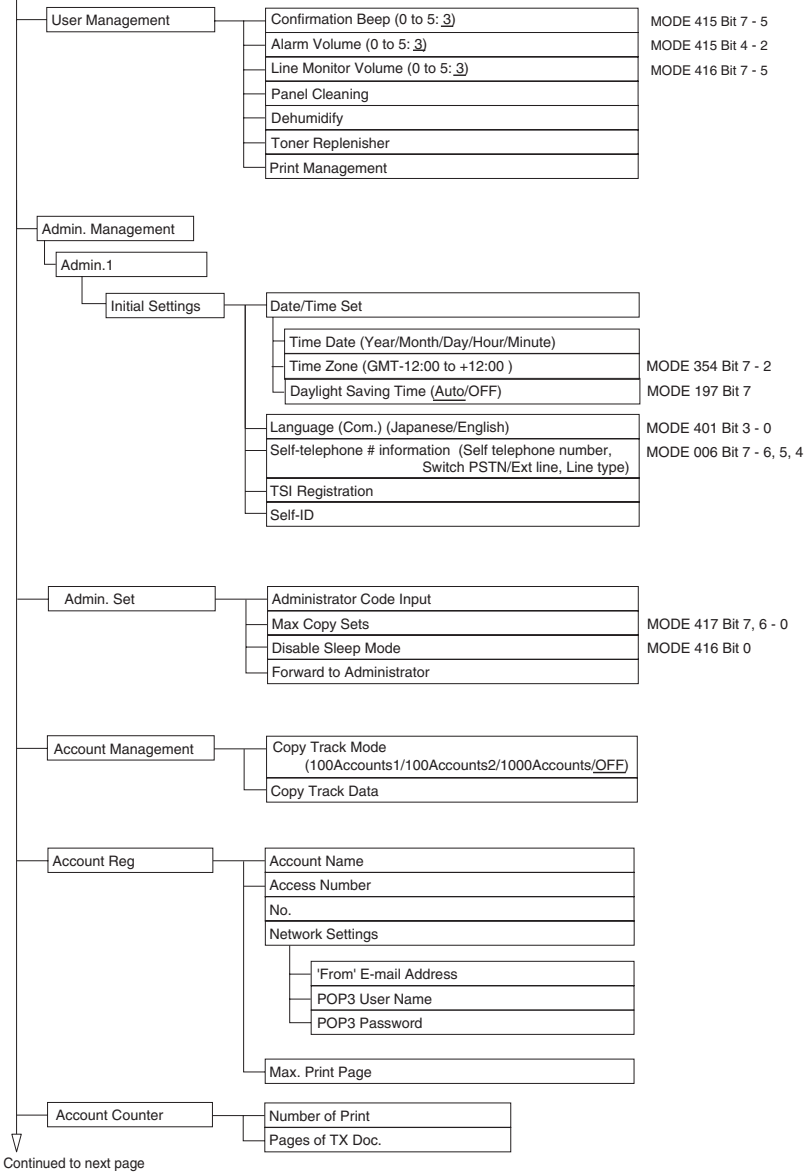

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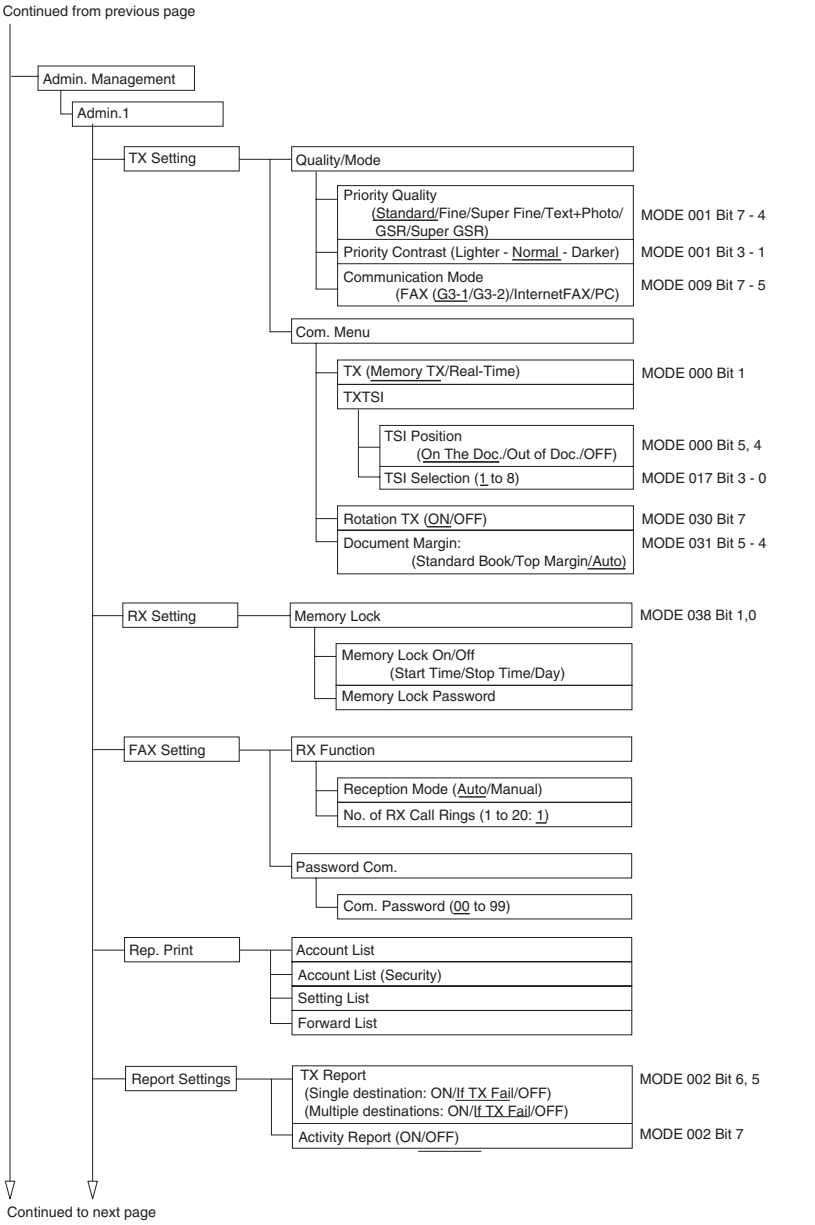
Continued from previous page
Admin. Management
Admin.1
TX Setting
Quality/Mode
Priority Quality
(Standard/Fine/Super Fine/Text+Photo/
GSR/Super GSR)
MODE 001 Bit 7 - 4
Priority Contrast (Lighter - Normal - Darker)
MODE 001 Bit 3 - 1
Communication Mode
(FAX (G3-1/G3-2)/InternetFAX/PC)
MODE 009 Bit 7 - 5
Com. Menu
TX (Memory TX/Real-Time)
MODE 000 Bit 1
TXTSI
TSI Position
(On The Doc./Out of Doc./OFF)
MODE 000 Bit 5, 4
TSI Selection (1 to 8)
MODE 017 Bit 3 - 0
Rotation TX (ON/OFF)
MODE 030 Bit 7
Document Margin:
(Standard Book/Top Margin/Auto)
MODE 031 Bit 5 - 4
RX Setting
Memory Lock
MODE 038 Bit 1,0
Memory Lock On/Off
(Start Time/Stop Time/Day)
Memory Lock Password
FAX Setting
RX Function
Reception Mode (Auto/Manual)
No. of RX Call Rings (1 to 20: 1)
Password Com.
Com. Password (00 to 99)
Rep. Print
Account List
Account List (Security)
Setting List
Forward List
Report Settings
TX Report
(Single destination: ON/If TX Fail/OFF)
(Multiple destinations: ON/If TX Fail/OFF)
MODE 002 Bit 6, 5
Activity Report (ON/OFF)
MODE 002 Bit 7
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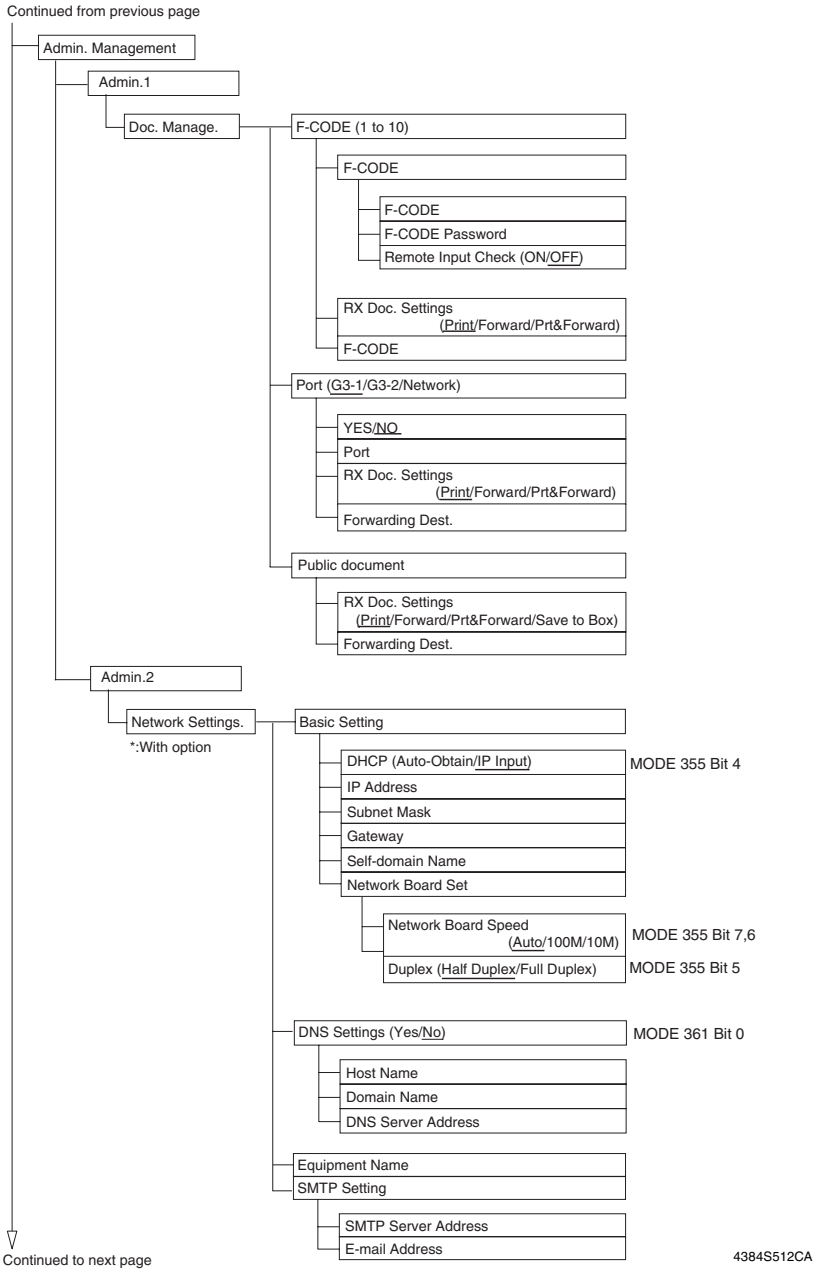
Continued from previous page
Admin. Management
Admin.1
Doc. Manage.
F-CODE (1 to 10)
F-CODE
F-CODE
F-CODE Password
Remote Input Check (ON/OFF)
RX Doc. Settings (Print/Forward/Prt&Forward)
F-CODE
Port (G3-1/G3-2/Network)
YES/NO
Port
RX Doc. Settings (Print/Forward/Prt&Forward)
Forwarding Dest.
Public document
RX Doc. Settings (Print/Forward/Prt&Forward/Save to Box)
Forwarding Dest.
Admin.2
Network Settings.
*:With option
Basic Setting
DHCP (Auto-Obtain/IP Input)
MODE 355 Bit 4
IP Address
Subnet Mask
Gateway
Self-domain Name
Network Board Set
Network Board Speed (Auto/100M/10M)
MODE 355 Bit 7,6
Duplex (Half Duplex/Full Duplex)
MODE 355 Bit 5
DNS Settings (Yes/No)
MODE 361 Bit 0
Host Name
Domain Name
DNS Server Address
Equipment Name
SMTP Setting
SMTP Server Address
E-mail Address
Continued to next page
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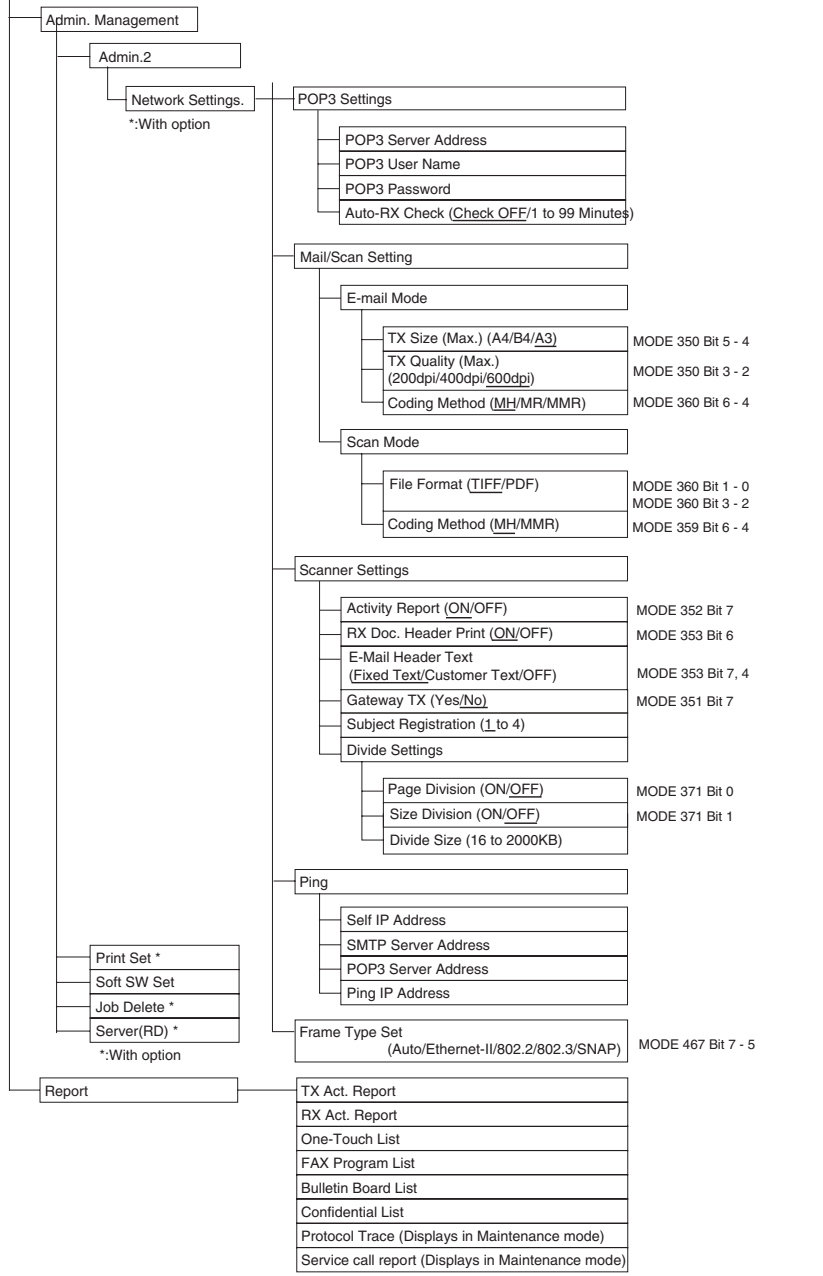
Continued from previous page



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8-2. List of Defaults

Note
** in the remark indicates a mode that has items opened to users.*

MODE	HEX	Remark
000	30	TX Marker, TSI, Password, Memory TX *
001	14	FAX quality, Density, Dest. Insert *
002	A8	Report *
003	63	Line monitor, Report of broadcast transmissions *
004	16	Memory time *
005	20	# of redialing
006	32	DP speed, PB switch, PSTN Port auto selection *
007	B5	Print range *
008	00	Select print paper *
009	1A	Communication mode *
010	20	PB/DP auto detection *
011	31	DP speed, PBX switch, Screen: display illustration, *
012	40	# key on one-touch screen
013	**	Auto-mode screen, INBOX 29: Initial value for 25-cpm Copier, 30-cpm Copier 31: Initial value for 35-cpm Copier
014	01	Redialing interval
015	**	(Undefined)
016	40	Extra telephone, Print date & time received, Position of Print date & time received
017	C0	Select of initial value of TSI
018	01	Destination displaying screen *
019	08	Ringer detection counts
020	40	Display report, Display trace protocol, Display error codes
021	08	Display symbol rate, Observe EQM, Observe probing information
022	02	FAX memory nearly full capacity, Restrict parameters of memory stored TX
023	F8	Set margins for report image *
024	81	Display forward function button, Display caller ID, Receiving by other users
025	7F	Various service calls
026	DE	Service call, Remote maintenance
027	24	Display ID, Display button, Secured comm., F code *
028	63	Remote print protocol, # of remote multi-copies
029	**	(Undefined)
030	B0	Rotate print, 2in1, Restrict print paper selection, Assign mixed mm/inch papers *
031	A1	Margins for multi-sheet report image, Margins for output format of report image
032	21	FAX photo/text mixed mode, Select metric/inch
033	14	Draft printing mode and level

MODE	HEX	Remark
034	02	Cut print paper leading edge, Overlapped printing
035	03	RX by memory
036	01	RX print order
037	F8	Select FAX paper cassette *
038	0A	Turn on print lamp for out-of print paper, Print stop/start
039	**	(Undefined)
040	FA	2-dim coding, T.6 coding, JBIG, V34JBIG
041	40	ECM mode
042	3F	Redialing interval
043	80	# of resending doc., Redialing non-answered call, Auto-answering call, TCI/CSI registration screen
044	80	RTN sending error, Action against abnormal overseas communications, T4 timer
045	**	(Undefined)
046	**	(Undefined)
047	88	V34 fallback tolerance
048	C6	Set up MODEM standard, Allow V.34 and V.8
049	0D	Transmission speed upper limit (TX)
050	0D	Transmission speed upper limit (RX)
051	20	Declare RX print paper size
052	**	(Undefined)
053	C8	F code RX error
054	4A	History control of V.34 auto dialing, Demodulation method
055	02	Detect or not detect no sound
056	0C	Sending time of ANsm
057	19	Time that ANSam TX starts after line is blocked
058	**	(Undefined)
	**	(Undefined)
076	**	(Undefined)
077	00	Hook monitoring counts
078	**	(Undefined)
079	**	(Undefined)
080	6E	Estimated time of line connection (PSTN1)
081	**	(Undefined)
082	2C	Busy tone, Line disconnection (PSTN1)
083	50	Hook monitoring cycle, Hook detection voltage (PSTN1)
084	1C	PB sending lever (PSTN1)
085	90	TX level (PSTN1)
086	40	RX attenuator (PSTN1)
087	98	Detect continuous ringer, Ringer detection frequency (PSTN1)

MODE	HEX	Remark
088	C0	Process detection time out of 2nd dial tone, 1300 Hz detection (PSTN1)
089	00	TX method, Prefix # (PSTN1) *
090	**	(Undefined)
091	**	(Undefined)
092	70	Sending echo protection tone, switch carrier frequency (PSTN1)
093	40	CED, Receive command echo, Control channel date rate
094	0C	AGC lock (PSTN1)
095	20	Digital TX/RX cable equalizer (PSTN1)
096	14	CI signal sending time (PSTN1)
097	14	TCF/NTCF sending level down, V33/V29 sending level down, V.34 symbol rate (PSTN1)
098	46	CM signal sending start time, EQM threshold value (PSTN1)
099	88	Symbol speed threshold value (PSTN1)
100	**	(Undefined)
	**	(Undefined)
109	**	(Undefined)
110	23	Estimated time of line connection (PSTN2)
111	**	(Undefined)
112	28	Busy tone, Line disconnecting (PSTN2)
113	**	(Undefined)
114	1C	PB sending lever (PSTN2)
115	90	TX level (PSTN2)
116	40	RX attenuator (PSTN2)
117	90	Detect continuous ringer, Ringer detection frequency (PSTN2)
118	C0	Process detection time out of 2nd dial tone, 1300 Hz detection (PSTN2)
119	00	TX method, Prefix # (PSTN2) *
120	**	(Undefined)
121	**	(Undefined)
122	70	Sending echo protection tone, switch carrier frequency (PSTN2)
123	48	CED, Receive command echo, Control channel date rate
124	0C	AGC lock (PSTN2)
125	20	Digital TX/RX cable equalizer (PSTN2)
126	14	CI signal sending time (PSTN2)
127	14	TCF/NTCF sending level down, V33/V29 sending level down, V.34 symbol rate (PSTN2)
128	46	CM signal sending start time, EQM threshold value (PSTN2)
129	88	Symbol speed threshold value (PSTN1)
130	**	(Undefined)
	**	(Undefined)
189	**	(Undefined)

MODE	HEX	Remark
190	00	Restrict SF/SSF comm.
191	**	(Undefined)
192	C0	Order of displaying year to date
193	**	(Undefined)
|	**	(Undefined)
196	**	(Undefined)
197	C0	Daylight saving, Display Daylight saving button, Daylight saving pattern
198	10	TX forwarding, TX forwarding result report
199	**	(Undefined)
|	**	(Undefined)
211	**	(Undefined)
212	40	DP make rate (PSTN1)
213	**	(Undefined)
|	**	(Undefined)
231	**	(Undefined)
232	40	DP make rate (PSTN2)
233	**	(Undefined)
|	**	(Undefined)
287	**	(Undefined)
288	FF	Insert dummy data before PIX
289	**	(Undefined)
|	**	(Undefined)
309	**	(Undefined)
310	00	Increase sound level *
311	00	Invert screen *
312	03	Key repeat start time *
313	01	Key repeat interval *
314	03	Display reservation completion screen *
315	**	(Undefined)
|	**	(Undefined)
319	**	(Undefined)
320	33	(PC printer) Around-the-clock monitoring timer
321	**	(Undefined)
|	**	(Undefined)
349	**	(Undefined)
350	**	Soft switch concerning Network option For details, see Service Manual for Network option.
|	**	
399	**	

MODE	HEX	Remark
400	00	Set up memory recall, Priority doc. mixed mode *
401	11	Language Selected *
402	01	Priority doc. mode, Priority copy mode, Automatic function priority mode, Priority application *
403	01	Draft print zoom ratio, Auto-reset by user *
404	01	Auto-reset time *
405	0F	Pre-heat time *
406	0F	Auto-Power source off time *
407	02	LCD Back-light Off *
408	01	Default feeder (Print paper) *
409	00	4-in-1 print Order, Density Priority, Original Image Type *
410	54	AE density level, Priority manual density level
411	00	Sign bit, Adjust print density *
412	08	Priority Sort Mode, Priority Stapling Mode, Priority Punch Mode, Intelligent Sorting, # of holes to punch *
413	04	Specify output bin *
414	A0	Reserve memory copy *
415	6C	Beep Volume, Alarm Volume *
416	60	Sound Volume Setting 3 Monitor Tone, Orientation Of Images When Finisher Is Connected, Overseas Scanner File Format, Disable Auto Shut Off *
417	63	Max Copy Sets, Set Copy Quantity Limit *
418	58	Imaging unit life stop, near life stop *
419	40	Specify output bin *
420	00	Auto panel reset confirmation time *
421	21	Destination code
422	08	Total Counter, Size Counter, Copy Kit Counter
423	4D	key counter, vendor mode, Doc. size OP *
424	18	Metrics/inch mix, Copy mode, Small doc. *
425	00	Adjust quality mode
426	00	(Undefined)
427	**	Default Setting Country Classification (copy) **: Differs according to the set country.
428	**	(Undefined)
429	00	Auto reset of panel for ADF
430	**	(Undefined)
431	00	Memory recall image deletion time
432	05	Over-memory wait time

.

Mode	HEX	Remark
433	**	(Undefined)
	**	(Undefined)
439	**	(Undefined)
440	04	PC printer, PDL set, paper size
441	80	PC printer, paper tray, paper orientation, print method
442	01	PC printer, # of copies
443	00	PC printer, # of copies
444	00	PC printer, font #
445	5C	PC printer, symbol set
446	3C	PC printer, # of lines
447	00	PC printer, Unit of font size
448	30	PC printer, Font size
449	00	PC printer, Font size
450	E8	PC printer, Font size
451	03	PC printer, Font size
452	**	(Undefined)
453	**	(Undefined)
454	**	(Undefined)
455	0F	PC printer, Timeout set (Least significant 8 bits)
456	01	PC printer, RAW port number set (Least significant 8 bits)
457	**	(Undefined)
	**	(Undefined)
463	**	(Undefined)
464	8C	PC printer, RAW port number set (Least significant 8 bits)
465	23	PC printer, RAW port number set (Most significant 8 bits)
466	**	(Undefined)
467	00	PC printer, frame type set
468	0F	Passive mode, EP-NET server setting
469	**	(Undefined)
	**	(Undefined)
511	**	(Undefined)
512	80	Detect dial tone (PSTN1)
513	**	(Undefined)
	**	(Undefined)
767	**	(Undefined)

Mode	HEX	Remark
768	07	DCS-TCF interval in V.17 and V.27tar (PSTN1)
769	07	DCS-TCF interval in V.29 (PSTN1)
770	C8	CFR-PIX interval (PSTN1)
771	23	T1 timer for auto-TX (PSTN1)
772	23	T1 timer for auto-RX (PSTN1)
773	23	T1 timer for manual TX (PSTN1)
774	23	T1 timer for manual RX (PSTN1)
775	23	T1 timer for auto-TX of polling (PSTN1)
776	23	T1 timer for manual TX of polling (PSTN1)
777	08	PIX-Post command interval (PSTN1)
778	**	(Undefined)
	**	(Undefined)
999	**	(Undefined)

8-3. List of Soft Switches

The tables below describe the soft switches of this system.
The highlighted areas are the initial settings.

Notes

- *The features with (*) are settable by users. (**): Soft switch setting*

MODE 000	Factory setting bit : 0 0 1 1 0 0 0 0 (Hex : 30)

Bit	Feature	Logic	Meaning	Description
7	Stamping default of TX mark. **	**0**	**OFF**	Specifies whether TX marker are return to ON or OFF after completing operations.
		1	Yes	
6	Select position of TX marker. **	**0**	**Top & bottom of doc.**	
		1	bottom of doc.	
5	Default addition of TSI.	0	No	Specifies whether printing TSI on transmitted document is returned to ON or OFF after completing operations.
		1	**Yes**	
4	Select position of TSI. *	0	Outside doc.	
		1	**Inside doc.**	
3	Specifies default confirming communication password. **	**0**	**No**	Specifies whether confirming communication password at TX is returned to ON or OFF after completing operations.
		1	Yes	
2	Confirm communication password at RX. **	**0**	**No**	
		1	Yes	
1	Transmission form default *	**0**	**Memory-stored**	Specifies which TX method is returned to ON, memory-stored TX or nonstorage TX after completing operations.
		1	Non-stored	
0		**0**	Fixed to “0”	

MODE 001	Factory setting bit : 0 0 0 1 0 1 0 0 (Hex : 14)

Bit	Feature	Logic	Meaning	Description
7654	Default of image quality. *	0000	Not available	Specify which image quality is returned to be assigned after completing operations.
		0001	**Standard**	
		0010	Fine	
		0011	Not available	
		0100	Superfine	
		0101	GSR	
		0110	Not available	
		0111	Super GSR	
		1000	Text + photo	
		Others	Not available	
321	Default of density when communication. *	000	Much lighter	Specify which density is returned to be assigned after FAX communication.
		001	Lighter	
		010	**Normal**	
		011	Darker	
		100	Much darker	
		Others	Not available	
0	Insert a destination name **	**0**	**No**	Specify whether to insert a destination name on document to send.
		1	YES	

MODE 002	Factory setting bit : 1 0 1 0 1 0 0 0 (Hex : A8)

Bit	Feature	Logic	Meaning	Description
7	Print communication activity report automatically. *	0	No	Report automatically for every 50 activities. "No" means manual print.
		1	**Yes**	
65	Select when a result report should be printed. *	00	No print	Specifies result reports for TX, incomplete TX, or broadcasting TX.
		01	**Print for incomplete TX**	
		10	Always print	
		11	Not available	
4		**0**	Fixed to "0"	
3	Print memory clear report. **	0	No	
		1	**Yes**	
2	Log management of broadcast transmissions **	**0**	**All together**	
		1	Individual	
10		**00**	Fixed to "00"	

• Note. The features with (*) are settable by users. (**): Soft switch setting

MODE 003	Factory setting bit : 0 1 1 0 0 0 1 1 (Hex : 63)

Bit	Feature	Logic	Meaning	Description
76	Result report of broadcast transmissions *	00	No print	
		01	**Output for incomplete TX**	
		10	Always print	
		11	Not available	
5	Monitor line. (PSTN1)	0	No	
		1	**Yes**	
432 10		**00011**	Fixed to “00011”	

MODE 004	Factory setting bit : 0 0 0 1 0 1 1 0 (Hex : 16)

Bit	Feature	Logic	Meaning	Description
7654		**0000**	Fixed to “0000”	
3210	Selects holding time of incompleted TX document in memory. **	0000	0	IC memory device Delete file from memory immediately (No redialing function.)
		0001	10 min	
		0010	20 min	
		0011	30 min	
		0100	40 min	
		0101	50 min	
		0110	**1 hr**	
		0111	2 hr	
		1000	4 hr	
		1001	8 hr	
		1010	12 hr	
		1011	24 hr	
		1100	72 hr	
		Others	Not available	

- *Note. The features with (*) are settable by users. (**): Soft switch setting*

MODE 005	Factory setting bit : 0 0 1 0 0 0 0 0 (Hex : 20)

Bit	Feature	Logic	Meaning	Description
7654	Select number of redialing 1. (Number of auto redialing at 1st stage)	0000	0	Specifies the number of redialing with the interval specified by “Select redialing interval 1 (MODE 042 Bit 7-4).”
		0001	1	
		0010	**2**	
		0011	3	
		0100	4	
		0101	5	
		0110	6	
		0111	7	
		1000	8	
		1001	9	
		1010	10	
		1011	11	
		1100	12	
		1101	13	
		1110	14	
		1111	15	
3210	Select number of redialing 2. (Number of auto redialing at the 2nd stage)	**0000**	**0**	Once redialing set by “Select number of redialing 1 (MODE 005 Bit 7-4)”, the system redials the number of times specified by this soft switch. Redialing interval follows “Select redialing interval 2 (MODE 042 Bit 3-0)” at the first time and then follows “Select redialing interval 1 (MODE 042 Bit 7-4)” from the second time.
		0001	1	
		0010	2	
		0011	3	
		0100	4	
		0101	5	
		0110	6	
		0111	7	
		1000	8	
		1001	9	
		1010	10	
		1011	11	
		1100	12	
		1101	13	
		1110	14	
		1111	15	

Notes

- *If the first stage has been set [0000], the system proceeds to the second stage after 10 minutes without carrying out the first stage.*
- *If the first and the second stages have been set [0000], the auto redialing process will not be is carried out.*

MODE 006	Factory setting bit : 0 0 1 1 0 0 1 0 (Hex : 32)

Bit	Feature	Logic	Meaning	Description
76	Select dial line speed (DP speed). (PSTN1) *	**00**	**10 pps**	• This is valid only when “Switch PB/DP (MODE 006 Bit5)” sets DP. • 16pps is unavailable to users.
		01	20 pps	
		10	16 pps	
		11	Not available	
5	Switch PB/DP. (PSTN1) *	0	DP	Select a line type (tone or pulse) for calling. • DP : pulse • PB : tone
		1	**PB**	
4	Extension / External line connection. (PSTN1) *	0	Extension connection	Select standard phone line connected with the system
		1	**External line connection**	
0321		**0010**	Fixed to “0010”	

• *Note. The features with (*) are settable by users. (**): Soft switch setting*

MODE 007	Factory setting bit : 1 0 1 1 0 1 0 1 (Hex : B5)

Bit	Feature	Logic	Meaning	Description
765	Select upper limit of cut-off length after printing. **	000	0	When a received document is longer than the print paper and if the excess length is shorter than that specified here, it is cut off. If it is longer than that specified value with these bits, it is split into multiple pages. This feature is enabled when the following 2 conditions are satisfied: • When printing a received document. • When bit 1 of this mode is 1.
		001	8 mm	
		010	12 mm	
		011	14 mm	
		100	18 mm	
		101	**20 mm**	
		110	24 mm	
		111	Not available	
432	Select upper limit of reduction ratio of received document. **	000	100 %	When a received document is longer that the print paper, it will be reduced to fit the paper with the upper limit specified with these bits. This feature is enabled when the following 2 conditions are satisfied: • When printing a received document • When bit 1 of this mode is 0 Example: The reduction is 100-90 % when “90 %” is specified. Reduction will not be done if a received document is still longer than the paper for a specified reduction.
		001	95 %	
		010	90 %	
		011	85 %	
		100	80 %	
		101	**65 %**	
		110	60 %	
		111	Not available	
1	Select cut off/reduction of received document: (This feature is enabled when printing a received document.) **	**0**	**Reduction**	This bit specifies cutting off or reducing a received document that is longer than the print paper. This bit determines that the received document will be cut off with “Select upper limit of cut off length after printing (MODE 007 Bit7-5)” or reduced with “Select upper limit of reduction ratio of received document (MODE 007 Bit 4-2).”
		1	Cut off	
0	Printing specification of received document.	0	First page.	Specifies the timing when to start printing the received document.
		1	**All pages.**	

• Note. The features with (*) are settable by users. (**): Soft switch setting

MODE 008	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7	Where to detect papers. (Valid only when printing a received document) **	**0**	**From print paper**	• "From print paper" detects print papers from actual print papers while "From cassette" indicates print papers with a cassette size or the last information on print papers regardless of actual print papers.
		1	From cassette	
6543	Select size of print paper for received document. (Valid only when printing a received document) **	**0000**	**Std method 1**	"Std method" determines an appropriate print paper for the length and the width of a print image. Method 1: Same width and no reduction. Method 2: Same width and minimum margin. Method 3: No reduction without considering width of paper. Method 4: Minimum margin without considering width of paper. "No wider width" will not take printer paper wider than the print image. No Wider Width 1: Same width and no reduction. Width 2: Same width and minimum margin. Width 3: No reduction without considering width of paper. Width 4: Minimum margin without considering width of paper. "Same width only" selects paper with the same width as the print image. *Note.* • *Margin means the non-printed area.* • *Methods 2 to 4 are unavailable to users.*
		0001	Std method 2	
		0010	Std method 3	
		0011	Std method 4	
		0100	No wider width 1	
		0101	No wider width 2	
		0110	No wider width 3	
		0111	No wider width 4	
		1000	Same width only	
		Others	Not available	
210		**000**	Fixed to "000"	

MODE 009	Factory setting bit : 0 0 0 1 1 0 1 0 (Hex : 1A)

Bit	Feature	Logic	Meaning	Description
765	Select default display of communication mode. **	**000**	**G3-1**	Specifies what to display at first as communication mode. Returns “Communication mode” to its default after each operation. This soft switch is unavailable in some systems: This soft switch is unavailable in some systems: • With single port (including pseudo-multi port) G3 type: all are unavailable
		100	Mail (I-FAX)	
		101	Scan to E-mail	
		110	Mail (Scanner)	
		Others	Not available	
4321 0		**11010**	Fixed to “11010”	

MODE 010	Factory setting bit : 0 0 1 0 0 0 0 0 (Hex : 20)

Bit	Feature	Logic	Meaning	Description
76	Priority order in automatic DP detection	**00**	**10 pps**	
		01	20 pps	
		10	16 pps	
		11	Not available	
5	Priority between automatic PB detection and automatic DP detection	0	DP	Select a line type (tone or pulse) for calling. • DP : pulse • PB : tone
		1	**PB**	
4	Automatic PB/DP detection button	**0**	**Not available**	
		1	available	
3210		**0000**	Fixed to “0000”	

• Note. The features with (*) are settable by users. (**): Soft switch setting

MODE 011	Factory setting bit : 0 0 1 1 0 0 0 1 (Hex : 31)

Bit	Feature	Logic	Meaning	Description
76	Select dial line speed (DP speed). (PSTN2) *	**00**	**10 pps**	• This is valid only when "Switch PB/DP (MODE 011 Bit5)" sets DP. • 16 pps is unavailable to users.
		01	20 pps	
		10	16 pps	
		11	Not available	
5	Switch PB/DP. (PSTN2) *	0	DP	Select a line type (tone or pulse) for calling. • DP : pulse • PB : tone
		1	**PB**	
4	Extension / External line connection. (PSTN2) **	0	Extension connection	Select standard phone line connected with the system
		1	**External line connection**	
32		**00**	Fixed to "00"	
10	Display illustrations.	00	Not display	
		01	**Display (Animation)**	
		10	Display (Still picture)	
		11	Not available	

MODE 012	Factory setting bit : 0 1 0 0 0 0 0 0 (Hex : 40)

Bit	Feature	Logic	Meaning	Description
7		**0**	Fixed to "0"	
6	Select function of # key on one-touch screen.	0	Full dialing number	
		1	**One-touch number**	
54321		**00000**	Fixed to "00000"	
0	Accumulated sheets: Change the number of accumulated sheets.	**0**	**Can be changed.**	• Change items "Facsimile Print", "Copy Print", "Report Print", "Send Facsimile", "PC Print", and "Send e-mail" on the "Number of sheets" tab. • The accumulated sheets can be changed in the maintenance mode even if this bit is set "Changes not allowed"
		1	Changes not allowed.	

MODE 013	25, 30 CPM	**Factory setting bit : 0 0 1 0 1 0 0 1 (Hex : 29)**
	35 CPM	**Factory setting bit : 0 0 1 1 0 0 0 1 (Hex : 31)**

Bit	Feature	Logic	Meaning		Description
765	Select numbers of fax one-touches and of copy programs on auto-mode screen.		One-touch	Print program	
		000	5	0	
		001	**4**	**1**	
		010	3	2	
		011	2	3	
		100	1	4	
		101	0	5	
		Others	Not available		
43	Determine input of numbers of copies or of FAX destinations on auto-mode screen.	00	1 digit		Regards these digits as an input of number of copies. *1: 25, 30 CPM *2: 35 CPM only
		01 **10**	**2 digit *1** **3 digit *2**		
		11	Not available		
21		**00**	Fixed to “00”		
0	Select operation when INBOX forward failed.	0	Destroy document immediately		Specify the action to be taken when INBOX forwarding has failed. (Failed means communications cannot be delivered. Communications means communication via FAX and e-mail.)
		1	**Destroy document after printing**		

MODE 014	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
765	Select redialing interval for resending document.	**000**	**10 sec**	
		001	30 sec	
		010	60 sec	
		011	120 sec	
		100	180 sec	
		Others	Not available	
432		**000**	Fixed to “000”	
10	Broadcast transmission setting confirmation window. *	00	Not display	
		01	**Confirms settings at broadcast transmission**	
		10	Confirms settings (single destination/all destinations)	
		11	Not available	

MODE 016	Factory setting bit : 0 1 0 0 0 0 0 0 (Hex : 40)

Bit	Feature	Logic	Meaning	Description
7		**0**	Fixed to “0”	
6	Use of extra telephone **	0	No	
		1	**Yes**	
5	Print date & time received. (Mail Mode) **	**0**	**No**	
		1	Yes	
4	Position of print date & time received. (Mail Mode) **	**0**	**Inside doc.**	This is valid only when “(MODE 016 Bit5)” sets Yes.
		1	Outside doc.	
32		**00**	Fixed to “00”	
1	Print date & time received. (RX Time Stamp)	**0**	**No**	
		1	Yes	
0	Position of print date & time received. (RX Time Stamp)	**0**	**Inside doc.**	This is valid only when “(MODE 016 Bit1)” sets Yes.
		1	Outside doc.	

• *Note. The features with (*) are settable by users. (**): Soft switch setting*

MODE 017	Factory setting bit : 1 1 0 0 0 0 0 0 (Hex : C0)

Bit	Feature	Logic	Meaning	Description
7654		**1100**	Fixed to “1100”	
3210	Select initial value of TSI name *	**0000**	**TSI 1**	
		0001	TSI 2	
		0010	TSI 3	
		0011	TSI 4	
		0100	TSI 5	
		0101	TSI 6	
		0110	TSI 7	
		0111	TSI 8	
		Others	Not available	

MODE 018	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
76		**00**	Fixed to “00”	
54	Select destination screen. *	**00**	**One-touch 1st screen**	Displays screen of destination when document is loaded in FAX mode.
		01	Name screen	
		10	Dial number screen	
		11	Index screen	
3210		**0001**	Fixed to “0001”	

MODE 019	Factory setting bit : 0 0 0 0 1 0 0 0 (Hex : 08)

Bit	Feature	Logic	Meaning	Description
765 43	Specify the ringing count of auto receiving call *	00000	0	Specify the ringing count till the main product starts receiving a call.
		00001	**1**	
		00010 | 10100	2 | 20	
		Others	Not available	
210		**000**	Fixed to “000”	

• Note. The features with (*) are settable by users. (**): Soft switch setting

MODE 020	Factory setting bit : 0 1 0 0 0 0 0 0 (Hex : 40)

Bit	Feature	Logic	Meaning	Description
7	Displays # of reports.	**0**	**No**	"Yes" displays # of pages on phone line in addition to ordinary # of papers.
		1	Yes	
6	Trace protocol.	0	No	"Yes" prints result of protocol trace after completing communication. If next communication is proceeded before this printing, information on previous communication protocol will be deleted.
		1	**Yes**	
5	Display number of error lines/transmission speed.	**0**	**No**	"Yes" displays # of error lines/ transmission speed on panel and outputs port for auto checking.
		1	Yes	
4	Select monitor interval for line.	**0**	**Phase A**	Specifies interval for monitoring phone lines for G3 communication.
		1	All phases	
3	Display error codes. (Panel, report)	**0**	**No**	"Yes" displays error codes (6 digit) on panel and in report.
		1	Yes	
210		**000**	Fixed to "000"	

MODE 021	Factory setting bit : 0 0 0 0 1 0 0 0 (Hex : 08)

Bit	Feature	Logic	Meaning	Description
765		**000**	Fixed to "000"	
43	Call hold guard timer	00	1 hr	
		01	**10 hr**	
		10	24 hr	
		11	72 hr	
2	Display symbol rate.	**0**	**No**	Symbol rates are 2400/ 2743/2800/3000/3200/ 3429. Rate of 2743 is not actually used.
		1	Yes	
1	Observe EQM. Check modem & line statuses	**0**	**No**	Do not change the set value.
		1	Yes	
0	Observe probing information. Check modem & line statuses	**0**	**No**	Do not change the set value.
		1	Yes	

MODE 022	Factory setting bit : 0 0 0 0 0 0 1 0 (Hex : 02)

Bit	Feature	Logic	Meaning	Description
765 43		**00000**	Fixed to “00000”	
2	FAX memory nearly full to its capacity.	**0**	**256 KB**	“Memory nearly full” means that unused memory becomes less than a specified capacity. This soft switch specifies threshold capacity.
		1	512 KB	
1	Restrict parameters of memory stored TX.	0	No	If “Yes” is selected, then all relay transmissions will proceed with A4 size when function of remote side is unknown (not learned/full dialing). For learned destination without size of 16×15.4, TX will be done with 8×7.7.
		1	**Yes**	
0		**0**	Fixed to “0”	

MODE 023	Factory setting bit : 1 1 1 1 1 0 0 0 (Hex : F8)

Bit	Feature	Logic	Meaning	Description
7654	Select number of errors in redialing terminal of data type.	0000 0001 ⏐ 1110	0 1 ⏐ 14	
		1111	**15**	
3	Set margins for report image.*	0	No	Specifies whether to carry out merge process for report of image with merge.
		1	**Yes**	
21		**00**	Fixed to “00”	
0	Select memory over transmission mode.	**0**	**Transmission continued**	Specifies whether stored pages will be transmitted if memory is full while scanning documents.
		1	Transmission disconnected	

• Note. The features with (*) are settable by users. (**): Soft switch setting

MODE 024	Factory setting bit : 1 0 0 0 0 0 0 1 (Hex : 81)

Bit	Feature	Logic	Meaning	Description
76		**10**	Fixed to “10”	
5	Display Administrator/User passwords.	**0**	**No**	“No” displays “ * ”.
		1	Yes	
4	Display forwarding function button.	**0**	**No**	
		1	Yes	
3	Select alarm buzzer pattern.	**0**	**Pattern 0**	Pattern 0: Peep Poop Peep Poop Peep Poop Pattern 1: Peep Peep Peep
		1	Pattern 1	
21	Select ID display order when receiving.	**00**	**Expansion ID → TSI**	
		01 Others	TSI Not available	
0	Receive by other user.	0	No	
		1	**Yes**	

MODE 025	Factory setting bit : 0 1 1 1 1 1 1 1 (Hex : 7F)

Bit	Feature	Logic	Meaning	Description
7	Service call for printer option failure. *	**0**	**No**	Specifies whether to make a service call for PC printer unit option failure. **Note***
		1	Yes	
6	Service call for printer failure.	0	No	Specifies whether to make a service call for printer failure. **Note***
		1	**Yes**	
5	Service call for exceeding specified number of papers. *	0	No	Specifies whether to make a service call for exceeding specified # of papers. **Note***
		1	**Yes**	
4	Service call for scanner failure.	0	No	Set whether service call will be made for scanner failure. **Note***
		1	**Yes**	
32		**00**	Fixed to “00”	
1	Service call for reaching near empty cycles of toner.	0	No	Set whether to make a service call for reaching near empty or empty of toner. **Note***
		1	**Yes**	
0	Service call for reaching life times of drum.	0	No	Set whether to make a service call for reaching near life time or life times of drum. **Note***
		1	**Yes**	

✻ This is valid only when “Allow service call? (MODE 026 Bit 6)” is set to “Yes.”

MODE 026	Factory setting bit : 1 1 0 1 1 1 1 0 (Hex : DE)

Bit	Feature	Logic	Meaning	Description
7	Allow remote maintenance.	0	No	
		1	**Yes**	
6	Allow service calls.	0	No	
		1	**Yes**	
5		**0**	Fixed to “0”	
4	Print incomplete TX of service call for notifying consumables.	0	No	
		1	**Yes**	
3	Service call for empty toner. *	0	No	
		1	**Yes**	
2	Service call for reaching life times of drum. *	0	No	
		1	**Yes**	
1	Notify out-of-consumables.	0	No	
		1	**Yes**	
0		**0**	Fixed to “0”	

• Note. The features with (*) are settable by users. (**): Soft switch setting

MODE 027	Factory setting bit : 0 0 1 0 0 1 0 0 (Hex : 24)

Bit	Feature	Logic	Meaning	Description
76	Select ID display order: Specifies priority order of destination ID for printing report/ displaying on screen.	**00**	**Pattern 1**	Pattren1:1→2→3→4→5→6 2:4→5→6→1→2→3 3:4→5→1→2→3→6 1: Name registered in one-touch button 2: Destination # registered in one-touch button 3: Phone # of destination dialed 4: Destination phone # by TSI 5: Extended ID 6: Standard ID (# of TSI/ CIG)
		01	Pattern 2	
		10	Pattern 3	
		11	Not available	
5	Display anti-dew button.	0	No	
		1	**Yes**	
4	Process drum dry button.	**0**	**No**	
		1	Yes	
3	Secure comm. with N-method	**0**	**No**	
		1	Yes	
2	F code function.	0	No	Need for G3 communications.
		1	**Yes**	
1	Assign non-reduction TX for 2in1 scan.	**0**	**No**	Specifies whether 2in1 TX will be sent by A4 always or by appropriate size to receiver's capability.
		1	Yes	
0		**0**	Fixed to "0"	

MODE 028	Factory setting bit : 0 1 1 0 0 0 1 1 (Hex : 63)

Bit	Feature	Logic	Meaning	Description
7	Select remote print protocol.	**0**	**F code**	Fixed to “0”, valid at TX
		1	N method	
6543 210	Select restricted number of prints of remote multi copy.	0000000 0000001 |	Not available 1 copy |	
		1100011	**99 copies**	
		Others	Not available	

MODE 030	Factory setting bit : 1 0 1 1 0 0 0 0 (Hex : B0)

Bit	Feature	Logic	Meaning	Description
7	Rotation TX *	0	No	
		1	**Yes**	
65	Rotate print of FAX RX. *	00	No rotate print	“Sort” means “alternate sort” here.
		01	**Rotate print (without sort)**	
		10	Rotate print (with sort)	
		11	Not available	
4	Receive 2in1 page. (Valid for RX print) *	0	No	
		1	**Yes**	
32	Restrict print paper selection: Specifies unselectable print paper (including orientation) for FAX.	**00**	**No B5 (L), A5 (L), and postcard**	
		01	No A5(L) and postcard	
		10	No postcard	
		11	Not available	
10	Assign mixed mm/inch papers. (Priority Set) (Valid for RX print)	**00**	**Select mm only**	
		01	Select inch only	
		10	Select both	
		11	Not available	

• Note. The features with (*) are settable by users. (**): Soft switch setting

MODE 031	Factory setting bit : 1 0 1 0 0 0 0 1 (Hex : A1)

Bit	Feature	Logic	Meaning	Description
7	Margin process for multiple copies of report with image margins.	0	No	Valid when “Set margins for report image? (MODE 23 Bit 3)” is set to “Yes.”
		1	**Yes**	
6	Assign output format for image margin report.	**0**	**Same as regular report**	1: Always output with A5 format regardless of the set status of paper. This is valid when a cassette has A4C papers.
		1	Always A5 format	
54	Margin layout for 2-sided TX	00	Top margin	
		01	Standard book	
		10	**Automatic**	
		11	Not available	
3	Hold after re-print (PC print)	**0**	**No**	
		1	Yes	
21	Selects holding time of reprint document. (PC print)	**00**	**10 min**	Valid when “Presence of reprint function (MODE 031 Bit 0)” is set to “Yes.”
		01	20 min	
		10	30 min	
		11	Not available	
0		**1**	Fixed to “1”	

MODE 032	Factory setting bit : 0 0 1 0 0 0 0 1 (Hex : 21)

Bit	Feature	Logic	Meaning	Description
76		**00**	Fixed to “00”	
5	Assign scan mode when FAX mixed with photos is selected.	0	GSR	8 line/mm × 7.7 line/mm (200 dpi)
		1	**Super GSR**	16 line/mm × 15.4 line/mm (400 dpi)
4	Select metric/inch for FAX TX.	**0**	**mm**	
		1	inch	
3	Set zoom ratio for reducing ledgerl/letter.	**0**	**64.7 %**	
		1	77.2 %	
2	Toggle metric and inch when specifying reading area.	**0**	**mm**	
		1	inch	
1	Select compatibility with non-regular size PC print.	**0**	**No**	
		1	Yes	
0		**1**	Fixed to “1”	

MODE 033	Factory setting bit : 0 0 0 1 0 1 0 0 (Hex : 14)

Bit	Feature	Logic	Meaning	Description
7		**00**	Fixed to “00”	
6	Initial setting of 2-sided TX *	**0**	**No 2-sided-TX mode**	
		1	2-sided TX mode	
54	Select draft printing mode.	00	No draft mode	“Toner saving mode” follows # of skipped pixels (Bit Nos. 3 to 2). “High resolution saving mode” in which each pixel’s size will be reduced, follows # of skipped pixels (Bit Nos. 3 to 2) for only at points of transition between white-black along the direction of main scanning.
		01	**Toner saving mode**	
		10	High resolution saving mode	
		11	Not available	
32	Select draft printing level.	00	No skipping	Specifies skipped printing level for copy, RX, and report printing.
		01	**Skip 1/4 pixel**	
		10	Skip 2/4 pixel	
		11	Skip 3/4 pixel	
10		**00**	Fixed to “00”	

- *Note. The features with (*) are settable by users. (**): Soft switch setting*

MODE 034	Factory setting bit : 0 0 0 0 0 0 1 0 (Hex : 02)

Bit	Feature	Logic	Meaning	Description
7654	Select cut-off length at leading edge of printing paper.	**0000**	**0**	Valid only at RX printing.
		0001	2 mm	
		0010	4 mm	
		0011	6 mm	
		0100	8 mm	
		0101	10 mm	
		0110	12 mm	
		0111	14 mm	
		1000	16 mm	
		1001	18 mm	
		1010	20 mm	
		1011	22 mm	
		1100	24 mm	
		1101	26 mm	
		1110	28 mm	
		1111	30 mm	
3	Set special density.	**0**	**No**	
		1	Yes	
2		**0**	Fixed to “0”	
1	Overlap printing.	0	No	Valid only at RX printing. Overlapped print is fixed to 4 mm regardless of line density.
		1	**Yes**	
0		**0**	Fixed to “0”	

MODE 035	Factory setting bit : 0 0 0 0 0 0 1 1 (Hex : 03)

Bit	Feature	Logic	Meaning	Description
765432		**000000**	Fixed to “000000”	
1	RX by memory when reaching I/C lifetime.	0	No	
		1	**Yes**	
0	RX by memory when reaching toner empty.	0	No	
		1	**Yes**	

MODE 036	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
7654321		**0000000**	Fixed to “0000000”	
0	Specify RX (remote copy) print order.	0	Start printing after receiving first page.	
		1	**Start printing after receiving all pages.**	

MODE 037	Factory setting bit : 1 1 1 1 1 0 0 0 (Hex : F8)

Bit	Feature	Logic	Meaning	Description
7	Select FAX paper cassette (1st cassette). **	0	No	
		1	**Yes**	
6	Select FAX paper cassette (2nd cassette). **	0	No	
		1	**Yes**	
5	Select FAX paper cassette (3rd cassette). **	0	No	
		1	**Yes**	
4	Select FAX paper cassette (4th cassette). **	0	No	
		1	**Yes**	
3		**1**	Fixed to “1”	
2	Select FAX paper cassette (Bypath). **	**0**	**No**	
		1	Yes	
10		**00**	Fixed to “00”	

MODE 038	Factory setting bit : 0 0 0 0 1 0 1 0 (Hex : 0A)

Bit	Feature	Logic	Meaning	Description
7	Turn on print lamp when out-of-paper.	**0**	**On when all cassettes are out of paper**	
		1	On when at least one cassette is out of paper	
654		**000**	Fixed to “000”	
32	Print restart timer after stopping	00	3 min	
		01	5 min	
		10	**10 min**	
		11	20 min	
1	Manual setting of print stop/start *	0	Stop	
		1	**Start**	
0	Print stop/start timer *	**0**	**Does not function**	
		1	Function	

• Note. The features with (*) are settable by users. (**): Soft switch setting

MODE 040	Factory setting bit : 1 1 1 1 1 0 1 0 (Hex : FA)

Bit	Feature	Logic	Meaning	Description
7	2-dim coding at TX. (Valid for G3 communication)	0	No	"No" : MH "Yes" : MH+MR
		1	**Yes**	
6	T.6 coding. (Valid for G3 communication)	0	No	"Yes": MH+MR+MMR Valid only when "2-dim coding? (MODE 040 Bit 7)" is set to "Yes."
		1	**Yes**	
5	JBIG communication. (Valid for ECM communication)	0	No	
		1	**Yes**	
4	Third party's JBIG (ITU-T) communication. (Valid for ECM communication)	0	No	Valid only when "JBIG communication? (MODE 040 Bit 5)" is set to "Yes."
		1	**Yes**	
3	Proprietary JBIG (ITU-T) communication. (Valid for ECM communication)	0	No	Valid only when "JBIG communication? (MODE 040 Bit 5)" is "Yes."
		1	**Yes**	
2		**0**	Fixed to "0"	
1	JBIG capability at V.34 communication.	0	No	Valid only when "JBIG communication? (MODE 040 Bit 5)" is set to "Yes."
		1	**Yes**	
0		**0**	Fixed to "0"	

MODE 041	Factory setting bit : 0 1 0 0 0 0 0 0 (Hex : 40)

Bit	Feature	Logic	Meaning	Description
7		**0**	Fixed to "0"	
6	ECM mode.	0	No	"No" : G3 "Yes" : G3+ECM
		1	**Yes**	
543210		**000000**	Fixed to "000000"	

MODE 042	Factory setting bit : 0 0 1 1 1 1 1 1 (Hex : 3F)

Bit	Feature	Logic	Meaning	Description
7654	Select redialing interval 1.	0000 0001 0010	Not available 1 min 2 min	
		0011	**3 min**	
		0100 | 1111	4 min | 15 min	
3210	Select redialing interval 2.	0000 0001 | 1110	Not available 1 min | 14 min	
		1111	**15 min**	

MODE 043	Factory setting bit : 1 0 0 0 0 0 0 0 (Hex : 80)

Bit	Feature	Logic	Meaning	Description
76	# of resending document.	00 01	0 1	
		10	**2**	
		11	3	
5		**0**	Fixed to “0”	
4	Redialing when line is connected but no answer.	**0**	**No**	
		1	Yes	
3	Auto-answering call frequency.	**0**	**Not limitation**	1 - 9
		1	limitation	2 - 4
2	TCI/CSI registration screen.	**0**	**User**	telephone number setting.
		1	Service mode	
10		**00**	Fixed to “00”	

MODE 044	Factory setting bit : 1 0 0 0 0 0 0 0 (Hex : 80)

Bit	Feature	Logic	Meaning	Description
7	Select threshold value for RTN sending error trace.	0	32 lines or more	Specifies # of error lines as reference of sending RTN: • “32 lines or more”: • MCF if error lines are 0 - 31 RTN if error lines are 32 or more • “64 lines or more”: MCF if error lines are 0 - 31 RTP if error lines are 32 to 63 RTN if error lines are 64 or more
		1	**64 lines or more**	
6	Process TCF sending specially.	**0**	**No**	
		1	Yes	
5		**0**	Fixed to “0”	
4	Select T4 timer.	**0**	**3 sec**	Action against line delay.
		1	4.5 sec	
3	Take an action for communication error from overseas.	**0**	**No**	Select “No” unless bad line is experienced. Action against LMCD-OFF
		1	Yes	
2	Take an action for communication error from overseas.	**0**	**No**	Select “No” unless bad line is experienced. Action for fall back
		1	Yes	
1	Process RTN RX failure.	**0**	**No**	(discard as error)
		1	Yes	(not as error)
0	Retrain V. 34 control channel.	**0**	**No**	(discard as error)
		1	Yes	(not as error)

MODE 047	Factory setting bit : 1 0 0 0 1 0 0 0 (Hex : 88)

Bit	Feature	Logic	Meaning	Description
765	Select V. 34 fall back tolerance. (TX)	000	0	
		001	1	
		010	2	
		011	3	
		100	**4**	
		Others	Not available	
432	Select V. 34 fall back tolerance. (RX)	000	0	
		001	1	
		010	**2**	
		011	3	
		100	4	
		Others	Not available	
10		**00**	Fixed to “00”	

MODE 048	Factory setting bit : 1 1 0 0 0 1 1 0 (Hex : C6)

Bit	Feature	Logic	Meaning	Description
76	Select V.34/V.33/V.17 capabilities.	00	No capability above 9600 bps	Sets MODEM’s function.
		01	V.33	
		10	V.17 & V.33	
		11	**V.17 & V.33 & V.34**	
543		**000**	Fixed to “000”	
2	Allow V.34.	0	No	Should be same as “V.8 (MODE 48 Bit 1)”
		1	**Yes**	
1	Allow V. 8.	0	No	Should be same as “V.8 (MODE 48 Bit 2)”
		1	**Yes**	
0	Allow V.34 communication for extensions.	**0**	**V.34**	
		1	V.17	

MODE 049	Factory setting bit : 0 0 0 0 1 1 0 1 (Hex : 0D)

Bit	Feature	Logic	Meaning	Description
765		**000**	Fixed to “000”	
432 10	Select upper limit of transmission speed. (TX)	00000 00001 00010 00011 00100 00101 00110 00111 01000 01001 01010 01011 01100	2400 bps 4800 bps 7200 bps 9600 bps 12.0 kbps 14.4 kbps 16.8 kbps 19.2 kbps 21.6 kbps 24.0 kbps 26.4 kbps 28.8 kbps 31.2 kbps	• Need to disable “V.34 capability (MODE 048 Bit 2)” by setting “No” for 2400 bps. • 16.8 kbps or faster is valid only when “Allow V.34 (MODE 048 Bit 2)” is enabled (Yes).
		01101	**33.6 kbps**	
		Others	Not available	

MODE 050	Factory setting bit : 0 0 0 0 1 1 0 1 (Hex : 0D)

Bit	Feature	Logic	Meaning	Description
765		**000**	Fixed to “000”	
432 10	Select upper limit of transmission speed. (RX)	00000 00001 00010 00011 00100 00101 00110 00111 01000 01001 01010 01011 01100	2400 bps 4800 bps 7200 bps 9600 bps 12.0 kbps 14.4 kbps 16.8 kbps 19.2 kbps 21.6 kbps 24.0 kbps 26.4 kbps 28.8 kbps 31.2 kbps	• Need to disable “V.34 capability (MODE 048 Bit 2)” by setting “No” for 2400 bps. • 16.8 kbps or faster is valid only when “Allow V.34 (MODE 048 Bit 2)” is enabled (Yes).
		01101	**33.6 kbps**	
		Others	Not available	

MODE 051	Factory setting bit : 0 0 1 0 0 0 0 0 (Hex : 20)

Bit	Feature	Logic	Meaning	Description
765	Declare size of print paper for received document.	000	Not available	Specifies declaration value of printing function for RX. "Auto" selects max size of paper, max size of loaded cassette, or max size of the last paper. "Auto including rotation" is equivalent to A4L (LetterL) set even A4C (LetterC) is selected by MODE 008 Bit 7.
		001	**Auto**	
		010	A4/Letter	
		011	B4/Legal	
		100	A3/11x17	
		101	Auto including rotation	
		Others	Not available	
432 10		**00000**	Fixed to "00000"	

MODE 053	Factory setting bit : 1 1 0 0 1 0 0 0 (Hex : C8)

Bit	Feature	Logic	Meaning	Description
7		**1**	Fixed to "1"	
6	Select received document operation when F code receiving has failed.	0	Destroy	
		1	**Do not destroy**	
543210		**001000**	Fixed to "001000"	

MODE 054	Factory setting bit : 0 1 1 1 1 0 1 0 (Hex : 7A)

Bit	Feature	Logic	Meaning	Description
7654	Time to be detected as no sound.	0000 0001 ⏐ **0111** ⏐ 1010 Others	Not available 1 min ⏐ **7 min** ⏐ 10 min Not available	
3	Control history of V.34 auto dialing.	0 **1**	No **Yes**	Valid only when a receiver system has V.34 modulation.
2	Modulation method for V.34 manual, nonstorage TX.	**0** 1	**V.17** V.34	
1	Modulation method for V.34 polling TX document.	0 **1**	V.17 **V.34**	
0	Modulation method for V.34 manual RX.	**0** 1	**V.17** V.34	

MODE 055	Factory setting bit : 0 0 0 0 0 0 1 0 (Hex : 02)

Bit	Feature	Logic	Meaning	Description
7		**0**	Fixed to “0”	
6	Detect no sound.	**0**	**No**	
		1	Yes	
5432 10	Level to detect as no sound.	000000 000001 **000010** 000011 000100 000101 Others	Cut off frequency 950 Hz Cut off frequency 1000 Hz **Cut off frequency 1050 Hz** Cut off frequency 1100 Hz Cut off frequency 1150 Hz Cut off frequency 1200 Hz Not available	

MODE 056	Factory setting bit : 0 0 0 0 1 1 0 0 (Hex : 0C)

Bit	Feature	Logic	Meaning	Description
7654		**0**	Fixed to “0”	
3	Modem power-saving mode (sleep)	0	No	
		1	**Yes**	
210	Select sending time of ANSam.	000	2.0 sec	
		001	2.5 sec	
		010	3.0 sec	
		011	3.5 sec	
		100	**4.0 sec**	
		101	5.0 sec	
		110	6.0 sec	
		111	Not available	

MODE 057	Factory setting bit : 0 0 0 1 1 0 0 1 (Hex : 19)

Bit	Feature	Logic	Meaning	Description
76543210	Select the time from when line is blocked to when ANSam TX starts.	00000000	Not available	Specify the time from when line is blocked to when ANSam TX starts.
		00000001	0.1 sec	
		|	|	
		00010100	**2.5 sec**	
		|	|	
		11111111	25.5 sec	

MODE 077	Factory setting bit : 0 1 1 0 0 0 0 0 (Hex : 60)

Bit	Feature	Logic	Meaning	Description
7		**0**	Fixed to “0”	
65		**11**	Fixed to “11”	
43	# of times of hooking monitoring during ringing	**00**	**3**	
		01	5	
		10	8	
		11	12	
210		**000**	Fixed to “000”	

MODE 080 (PSTN1) MODE 110 (PSTN2)	**Factory setting bit : 0 1 1 0 1 1 1 0 (Hex : 6E)**

Bit	Feature	Logic	Meaning	Description
76543210	Select time expected for line connection	00000000 00000001 ⏐ **01101110** ⏐ 01111000 Others	0 sec 0.5 sec ⏐ **55 sec** ⏐ 60 sec Not available	(0.5 steps)

MODE 082	**Factory setting bit : 0 0 1 0 1 1 0 0 (Hex : 2C)**

Bit	Feature	Logic	Meaning	Description
76		**00**	Fixed to “00”	
5	Detect busy tone. (PSTN1)	0	No	
		1	**Yes**	
4		**0**	Fixed to “0”	
3	Detect line disconnection. (inverted polarity) (PSTN1)	0	No	
		1	**Yes**	
210		**100**	Fixed to “100”	

MODE 083	Factory setting bit : 0 1 0 1 0 0 0 0 (Hex : 50)

Bit	Feature	Logic	Meaning	Description
76	Monitoring cycle of hooking	00	12 msec	
		01	**24 msec**	
		10	36 msec	
		11	48 msec	
543	Select upper limit of detecting as hooking (Adjustment of voltage detected as hooking)	000	8 V	The upper limit (Bit Nos. 5 to 3) must be higher than the lower limit (Bit Nos. 2 to 0).
		001	11 V	
		010	**14 V**	
		011	19 V	
		100	25 V	
		101	31 V	
		110	36 V	
		111	42 V	
210	Select lower limit of detecting as hooking (Adjustment of voltage detected as hooking)	**000**	**3 V**	The upper limit (Bit Nos. 5 to 3) must be higher than the lower limit (Bit Nos. 2 to 0).
		001	5 V	
		010	8 V	
		011	11 V	
		100	14 V	
		101	17 V	
		110	19 V	
		111	22 V	

MODE 084 (PSTN1) MODE 114 (PSTN2)	Factory setting bit : 0 0 0 1 0 1 0 0 (Hex : 14)

Bit	Feature	Logic	Meaning	Description
76		**00**	Fixed to “00“	
5432	Select PB sending level.	0000	–1 dBm	
		0101	**–6 dBm**	
		1111	–16 dBm	
10		**00**	Fixed to “00“	

MODE 085 (PSTN1) MODE 115 (PSTN2)	Factory setting bit : 1 0 0 1 0 0 0 0 (Hex : 90)

Bit	Feature	Logic	Meaning	Description
7654	Select TX level.	1000	–9 dBm	Specifies TX levels other than PB.
		1001	**–10 dBm**	
		1010	–11 dBm	
		1011	–12 dBm	
		1100	–13 dBm	
		1101	–14 dBm	
		1110	–15 dBm	
		1111	–16 dBm	
		Others	Not available	
3210		**0000**	Fixed to “0000”	

MODE 086 (PSTN1) MODE 116 (PSTN2)	Factory setting bit : 0 1 0 0 0 0 0 0 (Hex : 40)

Bit	Feature	Logic	Meaning	Description
76	Select RX attenuator.	00	0 dB (–48 dBm)	Signals controlled by this soft switch are 1300Hz detection, PB tone detection, V29 & V27ter, V21 signal detection, and all tonal signal. Numbers within parentheses represent the minimum receiving sensitivity.
		01	**5 dB (–43 dBm)**	
		10	10 dB (–38 dBm)	
		11	15 dB (–33 dBm)	
543210		**000000**	Fixed to “000000”	

MODE 087 (PSTN1) MODE 117 (PSTN2)	Factory setting bit : 1 0 0 1 1 0 0 0 (Hex : 98)

Bit	Feature	Logic	Meaning	Description
76	Select detection time of continuous ringer.	00	No detection	
		01	1.8 sec	
		10	**3.0 sec**	
		11	10 sec	
543	Select frequency for ringer detection.	000	10 - 27.5 Hz	
		001	10 - 75 Hz	
		010	10 - 90 Hz	
		011	**10 - 200 Hz**	
		Others	Not available	
210		**000**	Fixed to “000”	

MODE 088 (PSTN1) MODE 118 (PSTN2)	Factory setting bit : 1 1 0 0 0 0 0 0 (Hex : C0)

Bit	Feature	Logic	Meaning	Description
7		**1**	Fixed to “1”	
6	Select process mode at detection time out of 2nd dial tone.	0	Keeps same operation as before detection even after time out	
		1	**Generates TX error at time out**	
54		**00**	Fixed to “00”	
3	1300 Hz detection.	**0**	**-28 dBm**	
		1	-36 dBm	
210		**000**	Fixed to “000”	

MODE 089 (PSTN1) MODE 119 (PSTN2)	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7	Select TX method.	**0**	**Insert pause after prefix for external lines**	
		1	Insert pause after 1st dial	
6	Select method of detecting dial prefix for external lines.	**0**	**Dial # search method**	
		1	Pause search method	
5432	Select prefix # for external lines. *	**0000**	**0**	Valid only when “Select method of detecting dial prefix for external lines (MODE 089 Bit6)” is set to “Dial # search method.”
		0001	1	
		0010	2	
		0011	3	
		0100	4	
		0101	5	
		0110	6	
		0111	7	
		1000	8	
		1001	9	
		Others	Not available	
10		**00**	Fixed to “00”	

MODE 092 (PSTN1) MODE 122 (PSTN2)	Factory setting bit : 0 1 1 1 0 0 0 0 (Hex : 70)

Bit	Feature	Logic	Meaning	Description
7	Send V.29 echo protection tone.	**0**	**No**	
		1	Yes	
6	Send V.17 echo protection tone.	0	No	
		1	**Yes**	
5	Send V.33 echo protection tone.	0	No	
		1	**Yes**	
43	Select V.17 and V.33 carrier frequency.	00	1800 Hz	
		01	1700 Hz	
		10	**1800 +1700 Hz**	
		11	Not available	
210		**000**	Fixed to “000”	

MODE 093 (PSTN1) MODE 123 (PSTN2)	Factory setting bit : 0 1 0 0 0 0 0 0 (Hex : 40)

Bit	Feature	Logic	Meaning	Description
76	Select timing for starting CED sending.	00	0 sec	Specifies time interval from line connection to starting sending CED. (7-sec is provided for the second dial.)
		01	**2 sec**	
		10	2.5 sec	
		11	7 sec	
54	Select CED frequency.	**00**	**2100 Hz**	Specifies frequency to carry CED or N/A selection.
		01	1080 Hz	
		10	1300 Hz	
		11	Not available	
3	Process CED echo.	**0**	**No**	Specifies whether to process CED echo at the intervals of 500 ms between CED and initial identification.
		1	Yes	
2	Process incoming command echo.	**0**	**No**	Specifies whether to process incoming echo at the intervals of 500 ms between when receiving an initial identification and when sending the incoming command.
		1	Yes	
01	Control channel data rate.	**00**	**1200 bps**	
		01	Non 1200 bps	
		10	2400 bps	
		11	Non 2400 bps	

MODE 094 (PSTN1) MODE 124 (PSTN2)	**Factory setting bit : 0 0 0 0 1 1 0 0 (Hex : 0C)**

Bit	Feature	Logic	Meaning	Description
7654		**0000**	Fixed to “0000”	
3	Lock AGC in V.33 mode.	0	No	
		1	**Yes**	
2	Lock AGC in V.17 mode.	0	No	
		1	**Yes**	
1	Lock AGC in V.29 mode.	**0**	**No**	
		1	Yes	
0	Lock AGC in V.27ter mode.	**0**	**No**	
		1	Yes	

MODE 095 (PSTN1) MODE 125 (PSTN2)	**Factory setting bit : 0 0 1 0 0 0 0 0 (Hex : 20)**

Bit	Feature	Logic	Meaning	Description
76	Adjust digital TX cable equalizer.	**00**	**0 dB**	
		01	4 dB	
		10	8 dB	
		11	12 dB	
54	Adjust digital RX cable equalizer.	00	0 dB	For V.29, actual value will be the sum of 4 dB and the specified value.
		01	4 dB	
		10	**8 dB**	
		11	12 dB	
3210		**0000**	Fixed to “0000”	

MODE 096 (PSTN1) MODE 126 (PSTN2)	Factory setting bit : 0 0 0 1 0 1 0 0 (Hex : 14)

Bit	Feature	Logic	Meaning	Description
76		**00**	Fixed to “00”	
54	Select time for CI signal sending ON.	00	0.5 sec	Use this soft switch for error in V8 sequence.
		01	**1.0 sec**	
		10	1.5 sec	
		11	2.0 sec	
321	Select time for CI signal sending OFF.	000	0.4 sec	Use this soft switch for error in V8 sequence.
		001	0.8 sec	
		010	**1.0 sec**	
		011	1.2 sec	
		100	1.6 sec	
		101	2.0 sec	
		Others	Not available	
0		**0**	Fixed to “0”	

MODE 097 (PSTN1) MODE 127 (PSTN2)	Factory setting bit : 0 0 0 1 0 1 0 0 (Hex : 14)

Bit	Feature	Logic	Meaning	Description
7	Attenuate TCF/NTCF sending level.	**0**	**No**	Specifies whether to attenuate sending level of TCF and NTCF. For V33/V29, level of attenuation is determined by MODE 085 Bit Nos. 7 to 4 and MODE 097 Bit No. 6. Otherwise, level of attenuation is determined by MODE 085 Bit Nos. 7 to 4.
		1	Yes 3 dB drops.	
6	Attenuate V33/V29 sending level.	**0**	**No**	Specifies whether to attenuate sending level of V33/V29. Level of attenuation is determined by MODE 085 Bit Nos. 7 to 4 and MODE 097 Bit No. 6.
		1	Yes 3 dB drops.	
5		**0**	Fixed to “0”	
432	Select V.34 symbol rate.	000	2400 Sym/S	
		001	Not available	
		010	2800 Sym/S	
		011	3000 Sym/S	
		100	3200 Sym/S	
		101	**3429 Sym/S**	
		Others	Not available	
10		**00**	Fixed to “00”	

MODE 098 (PSTN1) MODE 128 (PSTN2)	Factory setting bit : 0 1 0 0 0 1 1 0 (Hex : 46)

Bit	Feature	Logic	Meaning	Description
76	Select starting time of sending CM signal.	00	0 sec	Use this soft switch for error in V8 sequence.
		01	**1 sec**	
		10	2 sec	
		11	3 sec	
54		**00**	Fixed to “00”	
3210	Select EQM threshold value.	0000	–6	
		0001	–5	
		0010	–4	
		0011	–3	
		0100	–2	
		0101	–1	
		0110	**0**	
		0111	1	
		1000	2	
		1001	3	
		1010	4	
		1011	5	
		1100	6	
		Others	Not available	

MODE 099 (PSTN1) MODE 129 (PSTN2)	Factory setting bit : 1 0 0 0 1 0 0 0 (Hex : 88)

Bit	Feature	Logic	Meaning	Description
7654	Select threshold value 1 for symbol speed.	0000	–8	Specifies range of tolerance for V. 34 line characteristic distortion.
		0001	–7	
		0010	–6	
		0011	–5	
		0100	–4	
		0101	–3	
		0110	–2	
		0111	–1	
		1000	**0**	
		1001	1	
		1010	2	
		1011	3	
		1100	4	
		1101	5	
		1110	6	
		1111	7	
3210	Select threshold value 2 for symbol speed.	0000	–8	Specifies minimum tolerance level of S/N ratio in V34.
		0001	–7	
		0010	–6	
		0011	–5	
		0100	–4	
		0101	–3	
		0110	–2	
		0111	–1	
		1000	**0**	
		1001	1	
		1010	2	
		1011	3	
		1100	4	
		1101	5	
		1110	6	
		1111	7	

MODE 112	Factory setting bit : 0 0 1 0 1 0 0 0 (Hex : 28)

Bit	Feature	Logic	Meaning	Description
76		**00**	Fixed to “00”	
5	Detect busy tone. (PSTN2)	0	No	
		1	**Yes**	
4		**0**	Fixed to “0”	
3	Detect line disconnection (inverted polarity). (PSTN2)	0	No	
		1	**Yes**	
210		**000**	Fixed to “000”	

MODE 190	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7	Restrict SF/SSF communication (TX).	**0**	**No**	For risk management according to new recommendation of G3 high resolution transmission
		1	Yes	
6	Restrict SF/SSF communication (RX from other company's system).	**0**	**No**	For risk management according to new recommendation of G3 high resolution transmission
		1	Yes	
543210		**000000**	Fixed to “000000”	

MODE 192	Factory setting bit : 1 1 0 0 0 0 0 0 (Hex : C0)

Bit	Feature	Logic	Meaning	Description
76	Select order of displaying year to date. (Corresponding to each region)	00	Year-Month-Date	Order of displaying date in OPE display
		01	Not available	
		10	Date-month-year	
		11	**Month-date-year**	
543210		**000000**	Fixed to “000000”	

MODE 197	Factory setting bit : 1 1 0 0 0 0 0 0 (Hex : C0)

Bit	Feature	Logic	Meaning	Description
7	Daylight saving function	0	No	
		1	**Yes**	
6	Display ON/OFF switch of Daylight saving	0	No	
		1	**Yes**	
54		**00**	Fixed to “00”	
3210	Daylight saving pattern		Start time	End time
		0000	**AM2 1st-Sun APR.**	**AM2 last-Sun OCT.**
		0001	AM2 last-Sun MAR.	AM2 last-Sun OCT.
		0010	AM2 last-Fri APR.	AM2 last-Thu SEP.
		0011	AM2 1st-Sun MAR.	AM2 last-Sun SEP.
		0100	AM2 1st-Sun SEP.	AM2 last-Sun APR
		0101	AM2 last-Sun OCT.	AM2 last-Sun MAR.
		0110	AM2 1st-Sun OCT.	AM2 last-Sun MAR.
		0111	AM2 1st-Sun OCT.	AM2 last-Sun FEB.
		1000	AM2 1st-Sun NOV.	AM2 last-Sun FEB.
		1001	AM2 APR. 1	AM2 last-Sun OCT.
		1010	AM2 APR. 1	AM2 OCT. 1
		Others	Not available	

MODE 198	Factory setting bit : 0 0 0 1 0 0 0 0 (Hex : 10)

Bit	Feature	Logic	Meaning	Description
7	TX forwarding to administrator	**0**	**No**	
		1	Yes	
6	TX forwarding of scanner function to administrator	**0**	**No**	
		1	Yes	
54	Result report TX forwarding to administrator	00	Not output	
		01	**Output for incomplete TX**	
		10	Always output	
		11	Not available	
3210		**0000**	Fixed to “0000”	

MODE 212 (PSTN1) MODE 232 (PSTN2)	Factory setting bit : 0 1 0 0 0 0 0 0 (Hex : 40)

Bit	Feature	Logic	Meaning	Description
76	Select DP make rate.	**00**	**33 %**	Specify the DP signal make ratio.
		01	40 %	
		Others	Not available	
543210		**000000**	Fixed to "000000"	

MODE 288	Factory setting bit : 1 1 1 1 1 1 1 1 (Hex : FF)

Bit	Feature	Logic	Meaning	Description
7654 3210	Insert dummy data before PIX.	00H	Add 200 ms	• Changes not allowed. • Specify period to transmit dummy data before transmitting PIX. • Add the period specified here to the first flag (EMC) and FILL (G3) of the image signal.
		01H	Add 300 ms (200 ms + 100 ms)	
		07H	Add 900 ms (200 ms +700 ms)	
		03H	**Add 200 ms**	
		Others	Not available	

MODE 310	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7	Increase of sound level *	**0**	**Normal sound level mode**	
		1	Increased sound level mode	
6543 210		**0000000**	Fixed to "0000000"	

MODE 311	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7	Invert screen *	**0**	**Normal**	
		1	Inverted	
6543 210		**0000000**	Fixed to "0000000"	

MODE 312	Factory setting bit : 0 0 0 0 0 0 1 1 (Hex : 03)

Bit	Feature	Logic	Meaning	Description
7654 3210	Key repeat start time *	00000000 00000001 ⏐ **00000011** ⏐ 11111111	Not available 0.1 sec ⏐ **0.3 sec** ⏐ 25.5 sec	

MODE 313	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
7654 3210	Key repeat interval *	00000000 **00000001** 00000010 ⏐ 11111111	Not available **0.1 sec** 0.2 sec ⏐ 25.5 sec	

MODE 314	Factory setting bit : 0 0 0 0 0 0 1 1 (Hex : 03)

Bit	Feature	Logic	Meaning	Description
7654 3210	Display time of reservation completion screen *	00000000 00000001 ⏐ **00000011** ⏐ 11111111	Not available 1 sec ⏐ **3 sec** ⏐ 255 sec	

MODE 320	Factory setting bit : 0 0 1 1 0 0 1 1 (Hex : 33)

Bit	Feature	Logic	Meaning	Description
7654	PC printer Around-the-clock monitoring timer (t1)	0000 0001 | **0011** | 1111	Not timeout 10 min | **30 min** | 150 min	Time between commands. 10-minute steps
3210	PC printer Around-the-clock monitor timer (t2)	0000 0001 | **0011** | 1111	Not timeout 10 min | **30 min** | 150 min	Time for creation between pages. 10-minute steps

NOTE

- *Setting conditions of Mode 432 Bit Nos. 7 to 0 (PC printer over-memory wait time (M)) : Each time must be t2 ≧ t1 ≧ M*
- *For example, when setting t2 and t1 each short, set a short time of PC printer over-memory wait time using Bit Nos. 7 to 0 in Mode 432.*

MODE 400	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7	Set memory recall. (copy) *	**0**	**No**	Holds image data even after ejecting last page to select “enable/disable” to recall it.
		1	Yes	
6	Set priority doc mixed mode. (copy) *	**0**	**No**	Selects priority doc mixed mode when Power source is ON and panel reset key is ON.
		1	Yes	
543210		**000000**	Fixed to “000000”	

MODE 401	Factory setting bit : 0 0 0 1 0 0 0 1 (Hex : 11)

Bit	Feature	Logic	Meaning	Description
7654	Language selected. (Display) *	0000	Japanese	
		0001	**English**	
		0010 | 1111	Arbitrary setting	
3210	Language selected. (for machine) *	0000	Japanese	
		0001	**English**	
		0010 | 1111	Arbitrary setting	

MODE 402	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
7	Select priority doc mode. (copy) *	**0**	**1 sided**	
		1	2 sided	
65	Select priority print mode. (copy) *	**00**	**1 sided**	
		01	2 sided	
		Others	Not available	
43	Select automatic function priority mode (copy) *	**00**	**APS**	APS: Auto Paper Selection. AMS: Auto Magnification Selection.
		01	AMS	
		10	Not available	
		11	Manual	
2	Select priority order of device *	**0**	**Copy**	
		1	Printer	
10	Select priority application. (after auto clear and panel reset) *	00	FAX	Sets the initial status screen (Copy, FAX, Auto or scanner).
		01	**Copy**	
		10	Auto	
		11	Scanner	

MODE 403	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
7	Select print saving magnification. (copy) *	**0**	**Recommended magnification**	Set magnifications for 2-in-1 page, 4-in-1 page, Booklet creation, or 2-in-1 page.
		1	Same magnification	
654 321		**000000**	Fixed to “000000”	
0	Auto-reset by user. (copy) *	0	No	Selects whether to do panel reset or not when ID key will be pressed.
		1	**Yes**	

MODE 404	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select auto-clear time. (copy) *	00000000	Not reset	Select whether to carry out auto-clear if there is no operation for certain time, after copy or operation.
		00000001	**1 min**	
		11110000 11111111 Others	240 min 30 sec Not available	

MODE 405	Factory setting bit : 0 0 0 0 1 1 1 1 (Hex : 0F)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select pre-heating time. (copy) *	00000001	1 min	Select whether to carry out auto-clear if there is no operation for certain time, after copy or operation. 1-minute steps
		00001111	**15 min**	
		11110000 Others	240 min Not available	

MODE 406	Factory setting bit : 0 0 0 0 1 1 1 1 (Hex : 0F)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select auto power source off time.	00000000	No Power source off	• Select whether to carry out “auto power-source off” if there is no operation for certain time, after copy or operation. Also, select its time. • “Auto Power source off” is not carried out if “Select auto Power source off (MODE 416 Bit No. 0)” is set “No.” 1-minute steps
		00000001	1 min	
		00001111	**15 min**	
		11110000 Others	240 min Not available	

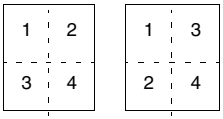
MODE 407	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select panel off time. *	00000000	No panel off	Select whether to carry out "auto panel off" if no operation for certain time after operation. 1-minute steps.
		00000001	**1 min**	
		11110000 Others	240 min Not available	

MODE 408	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
7654	Select feeder drawer. (paper) (Copy) *	**0000**	**1st drawer**	Selects the priority feeder cassette used when APS (auto paper mode) or manual mode is selected.
		0001	2nd drawer	
		0010	3rd drawer	
		0011	4th drawer	
		0100	5th drawer	
		1010	Manual	
		1100	LCC	
		Others	Not available	
3210	Language code (Network character set) *	0000	ISO2022JP	Select a language code to define in e-mail file transmission
		0001	US-ASCII	
		0010	**ISO8859-1**	
		Others	Not available	

MODE 409	Factory setting bit : 0 0 0 0 1 0 0 0 (Hex : 08)

Bit	Feature	Logic	Meaning	Description
76	Select priority order of 4-in-1 page (Copy) *	**00**	**Pattern 1**	Setting of image layout sequence for 4-in-1 copy operation. Pattern 1: Pattern 2: 
		01	Pattern 2	
		Others	Not available	
5	Select priority exposure level. (Copy)	**0**	**AE**	Density mode setting.
		1	Manual	
4321	Select priority doc level. (Copy)	**0000**	**Text/Photo**	"Photo mode" is unavailable if MODE 409 Bit No. 5 is set "AE (Auto)."
		0100	Text	
		1000	Photo	
		1100	Special image quality	
		Others	Not available	
0		**0**	Fixed to "0"	

MODE 410	Factory setting bit : 0 1 0 1 0 1 0 0 (Hex : 54)

Bit	Feature	Logic	Meaning	Description
76	Select AE print density level. (Copy)	00	Darker	Specifies level of auto density.
		01	**Normal**	
		10	Not available	
		11	Lighter	
5		**0**	Fixed to “0”	
4	Light original adjustment, (Copy: ADF only)	0	Normal	Image is read at the specified density. The density is the same as that in BS scanning.
		1	**Black streak prevention**	Image is read at a “lighter” density than the specified density.
3210	Select priority manual density level. (Copy)	0000	EXP 1	Selects manual density level at mode initialization or level when auto density is switched to manual density: EXP1 (Lighter) | EXP5 (Normal) | EXP9 (Darker)
		0001	EXP 2	
		0010	EXP 3	
		0011	EXP 4	
		0100	**EXP 5**	
		0101	EXP 6	
		0110	EXP 7	
		0111	EXP 8	
		1000	EXP 9	
		Others	Not available	

MODE 411	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7	Select sign bit. (Copy) *	**0**	**+**	Selects direction (+/-) of print density adjustment by MODE 411 Bit Nos. 2 to 0.
		1	–	
6543		**0000**	Fixed to “0000”	
210	Adjust print density. (copy) *	**000**	**0**	Selects print density by adjusting development bias.
		001	1	
		010	2	
		011	3	
		Others	Not available	

MODE 412	Factory setting bit : 0 0 0 0 1 0 0 0 (Hex : 08)

Bit	Feature	Logic	Meaning	Description
76	Select auto sort mode. (Copy) *	**00**	**Sort off mode**	Specifies mode of paper ejection when ejector option is attached.
		01	Sort on mode	
		10	Not available	
		11	Grouping mode	
5	Prohibit shifting. (Copy)	**0**	**No**	
		1	Yes	
4	Select auto punch mode. (Copy) *	**0**	**No**	Settable with other functions of MODE 412 Bit Nos. 7-6.
		1	Yes	
3	Select sort on/off auto switch. (Copy) *	0	No	Determines “sort on → sort off” or “sort off → sort on” will be proceeded according to # of documents or operations.
		1	**Yes**	
21	Select priority in staple mode. (Copy)	**00**	**No**	
		01	Corner staple	
		10	2-point staple	
		11	Center staple	
0		**0**	Fixed to “0”	

MODE 413	Factory setting bit : 0 0 0 0 0 1 0 0 (Hex : 04)

Bit	Feature	Logic	Meaning	Description
76	Select FAX (G3-1) output bin. *	**00**	**1st Drawer**	• Specify a tray to where FAX (G3-1) document is delivered to when the finisher has been attached. • "Additional bin output" is valid only when the additional bin is attached.
		01	2nd Drawer	
		10	Additional bin output	
		11	Not available	
54	Select PC print output bin. *	**00**	**1st Drawer**	• Specify a tray to where PC print is printed out when the finisher is attached. • "Additional bin output" is valid only when the additional bin is attached.
		01	2nd Drawer	
		10	Additional bin output	
		11	Not available	
3		**0**	Fixed to "0"	
2	Select copy output bin. *	0	Bin 1	Specify a bin to where copied document is delivered to when the job separator has been attached.
		1	**Bin 2**	
1	Select FAX (G3-1) output bin. *	**0**	**Bin 1**	Specify a bin to where faxed (G3-1) document is delivered to when the job separator has been attached.
		1	Bin 2	
0	Select PC print output bin. *	**0**	**Bin 1**	Specify a bin to where PC print is delivered to when the job separator has been attached.
		1	Bin 2	

MODE 414	Factory setting bit : 1 0 1 0 0 0 0 0 (Hex : A0)

Bit	Feature	Logic	Meaning	Description
7654	Select image compression ratio for reserving into copy memory. (copy)	0101	0.5	Shows image compression ratio per copied document for reserving it into copy memory. Reserved necessary capacity of memory for determined compression ratio before start scanning.
		0110	0.6	
		0111	0.7	
		1000	0.8	
		1001	0.9	
		1010	**1.0**	
		1011	1.1	
		1100	1.2	
		1101	1.3	
		Others	Not available	
3210		**0000**	Fixed to "0000"	

MODE 415	Factory setting bit : 0 1 1 0 1 1 0 0 (Hex : 6C)

Bit	Feature	Logic	Meaning	Description
765	Select sound volume 1. (Buzzer) * (copy)	000 001 010 **011** 100 101 Others	0 (No sound 1 2 **3** 4 5 Not available	6 stage adjustment of key buzzer Setting of sound volume of tone emitted when key is pressed.
432	Select sound volume 2. (Alarm) * (copy)	000 001 010 **011** 100 101 Others	0 (No sound) 1 2 **3** 4 5 Not available	6 stage adjustment for alarm Setting of sound volume of alarm tone.
10		**00**	Fixed to “00”	

MODE 416	Factory setting bit : 0 1 1 0 0 0 0 0 (Hex : 60)

Bit	Feature	Logic	Meaning	Description
765	Select sound volume 3. (Monitor) (copy) *	000 001 010 **011** 100 101 Others	0 (no tone) 1 2 **3** 4 5 Not available	6 stage adjustment of line monitor Line monitor tone volume setting.
4	Orientation of images when finisher is connected. (copy)	**0** 1	**Not facing each other** Facing each other	Sets the orientation of the image when a finisher is connected.
32		**00**	Fixed to “00”	
1	Overseas scanner file format. (copy) *	**0** 1	**TIFF** PDF	Sets the file format used with an overseas scanner. (For maintenance use by the administrator)
0	Disable auto shut off.	**0** 1	**No** Yes	Setting that enables or disables to select “Disabled” setting for Auto Shut Off function.

MODE 417	Factory setting bit : 0 1 1 0 0 0 1 1 (Hex : 63)

Bit	Feature	Logic	Meaning	Description
7	Max copy sets. (Copy)	**0**	**No**	Setting for placing or not placing an input limit on the copy quantity.
		1	Yes	
6543 210	Set copy quantity limit. (copy)	0000000 0000001 |	Not available 1 |	Sets the limit quantity when Max. Copy Sets of MODE 417 Bit 7 is set to "Yes."
		1100011	**99**	
		Others	Not available	

MODE 418	Factory setting bit : 0 1 0 1 1 0 0 0 (Hex : 58)

Bit	Feature	Logic	Meaning	Description
7		**0**	Fixed to "0"	
65	Document erase width	00	0 mm	Specify width to erase (white masking) for BS scan on the following conditions. 1. Width from the frame of the detected document when APS (Auto Paper Selection) or AMS (Auto Magnification Selection). 2. Width from the frame of the scanning area calculated with print paper size and magnification/reduction rate when manual mode. • Dose not function when reading ADF. • Common to FAX (e-mail)/copy functions.
		01	1 mm	
		10	**2 mm**	
		11	3 mm	
4	Stop when the lifetime of imaging unit ends.	0	Stop	Specify operation (stop or not stop) when the lifetime of imaging unit ends.
		1	**Do not stop**	
3	Display a message when the status of the imaging unit is "near life".	0	Do not display	Specify operation (display or not display) when the status of the imaging unit is "near life".
		1	**Display**	
210		**000**	Fixed to "000"	

MODE 419	Factory setting bit : 0 1 0 0 0 0 0 0 (Hex : 40)

Bit	Feature	Logic	Meaning	Description
76	Select a copy output bin. *	00	1st Drawer	• Specify a tray to where printed document is delivered to when the finisher is attached. • "Additional bin output" is valid only when the additional bin is attached.
		01	**2nd Drawer**	
		10	Additional bin output	
		11	Not available	
54	Select a FAX (G3-2) output bin. *	**00**	**1st Drawer**	• Specify a tray to where FAX (G3-2) document is delivered to when the finisher has been attached. • "Additional bin output" is valid only when the additional bin is attached.
		01	2nd Drawer	
		10	Additional bin output	
		11	Not available	
32	Select a FAX (network) output bin. *	**00**	**1st Drawer**	
		01	2nd Drawer	
		10	Additional bin output	
		11	Not available	
1	Select FAX (G3-2) output bin. *	**0**	**Bin 1**	Specify a bin to where FAX (G3-2) document is delivered to when the job separator has been attached.
		1	Bin 2	
0	Select FAX (network) output bin. *	**0**	**Bin 1**	Specify a bin to where FAX (network) document is delivered to when the job separator has been attached.
		1	Bin 2	

MODE 420	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7654 3210	Auto-clear confirmation time	**00000000**	**Function off**	
		00000001	10 sec	
		|	|	
		00011110	300 sec	
		Others	Not available	

MODE 421	Factory setting bit : 0 0 1 0 0 0 1 0 (Hex : 42)

Bit	Feature	Logic	Meaning	Description
765	Destination code. (copy)	000 001	MSJ MC	Changes set values such as paper size and magnification.
		010	**ME**	
		011 100 Others	Other Line adjustment Not available	
43210		**00010**	Fixed to “00010”	

MODE 422	Factory setting bit : 0 0 0 0 1 0 0 0 (Hex : 08)

Bit	Feature	Logic	Meaning	Description
76	Total counter. (Copy)	**00**	**Mode 1 (std)**	Specifies a counting method of total counter.
		01 10 Others	Mode 2 Mode 3 Not available	
543	Size counter. (Copy)	000	Do not count	Specifies sizes of papers to be counted by size counter.
		001	**A3, 11x17**	
		010	A3, B4 11x17, Legal	
		011	A3, B4, FLS 11x17, Legal, 11x14	
		100 Others	A6 Not available	
21	Copy Kit counter. (Copy) Select whether to set the count or not for the Copy Kit Counter and select whether to inhibit the initiation of a new copy cycle or not when the current value reaches the set value.	**00**	**Mode 1**	Does not count.
		01	Mode 2 (Count 1)	Counted and permits copying even when the set value is reached.
		10	Mode 3 (Count 2)	Counted and inhibits copying when the set value is reached.
		11	Not available	
0		**0**	Fixed to “0”	

MODE 423	Factory setting bit : 0 1 0 0 1 1 0 1 (Hex : 4D)

Bit	Feature	Logic	Meaning	Description
7	Plug-in counter mode. (Copy)	**0**	**Paper count**	Sets plug-in counter threshold value, and reads the counter.
		1	Copy count	
6	Key counter. (Copy)	0	Available	Use of key counter or vender.
		1	**Not available**	
54	Vender mode.	**00**	**Key counter**	Sets which of the key counter or vender to set when these are used.
		01	Coin vender	
		10	Card keeper	
		11	Setting inhibit	
3	Document size detection option	0	Yes	Specifies whether document size sensors can be used in the inch-option.
		1	**No**	
2		**1**	Fixed to “1”	
1	LCC paper size	**0**	**A4 C**	
		1	Letter C	
0	Automatically adjust the transfer current of image	0	No	
		1	**Yes**	

MODE 424	Factory setting bit : 0 0 0 1 1 0 0 0 (Hex : 18)

Bit	Feature	Logic	Meaning	Description
7	Metric and inch mixed modes. (Copy)	**0**	**Mixed**	Specifies whether to round off document sizes for the system specification in auto paper mode.
		1	Limited	
65	Select FLS size. (Copy)	**00**	**210 x 330**	Setting of sizes handled as FLS.
		01	203 × 330	
		10	216 × 330	
		11	220 × 330	
4	Restrict print mode. (copy)	0	Yes	Sets whether or not to inhibit setting of “two-sided copy” in the priority copy mode.
		1	**No**	
3	Print small size document. (Copy)	0	Copy disabled	Specifies whether to generate a warning when a document smaller than that detectable by document size sensors is loaded.
		1	**Copy enabled**	
2	Restrict function. (Copy)	**0**	**No**	Sets whether or not to disable the settings of some of the copy mode functions (application, original copy).
		1	Yes	
1		**0**	Fixed to “0”	
0	Restrict memory recall function	**0**	**No**	
		1	Yes	

MODE 425	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7654		**0000**	Fixed to “0000”	
3210	Adjust image quality mode. (copy)	**0000**		Specifies the density of image at printing. When any of Bit 3 to 0 is 1, [*] key is displayed.
		1000		
		Others	Not available	

MODE 427	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
76543	Default setting country classification. (copy)		Arbitrary setting	Setting differs depending upon the country.
210		**000**	Fixed to “000”	

MODE 429	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
76		**00**	Fixed to “00”	
5	Automatically reset values on the basic screen at completion of copying using the document feeder.	**0**	**No**	
		1	Yes	
432		**000**	Fixed to “000”	
10	Setting of time that fan spin at full speed.	**00**	**20 sec**	
		01	55 sec	
		10	10 min	
		11	Not available	

MODE 431	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7654 3210	Time to hold memory recall images	**00000000**	**OFF**	
		00000001	1 min	
		00011110	30 min	
		Others	Not available	

MODE 432	Factory setting bit : 0 0 0 0 0 1 0 1 (Hex : 05)

Bit	Feature	Logic	Meaning	Description
7654 3210	Wait time (M) at full memory of PC print	00000000		Set range: 0, 1 to 30 minutes (1-minute steps) PC print job is deleted when the wait time at full memory expires. Setting conditions of Mode 320 Bit Nos. 7 to 4 (Around-the-clock monitoring timer (t1)) and Bit Nos. 3 to 0 (Around-the-clock monitoring timer (t2)) Each time must be t2 ≧ t1 ≧ M.
		00000001	1 min	
		00000101	**5 min**	
		00011110	30 min	
		Others	Not available	

MODE 440	Factory setting bit : 0 0 0 0 0 1 0 0 (Hex : 04)

Bit	Feature	Logic	Meaning	Description
76	PDL set	**00**	**Auto**	
		01	PCL	
		10	PS	
		11	Other	
54321	Paper size set	00000	A3	
		00001	B4	
		00010	**A4**	
		00011	B5	
		00100	A5	
		00101	B6	
		00110	A6	
		00111	Statement (Invoice)	
		01000	Executive	
		01001	Letter	
		01010	Ledger (11x17)	
		01011	FLS1 (Folio, F4)	
		01100	FLS2	
		01101	FLS3	
		01110	FLS4	
		01111	Legal (8.5x14)	
		10000	11x14	
		10001	envelope B5	
		10010	envelope Com10	
		10011	envelope C5	
		10100	envelope DL	
		10101	envelope Monarch	
		10110	J-POST (Hagaki)	
		10111	Custom paper	
		11000	K16	
		11001	K8	
		11010	ISO B4	
		11011	ISO B5	
		Others	Not available	
0		**0**	Fixed to “0”	

MODE 441	Factory setting bit : 1 0 0 0 0 0 0 0 (Hex : 80)

Bit	Feature	Logic	Meaning	Description
7654	Select a paper feeder cassette to use when using PC printer function *	0000 0001 0010 0011	1st drawer 2nd drawer 3rd drawer 4th drawer	
		1000	**Auto**	
		1010 1100 Oth-ers	Bypass LCC Not available	
32	Select a paper orientation to set when using PC printer function	**00**	**Portrait**	
		01 10 11	Landscape other Not available	
10	Select a print method to use when using PC printer function	**00**	**1-sided print**	
		01 10 11	2-sided print for short-edge binding 2-sided print for long-edge binding Not available	

MODE 442	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select # (last 8 bits) of copies to print by PC printer	00000000	Not available	
		00000001	**1**	
		11100111	999	
		11111111		

MODE 443	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7654 32		**000000**	Fixed to “000000”	
10	Select # (first 2 bits) of copies to print by PC printer	**00**	**0**	
		11	999	

MODE 444	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
765 432	Select a font type to be set when using PC printer function	**000000**	**Courier**	
		000001	CG Times	
		000010	CG Times Bold	
		000011	CG Times Italic	
		000100	CG Times Bold Italic	
		000101	CG Omega	
		000110	CG Omega Bold	
		000111	CG Omega Italic	
		001000	CG Omega Bold Italic	
		001001	Coronet	
		001010	Clarendon Condensed	
		001011	Univers Medium	
		001100	Univers Bold	
		001101	Univers Medium Italic	
		001110	Univers Bold Italic	
		001111	Univers Medium Condensed	
		010000	Univers Bold Condensed	
		010001	Univers Medium Condensed Italic	
		010010	Univers Bold Condensed Italic	
		010011	Antique Olive	
		010100	Antique Olive Bold	
		010101	Antique Olive Italic	
		010110	Garamond Antiqua	
		010111	Garamond Halbfett	
		011000	Garamond Kursiv	
		011001	Garamond Kursiv Halbfett	
		011010	Marigold	
		011011	Albertus Medium	
		011100	Albertus Extra Bold	
		011101	Arial	
		011110	Arial Bold	
		011111	Arial Italic	
		100000	Arial Bold Italic	
		100001	Times New	
		100010	Times New Bold	
		100011	Times New Italic	
		100100	Times New Bold Italic	
		100101	Symbol	
		100110	Wingdings	
		100111	Courier Bold	
		101000	Courier Italic	
		101001	Courier Bold Italic	
		101010	Letter Gothic	
		101011	Letter Gothic Bold	
		101100	Letter Gothic Italic	
		101101	Line Printer	
		Others	Not available	
10		**00**	Fixed to “00”	

MODE 445	Factory setting bit : 0 0 1 1 1 1 0 0 (Hex : 3C)

Bit	Feature	Logic	Meaning	Description
765 432	Select a font type to be set when using PC printer function	000000	Desktop	
		000001	ISO 4: United Kingdom	
		000010	ISO 6: ASCII	
		000011	ISO 11: Swedish	
		000100	ISO 15: Italian	
		000101	ISO 17: Spanish	
		000110	ISO 21: German	
		000111	ISO 60: Norwegian V1	
		001000	ISO 69: French	
		001001	ISO 8859/1 Latin1	
		001010	ISO 8859/2 Latin2	
		001011	ISO 8859/9 Latin5	
		001100	Legal	
		001101	Math-8	
		001110	Microsoft Publish	
		001111	**“PC-8 (Code Page 437)”**	
		010000	PC-8 Danish/Norwegian	
		010001	PC-850 Multilingual	
		010010	PC-852 Latin2	
		010011	PC-Turkish	
		010100	PS Math	
		010101	PS Text	
		010110	Pi Font	
		010111	Roman-8	
		011000	Ventura International	
		011001	Ventura Math	
		011010	Ventura US	
		011011	Window 3.0 Latin1	
		011100	Window 3.1 Latin1	
		011101	Window 3.1 Latin2	
		011110	Window 3.1 Latin5	
		011111	MC Text	
		100000	Wingdings	
		100001	Symbol	
		100010	PC-866	
		100011	ISO8859-10	
		100100	PC1004	
		100101	Window Baltic	
		100110	PC-775	
		Others	Not available	
10		**00**	Fixed to “00”	

MODE 446	Factory setting bit : 0 1 0 0 0 0 0 0 (Hex : 40)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select # of lines to set when using PC printer function	00000101 |	5 |	
		01000000	**64**	
		| 10000000 Others	| 128 Not available	

MODE 447	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7	Select the unit of font size to use when using PC printer function	**0**	**Pitch**	
		1	Point	
6543 210		**0000000**	Fixed to “0000000”	

MODE 448	Factory setting bit : 0 0 1 1 0 0 0 0 (Hex : 30)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select font size to use when using PC printer function (Scalable font size) (Last 8 bits)	00000000 |		
		00010000 |	4.00 (16) |	
		00110000	**12.00 (48)**	
		| 11111111		

MODE 449	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7654		**0000**	Fixed to “0000”	
3210	Select a font size to use when using PC printer function (Scalable font size) (First 8 bits)	**0000**	**0**	
		| 1111	| 999.75 (3999)	

MODE 450	Factory setting bit : 1 1 1 0 1 0 0 0 (Hex : E8)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select font size to use when using PC printer function (Bitmap font size) (Last 8 bits)	00000000 | 00101100 | **11101000** | 10101100 | 11111111	 0.44 (44) **10.00 (1000)** 99.00 (9900)	

MODE 451	Factory setting bit : 0 0 0 0 0 0 1 1 (Hex : 03)

Bit	Feature	Logic	Meaning	Description
76		**00**	Fixed to “00”	
5432 10	Select font size to use when using PC printer function (Bitmap font size) (First 6 bits)	000000 | **000011** | 100110 Others	 **10.00 (1000)** 99.00 (9900) Not available	

MODE 452	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7	Change between A4 and letter size for PC printing	**0**	**No**	
		1	Yes	
6543 210		**0000000**	Fixed to “0000000”	

MODE 453	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
7	Set OFF or ON of postscript error printing to apply when using PC printer function	**0**	**OFF**	
		1	ON	
6543 210		**0000000**	Fixed to “0000000”	

MODE 454	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
76	Setting of parallel terminal	**00**	**ECP**	
		01	Compatible	
		10	Nibble	
		11	Not available	
543210		**000000**	Fixed to “000000”	

MODE 455	Factory setting bit : 0 0 0 0 1 1 1 1 (Hex : 0F)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select timeout timer (last 8 bits) for PC printing	00000000 | 00001001 00001010 | **00001111** | 00101100 | 11111111	Not available 10 sec | **15 sec** | 300 sec	

MODE 456	Factory setting bit : 0 0 0 0 0 0 0 1 (Hex : 01)

Bit	Feature	Logic	Meaning	Description
7654 321		**0000000**	Fixed to “0000000”	
0	Select timeout timer (first 1 bit) for PC printing	0	0	Most significant bit for mode 455
		1	**300 sec**	

MODE 464	Factory setting bit : 1 0 0 0 1 1 0 0 (Hex : 8C)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select RAW port number (last 8 bits).	00000000 00000001 ⏐ **10001100** ⏐ 11111111	Not available 1 ⏐ **9100** ⏐ 65535	

MODE 465	Factory setting bit : 0 0 1 0 0 0 1 1 (Hex : 23)

Bit	Feature	Logic	Meaning	Description
7654 3210	Select RAW port number (first 8 bits).	00000000 00000001 ⏐ **00100011** ⏐ 11111111	Not available 1 ⏐ **9100** ⏐ 65535	Most significant bit for mode 464

MODE 467	Factory setting bit : 0 0 0 0 0 0 0 0 (Hex : 00)

Bit	Feature	Logic	Meaning	Description
765	Select frame type for PC printing	**000**	**AUTO-detect**	
		001 010 011 100 Others	Ethernet-II 802.2 802.3 SNAP Not available	
43210		**00000**	Fixed to “00000”	

MODE 468	Factory setting bit : 0 0 0 0 1 1 1 1 (Hex : 0F)

Bit	Feature	Logic	Meaning	Description
7	Setting passive mode	**0**	**OFF**	
		1	ON	
6543 210	Automatic arrival check EP-NET server setting	0000000 0000001 ⏐ **0001111** ⏐ 1111000 Others	0 1 min ⏐ **15 min** ⏐ 120 min Not available	

MODE 512	Factory setting bit : 1 0 0 0 0 0 0 0 (Hex : 80)

Bit	Feature	Logic	Meaning	Description
7	Detect dial tone (DT)	0	No	
		1	**Yes**	
6543 210		**0000000**	Fixed to “0000000”	

MODE 768	Factory setting bit : 0 0 0 0 0 1 1 1 (Hex : 07)

Bit	Feature	Logic	Meaning	Description
7654 3210	Interval between DCS and TCF in V.17 and V.27 tar	00000000 00000001 ⏐ **00000111** ⏐ 11111111	Not available 45 msec ⏐ **75 msec** ⏐ 1315 msec	5 msec step

MODE 769	Factory setting bit : 0 0 0 0 0 1 1 1 (Hex : 07)

Bit	Feature	Logic	Meaning	Description
7654 3210	Interval between DCS and TCF in V.29	00000000 00000001 ⏐ **00000111** ⏐ 11111111	Not available 45 msec ⏐ **75 msec** ⏐ 1315 msec	5 msec step

MODE 770	Factory setting bit : 1 1 0 0 1 0 0 0 (Hex : C8)

Bit	Feature	Logic	Meaning	Description
7654 3210	Interval between CFR and PIX	00000000 00000001 ⏐ **11001000** ⏐ 11111111	Not available 5 msec ⏐ **1000 msec** ⏐ 1275 msec	5 msec step

MODE 771	Factory setting bit : 0 0 1 0 0 0 1 1 (Hex : 23)

Bit	Feature	Logic	Meaning	Description
7654 3210	T1 timer for automatically sending packets	00000000 00000001 ⏐ **00100011** ⏐ 11111111	Not available 1 sec ⏐ **35 sec** ⏐ 255 sec	

MODE 772	Factory setting bit : 0 0 1 0 0 0 1 1 (Hex : 23)

Bit	Feature	Logic	Meaning	Description
7654 3210	T1 timer for automatically receiving packets	00000000 00000001 ⏐ **00100011** ⏐ 11111111	Not available 1 sec ⏐ **35 sec** ⏐ 255 sec	

MODE 773	Factory setting bit : 0 0 1 0 0 0 1 1 (Hex : 23)

Bit	Feature	Logic	Meaning	Description
7654 3210	T1 timer for manually sending packets	00000000 00000001 ⏐ **00100011** ⏐ 11111111	Not available 1 sec ⏐ **35 sec** ⏐ 255 sec	

MODE 774	Factory setting bit : 0 0 1 0 0 0 1 1 (Hex : 23)

Bit	Feature	Logic	Meaning	Description
7654 3210	T1 timer for manually receiving packets	00000000 00000001 | **00100011** | 11111111	Not available 1 sec | **35 sec** | 255 sec	

MODE 775	Factory setting bit : 0 0 1 0 0 0 1 1 (Hex : 23)

Bit	Feature	Logic	Meaning	Description
7654 3210	T1 timer for automatically sending polling packets	00000000 00000001 | **00100011** | 11111111	Not available 1 sec | **35 sec** | 255 sec	

MODE 776	Factory setting bit : 0 0 1 0 0 0 1 1 (Hex : 23)

Bit	Feature	Logic	Meaning	Description
7654 3210	T1 timer for manually sending polling packets	00000000 00000001 | **00100011** | 11111111	Not available 1 sec | **35 sec** | 255 sec	

MODE 777	Factory setting bit : 0 0 0 0 1 0 0 0 (Hex : 08)

Bit	Feature	Logic	Meaning	Description
7654 3210	Interval between PIX and post command	00000000 00000001 | **00001000** | 11111111	Not available 45 msec | **80 msec** | 1315 msec	5 msec step

TROUBLESHOOTING

1. TROUBLESHOOTING

1-1. Diagnosis by Alarm Code

- This section shows diagnoses of system troubles by alarm codes and their remedies.
- The default setting for diagnostic codes is “not to be displayed.” If you experience errors frequently, setup the soft switch (MODE 020) to display diagnostic codes. Then follow communication error codes tables for troubleshooting.
- Communication error codes tables shows communication error codes. Each of them has 6-digits on the panel and a report.
  Codes 00 to B4 indicate the upper 2 digits. Adding internal 4 digits to them to display 6 digits on the panel and a report.
  Communication reports (TX and RX) print out diagnostic codes for up to 50 activities. Any codes older than those activities cannot be printed.

NOTE

- *Before you proceed with a remedy according to the tables, make sure that the power source cable and the connectors are connected properly.*

✻ Setting up diagnostic code display

MODE 020	
Bit 3	Meaning
0	Do not display codes.
1	Displays codes.

See Section “Maintenance mode: Soft Switch Set” for setting up soft switches.

1-2. Communication Error Codes

(1) Errors in operations

Cause - Re: Remote, Li: Line, Lo: Local

Code	Description	Cause	Re	Li	Lo	Remedy
00	• Received DIS but no document in local terminal • Polling Reception is requested • Software failure at time of connection	Error in operation			❍	Reload a document and retry TX.
		Error in operation at remote end	❍			Ask to reload a document and retry TX.
01	• Document pulled out while transmitting. • Document size was too small	Error in operation			❍	Reload a correct document and retry TX.
02	• Illegal dialing operation (Example; dialing ✳ or # with DP setting)	Error in setting up			❍	Check the soft switch (MODE 006 Bit5 & MODE 011 Bit 5).
		Error in registration			❍	Check the registered one-touch dialing number.
03	• Mismatched TX password	Sender's password and receiver's are not matched.	❍		❍	Check the group password of both sides.
04	• Mismatched RX password	Sender's password and receiver's are not matched.	❍		❍	Check the group password of both sides.
05	• Mismatched password while polling	Incorrect password was entered for setting up polling.			❍	Check the status of the remote machine and the local password.
06	• Remote system has no relay function	Failure in remote machine	❍			Check the status of the remote machine.
07	• Remote system has not confidential communication function	Failure in remote machine	❍			Check the status of the remote machine.

Cause - Re: Remote, Li: Line, Lo: Local

Code	Description	Cause	Re	Li	Lo	Remedy
09	• Incompatibility (Example; no document in local system while polling RX) • TX failure due to mismatch of communication type and/or transmission speed	Error in operation on remote side	❍			Ask the remote end to reload the document again.
		Transmission speeds are set 4800/2400 bps. Remote machine has only V.29.	❍		❍	Check the soft switch (MODE 049 Bit 4 -0).
						Check the maximum transmission speed for each one-touch dialing (only for registration in maintenance features).
10	• Error in F code TX	Failure in remote machine	❍			Check the status of the remote machine.
11	• Error in F code RX	Failure in remote machine	❍			Check the status of the remote machine.

(2) Terminal alarm

Cause - Re: Remote, Li: Line, Lo: Local

Code	Description	Cause	Re	Li	Lo	Remedy
45	• Memory overflow or nearly full	Memory overflows or nearly full			❍	Reset the terminal alarm and ask the remote end for resending.
46	• Document jamming	Feeding is not working continuously.			❍	Reload a document.
		Jamming in a long document or in the middle of a page (Feeding is not completed even if feeding exceeds 1 m.)			❍	Reload a document.
47	• "No print paper" or "Side cover opened" were detected	Out of print paper			❍	Load print paper.
		Side cover was opened while RX			❍	Close the side cover.

(3) Communication errors (TX)

Cause - Re: Remote, Li: Line, Lo: Local

Code	Description	Cause	Re	Li	Lo	Remedy
33	• Protocol failure in V.34 sequence	Failure in remote machine	❍			Try another remote machine.
		Line failure		❍		Try another line.
70	• Busy tone while waiting for initial identification signal • Timeout or modem failure while detecting 2nd dialing tone • Cannot dial due to dialing/ringing conflict • T1 timeout while waiting for initial identification signal when FAX signal is not detected	Failure in remote machine	❍			Try another remote machine.
		Line failure		❍		Try another line.
71	• T1 timeout while waiting for initial identification signal after FAX signal is detected • Detected reverse polarity while waiting for initial identification signal	Failure in remote machine	❍			Try another remote machine.
		Line failure		❍		Try BACK to BACK communication.
72	• Received DCN in phase B while waiting for commands other than DCN	Interruption or failure in remote machine	❍			Check the remote system and retry TX.
74	• Received DIS or DTC 3 times while waiting for response to TCF • No response even after sending TSI/DCS and TCF 3 times • Received FTT twice even TCF has lowest speed	Failure in remote machine	❍			Try another remote machine.
		Line failure		❍		Try another line.
		Failure in FAX board			❍	Replace FAX board
		Failure in MFB3 board			❍	Replace MFB3 board
76	• Reverse polarity while waiting for signal other than initial identification	Failure in remote machine	❍			Check the remote system and retry TX.
		Line failure		❍		If same error will be experienced several times, set the soft switch (MODE 082 Bit 3) 0.

Code	Description	Cause	Re	Li	Lo	Remedy
77	• No response to post message (T4 timeout) • 5 minute timeout in RNR, RR sequence (T5 timeout)	Failure in remote machine	❍			Try another remote machine.
		No RTC detection in remote machine (line failure)		❍		Try another line.
78	• Received DCN while waiting for response to post message	Interruption or failure in remote machine	❍			Check the status of the remote machine and retry TX.
79	• Received PIP for post message (For response to EOP or PPS-EOP, communication is normal even error code is displayed)	Failure in remote machine	❍			Check the status of the remote machine.
7A	• Received RTN for post message (where RTN reception is regarded as communication failure) • Retry out of resending error • PPR frame error	Failure in remote machine	❍			Check the status of the remote machine.
		Line failure		❍		Check the line.
		Failure in TX level			❍	Check TX level.
7C	• Received CRP 3 times for TCF • Received CRP 3 times for post message • Received CRP 3 times for DTC of polling reception	Failure in remote machine	❍			Try another remote machine.
		Line failure		❍		Try another line.
7D	• RX command error (without cutting off carrier)	Failure in remote machine	❍			Check the status of the remote machine.
7F	• No remote machine response after changing mode (T1 timeout)	Failure in remote machine	❍			Check the status of the remote machine.
8F	• Received PIN for post message	Failure in remote machine	❍			Check the status of the remote machine.

(4) Communication errors (RX)

Cause - Re: Remote, Li: Line, Lo: Local

Code	Description	Cause	Re	Li	Lo	Remedy
33	• Protocol failure in V.34 sequence	Failure in remote machine	❍			Try another remote machine.
		Line failure		❍		Try another line.
91	• T1 timeout while waiting for initial identification signal	Failure in remote machine	❍			Try another remote machine.
		Line failure		❍		Try another line.
92	• Received DCN while waiting for commands other than DCN in phase B	Interruption or failure in remote machine	❍			Check the status of the remote machine and retry TX.
95	• Detected low speed flag followed by 10 sec. timeout while waiting for detection of image signal carrier (HMCD ON)	Failure in remote machine	❍			Try another remote system.
		Line failure		❍		Try another line.
96	• Carrier disconnected for 15 seconds while receiving G3 image signal	Error in remote machine	❍			Ask for resending.
		Failure in remote machine	❍			Try another remote machine.
		Line failure		❍		Try another line.
97	• T2 timeout while waiting for post message • T2 timeout while waiting for DCN after receiving last page • No response from remote system after changing mode (T2 timeout)	Error in remote machine	❍			Try another remote machine.
		Accidental RTC detection (line failure)		❍		Try another line.
98	• Received DCN while waiting for command other than DCN in phase D	Interruption or failure in remote machine	❍			Ask for resending.

Code	Description	Cause	Re	Li	Lo	Remedy
99	• Received PRI-Q as post message (Communication is regarded as normal even with error message)	Failure in remote machine	❍			Check the status of the remote machine.
9A	• Cannot decode line correctly for 35 seconds while receiving ECM image signal	Failure in remote machine	❍			Try another remote machine.
		Line failure		❍		Try another line.
		Failure in FAX board			❍	Replace FAX board
		Failure in MFB3 board			❍	Replace MFB3 board
9C	• Received CRP 3 times while waiting for initial identification signal	Failure in remote machine	❍			Try another remote machine.
		Failure in FAX board			❍	Replace FAX board
		Failure in MFB3 board			❍	Replace MFB3 board
		Line failure		❍		Try another line.
9D	• RX command error (without cutting off carrier)	Failure in remote machine	❍			Check the status of the remote machine.
9F	• Interrupted page reception by EOR-Q or EOR-PRI-Q signal from sender in ECM procedure (next page may be received completely because ECM procedure runs continuously)	Failure in remote machine	❍			Try another remote machine.
		Line failure		❍		Reduce the initial transmission speed and try resending.

(5) Malfunction

Cause - Re: Remote, Li: Line, Lo: Local

Code	Description	Cause	Re	Li	Lo	Remedy
B0	• Power source off	Power source switch was turned off			❍	None.
		Power source failure			❍	None.
		Defective power source supply unit			❍	Replace the power source supply unit.
B2	• System failure (Examples; image data conversion failure and error in sequence timing)	Warm restart switch was pressed			❍	None.
		Failure in FAX board			❍	Replace FAX board
		Failure in MFB3 board			❍	Replace MFB3 board
		Line failure		❍		Check line noise and reception level.
B4	• Modem failure	Document was not loaded for polling reception in V.34 mode	❍			Check the document loaded in the remote side.
		Line failure		❍		Check line noise and reception level.
		Failure in FAX board			❍	Replace FAX board
		Failure in MFB3 board			❍	Replace MFB3 board
B5	• Modem failure (modem failure in V.8 sequence at RX)	Line failure		❍		Check line noise and reception level.
		Failure in FAX board			❍	Replace FAX board
		Failure in MFB3 board			❍	Replace MFB3 board
B6	• Modem failure (modem failure in V.8 sequence at RX)	Line failure		❍		Check line noise and reception level.
		Failure in FAX board			❍	Replace FAX board
		Failure in MFB3 board			❍	Replace MFB3 board
B7	• System failure (Examples; image data conversion failure, error in sequence timing)	Warm restart switch was pressed			❍	None.
		Failure in FAX board			❍	Replace FAX board
		Failure in MFB3 board			❍	Replace MFB3 board
		Line failure		❍		Check line noise and reception level.

1-3. Diagnosis by Symptoms

- Possible causes of various problems and their remedies are shown below. Carry out troubleshooting according to this table.

Note

- *Print out the service call report and activity reports (TX/RX) to understand the system settings and status before replacing boards or the system entirely, or correct a failure.*

Symptom	Item No.	Cause	Remedy	
No TX marker stamps on document	1	Is TX marker ON? Tech. Rep. Mode–Fax Set (Do you have TX marker option?)	YES	Go to item 2.
			NO	Turn ON TX marker. (Install TX marker option.)
	2	Does TX marker have ink in it?	YES	Go to item 3.
			NO	Replace TX marker stamp.
	3	Any improvement after replacing TX marker?	YES	Replace TX marker.
			NO	Go to item 4.
	4	Is the voltage of +24 V supplied to CN35-2 of stamp connector?	YES	Go to item 6.
			NO	Go to item 5.
	5	Is the voltage of +24 V supplied to CN11-1 of ADF PWB-CONT?	YES	Go to item 6.
			NO	Replace the cable between PWB-CONT and CN35.
	6	Any improvement after replacing PWB-CONT?	YES	Replace PWB-CONT.
			NO	Go to item 7.
	7	Any improvement after replacing the cable between MFB3 and PWB-CONT?	YES	Replace the cable between MFB3 and PWB-CONT.
			NO	Go to item 8.
	8	Any improvement after replacing MFB3 board?	YES	Replace MFB3 board.
			NO	Replace the PWB-A

Symptom	Item No.	Cause	Remedy	
Received image is stretched with ADF	1	Printed image is excessively stretched in the copy mode? ***Note*** • *The following causes may be possible (improper document handling): special paper such as very thick paper, non-carbon print paper, carbon print paper.*	YES	Go to item 2.
			NO	Failure in remote terminal (improper document handling, error in the transmission unit of the remote terminal).
	2	Is an image from the service center also stretched?	YES	Go to item 3.
			NO	Go to item 4.
	3	Any improvement after replacing MFB3 board?	YES	Replace MFB3 board.
			NO	Replace the PWB-A
	4	Is the contact of feed roller gears OK?	YES	Go to item 5.
			NO	Replace the feed roller gear unit.
	5	Any paper dust on main rollers or feed rollers?	YES	Clean up rollers.
			NO	Replace the leaf spring.
Received image is shrunk too much.	1	Printed image is excessively shrunk in the copy mode?	YES	Go to item 2.
			NO	Failure in the remote terminal (improper document handling, error in the transmission unit of the remote terminal).
	2	Is an image from the service center also shrunk?	YES	Go to item 4.
			NO	Go to item 3.
	3	Any improvement after checking the reading unit?	YES	END
			NO	Go to item 4.
	4	Any improvement after replacing MFB3 board?	YES	Replace MFB3 board.
			NO	Replace the PWB-A

Symptom	Item No.	Cause	Remedy	
Received image is too light or faded.	1	Are copied image or a test image also too light or faded? ***Note*** • *The following causes may be possible (improper setting of document contrast): a document with small blue characters or file lines*	YES	Go to item 2.
			NO	Failure in the remote side (improper setting of document contrast, improper document handling, poor line condition, and error in the transmission unit of the remote terminal).
	2	Any improvement after replacing the imaging unit?	YES	Replace the imaging unit.
			NO	For details see Copier service manual “Image quality problem.”
Received image is squeezed	1	Are characters of copied image or a test image also squeezed? Improper setting of document contrast: Received image of small characters or blue copies with “contrast” switch set “Darker”. Error in remote machine: The following causes are possible: A. Failure in board of scanner unit B. Improper adjustment of optical focus C. Dew on optical lenses (Proceed to anti-dew.)	YES	Failure in the remote side (improper setting of document contrast, and error in the transmission unit of the remote terminal).
			NO	Go to item 2.
	2	Any improvement after replacing the imaging unit?	YES	Replace the imaging unit.
			NO	For details see Copier service manual “Image quality problem.”

Symptom	Item No.	Cause	Remedy	
Clock malfunctions	1	No improper operation?	YES	Refer Operator's manual for operation.
			NO	Go to item 2.
	2	Any improvement after replacing ROM board?	YES	Replace ROM board.
			NO	Go to item 3.
	3	Any improvement after replacing MFB3 board?	YES	Replace MFB3 board.
			NO	Replace the PWB-A.
Neither "Sending" nor "Receiving" are displayed.	1	Is an alarm message on screen?	YES	Correct the failure and reset the alarm.
			NO	Go to item 2.
	2	Is the external telephone on-hooked?	YES	Go to item 3.
			NO	Set the external telephone off-hook then press the communication switch.
	3	Are you printing something such as report?	YES	Proceed to communication after completing print jobs.
			NO	Go to item 4.
	4	Any improvement after replacing Operating panel?	YES	Replace Operating panel.
			NO	Go to item 5.
	5	Any improvement after replacing the cable between Operating panel and MFB3?	YES	Replace the cable between Operating panel and MFB3.
			NO	Go to item 6.
	6	Any improvement after replacing FAX board?	YES	Replace FAX board.
			NO	Go to item 7.
	7	Any improvement after replacing MFB3 board?	YES	Replace MFB3 board.
			NO	Replace the PWB-A

Symptom	Item No.	Cause	Remedy	
Cannot go to “Sending” nor “Receiving” modes	1	Is the password checked?	YES	Go to item 2
			NO	Go to item 3.
	2	Is the password correct?	YES	Disable password check and Go to item 3.
			NO	Match the password.
	3	Try to communicate with the service center. Same problem? Possible causes: A. FAX button is not pressed. B. Both systems are in the transmission (or reception) mode.	YES	Go to item 4.
			NO	END Possible causes are line trouble, trouble or improper operation in the remote terminal, or the remote FAX is not connected.
	4	Are the transmission level and equalizer of the service center set properly?	YES	Go to item 5.
			NO	Set them properly.
	5	Did you check the mode (TX or RX) of the remote side?	YES	Go to item 6.
			NO	Confirm it by phone.
	6	Any improvement after replacing MFB3 - FAX cable?	YES	Replace MFB3 - FAX cable.
			NO	Go to item 7.
	7	Any improvement after replacing FAX board?	YES	Replace FAX board.
			NO	Go to item 8.
	8	Any improvement after replacing MFB3 board?	YES	Replace MFB3 board.
			NO	Go to item 9.
	9	Any improvement after replacing Operating panel?	YES	Replace Operating panel.
			NO	Go to item 10.
	10	Any improvement after replacing the cable between Operating panel and MFB3?	YES	Replace the cable between Operating panel and MFB3.
			NO	Replace the PWB-A

Symptom	Item No.	Cause	Remedy	
Automatic reception disabled	1	Did you select the automatic reception mode?	YES	Go to item 2
			NO	Select the automatic reception mode.
	2	Is the external telephone on hook?	YES	Go to item 3.
			NO	Set the external telephone on-hook.
	3	Any improvement after replacing MFB3 - FAX cable?	YES	Replace MFB3 - FAX cable.
			NO	Go to item 4.
	4	Any improvement after replacing FAX board?	YES	Replace FAX board.
			NO	Go to item 5.
	5	Any improvement after replacing MFB3 board?	YES	Replace MFB3 board.
			NO	Go to item 6.
	6	Any improvement after replacing Operating panel?	YES	Replace Operating panel.
			NO	Go to item 7.
	7	Any improvement after replacing the cable between Operating panel and MFB3?	YES	Replace the cable between Operating panel and MFB3.
			NO	Replace the PWB-A

Symptom	Item No.	Cause	Remedy	
Cannot send dial number from 10 key pad	1	Is the external telephone off-hook?	YES	Go to item 2
			NO	Set the handset on-hook.
	2	Is the line type specified correctly?	YES	Go to item 3.
			NO	Specify the line type (MF, 10, 20 PPS) correctly.
	3	Dial by 10 key?	YES	Go to item 5.
			NO	Go to item 4.
	4	Did you register the phone number?	YES	Go to item 5.
			NO	Register the phone number.
	5	Any improvement after replacing MFB3 - FAX cable?	YES	Replace the MFB3 - FAX cable.
			NO	Go to item 6.
	6	Any improvement after replacing FAX board?	YES	Replace FAX board.
			NO	Go to item 7.
	7	Any improvement after replacing MFB3 board?	YES	Replace MFB3 board.
			NO	Go to item 8.
	8	Any improvement after replacing Operating panel?	YES	Replace Operating panel.
			NO	Go to item 9.
	9	Any improvement after replacing the cable between Operating panel and MFB3?	YES	Replace the cable between Operating panel and MFB3.
			NO	Replace the PWB-A

Symptom	Item No.	Cause	Remedy	
Cannot monitor communication	1	Is the sound volume switch OFF?	YES	Select a sound volume switch other than OFF.
			NO	Go to item 2
	2	Is S/W DIP SW set line monitoring?	YES	Go to item 3.
			NO	Set S/W DIP SW.
	3	Any improvement after replacing the speaker?	YES	Replace the speaker.
			NO	Go to item 4.
	4	Any improvement after replacing FAX board?	YES	Replace FAX board.
			NO	Go to item 5.
	5	Any improvement after replacing MFB3 board?	YES	Replace MFB3 board.
			NO	Go to item 6.
	6	Any improvement after replacing Operating panel?	YES	Replace Operating panel.
			NO	Go to item 7.
	7	Any improvement after replacing the cable between Operating panel and MFB3?	YES	Replace the cable between Operating panel and MFB3.
			NO	Replace the PWB-A

Symptom	Item No.	Cause	Remedy	
Image memory (memory stored for TX image) is not backed up.	1	Proceed to the following procedure. Is the image memory backed up? A. TX: Disconnect the line cable and proceed a quick memory transmission. Turn OFF the power switch while waiting for the answer. Turn ON the power and check if data is stored in the image memory. B. RX: Turn OFF the power switch while proceeding memory reception without printing paper. Turn ON the power again and check if data is stored in the image memory.	YES	Normal
			NO	Go to item 2
	2	Is the connector of MFB3 board connected?	YES	Go to item 3.
			NO	Connect the connector.
	3	Is the battery voltage appropriate? (1.2 V or more)	YES	Go to item 6.
			NO	Go to item 4.
	4	Is the battery full charged? (Approx. 24hr)	YES	Go to item 5.
			NO	Charge the battery.
	5	Any improvement after replacing the battery?	YES	Replace the battery.
			NO	Go to item 6.
	6	Any improvement after replacing MFB3 board?	YES	Replace MFB3 board.
			NO	Replace the PWB-A

2. WARM RESTART

2-1. Overview

- Use the warm restart function when you run the maintenance mode or you cannot use the switches on the control panel due to some error (in the transmission, the reception, or the copy modes).
  If you push the warm restart button, the status of the machine will be initialized. However, the document and the data stored in the internal memory are maintained. After initializing the machine, start processing the stored document (except a copied document and PC print document).

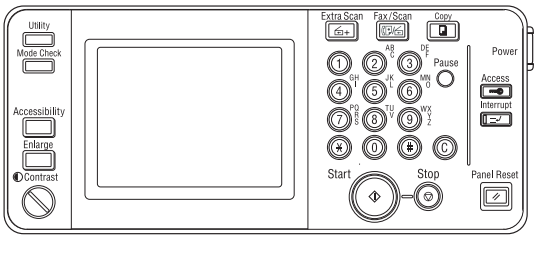
2-2. How to Operate Warm Restart

- Press the switch inside the small hole that is located on the side of the control panel.

2-3. Warm Restart Steps

- Activate warm restart by pushing the switch described in 2-2.
  At this moment, all displays on the panel will disappeared.
  After about 5 seconds later, warm restart is completed and the initial screen of the panel will be displayed. After this initialization, start processing the stored document.

Control Pane



4384S501CA

Use a pin to push the button inside small hole that is located on the side.



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Di2510/Di3010/Di3510
Di2510f/Di3010f/Di3510f
SERVICE MANUAL

Service Manual List of errata 2

4030-7995-11 03081000

Option Service Manual List of errata 2

Page	Section		Error	Correct
T-6	Printer (IR)	I/O Check List (Panel Display)		
		S6	Size Reset Sensor	Size Reset S
		PC31	15° Detecting Sensor	Orig. Cover Detecting S
T-8	Printer	I/O Check List (Panel Display)		
		PC1	Bypass/Duplex	Synchronizing Rollers Unit S	Timing Roller
		PC2		2nd Drawer	2nd Take-up
		PC116-PF		3rd Drawer	3rd Take-up
		PC126-PF		4th Drawer	4th Take-up
		—		Manual Bypass	Bypass Tray
		PC18		Paper Empty Sensor	Paper Empty
		PC19		FD Size Detecting 1	FD Size 1
		PC20		FD Size Detecting 2	FD Size 2
		PC21		FD Size Detecting 3	FD Size 3
		PC22		FD Size Detecting 4	FD Size 4
		PC29		Bypass Pick-up	Bypass Tray Pick-up
		PC24		DUP Feed (1)	Duplex Paper Passage 1
		PC25		DUP Feed (2)	Duplex Paper Passage 2
		PC26		Turnover	Dup.
		—		DUP Unit	Duplex Set
		PC23		Duplex Cover	Duplex Cover
		VR1		Manual Feed Paper Width	Bypass Paper Width Detect

Page	Section		Error	Correct
T-9	Printer	I/O Check List (Panel Display)		
		PC7	1st Drawer	Drawer Set	Drawer Set
		PC8		Paper Near Empty Sensor	Paper Near Empty
		PC9		Paper Empty Sensor	Paper Empty
		PC6		Top Detector	Surface
		PC11		CD Size Detecting 1	CD Size 1
		PC10		CD Size Detecting 2	CD Size 2
		PWB-I1		FD Size Detecting 1	FD Size 1
				FD Size Detecting 2	FD Size 2
				FD Size Detecting 3	FD Size 3
				FD Size Detecting 4	FD Size 4
		I/O Check List (Panel Display)			
		PC13	2nd Drawer	Drawer Set	Drawer Set
		PC14		Paper Near Empty Sensor	Paper Near Empty
		PC15		Paper Empty Sensor	Paper Empty
		PC12		Top Detector	Surface
		PC17		CD Size Detecting 1	CD Size 1
		PC16		CD Size Detecting 2	CD Size 2
		PWB-I2		FD Size Detecting 1	FD Size 1
				FD Size Detecting 2	FD Size 2
				FD Size Detecting 3	FD Size 3
				FD Size Detecting 4	FD Size 4
		PC3		2nd Drawer Cover	2nd Take-up

Page	Section			Error	Correct
T-9	Printer	I/O Check List (Panel Display)			
		S2	Toner/Side Cover	Side Cover	Side Cover
		PC5		Front Cover	Front Cover
		S4		Sub Hopper Empty	Sub Hopper
T-10		I/O Check List (Panel Display)			
		M2	Drive Motor Detect	Main Motor Lock	Main Motor
		M1		I/U Motor Lock	I/U Motor
		M9		Polygon Motor Lock	Polygon Motor
		M4		Power Unit Fan Lock	Cooling Fan (Power Supply)
		M5		Cooling Fan Motor Lock	Cooling Fan Motor
		M6		IU Cooling Fan Lock	IU Cooling Fan
		I/O Check List (Panel Display)			
		TH1	Engine	Fusing Thermistor 1	Fusing Thermistor 1
		TH2		Fusing Thermistor 2	Fusing Thermistor 2
		UN2		ATDC Sensor	ATDC Sensor
		TH4		Drum Thermistor	Drum Thermistor
		TH3		Temp./Hum. Sensor Temp.	Temperature
				Temp./Hum. Sensor Humidity	Humidity