



**Color Printer**

**d-Color MF2400  
PF-P09**

**SERVICE MANUAL**

Code: Y113750-1

**PUBLICATION ISSUED BY:**

**Olivetti S.p.A.**

Gruppo Telecom Italia

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# SAFETY AND IMPORTANT WARNING ITEMS

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

## IMPORTANT NOTICE

Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, Olivetti (hereafter called the Olivetti ) strongly recommends that all servicing be performed only by Olivetti -trained service technicians.

Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, Olivetti does not warrant, either explicitly or implicitly, that the information contained in this service manual is complete and accurate.

The user of this service manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this service manual is intended.




Therefore, this service manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly.

Keep this service manual also for future service.













## DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

In this Service Manual, each of three expressions “ ⚠ DANGER”, “ ⚠ WARNING”, and “ ⚠ CAUTION” is defined as follows together with a symbol mark to be used in a limited meaning.

When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

-  **DANGER:** Action having a high possibility of suffering death or serious injury
-  **WARNING:** Action having a possibility of suffering death or serious injury
-  **CAUTION:** Action having a possibility of suffering a slight wound, medium trouble, and property damage

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

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

## SAFETY WARNINGS

### [1] MODIFICATIONS NOT AUTHORIZED BY OLIVETTI BUSINESS TECHNOLOGIES, INC.

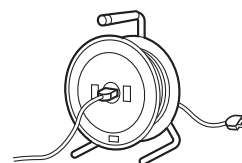
Olivetti brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.

Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. The points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

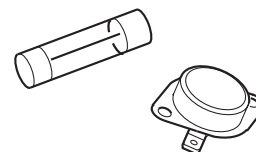
### Prohibited Actions

#### DANGER

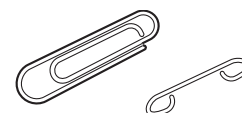
- Using any cables or power cord not specified by Olivetti.



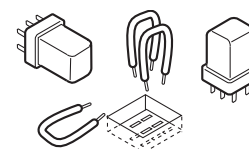
- Using any fuse or thermostat not specified by Olivetti. Safety will not be assured, leading to a risk of fire and injury.



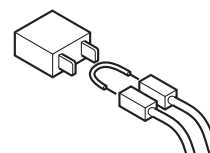
- Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.



- Disabling relay functions (such as wedging paper between relay contacts).



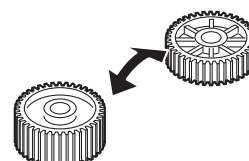
- Disabling safety functions (interlocks, safety circuits, etc.). Safety will not be assured, leading to a risk of fire and injury.



- Making any modification to the product unless instructed by Olivetti.



- Using parts not specified by Olivetti.



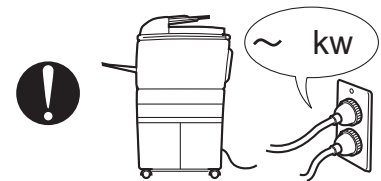
## [2] POWER PLUG SELECTION

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

### Power Cord Set or Power Plug

#### WARNING

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



- Attach power plug which meets the following criteria:
  - having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - meets regulatory requirements for the area.
 Use of inadequate cord set leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.



- Conductors in the power cable must be connected to terminals of the plug according to the following order:
  - Black or Brown:L (line)
  - White or Light Blue:N (neutral)
  - Green/Yellow:PE (earth)
 Wrong connection may cancel safeguards within the product, and results in fire or electric shock.



### [3] CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

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

#### 1. Power Supply

### Connection to Power Supply

#### WARNING

- Check that mains voltage is as specified.  
Connection to wrong voltage supply may result in fire or electric shock.



- Connect power plug directly into wall outlet having same configuration as the plug.

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

If proper wall outlet is not available, advice the customer to contact qualified electrician for the installation.



- Plug the power cord into the dedicated wall outlet with a capacity greater than the maximum power consumption.  
If excessive current flows in the wall outlet, fire may result.



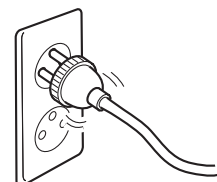
- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.

If excessive current flows in the wall outlet, fire may result.

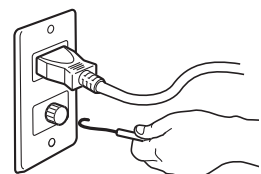


- Make sure the power cord is plugged in the wall outlet securely.

Contact problems may lead to increased resistance, overheating, and the risk of fire.



- Check whether the product is grounded properly.  
If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.  
Connect power plug to grounded wall outlet.



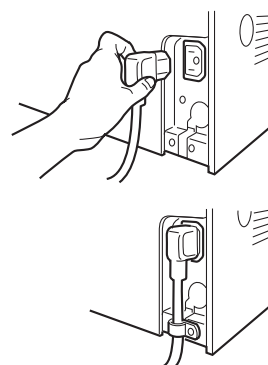
## Power Plug and Cord

### WARNING

- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.

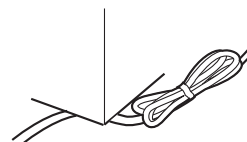
When securing measure is provided, secure the cord with the fixture properly.

If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.



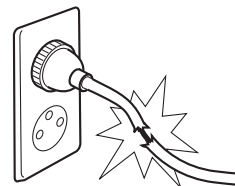
- Check whether the power cord is not stepped on or pinched by a table and so on.

Overheating may occur there, leading to a risk of fire.



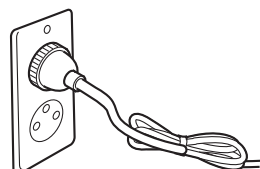
- Check whether the power cord is damaged. Check whether the sheath is damaged.

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



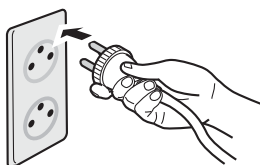
- Do not bundle or tie the power cord.

Overheating may occur there, leading to a risk of fire.



- Check whether dust is collected around the power plug and wall outlet.

Using the power plug and wall outlet without removing dust may result in fire.



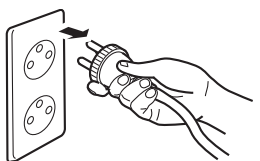
- Do not insert the power plug into the wall outlet with a wet hand.

The risk of electric shock exists.



- When unplugging the power cord, grasp the plug, not the cable.

The cable may be broken, leading to a risk of fire and electric shock.

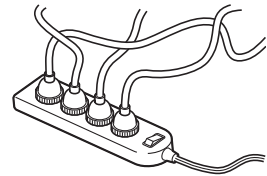


## Wiring

### WARNING

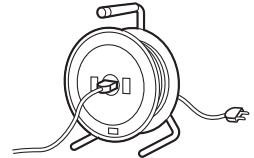
- Never use multi-plug adapters to plug multiple power cords in the same outlet.

If used, the risk of fire exists.



- When an extension cord is required, use a specified one. Current that can flow in the extension cord is limited, so using a too long extension cord may result in fire.

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



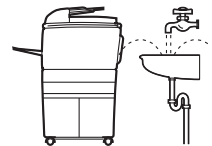
## 2. Installation Requirements

### Prohibited Installation Places

#### WARNING

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

A risk of fire exists.



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

A risk of fire and electric shock exists.

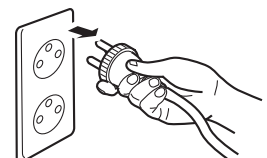


### When not Using the Product for a long time

#### WARNING

- When the product is not used over an extended period of time (holidays, etc.), switch it off and unplug the power cord.

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



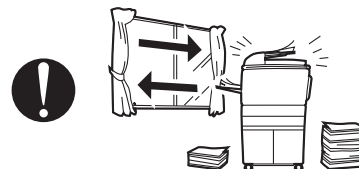
## Ventilation

### CAUTION

- The product generates ozone gas during operation, but it will not be harmful to the human body.

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

- When the product is used in a poorly ventilated room
- When taking a lot of copies
- When using multiple products at the same time



## Stability

### CAUTION

- Be sure to lock the caster stoppers.

In the case of an earthquake and so on, the product may slide, leading to a injury.

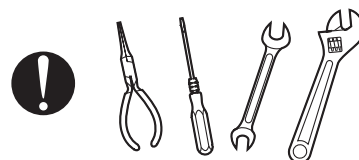


## Inspection before Servicing

### CAUTION

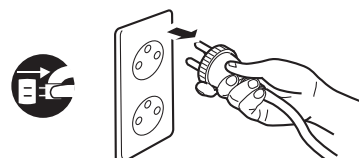
- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure in safety clothes, using only the prescribed tools. Do not make any adjustment not described in the documentation.

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

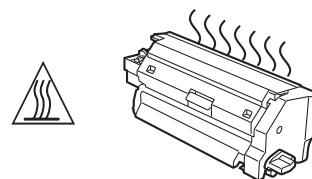


- Before conducting an inspection, be sure to disconnect the power plugs from the product and options.

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



- The area around the fixing unit is hot. You may get burnt.



## Inspection before Servicing

### CAUTION

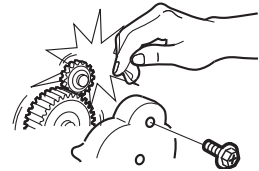
- Do not leave the machine unattended during transportation, installation, and inspection of the machine. If it is to be unavoidably left unattended, face protrusions toward the wall or take other necessary risk reducing action.  
The user may stumble over a protrusion of the machine or be caught by a cable, falling to the floor or being injured.



## Work Performed with the Product Powered On

### WARNING

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



- Take every care when servicing with the external cover detached.  
High-voltage exists around the drum unit. A risk of electric shock exists.



- If it is absolutely necessary to service the machine with the door open or external covers removed, always be attentive to the motion of the internal parts.  
A normally protected part may cause unexpected hazards.



## Safety Checkpoints

### WARNING

- Check the exterior and frame for edges, burrs, and other damage.  
The user or CE may be injured.
- Whenever mounting an option on the machine, be attentive to the motion of the fellow worker of the joint work.  
The fellow worker may be injured with his or her finger or hand pinched between the machine and the option.






## Safety Checkpoints


### WARNING

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




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




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




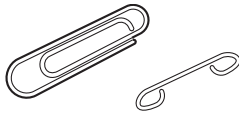
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- When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs of the frame and parts. They may injure your hands or fingers.




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


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





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- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit. Current can leak, leading to a risk of product trouble or fire.




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- Check high-voltage cables and sheaths for any damage. Current can leak, leading to a risk of electric shock or fire.

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- Check electrode units such as a charging corona unit for deterioration and sign of leakage. Current can leak, leading to a risk of trouble or fire.

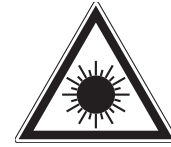


## Safety Checkpoints

### WARNING

- Before disassembling or adjusting the write unit (P/H unit) incorporating a laser, make sure that the power cord has been disconnected.

The laser light can enter your eye, leading to a risk of loss of eyesight.



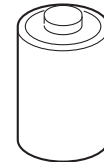
- Do not remove the cover of the write unit. Do not supply power with the write unit shifted from the specified mounting position.

The laser light can enter your eye, leading to a risk of loss of eyesight.



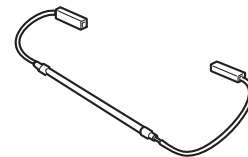
- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.

Improper replacement can cause explosion.



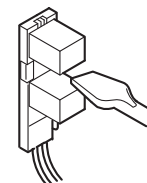
- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.

A risk of fire exists.



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

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



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

Current can leak, leading to a risk of electric shock or fire.



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

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



## Handling of Consumables

### WARNING

- Toner and developer are not harmful substances, but care must be taken not to breathe excessive amounts or let the substances come into contact with eyes, etc. It may be stimulative.

If the substances get in the eye, rinse with plenty of water immediately. When symptoms are noticeable, consult a physician.



- Never throw the used cartridge and toner into fire.  
You may be burned due to dust explosion.

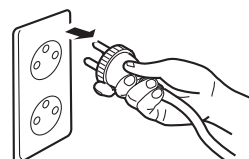


## Handling of Service Materials

### CAUTION

- Unplug the power cord from the wall outlet.

Drum cleaner (isopropyl alcohol) and roller cleaner (acetone-based) are highly flammable and must be handled with care. A risk of fire exists.



- Do not replace the cover or turn the product ON before any solvent remnants on the cleaned parts have fully evaporated.

A risk of fire exists.

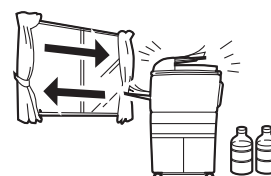


- Use only a small amount of cleaner at a time and take care not to spill any liquid. If this happens, immediately wipe it off.

A risk of fire exists.



- When using any solvent, ventilate the room well.  
Breathing large quantities of organic solvents can lead to discomfort.



## [4] LASER SAFETY

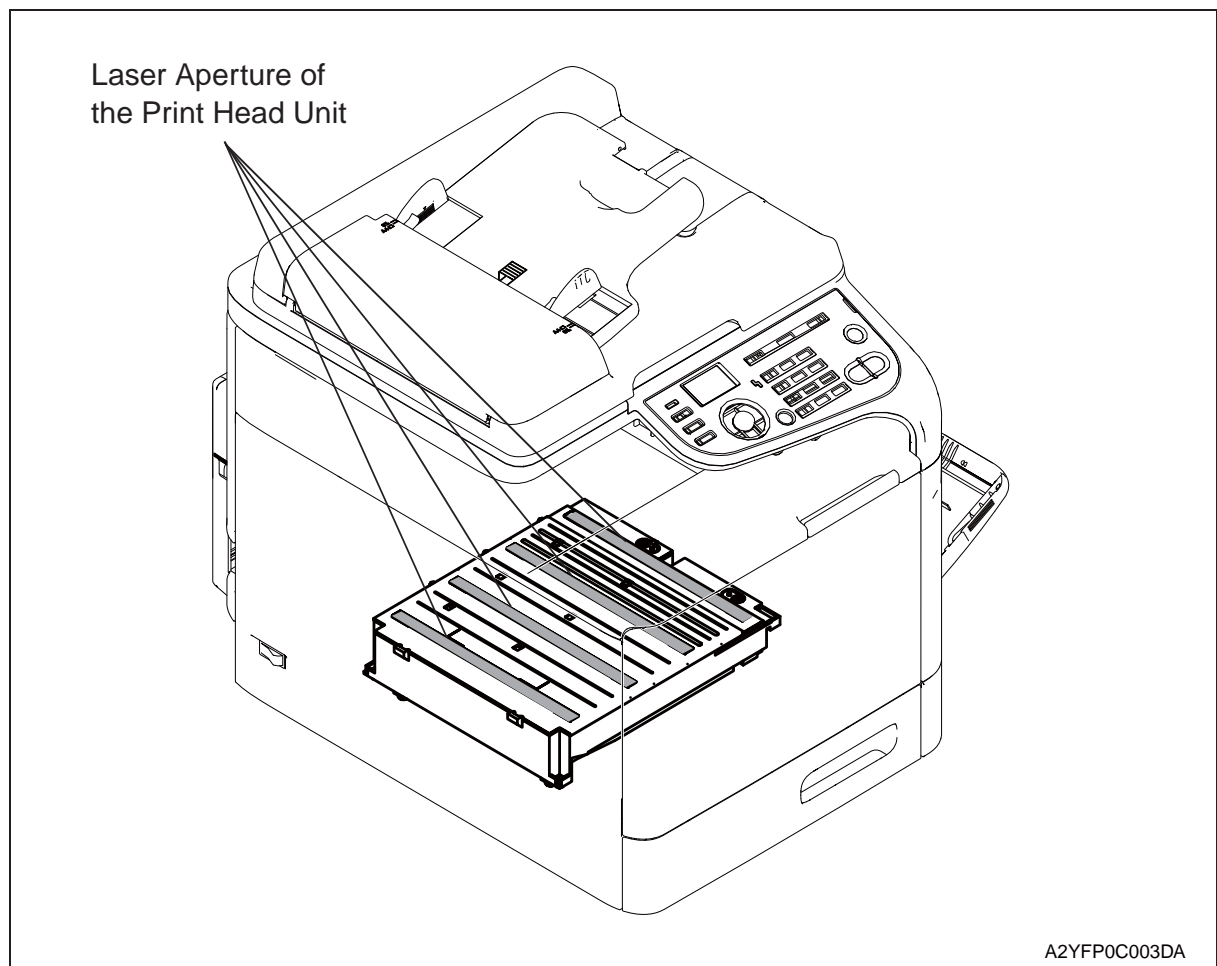
- This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

### 4.1 Internal Laser Radiation

semiconductor laser	
Maximum power of the laser diode	15 mW
Maximum average radiation power (*)	11.2 $\mu$ W
Wavelength	770 - 800 nm

\*at 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 SERVICEABLE ITEM**. Therefore, the print head unit should not be opened under any circumstances.



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

- This machine is certified as a Class 1 Laser product under Radiation Performance Standard according to the Food, Drug and Cosmetic Act of 1990. Compliance is mandatory for Laser products marketed in the United States and is reported to the Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration of the U.S. Department of Health and Human Services (DHHS). This means that the device does not produce hazardous laser radiation.
- The label shown on page S-16 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	15 mW
Wavelength	770 - 800 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	15 mW
Wavelength	770 - 800 nm

**Denmark**

**ADVARSEL**

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

halvlederlaser	
Laserdiodens højeste styrke	15 mW
bølgelængden	770 - 800 nm

## Finland, Sweden

**LUOKAN 1 LASERLAITE**  
**KLASS 1 LASER APPARAT**
**VAROITUS!**

- Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle laser-säteilylle.

puolijohdelaser	
Laserdiodin suurin teho	15 mW
aallonpituus	770 - 800 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.

halvledarlasert	
Den maximala effekten för laserdioden	15 mW
våglängden	770 - 800 nm

**VARO!**

- Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle laser-säteilylle. Älä katso säteeseen.

**VARNING!**

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

## Norway

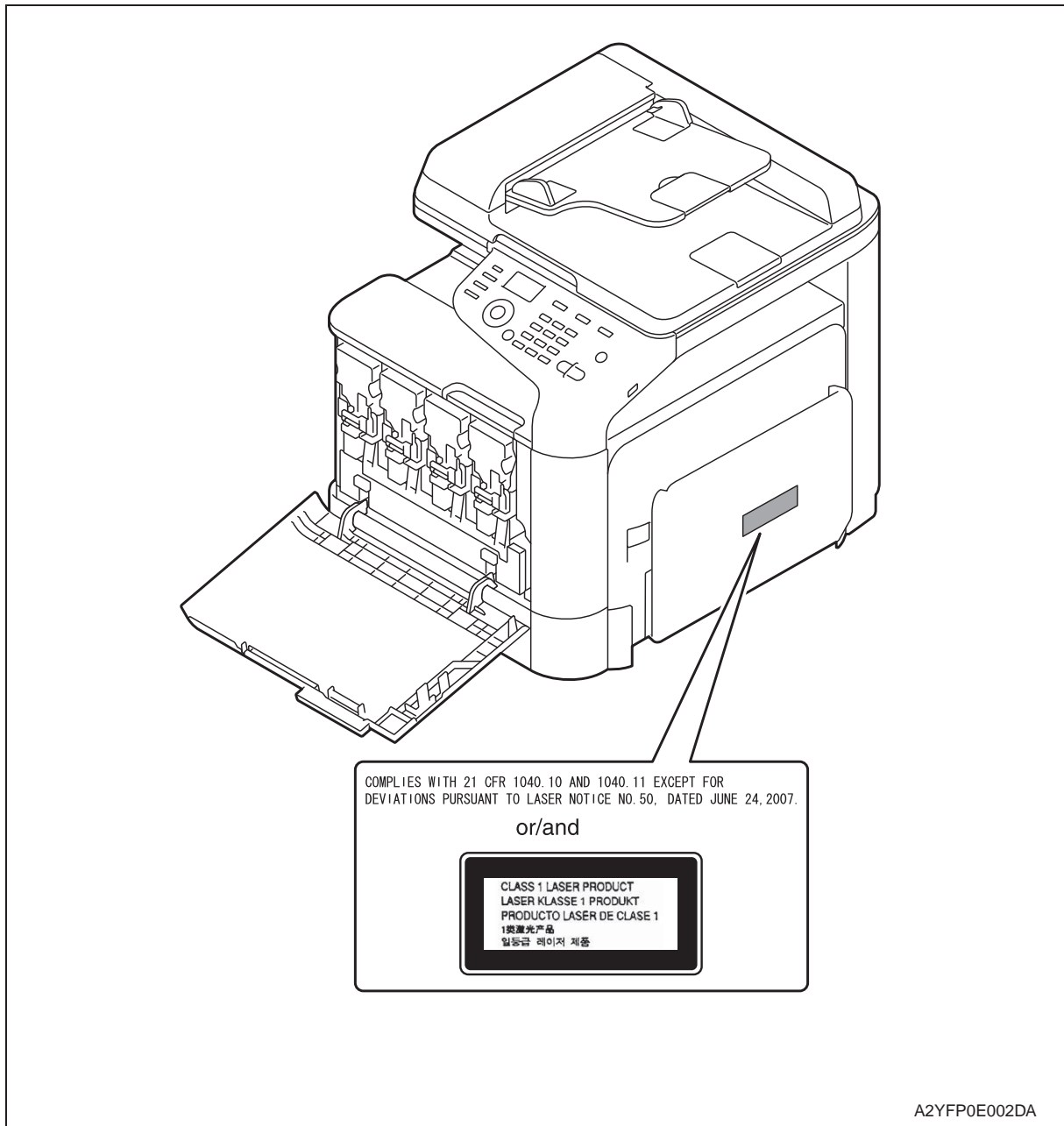
**ADVERSEL**

- Dersom apparatet brukes på annen måte enn spesifisert i denne bruksanvisning, kan brukeren utsettes for usynlig laserstrålning, som overskrider grensen for laser klass 1.

halvleder laser	
Maksimal effekt till laserdiode	15 mW
bølgelengde	770 - 800 nm

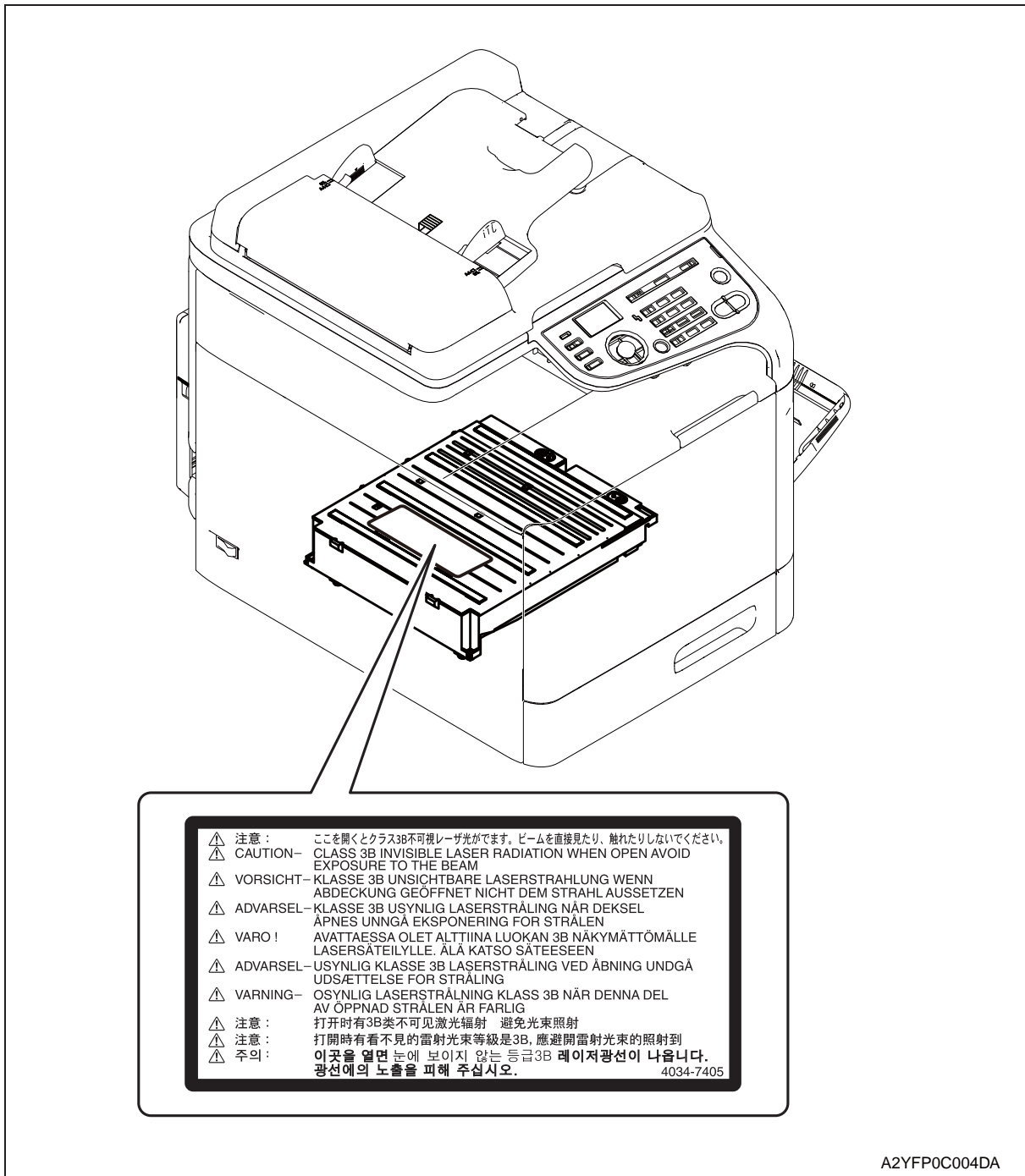
## 4.2 Laser Safety Label

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



### 4.3 Laser Caution Label

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



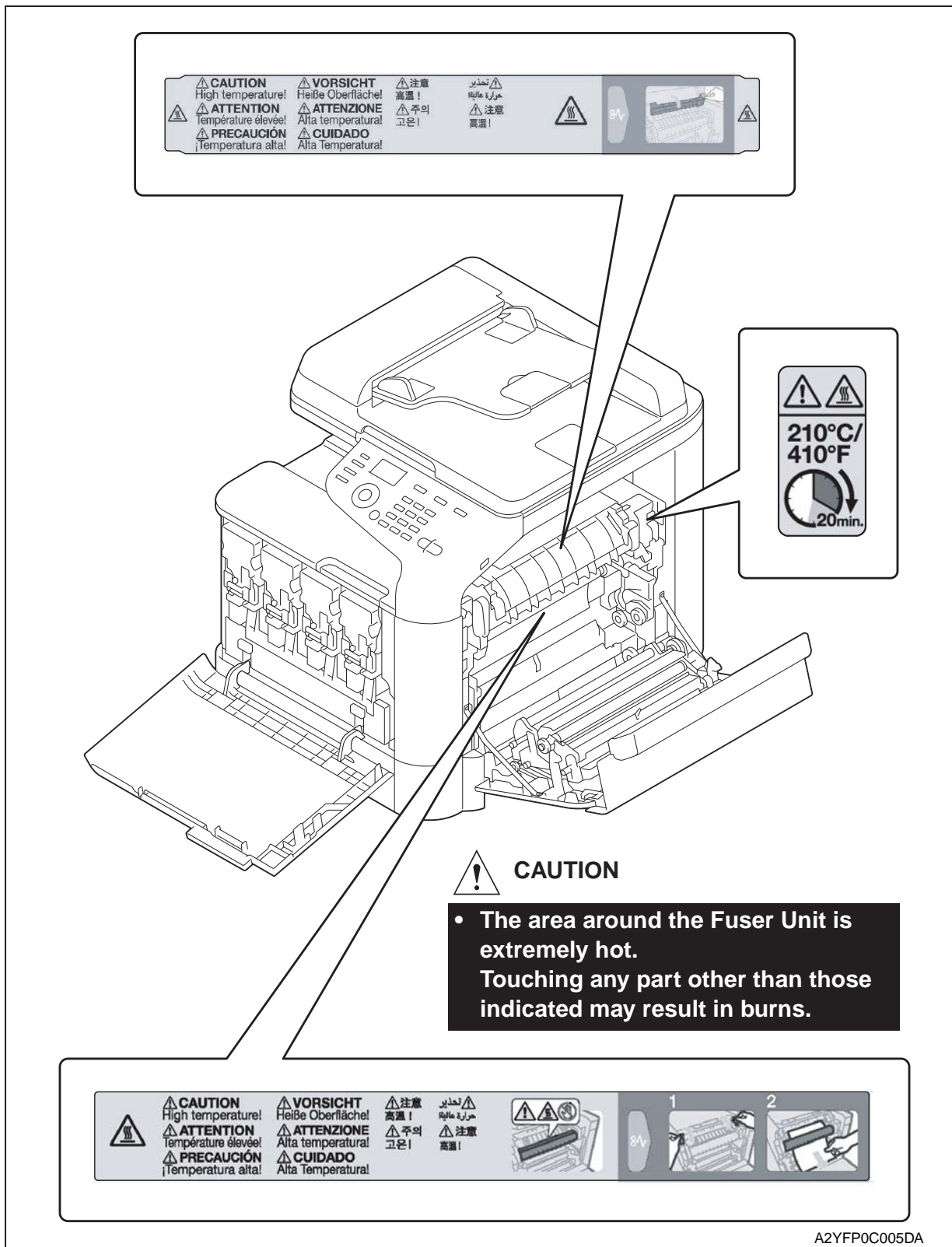
### 4.4 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- 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 printer OFF.
- If the job requires that the printer 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.



## INDICATION OF WARNING ON THE MACHINE

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





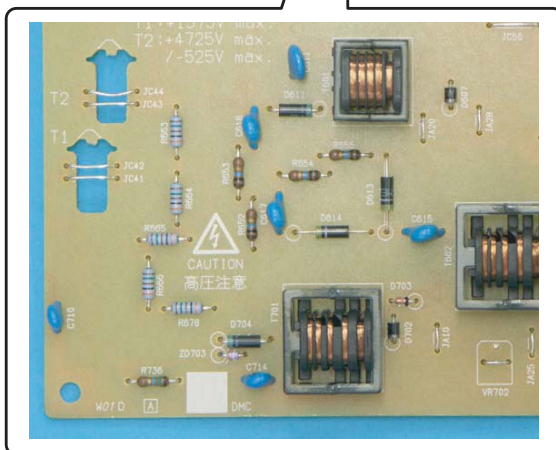
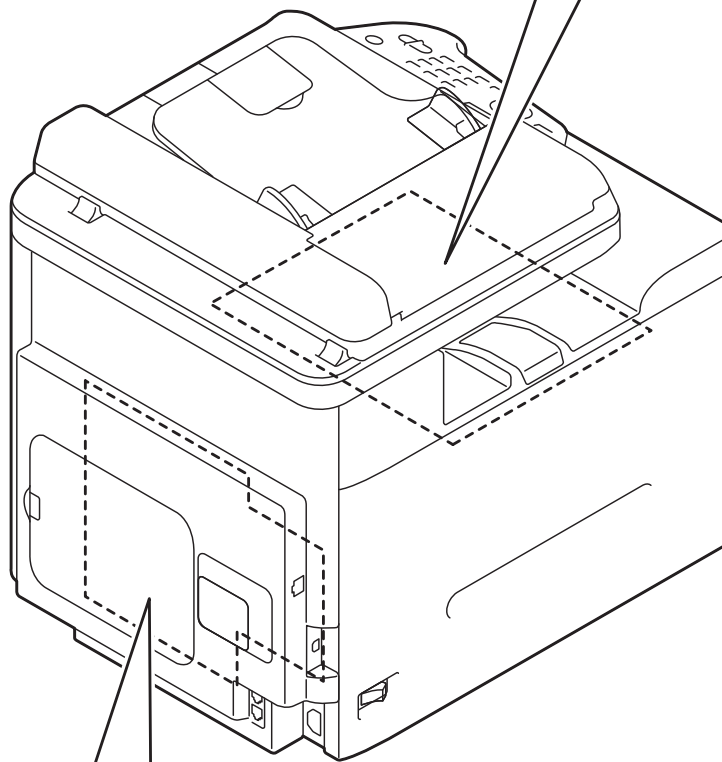
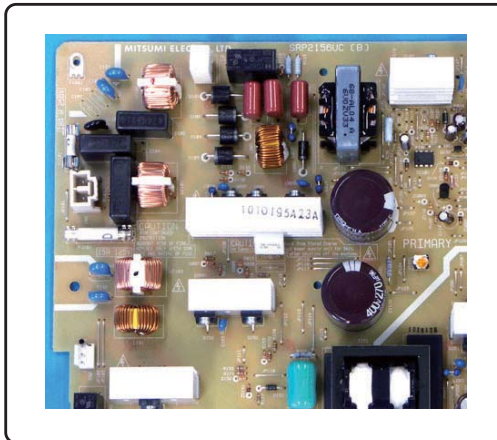
**High voltage**

- This area generates high voltage. Be careful not to touch here when the power is turned ON to avoid getting an electric shock.



**Electric hazard**

- To avoid electrical shock, after turning OFF the power switch, do not touch the DC power supply for 9 minutes.

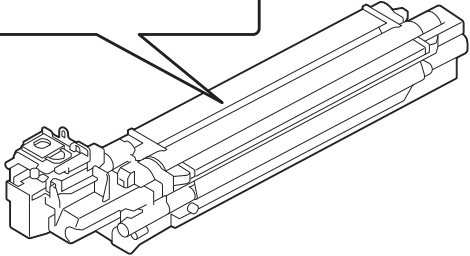


**High voltage**

- This area generates high voltage. Be careful not to touch here when the power is turned ON to avoid getting an electric shock.

A2YFP0C001DA

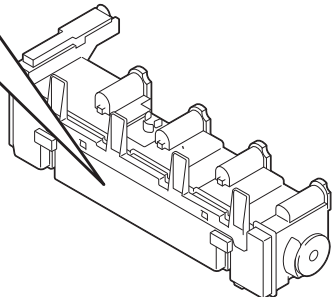
⚠ WARNING	⚠ AVISO	⚠ 警告	⚠	⚠
⚠ WARNUNG	⚠ AVISO	⚠ 경고		
⚠ ATENCIÓN	⚠ ATTENTION	⚠ انتذار		



**⚠ WARNING**

- Do not burn used Imaging Unit.  
Toner expelled from the fire is dangerous.

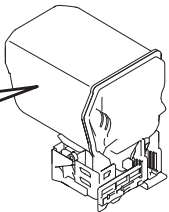
⚠	⚠ WARNING	⚠ 警告	⚠	⚠
	⚠ WARNUNG	⚠ 경고		
	⚠ ATENCIÓN	⚠ انتذار		
⚠ AVISO				
⚠ AVISO				
⚠ ATTENTION				



**⚠ WARNING**

- Do not burn used Waste Toner Bottle.  
Toner expelled from the fire is dangerous.

⚠ WARNING	⚠	⚠
⚠ WARNUNG		
⚠ ATENCIÓN		
⚠ AVISO		
⚠ AVISO		
⚠ ATTENTION		



**⚠ WARNING**

- Do not burn used Toner Cartridges.  
Toner expelled from the fire is dangerous.

A2YFP0C006DA

**⚠ CAUTION:**

- You may be burned or injured if you touch any area that you are advised by any caution label to keep yourself away from. Do not remove caution labels. And also, when the caution label is peeled off or soiled and cannot be seen clearly, replace it with a new caution label.

## **MEASURES TO TAKE IN CASE OF AN ACCIDENT**

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

# Composition of the service manual

This service manual consists of Theory of Operation section and Field Service section to explain the main machine and its corresponding options.

Theory of Operation section gives, as information for the CE to get a full understanding of the product, a rough outline of the object and role of each function, the relationship between the electrical system and the mechanical system, and the timing of operation of each part.

Field Service section gives, as information required by the CE at the site (or at the customer's premise), a rough outline of the service schedule and its details, maintenance steps, the object and role of each adjustment, error codes and supplementary information.

The basic configuration of each section is as follows. However some options may not be applied to the following configuration.

## <Theory of Operation section>

OUTLINE:	Explanation of system configuration, product specifications, unit configuration, and paper path
COMPOSITION/OPERATION:	Explanation of configuration of each unit, operating system, and control system

## <Field service section>

OUTLINE:	Explanation of system configuration, and product specifications
MAINTENANCE:	Explanation of service schedule, maintenance steps, service tools, removal/reinstallation methods of major parts, and firmware version up method etc.
ADJUSTMENT/SETTING:	Explanation of utility mode, service mode, and mechanical adjustment etc.
TROUBLESHOOTING:	Explanation of lists of jam codes and error codes, and their countermeasures etc.
APPENDIX:	Parts layout drawings, connector layout drawings, timing chart, overall layout drawing are attached.

# Notation of the service manual

## A. Product name

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

- |                                |                     |
|--------------------------------|---------------------|
| (1) d-Color MF2400:            | Main body           |
| (2) Microsoft Windows 2000:    | Windows 2000        |
| Microsoft Windows XP:          | Windows XP          |
| Microsoft Windows Vista:       | Windows Vista       |
| Microsoft Windows 7:           | Windows 7           |
| Microsoft Windows Server 2003: | Windows Server 2003 |
| Microsoft Windows Server 2008: | Windows Server 2008 |

When the description is made in combination of the OS's mentioned above:

Windows 7/Vista/Server 2008/XP/Server  
2003/2000

Windows 7/Vista/XP/2000

Windows Server 2008/Server 2003

## B. Brand name

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

## C. Feeding direction

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

<Sample notation>

Paper size	Feeding direction	Notation
A4	Long edge feeding	A4
	Short edge feeding	A4S
A3	Short edge feeding	A3



**Color Printer**

# **d-Color MF2400**

**SERVICE MANUAL**

Code: Y113750-1

**PUBLICATION ISSUED BY:**

**Olivetti S.p.A.**

Gruppo Telecom Italia

Via Jervis, 77 - 10015 Ivrea (TO)

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# Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.

Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised,  is shown at the left margin of the revised section.  
The number inside  represents the number of times the revision has been made.
- To indicate clearly a page that contains the revision,  is shown near the page number of the corresponding page.  
The number inside  represents the number of times the revision has been made.

## NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:  
The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:  
The revision marks for Ver. 2.0 are left as they are.

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d-Color MF2400

OUTLINE

MAINTENANCE

ADJUSTMENT / SETTING

TROUBLESHOOTING

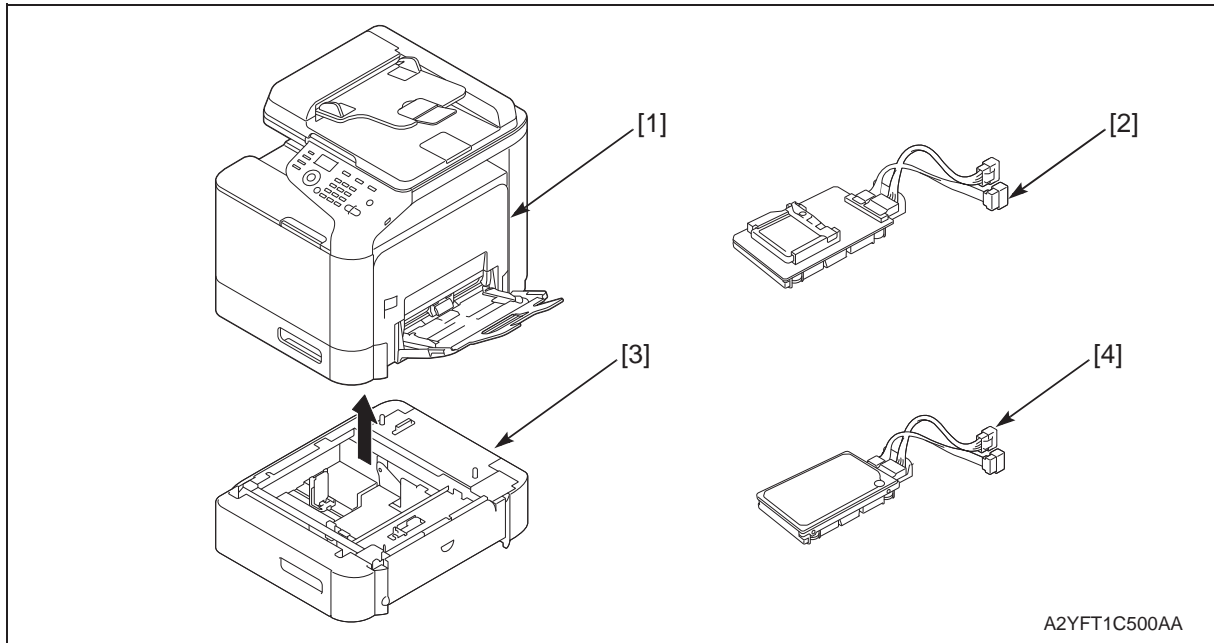
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# APPENDIX

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# OUTLINE

## 1. SYSTEM CONFIGURATION



[1] d-Color MF2400

[3] Lower Feeder Unit (PF-P09)

[2] Compact Flash Adapter (MK-725)

[4] Hard Disk Kit (HD-P03)



## 2. PRODUCT SPECIFICATIONS

### 2.1 Type

Type	Full-color printer/copier/scanner with stationary plate and ADF
Printing system	Semiconductor laser and electrostatic image transfer to plain paper
Exposure system	4 laser diode and 1 polygon mirror
PC drum type	OPC (organic photo conductor)
Photoconductor cleaning	Blade cleaning system
Scan resolution	600 x 600 dpi, 600 x 300 dpi
Luminous source	CCFL Dual
Original scanning	Flatbed CIS scanning system
Print resolution	600 x 600 dpi
Paper feeding system	Tray1: Small roller separation system with torque limiter Tray2: Small roller separation system with torque limiter
Developing system	Single-element developing system
Charging system	Charge roller system
Image transfer system	Intermediate transfer belt system
Paper separating system	Curvature separation + charge-neutralizing system
Fusing system	Belt fusing
Paper exit system	Face down (Output tray capacity: 150 sheets (A4S/LetterS))

### 2.2 Functions

Types of original	Sheets, books, and three-dimensional objects
Max. original size	A4 or Legal
Max. original weight	3 kg
Multiple copies	1 to 99
Image loss	Copy Leading edge: 4.0 mm, trailing edge: 4.0 mm, rear edge: 4.0 mm, front edge: 4.0 mm  Print: Leading edge: 4.2 mm, trailing edge: 4.2 mm, rear edge: 4.2 mm, front edge: 4.2 mm
Warm-up time	Power on to ready: average 38 seconds or less (Power on to ready, at ambient temperature of 23 °C/73.4 °F and rated source voltage)
Process speed	144 mm/sec. (plain paper) 72.0 mm/sec. (thick paper1/2, envelope, post card, label, letterhead, glossy 1/2)
First-page output time	16.0 second or less (A4S/LetterS, plain paper)

Copy speed	Simplex Monochrome/Full color: 24.0 page per minutes for A4 (plain paper) 25.0 page per minutes for Letter (plain paper) 12.0 page per minutes for A4 (thick paper1/2) 12.5 page per minutes for Letter (thick paper1/2)	
	Duplex (double-sided) Monochrome/Full color: 24.0 sheet per minutes for A4 (plain paper) 25.0 sheet per minutes for Letter (plain paper) 12.0 sheet per minutes for A4 (thick paper1/2) 12.5 sheet per minutes for Letter (thick paper1/2)	
Fixed zoom ratios	Metric area	Enlargement: x4.00, x2.00, x1.41, x1.15 Reduction: x0.86, x0.70, x0.50, x0.25
	Inch area	Enlargement: x4.00, x2.00, x1.54, x1.29 Reduction: x0.78, x0.64, x0.50, x0.25
Variable zoom ratios	Platen: x 0.25 to x4.00 (in x0.01 increments) ADF: x 0.25 to x2.00 (in x0.01 increments)	

### 2.3 Media

Type		Paper source (maximum tray capacity)	
		Tray 1	Tray 2
Media type	Plain paper (60 to 90 g/m <sup>2</sup> ; 16 to 24 lb)	100 sheets	250 sheets
	Thick 1 (91 to 150 g/m <sup>2</sup> )	20 sheets	20 sheets
	Thick 2 (151 to 210 g/m <sup>2</sup> )		
	Label		
	Letterhead		
	Glossy 1 (100 to 128 g/m <sup>2</sup> )		
	Glossy 2 (129 to 158 g/m <sup>2</sup> )		
	Postcard		
	Envelope	10 sheets	-
Media dimensions	Width	92 to 216 mm* (3.6 to 8.5 inch)	92 to 216 mm (3.6 to 8.5 inch)
	Length	148 to 356 mm* (5.8 to 14.0 inch)	148 to 297 mm (5.8 to 11.7 inch)

\*: If the width set 210 mm to 216 mm, the max. length is to 279.4 mm.

## 2.4 Machine specifications

Power requirements	Voltage:	AC 100 V, 120 V, 220 to 240 V	
	Current:	100 V	9.7 A
		110 V	8.2 A
		120 V	8.2 A
		127 V	8.2 A
		220 to 240 V	4.4 A
Frequency:	50 to 60 Hz		
Max power consumption	1,000 W or less (100 V, 120 V) 900 W or less (110 V) 1,100 W or less (127 V, 220-240 V) Power save mode: 34 W or less		
Dimensions	421.5 (W) x 544 (D) x 476 (H) mm 16.6 (W) x 21.42 (D) x 18.74 (H) inch * Manual paper feed is not included.		
Weight	Approx. 27.7 kg (61.1 lb) or less without consumables Approx. 32.5 kg (71.7 lb) or less with consumables		
Operating noise	During standby : 33 dB (A) or less During printing : 52.5 dB (A) or less During copying : 53.5 dB (A) or less		

## 2.5 Operating environment

Temperature	10 °C to 30 °C / 50 °F to 86 °F (with a fluctuation of 10 °C / 18 °F or less per hour)
Humidity	15% to 85% (with a fluctuation of 10% or less per hour)

## 2.6 Print functions

Type	Built-in printer controller
RAM	128 MB (MFP board/1) 256 MB (MFP board/2)
HDD	40 GB (User's usage area)
Interface	USB 2.0 (High Speed) compliant 10Base-T/100Base-TX/1000Base-T Ethernet, Host USB (PictBridge1.0 USB Device Printing) RJ-45 connector
Supported protocols	TCP/IP, IPX/SPX, Ethertalk, UDP
Print speed	20 pages/min. (A4S/LetterS, 1-sided print, plain paper) 12 pages/min. (A4S/LetterS, 1-sided print, thick paper)
Printer language	PostScript3 (3016) PCL 5 e/c, PCL 6 (XL3.0) XPS (Version1.0) PDF Direct Printing (Version 1.7) JPEG/TIFF Direct Print
Print resolution	600 x 600 dpi x 3bit
Printer fonts	PCL: 80 fonts, PostScript3: 137 fonts

Supported operating system	Windows Server 2008/Server 2003/Server 2008 x64 Edition/Server 2003 x64 Edition Netware 4/5/6 Windows 7/Vista (ServicePack1)/7 x64 Edition /Vista x64 Edition/ XP (ServicePack2 or later)/XP x64 Edition/ Mac OS X (10.3/10.4/10.5/10.6) Linux SUSE Linux Enterprise Desktop 10 (CUPS Ver. 1.1.23) Red Hat Enterprise Linux 5 Desktop (CUPS Ver. 1.2.4)	
Printer driver	PCL driver	Windows 7/Vista/Server 2008/XP/Server 2003 Windows 7/Vista/Server 2008/XP/Server 2003 64bit Windows 7/Vista/Server 2008/XP/Server 2003 printer driver for monochrome printing Windows 7/Vista/Server 2008/XP/Server 2003 64bit printer driver for monochrome printing
	PostScript driver	Windows 7/Vista/Server 2008/XP/Server 2003 Windows 7/Vista/Server 2008/XP/Server 2003 64bit Mac OS X (10.3/10.4/10.5/10.6) Mac OS X (10.3/10.4/10.5/10.6) printer driver for monochrome printing Linux printer driver (PPD for CUPS)
	PostScript PPD driver	Mac OS X (10.3/10.4/10.5/10.6) Red Hat Enterprise Linux 5 Desktop SUSE Linux Enterprise Desktop 10
	XPS driver	Windows 7/Vista/Server 2008 Windows 7/ Vista/Server 2008 64bit
	PC FAX driver	Windows 7/Vista/Server 2008/XP/Server 2003 Windows 7/Vista/Server 2008/XP/Server 2003 64 bit

## 2.7 Scan functions

Scannable range	Based on copy specifications
Scan Speed (ADF scan, resolution 300 dpi)	Monochrome: 20 pages/min (A4/Letter) Full color: 10 pages/min (A4/Letter)
Functions	Scan to E-mail, Scan to FTP, Scan to SMB, Scan to USB memory
Scanning resolution	150 x 150 dpi, 300 x 300 dpi (Network Twain: 150/300/600/1,200/2,400/4,800 dpi)
Supported operation system	Windows 7/Vista/Server 2008/XP/Server 2003 Mac OS X (10.3/10.4/10.5/10.6)
Drivers	TWAIN Driver for Windows 7/Vista/Server 2008/XP/Server 2003 TWAIN Driver for Mac OS X (10.3/10.4/10.5/10.6) WIA Driver for Windows 7/Vista/Server 2008/XP WIA Driver for Windows 7/Vista/Server 2008/XP 64bit
Output file format	TIFF, PDF, JPEG

## 2.8 Fax functions

Applicable lines	PSTN (Public Switched Telephone Network), PBX (Private Branch Exchange)	
Resolution	Standard (203 dpi x 98 dpi)	
	Fine (203 dpi x 196 dpi)	
	Super fine (203 dpi x 392 dpi)	
Compatibility	ECM/Super G3	
Modem speed	2.4 to 33.6 kbps	
Transmit speed	3 second/page (A4, V.34, 33.6 kbps, JBIG)	
Coding method	MH/MR/MMR/JBIG	
Memory for receiving	6 MB (approx. 384 pages)	
Paper size	A4S, LegalS, LetterS, 8 1/2x13 1/2S	
Paper type	Plain paper, recycled paper	
Functions	Speed dial	220
	Group dial	20 groups (50 destination stations for one group)
	Broadcast	Available maximum 236 stations. (Speed dial 220 stations, full dial 16 stations)
	Other supported functions	Timer transmission, address book, automatic redial, smoothing

### NOTE

- These specifications are subject to change without notice.

# MAINTENANCE

## 3. PERIODICAL MAINTENANCE ITEM

### 3.1 Periodical replacement parts list (CRU)

Class	Part to be replaced	Number of prints	Description	Ref. page
Processing section	Imaging unit (C,M,Y,K)	30,000 (Continuous printing) 20,000 (2 pages/job)		P.11
	Standard in-box toner cartridge (C,M,Y,K)	2,000 (by 5% chart, 2 pages/job)		P.8
	High-capacity toner cartridge (C,M,Y,K)	C,M,Y: 4,500 (by 5% chart, 2 pages/job)		
		K: 5,000 (by 5% chart, 2 pages/job)		
Image transfer section	Waste toner bottle (WB-P03)	Monochrome: 26,000 (by 5% chart, 2 pages/job)		P.14
		Full color: 6,500 (by 5% chart, 2 pages/job)		
	Transfer roller (TF-P04)	100,000 (2 pages/job)		P.15
	Transfer belt unit (TF-P05)	100,000 (2 pages/job)		P.16
Fusing section	Fuser unit (FU-P02)	100,000 (2 pages/job)		P.19

### 3.2 Periodical replacement parts list (FRU)

#### 3.2.1 Main body

Class	Part to be replaced	Quantity	Parts No.	Actual durable cycle	Description	Ref. page
Tray1 (Manual feed tray)	Tray1 feed roller	1	AVGR12759T	300,000		P.21
Tray2	Tray2 feed roller	1	AVGR12759T	300,000		P.23

#### 3.2.2 Option

Class	Part to be replaced	Quantity	Parts No.	Actual durable cycle	Description	Ref. page
Tray3 (Lower feeder unit) PF-P09	Tray3 feed roller	1	AVGR14010Q	300,000		*1

\*1: For details, see the optional lower feeder unit (PF-P09) service manual.

### 3.3 Concept of parts life

- See the accompanying sheet “d-Color MF2400 Concept of parts life” for details.

## 4. PERIODICAL MAINTENANCE PROCEDURE

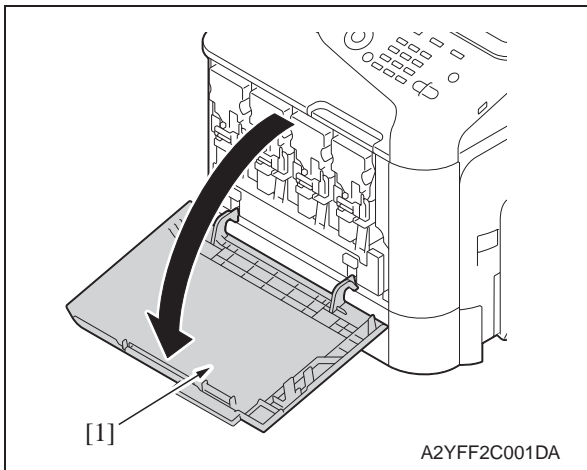
### 4.1 Processing section

#### 4.1.1 Replacing the toner cartridge (C, M, Y, K)

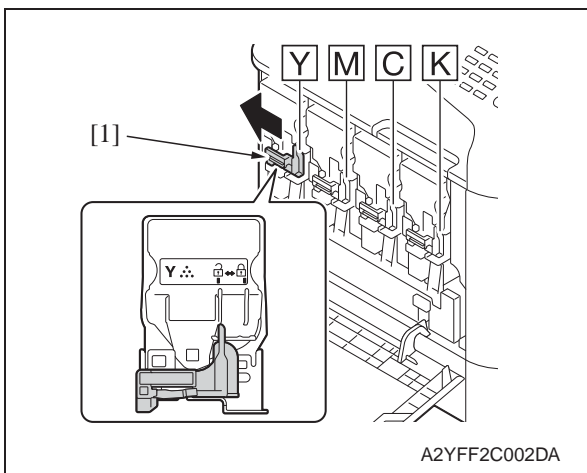
##### A. Periodically replaced parts/cycle

- Standard-in box toner cartridge (C, M, Y, K): Every 2,000 images
- High-capacity toner cartridge (C, M, Y): Every 4,500 images
- High-capacity toner cartridge (K): Every 5,000 images

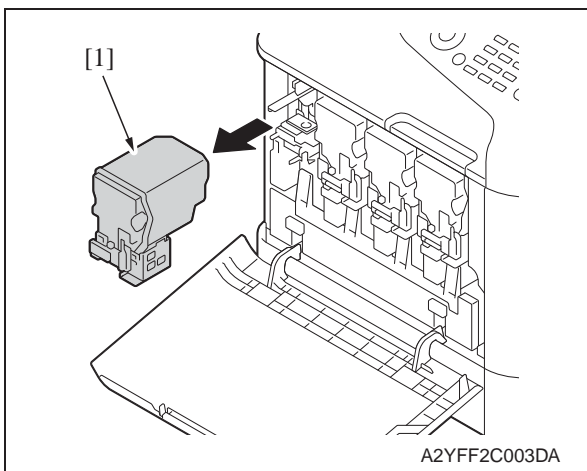
##### B. Removal procedure



1. Open the front door [1].

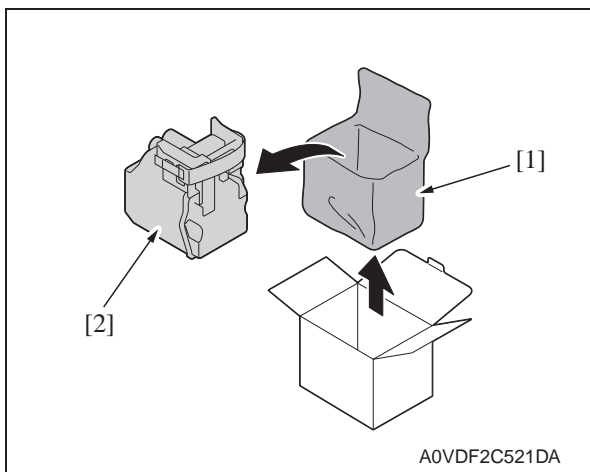


2. Slide the lock lever [1] to the left.

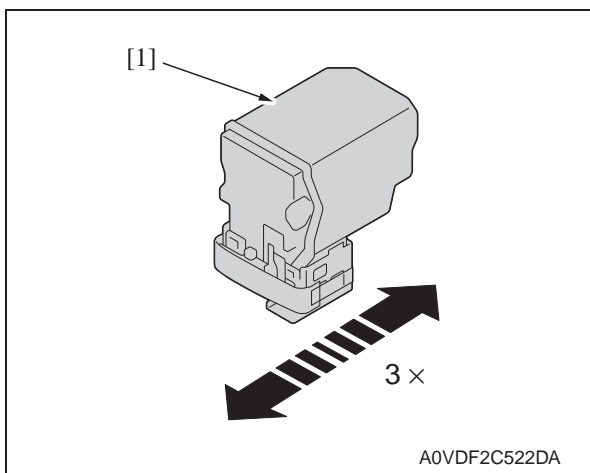


3. Grab the handle of the toner cartridge [1] to be replaced, and then pull out the toner cartridge [1].

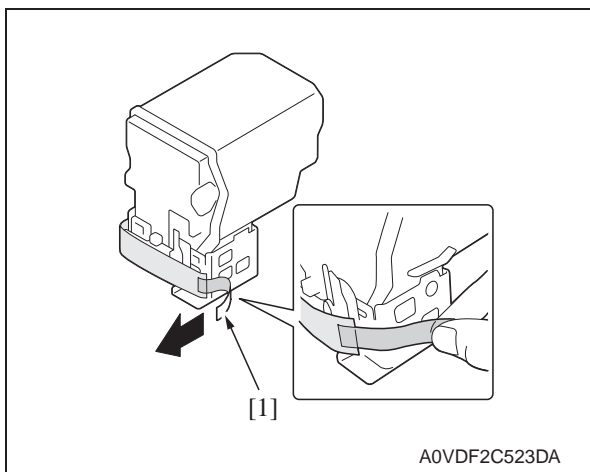
### C. Reinstallation procedure



1. Take the toner cartridge [2] out of its plastic bag [1].

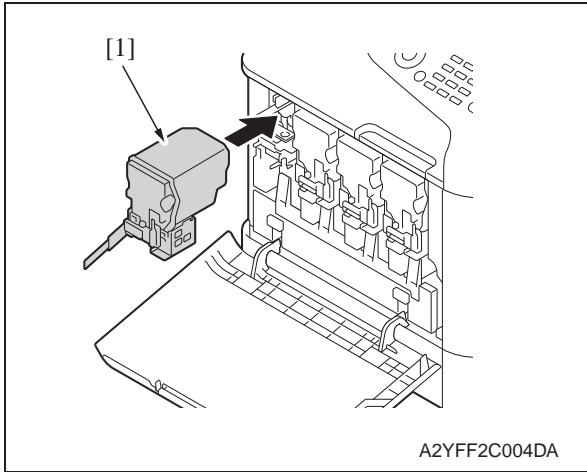


2. Gently shake the toner cartridge [1] three times to agitate the toner.

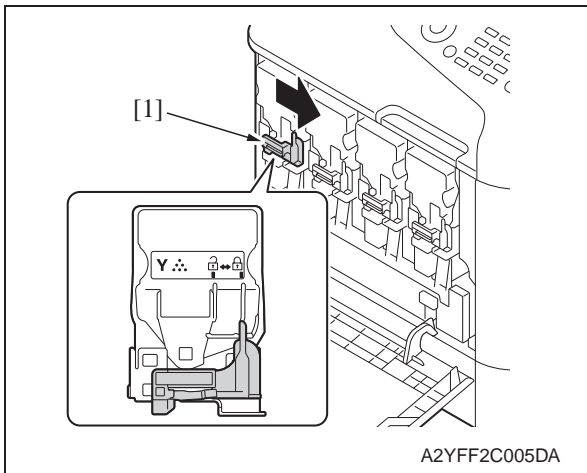


3. Peel off the protective film tape [1] from the right side of the toner cartridge.

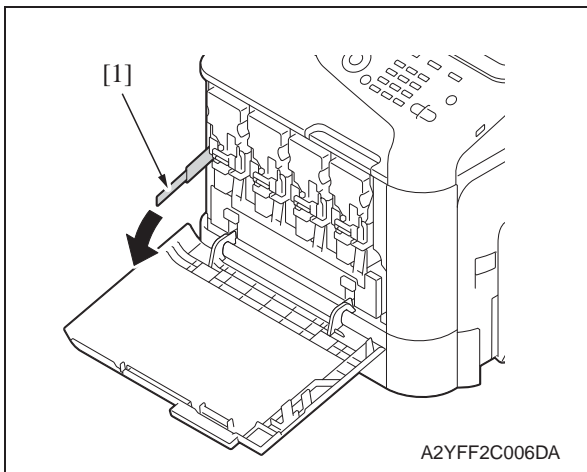




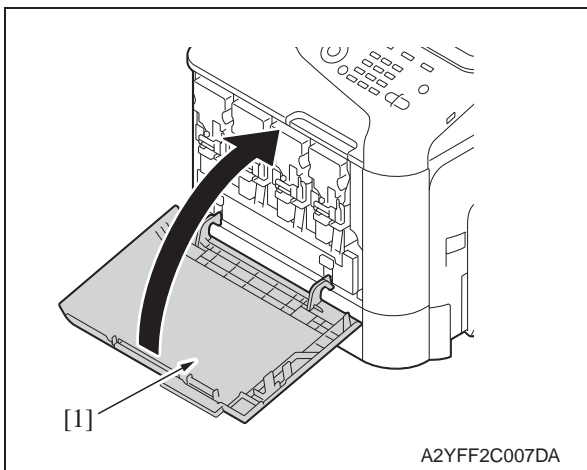
4. Insert the toner cartridge [1] into the machine.



5. Slide the lock lever [1] to the right to lock the toner cartridge.



6. Remove the protective film [1].



7. Close the front door [1].

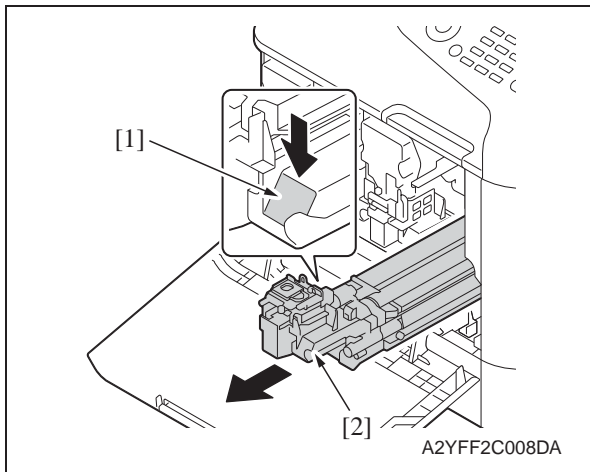
**4.1.2 Replacing the imaging unit (C, M, Y, K)**

**A. Periodically replaced parts/cycle**

- Imaging unit (C, M, Y, K): Every 30,000 images (Continuous printing) or 20,000 images (2 pages/job)

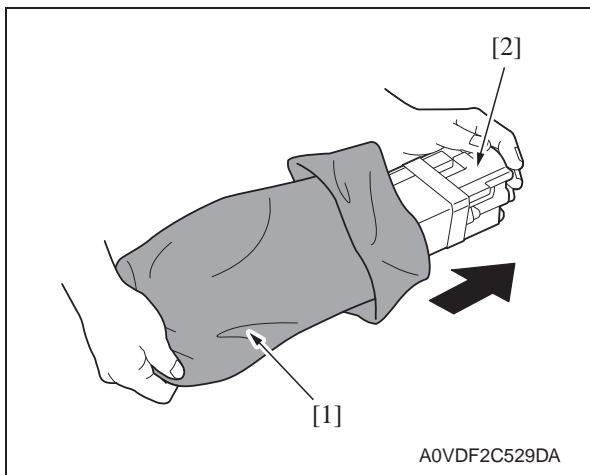
**B. Removal procedure**

1. Remove the toner cartridge.  
[See P.8](#)
2. Remove the waste toner bottle.  
[See P.14](#)



3. Press down the "Push" marked place [1].
4. Pull the imaging unit [2] out.

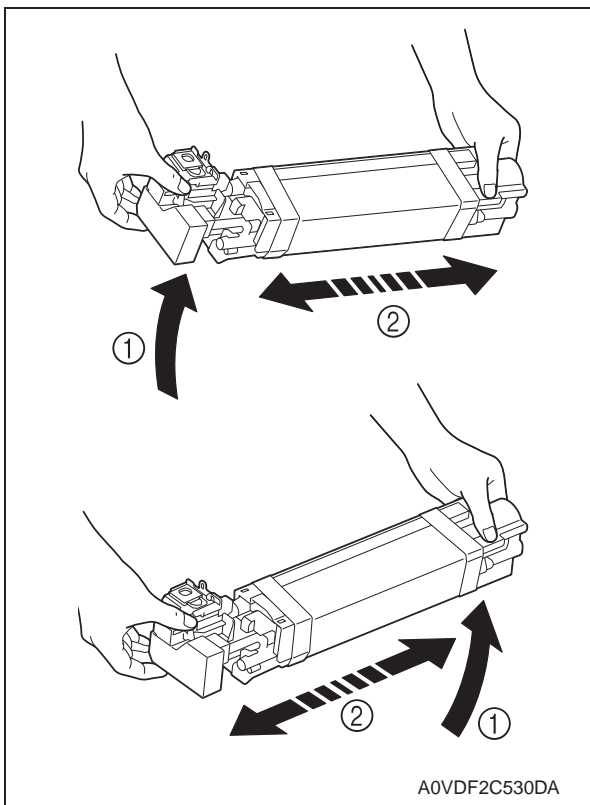
**C. Reinstallation procedure**



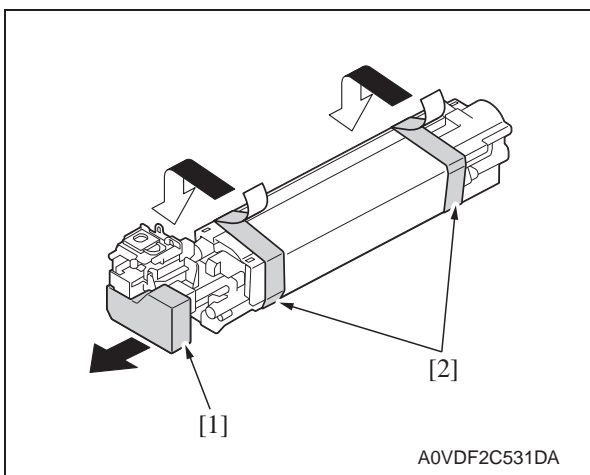
1. Take the imaging unit [2] out of the plastic bag [1].

d-Color MF2400

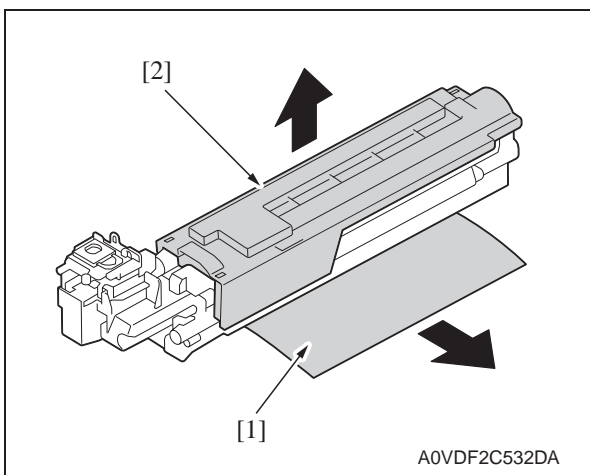
MAINTENANCE



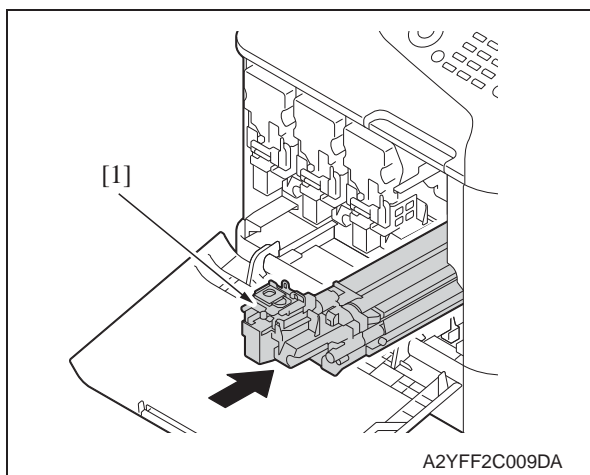
2. Hold the imaging unit with both hands, and then shake it twice as shown in the illustration.



3. Remove the protective cover [1] from the imaging unit.
4. Remove all packing tape [2] from the imaging unit.



5. Remove the paper [1] from the imaging unit.
6. Remove the protective cover [2] from the imaging unit.



7. Slide the imaging unit [1] in.

8. Install the waste toner bottle.  
[See P.14](#)
9. Install the toner cartridge.  
[See P.8](#)
10. Close the front door.

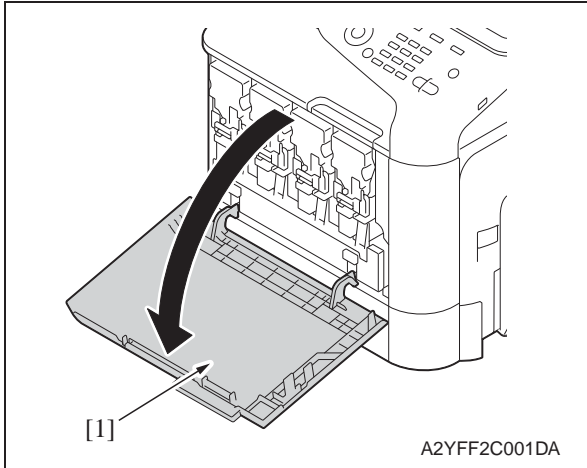
## 4.2 Transfer section

### 4.2.1 Replacing the waste toner bottle

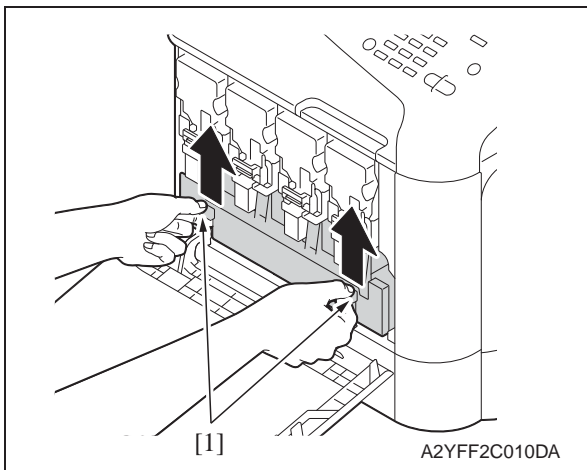
#### A. Periodically replaced parts/cycle

- Waste toner bottle: Every 26,000 images (2 pages/job: monochrome) or 6,500 images (2 pages/job: full color)

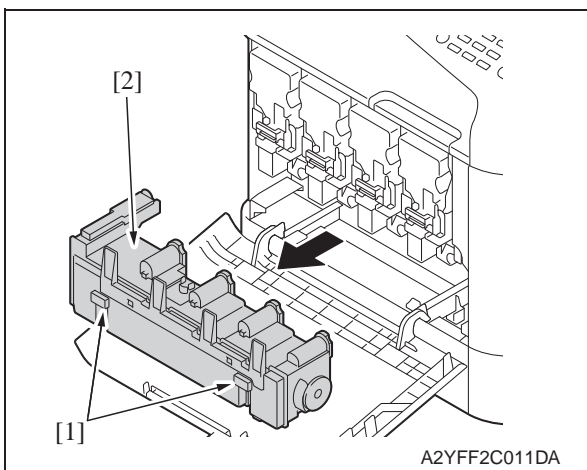
#### B. Removal procedure



1. Open the front door [1].



2. Raise the left and right handles [1] to unlock the waste toner bottle.



3. Grab the left and right handles [1], remove the waste toner bottle [2].

4. To reinstall, reverse the order of removal.

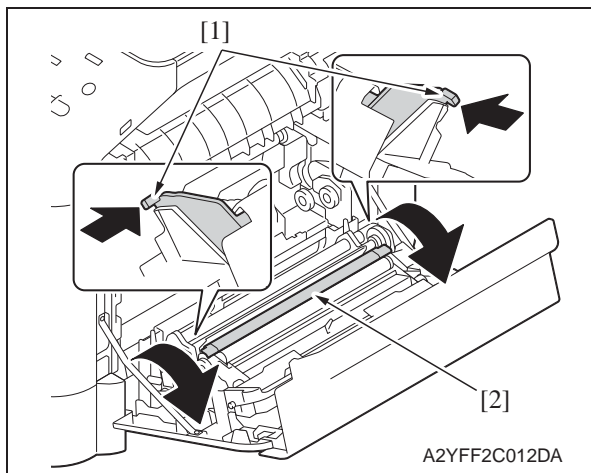
### 4.2.2 Replacing the transfer roller

#### A. Periodically replaced parts/cycle

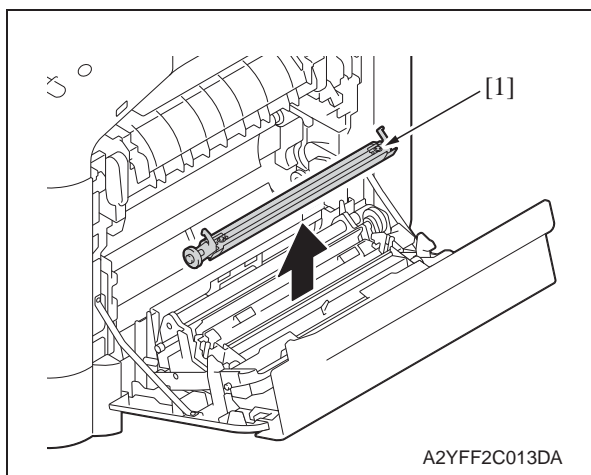
- Transfer roller: Every 100,000 counts (2 pages/job)

#### B. Removal procedure

1. Open the right door.



2. Push two levers [1] inside to unlock the transfer roller.
3. Rotate the transfer roller [2] in the direction of the arrow.



4. Remove the transfer roller [1].

5. To reinstall, reverse the order of removal.

6. From the Menu, select [SERVICE MODE] → [ADJUST] → [SUPPLIES REPLACE] → [TRANSFER ROLLER] and execute this function to reset the transfer roller counter value.

See P.149

7. From the Menu, select [PS/PCL PRINT] → [QUALITY MENU] → [CARIBRATION] → [TONE CALIBRATION] and execute this function.

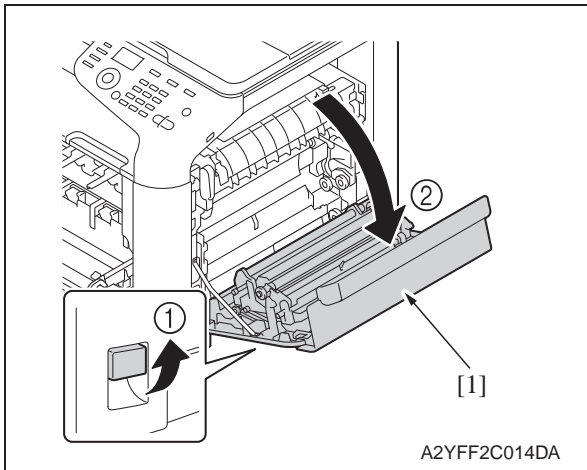
### 4.2.3 Replacing the transfer belt unit

#### A. Periodically replaced parts/cycle

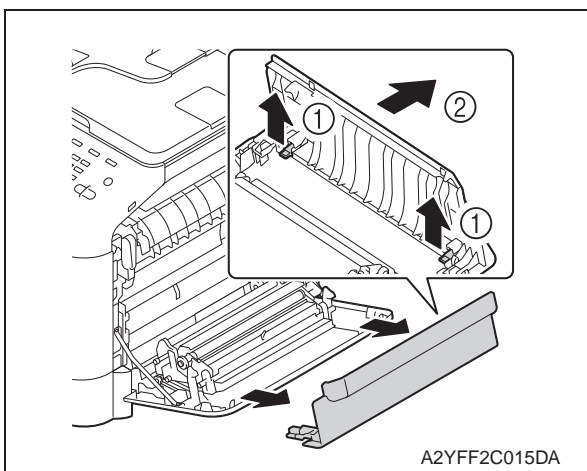
- Transfer belt unit: Every 100,000 counts (2 pages/job)

#### B. Removal procedure

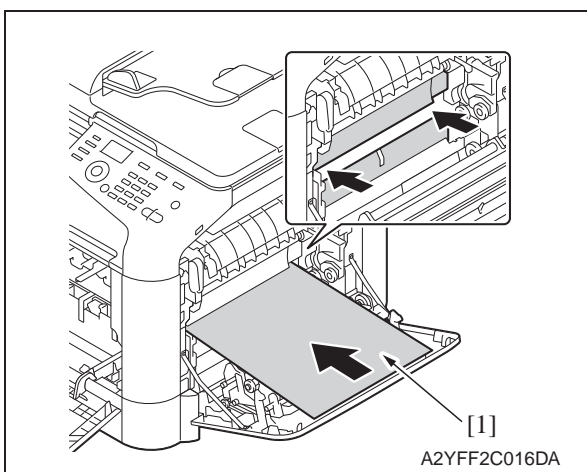
1. Turn OFF the power switch.
2. Remove the waste toner bottle.  
See P.14
3. Remove the toner cartridge (C,M,Y,K).  
See P.8
4. Remove the imaging unit (C,M,Y,K).  
See P.11



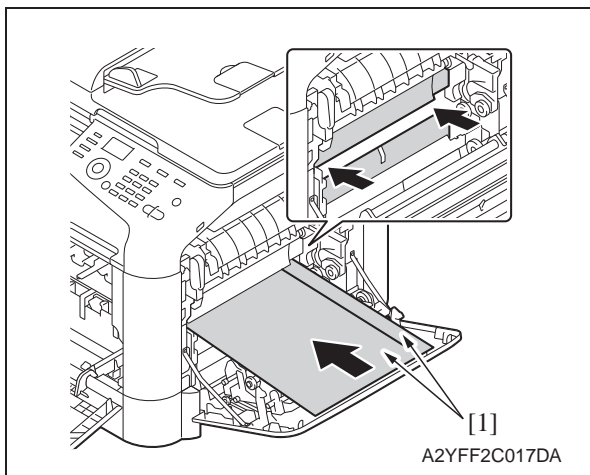
5. Open the right door [1].



6. Remove the exit cover.

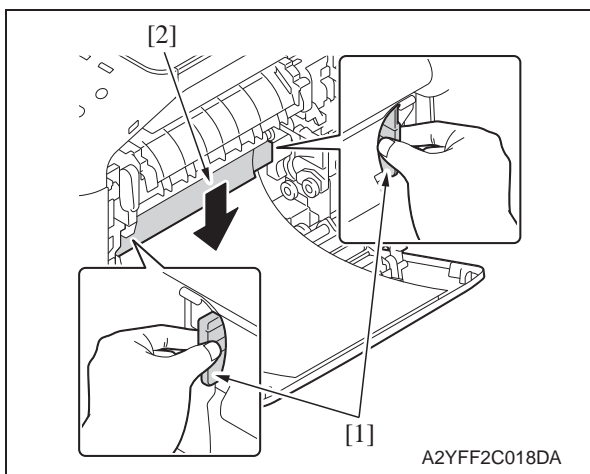


7. Completely insert the protective sheet [1] supplied with the transfer belt in the direction of the arrow.

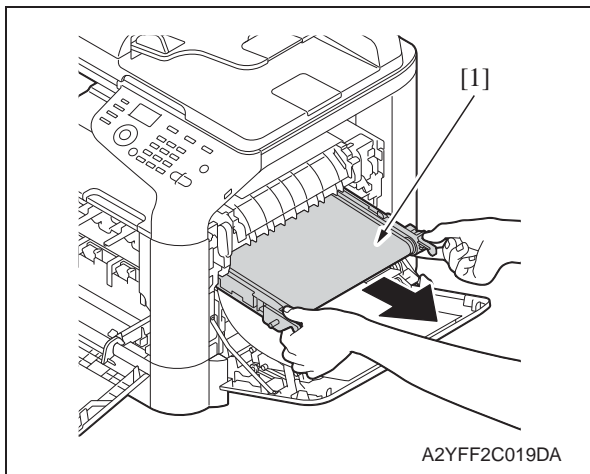


**NOTE**

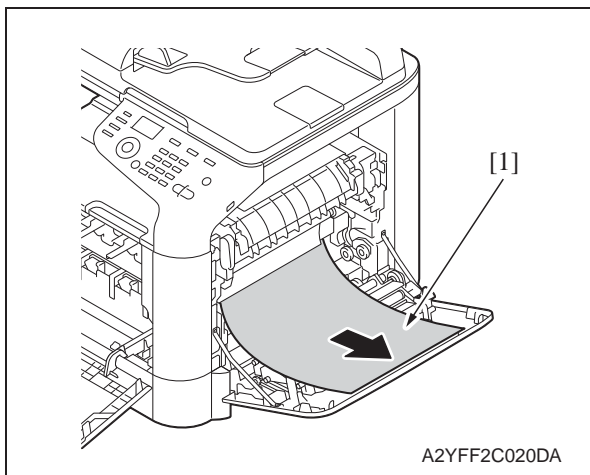
- If the protective sheet is not supplied, use two sheets [1] of A4 or Letter paper as shown in the illustration.



8. Hold the both handles [1] and lower the guide [2].

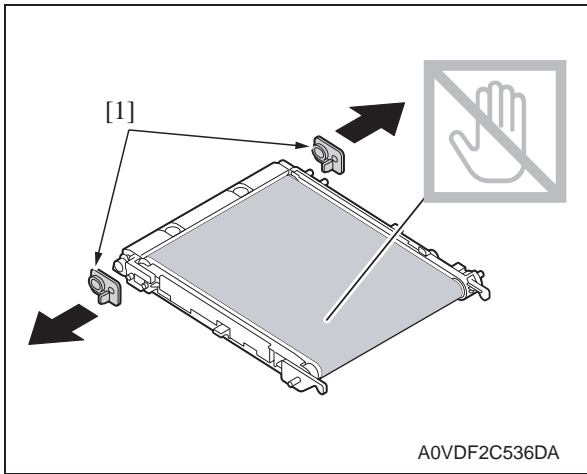


9. Hold the handles, and then carefully pull out the transfer belt [1].



10. Pull the protective sheet [1] out.

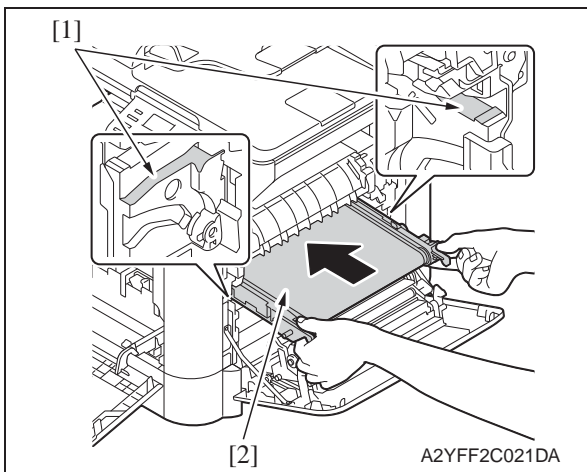




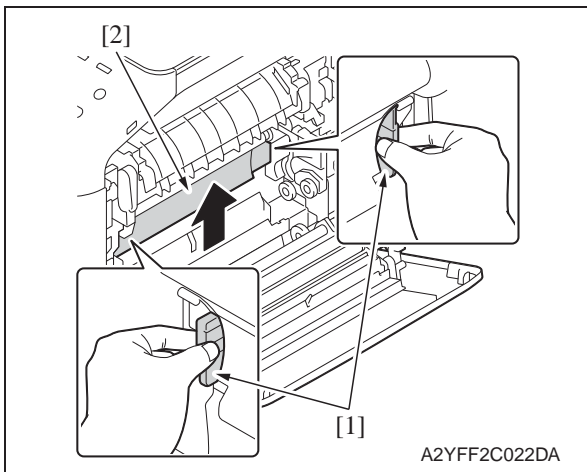
11. Remove the protective cover [1] from the new transfer belt.

**NOTE**

- Be careful not to touch the surface of the belt.



12. Insert the transfer belt [2] along the rails [1].



13. Hold the both handles [1] and raise the guide [2].

14. To reinstall, reverse the order of removal.



15. From the Menu, select [SERVICE MODE] → [ADJUST] → [SUPPLIES REPLACE] → [TRANSFER BELT] and execute this function to reset the transfer belt counter value.

See P.149

16. From the Menu, select [PS/PCL PRINT] → [QUALITY MENU] → [CARIBRATION] → [TONE CALIBRATION] and execute this function.

### 4.3 Fusing section

#### 4.3.1 Replacing the fuser unit

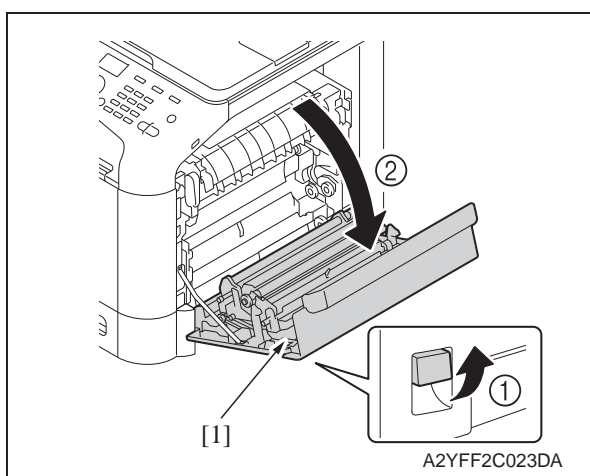
 <b>CAUTION</b>	
	<ul style="list-style-type: none"><li>• The temperature gets high in the vicinity of the fuser unit. You may get burned when you come into contact with the area. Before replacement operations, make sure that more than 20 minutes have elapsed since the main and sub power switches were turned off.</li></ul>

#### A. Periodically replacing parts/cycle

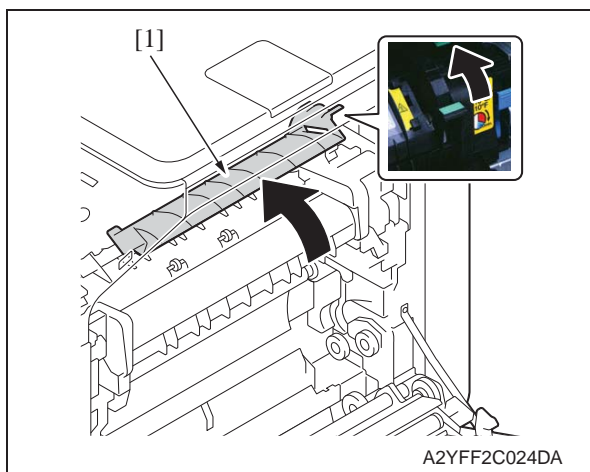
- Fuser unit: Every 100,000 counts (2 pages/job)

#### B. Procedure

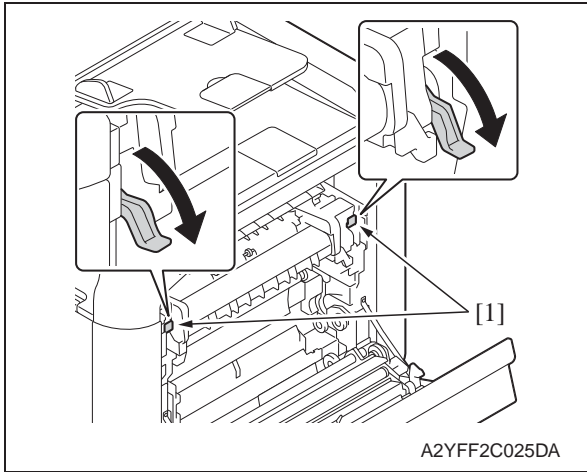
1. Turn OFF the power switch, unplug the power cord from the power outlet, and let the machine to stand idle for about 20 min.



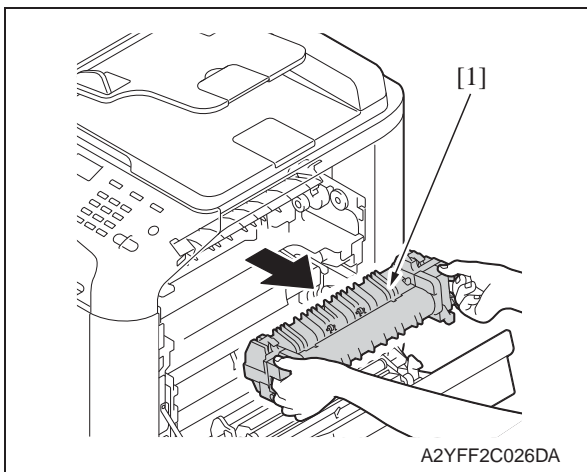
2. Open the right door [1].



3. Open the fuser unit cover [1].



4. Pull down two levers [1].



5. Remove the fuser unit [1].

6. Install the new fuser unit.
7. From the Menu, select [SERVICE MODE] → [ADJUST] → [SUPPLIES REPLACE] → [FUSER UNIT] and execute this function to reset the fuser unit counter value.  
[See P.149](#)

### 4.4 Feed section

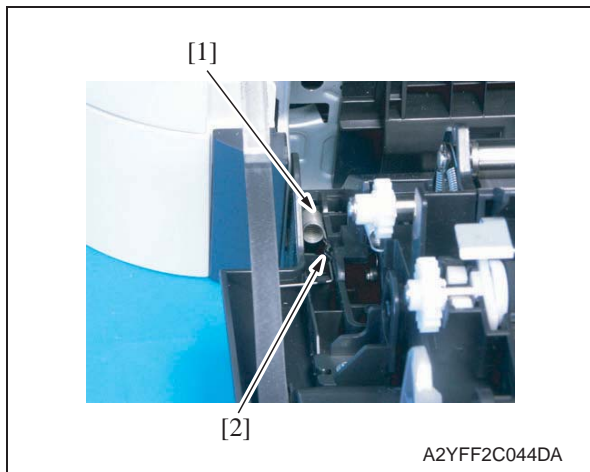
#### 4.4.1 Replacing the tray1 feed roller

##### A. Periodically replaced parts/cycle

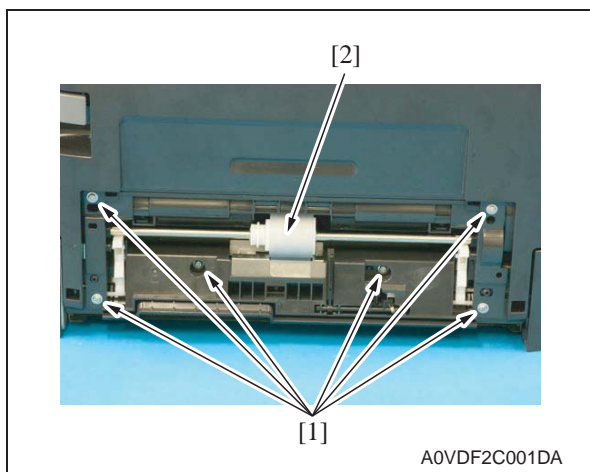
- Tray1 feed roller: Every 300,000 counts

##### B. Procedure

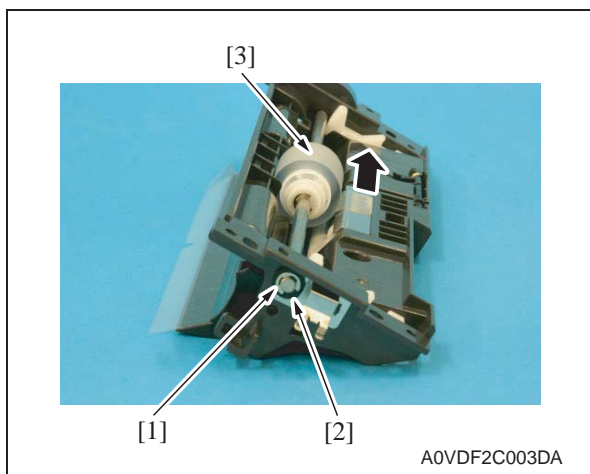
1. Remove the tray1.  
[See P.47](#)
2. Open the right door.



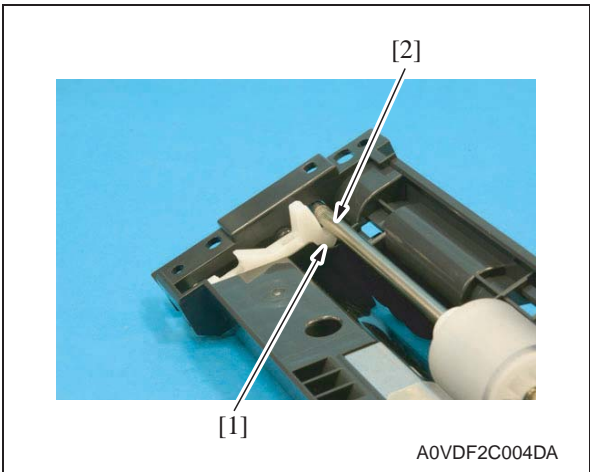
3. Detach the spring [1] from the hook [2] in order to unlock the plate.



4. Remove six screws [1], and remove the tray1 feed roller assy [2].

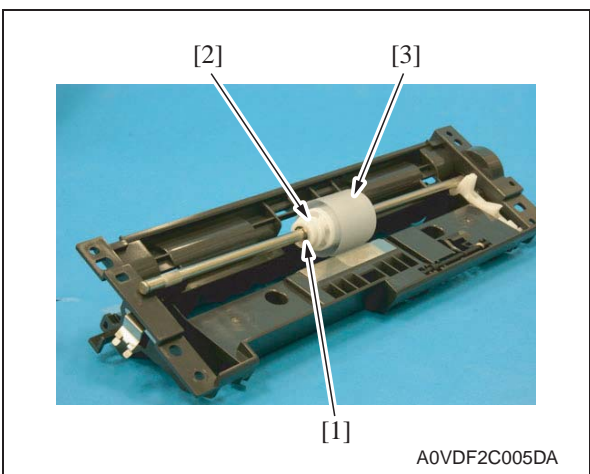


5. Remove the E-ring [1] and the bearing [2], and move the tray 1 feed roller assy [3] in the direction of the arrow.

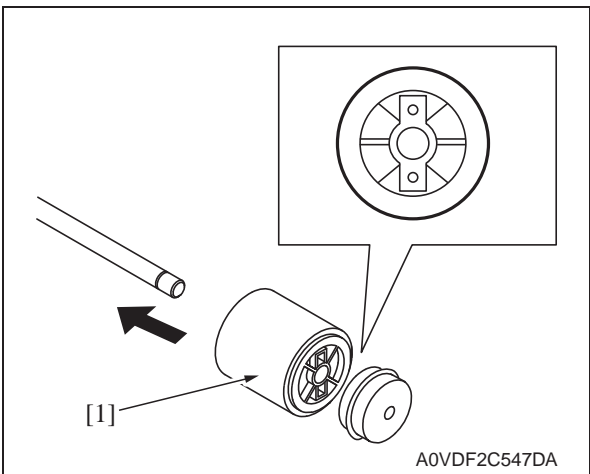


**NOTE**

- When reinstalling the tray 1 feed roller assy, the stopper [1] must be located under the shaft [2] as shown in the illustration.



6. Remove the E-ring [1] and mechanism clutch [2], and remove the tray 1 feed roller [3].



7. To reinstall, reverse the order of removal.

**NOTE**

- When reinstalling the feed roller [1], make sure that it is mounted in the direction shown in the illustration on the left.

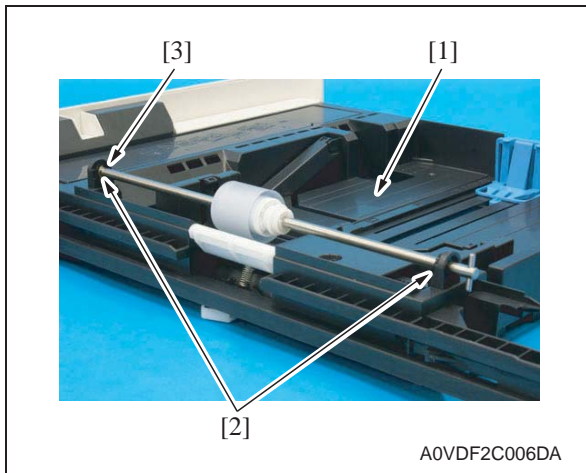
**4.4.2 Replacing the tray2 feed roller**

**A. Periodically replaced parts/cycle**

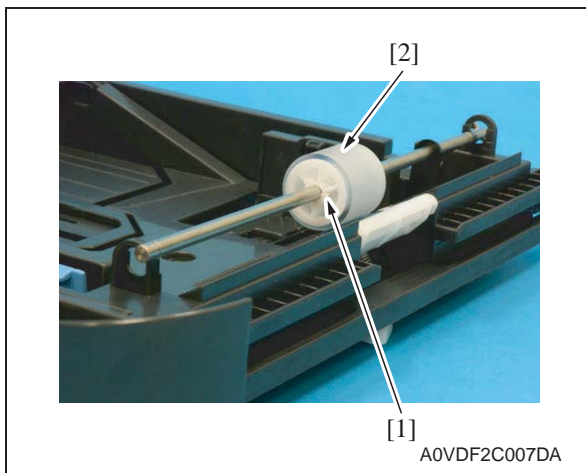
- Tray2 feed roller: Every 300,000 counts

**B. Procedure**

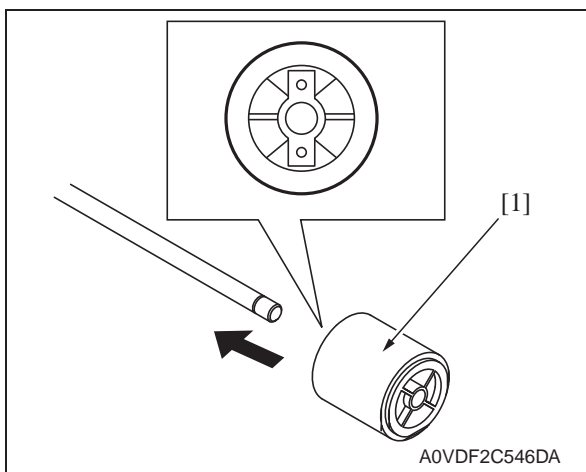
1. Remove the tray2.



2. Lock the media lift metal plate [1].
3. Remove two E-rings [2] and the bushing [3].



4. Remove the C-ring [1], and remove the tray2 feed roller [2].



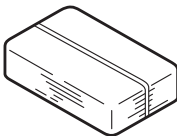

**NOTE**

- When reinstalling the feed roller [1], make sure that it is mounted in the direction shown in the illustration on the left.

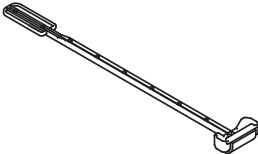
5. To reinstall, reverse the order of removal.

## 5. SERVICE TOOL

### 5.1 Service material list

Tool name	Shape	Material No.	Remarks
Cleaning pad		000V-18-1	10pcs/1pack
Isopropyl alcohol		000V-19-0	

### 5.2 CE tool list

Tool name	Shape	Quantity	Parts No.
Laser lens cleaning tool		1	AVGR16007M

## 6. FIRMWARE UPGRADE

### 6.1 Controller firmware upgrading (for MFPB/1)

#### 6.1.1 Preparations for firmware upgrading

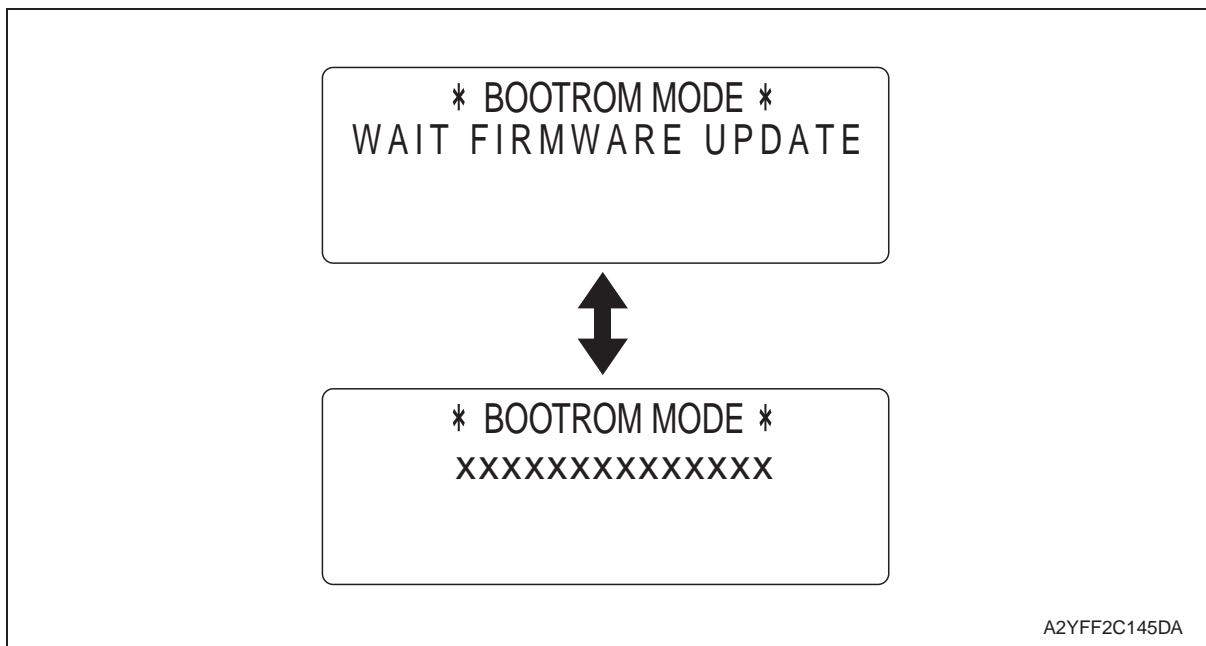
##### NOTE

- Make sure that the scanner driver has been installed in the PC.
- Before updating the firmware, print Configuration Page to confirm the current Controller Firmware Version.

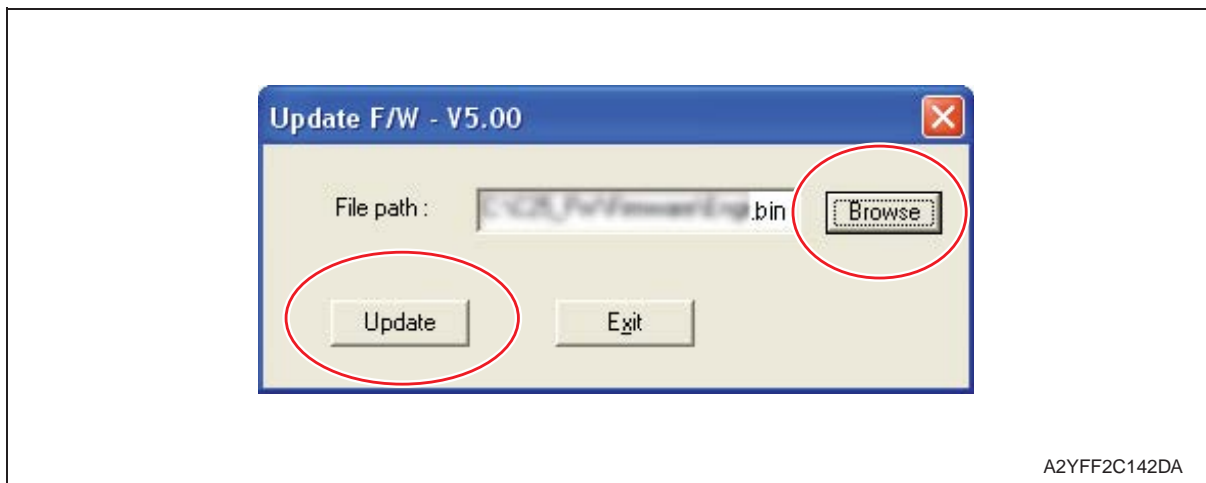
See P.154

#### 6.1.2 Upgrading procedure

1. Connect the machine and PC using the USB cable.
2. Turn ON the machine's main switch pressing Menu/Select key.
3. Confirm that [\*BOOTROM MODE\*] appears on the screen.



4. Copy the firmware data and upgrading program in any arbitrary directory of the PC.
5. Double-click "UpdateFW.exe".
6. Click [Browse] and select File path of target file.
7. Click [Update].

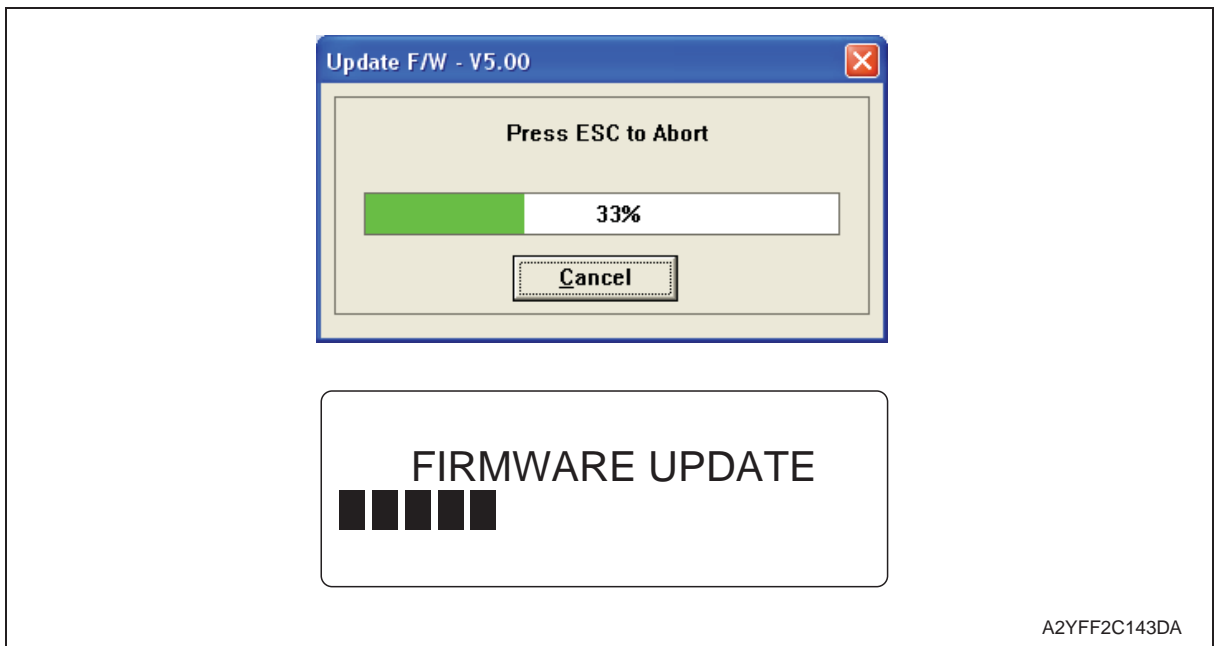


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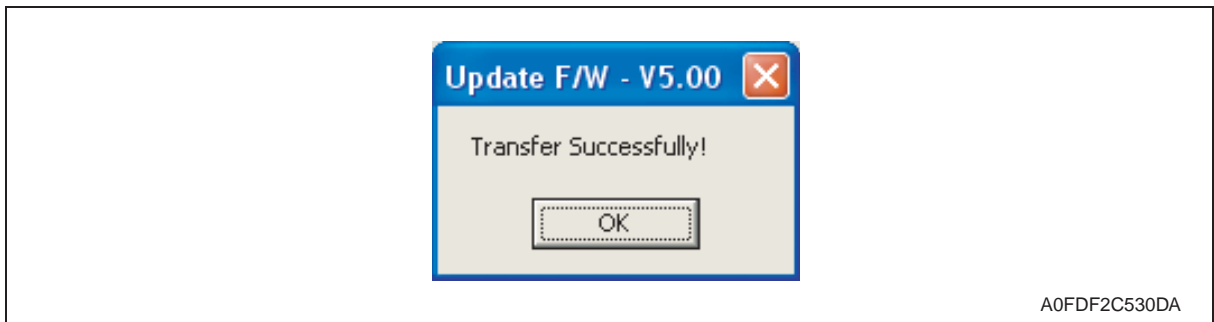


8. Firmware updating starts.



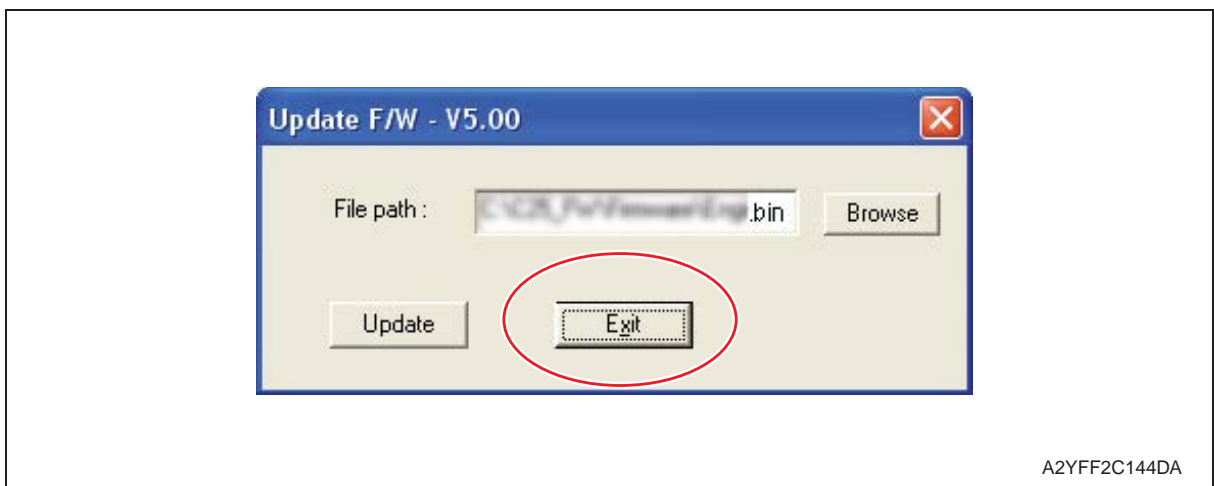
A2YFF2C143DA

9. When [Transfer Successfully!] message appears on the screen, click [OK].



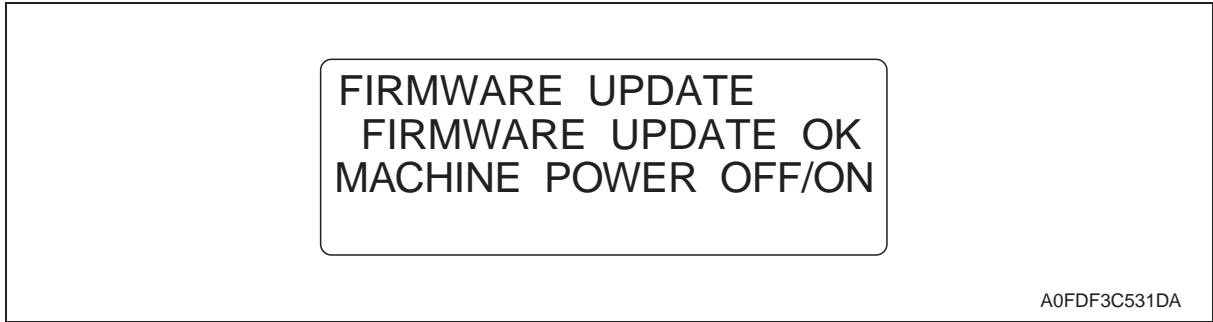
A0FDF2C530DA

10. Click [Exit] to close the execution tool.



A2YFF2C144DA

11. Confirm that [FIRMWARE UPDATE OK] message has been displayed, and turn OFF/ON the machine's main switch.



12. Print [CONFIGURATION PAGE] to confirm the Controller Firmware Version.  
[See P.154](#)

## 6.2 PS/PCL firmware upgrading (for MFPB/2)

### 6.2.1 Preparations for firmware upgrading

#### NOTE

- Make sure that the printer driver has been installed in the PC.
- Before updating the firmware, print Configuration Page to confirm the current PS/PCL Firmware Version.

See P.154

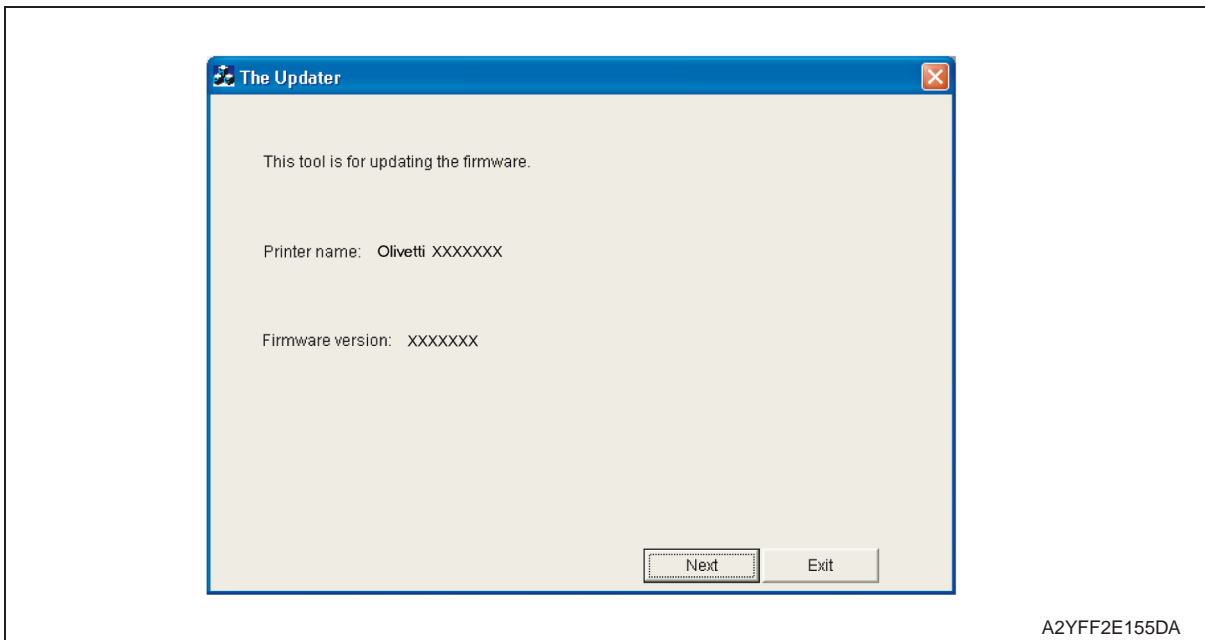
#### A. Connection for Windows

##### (1) Starting the firmware updater

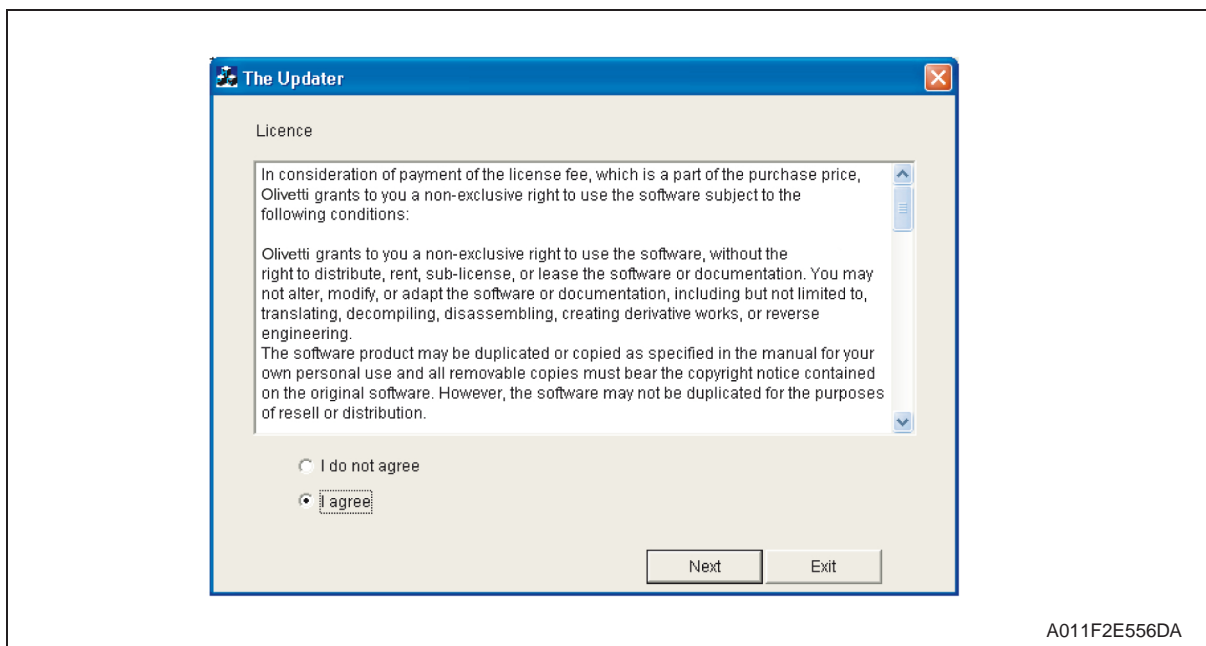
#### NOTE

- Before starting the firmware updater, turn on the printer, and make sure that it is correctly connected.

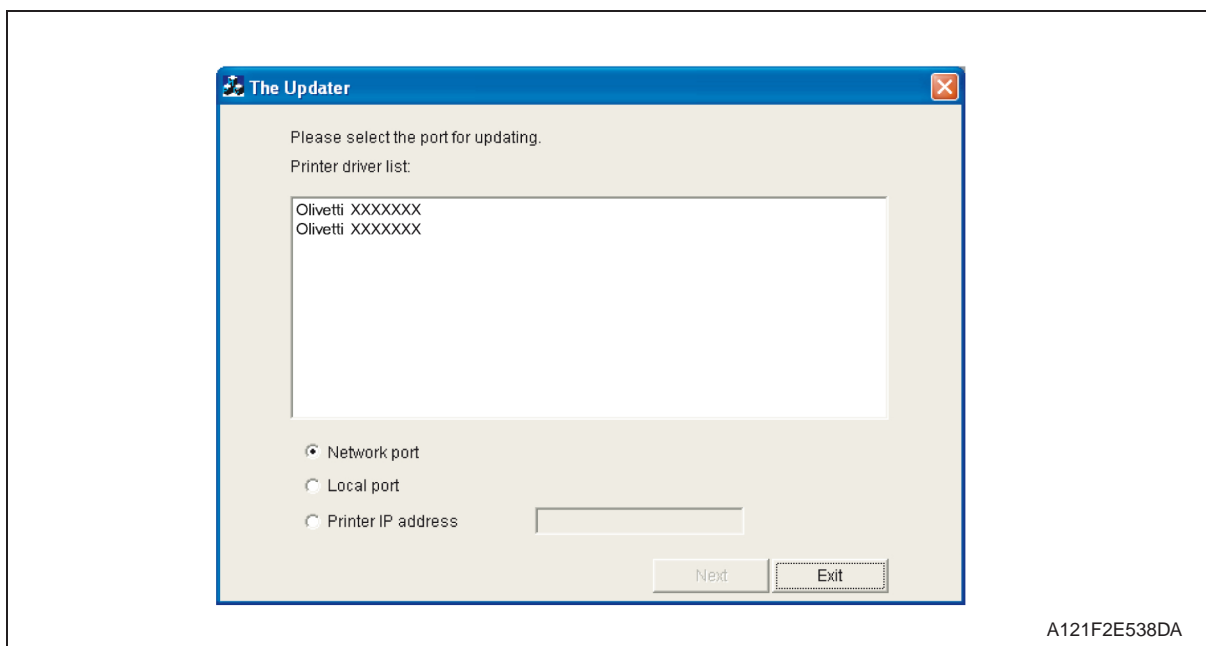
1. Download the firmware updater.
2. Double-click "xxxxxxxxxxxx.exe."
3. The printer name and firmware version are displayed. Click the [Next].



4. The license agreement is displayed. Select “I agree”, and then click the [Next].



5. The list of printer drivers is displayed. Select the appropriate connection for the environment where the printer is being used.



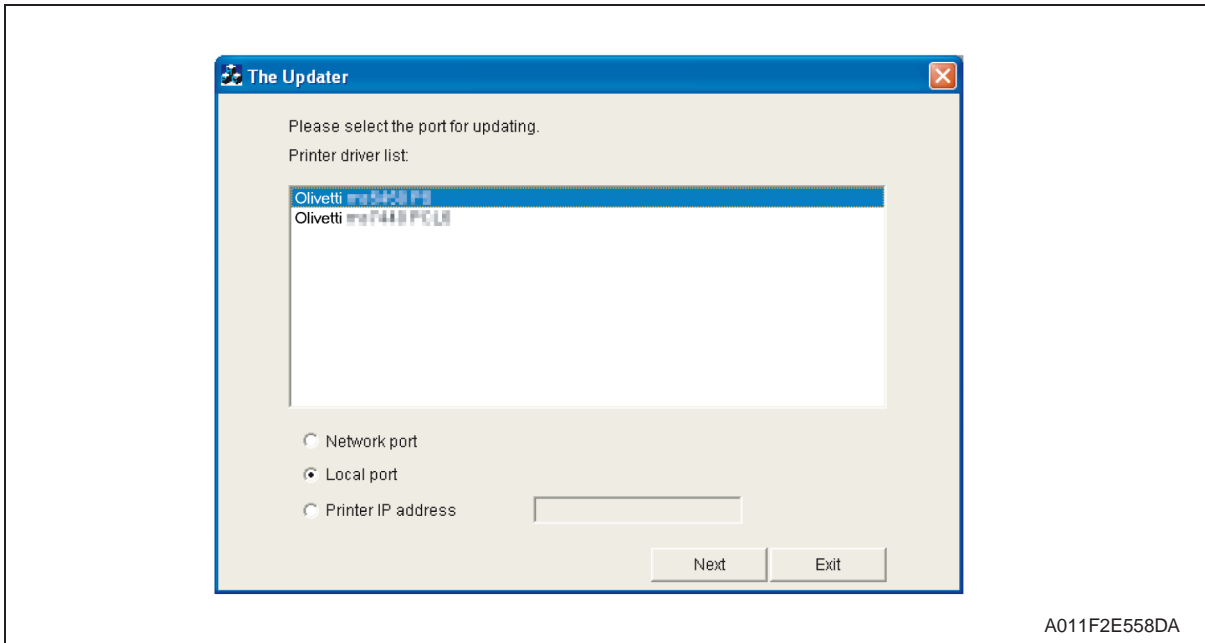
- For a network connection: Select “Network port.”  
[See P.30](#)
- For a local connection: Select “Local port.”  
[See P.32](#)
- When specifying the IP address of the printer: Select “Printer IP address.”  
[See P.34](#)

**NOTE**

- If you select “Network port” or “Local port”, make sure that the printer driver has been installed.
- If you select “Printer IP address”, the firmware can be updated even if a printer driver is not already installed.

**(2) For a network connection**

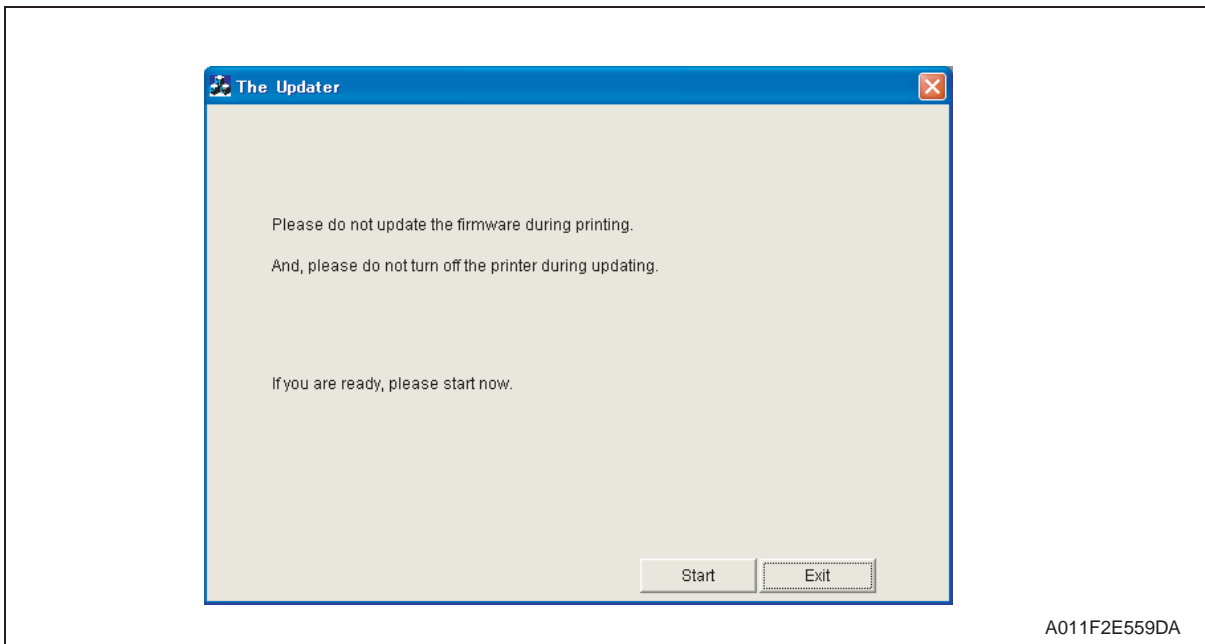
1. When “Network port” is selected, a list of printer drivers for the network port appears.
2. Select the printer driver, and then click the [Next].



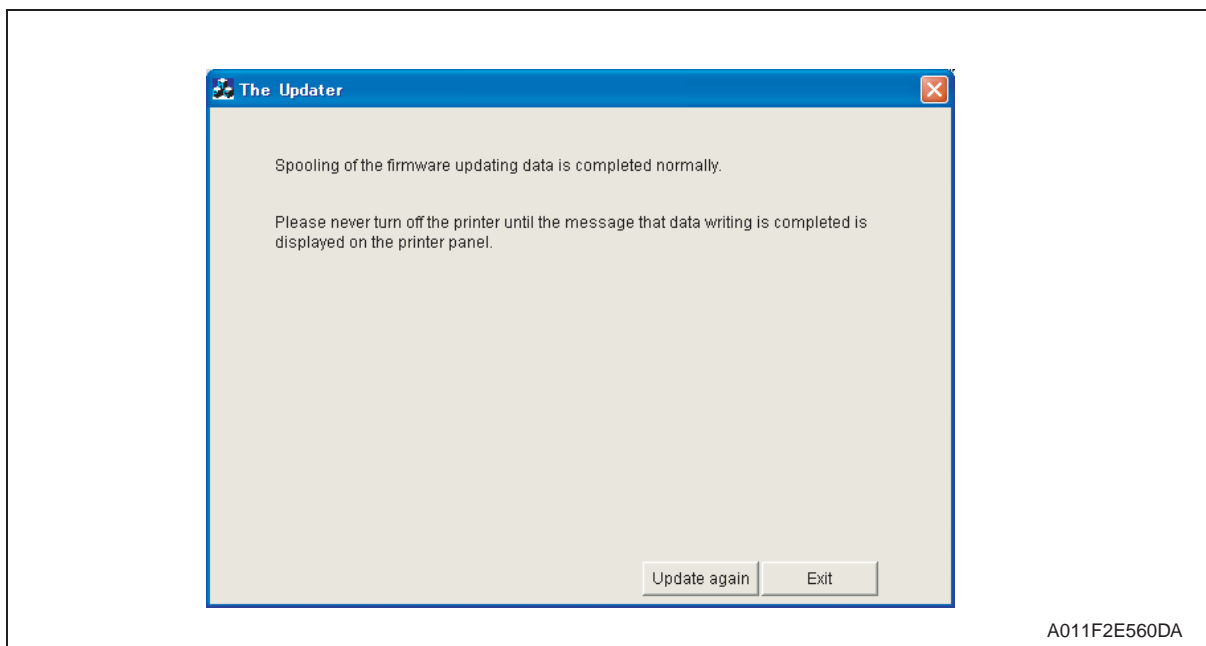
3. A message appears, requesting confirmation to update the firmware. Click the [Start] to begin transferring the firmware.

**NOTE**

- Do not turn off the printer while its firmware is being updated.



4. The result of the firmware transfer is displayed. Click the [Exit].

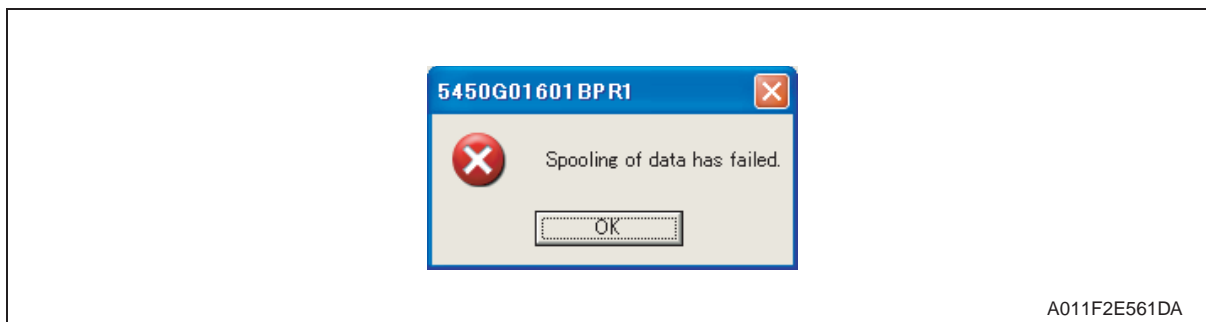


- 5. If the firmware was successfully updated, the printer will automatically restart.
- 6. Print [CONFIGURATION PAGE] to confirm the PS/PCL Firmware Version.  
[See P.154](#)

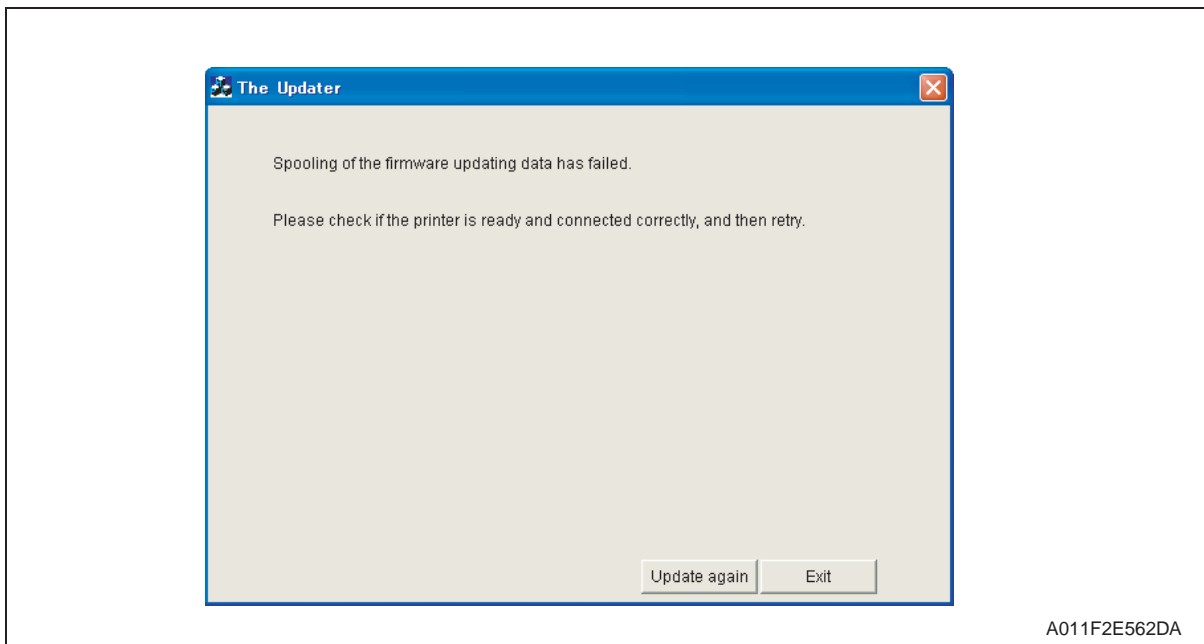
**<If spooling of the data fails>**

**NOTE**

- If spooling fails, data may remain in the printer spooler. Delete this data, and then try again.
1. If spooling of the data fails, the following message appears.
  2. Click [OK].

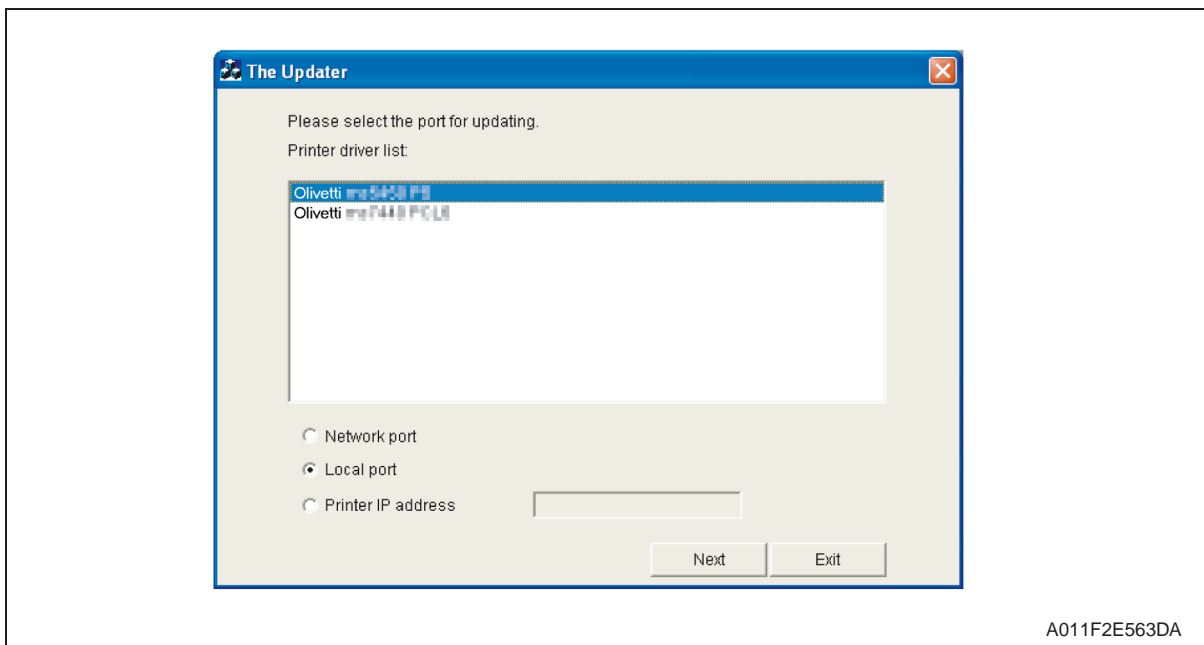


3. Check that the printer is ready and that it is correctly connected, and then click the [Update again].



**(3) For a local connection**

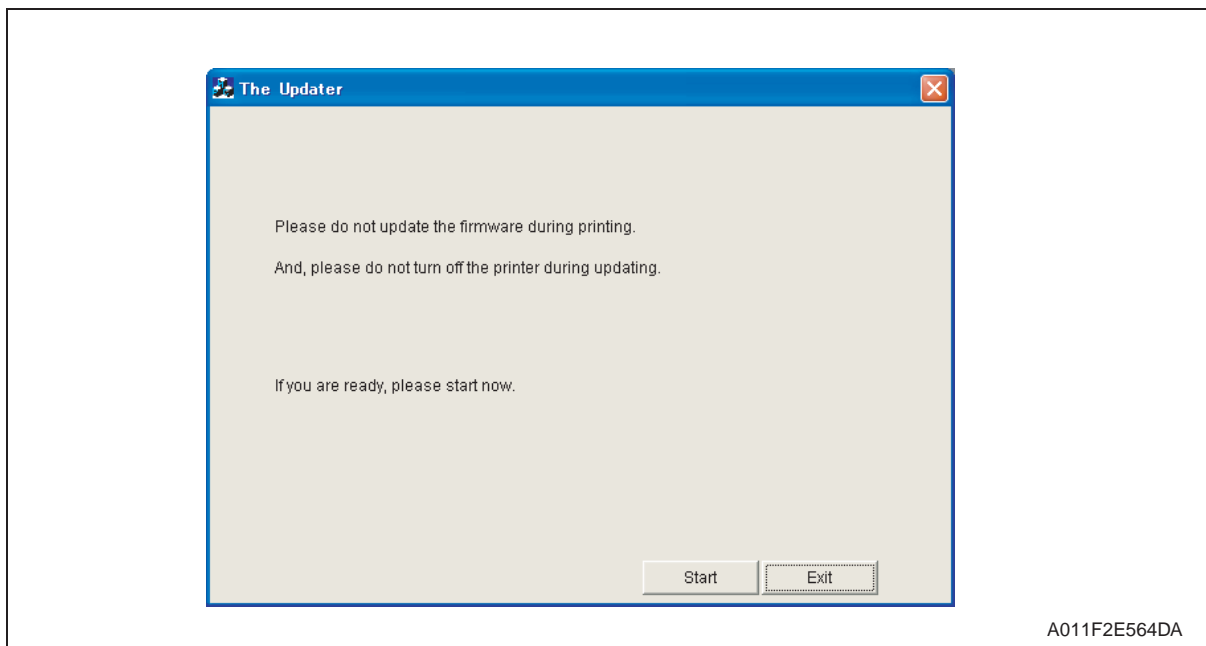
1. When “Local port” is selected, a list of printer drivers for the local port appears.
2. Select the printer driver, and then click the [Next].



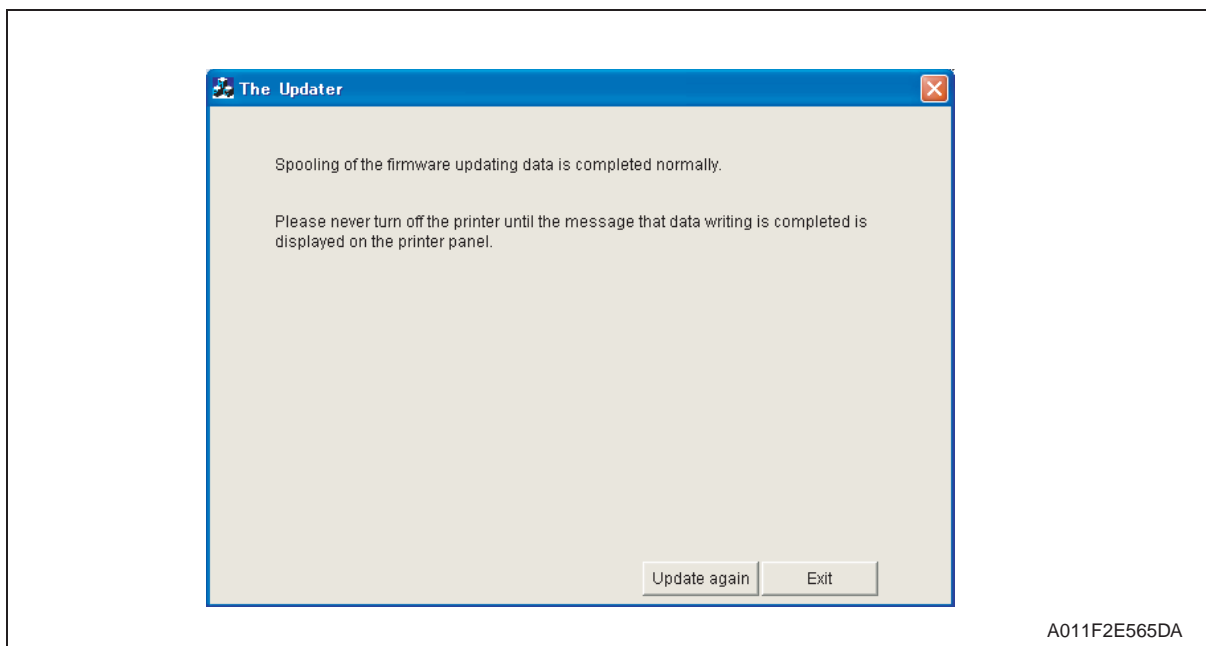
3. A message appears, requesting confirmation to update the firmware. Click the [Start] to begin transferring the firmware.

**NOTE**

- **Do not turn off the printer while its firmware is being updated.**



4. The result of the firmware transfer is displayed. Click the [Exit].



5. If the firmware was successfully updated, the printer will automatically restart.
6. Print [CONFIGURATION PAGE] to confirm the PS/PCL Firmware Version.  
[See P.154](#)

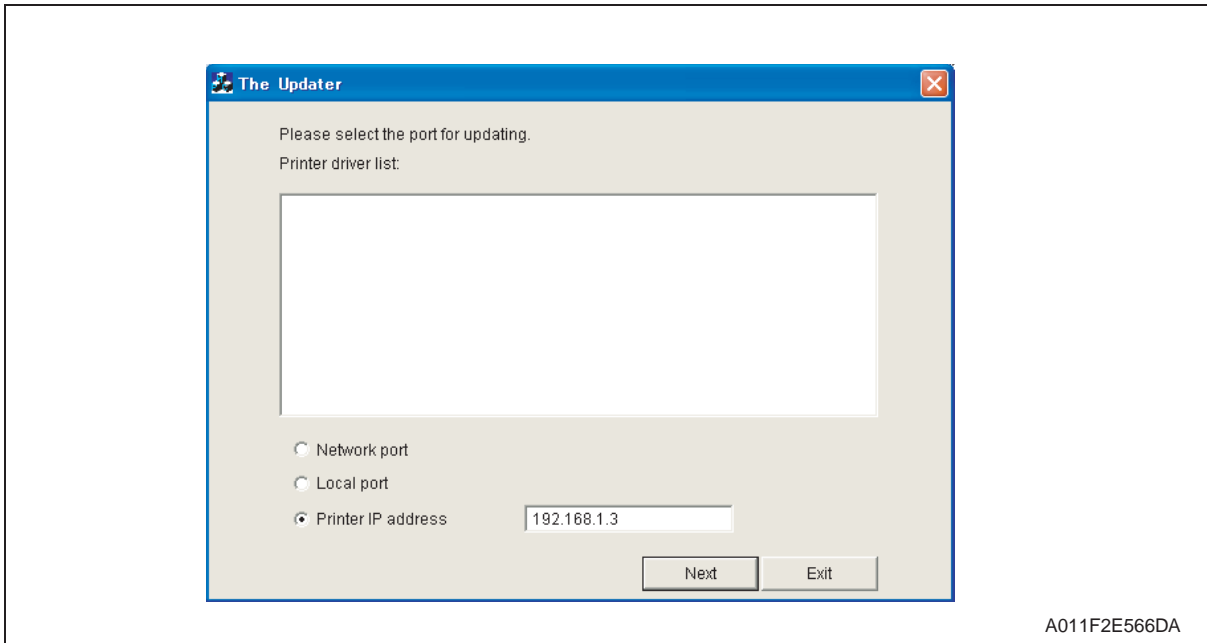
**<If spooling of the data fails>**

For details, see “For a network connection.”  
[See P.31](#)



**(4) When specifying the IP address of the printer**

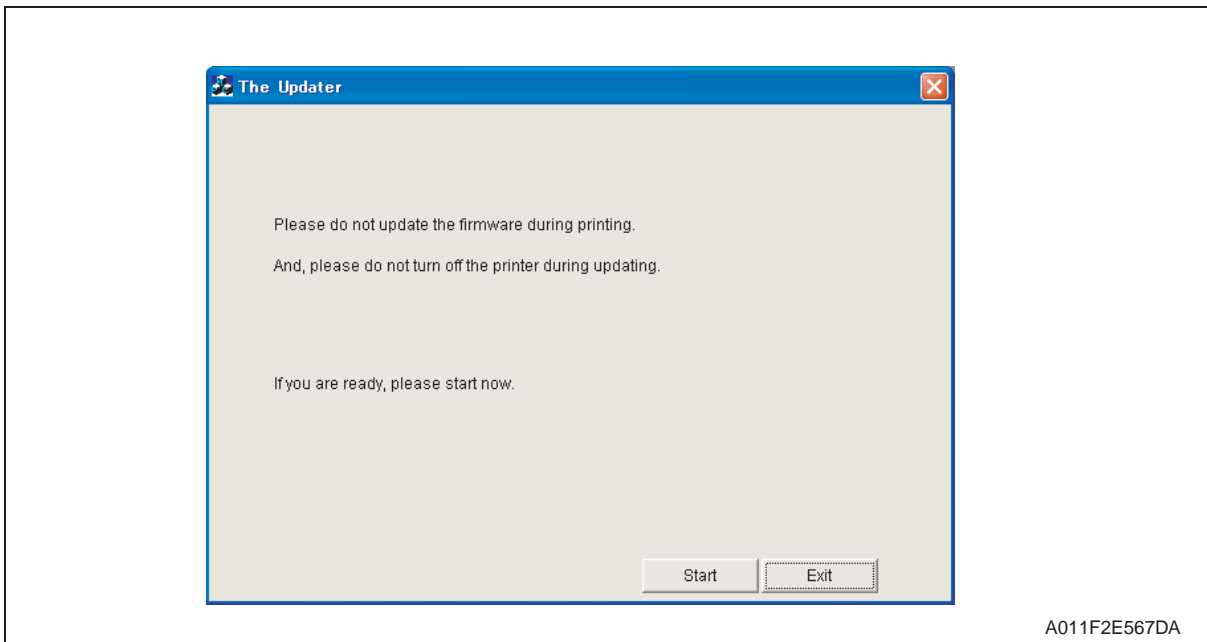
1. When "Printer IP address" is selected, the "Printer IP address" box becomes available.
2. Type in the IP address, and then click the [Next].



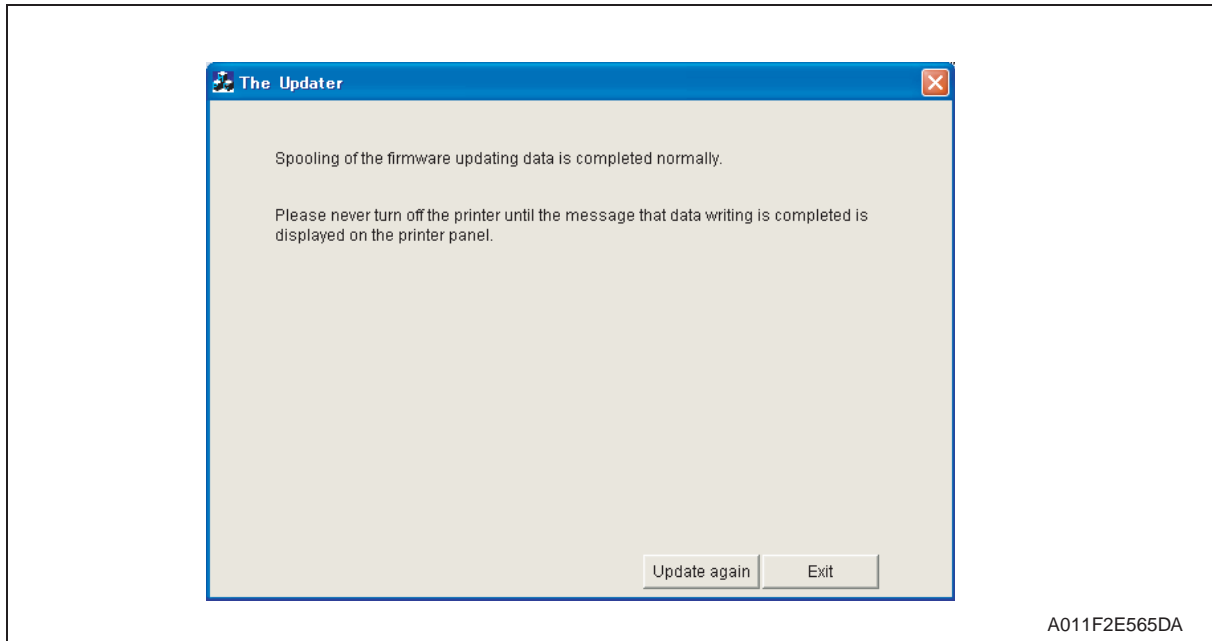
3. A message appears, requesting confirmation to update the firmware. Click the [Start] to begin transferring the firmware.

**NOTE**

- Do not turn off the printer while its firmware is being updated.



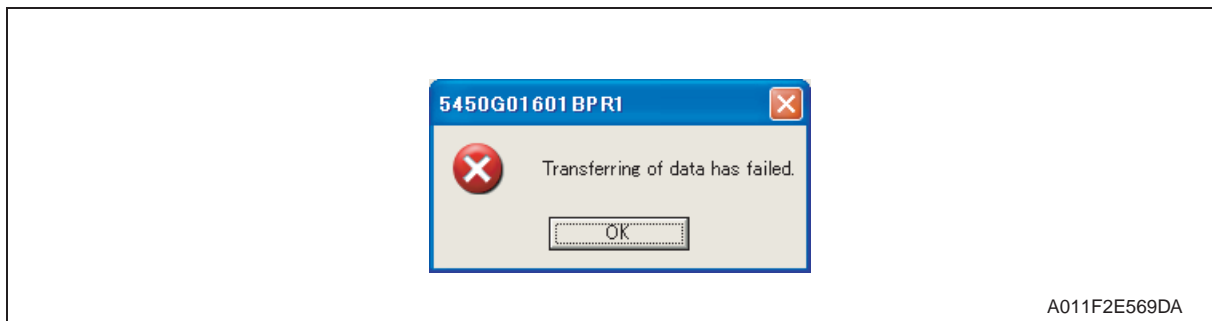
- The result of the firmware transfer is displayed. Click the [Exit].



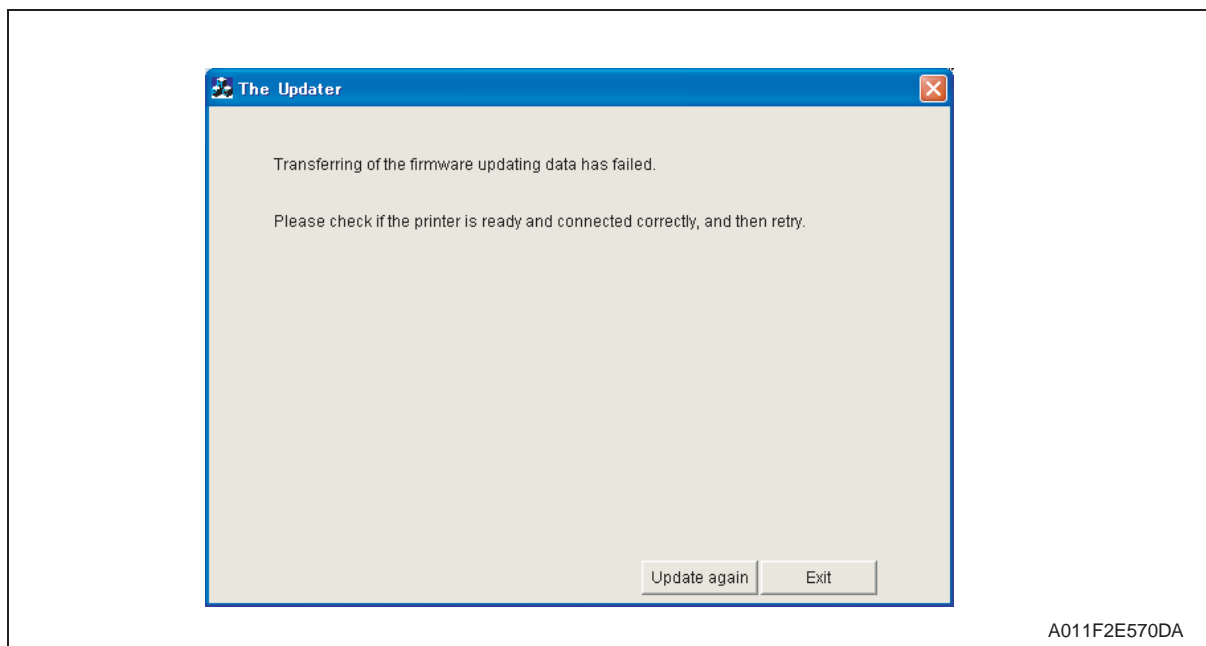
- If the firmware was successfully updated, the printer will automatically restart.
- Print [CONFIGURATION PAGE] to confirm the PS/PCL Firmware Version.  
[See P.117](#)

**<If transferring of the data fails>**

- If transferring of the data fails, the following message appears.
- Click [OK].



3. Check that the printer is ready and that it is correctly connected, and then click the [Update again].



### 6.3 Engine firmware upgrading

#### 6.3.1 Preparations for firmware upgrading

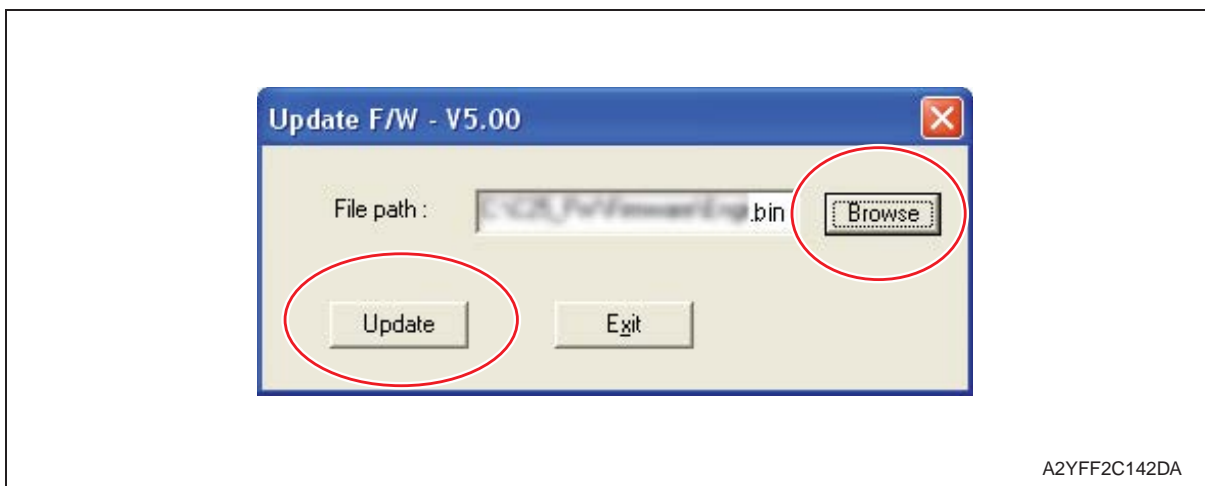
**NOTE**

- Make sure that the scanner driver has been installed in the PC.
- Before updating the firmware, print Configuration Page to confirm the current Engine Firmware Version.

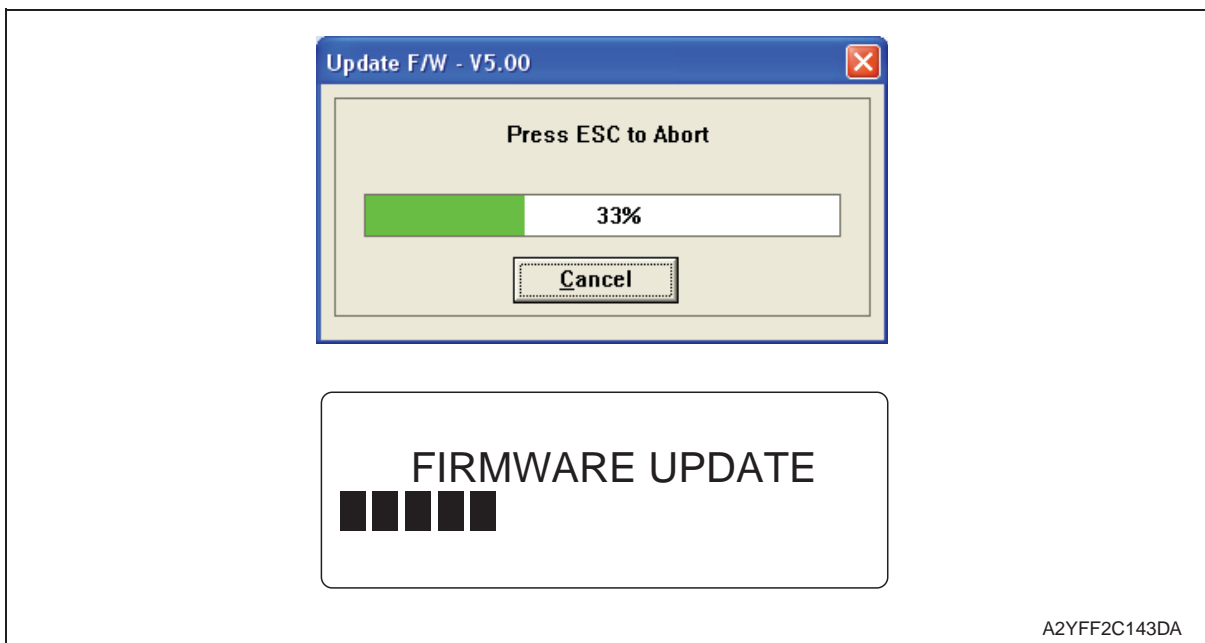
See P.117

#### 6.3.2 Upgrading procedure

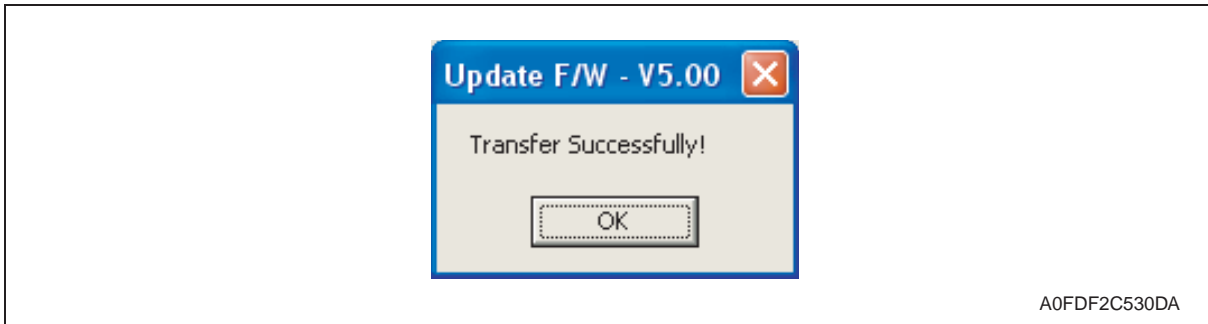
1. Connect the machine and PC using the USB cable.
2. Turn ON the machine's main switch.
3. Copy the firmware data and upgrading program in any arbitrary directory of the PC.
4. Double-click "UpdateFW.exe".
5. Click [Browse] and select File path of target file.
6. Click [Update].



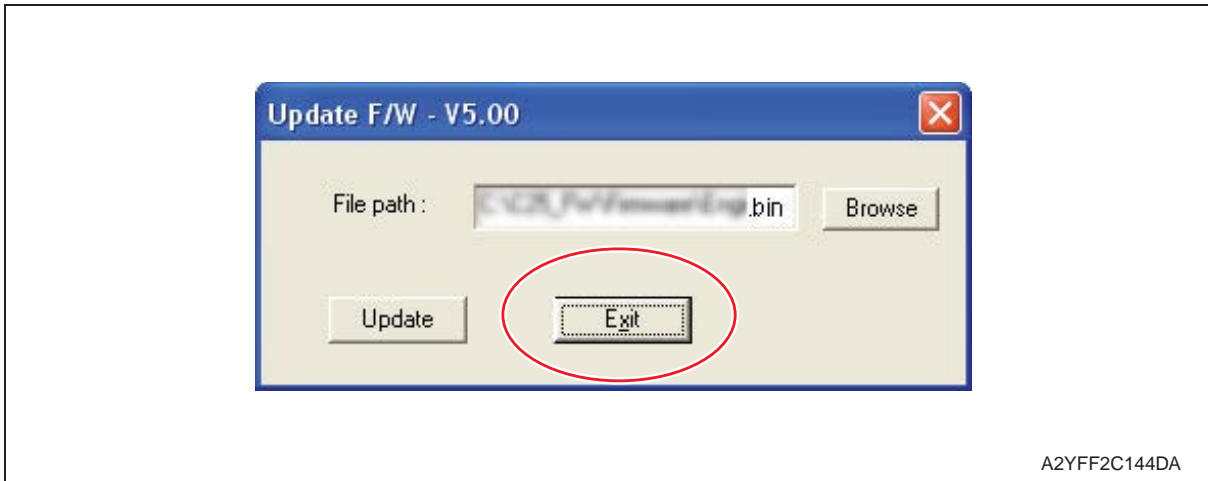
7. Firmware updating starts.



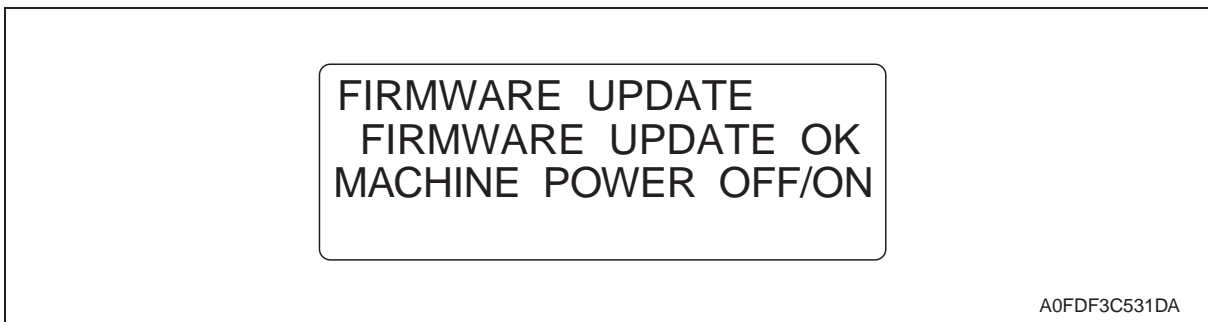
8. When [Transfer Successfully!] message appears on the screen, click [OK].



9. Click [Exit] to close the execution tool.



10. Confirm that [FIRMWARE UPDATE OK] message has been displayed, and turn OFF/ ON the machine's main switch.



11. Print [CONFIGURATION PAGE] to confirm the Engine Firmware Version.  
[See P.117](#)

## 7. OTHER MAINTENANCE ITEM

### 7.1 Items not allowed to be disassembled and adjusted

#### A. Paint-locked screws

##### NOTE

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

#### B. Red-painted screws

##### NOTE

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

#### C. Variable resistors on board

##### NOTE

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

#### D. Removal of PWBs

##### CAUTION

- To avoid electrical shock, after turning OFF the power switch, do not touch the DC power supply for 9 minutes.
- 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.

#### E. Precautions for disassembly

- When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs of the frame and parts.  
They may injure your hands or fingers.
- If it is absolutely necessary to service the machine with the door open or external covers removed, always be attentive to the motion of the internal parts.  
A normally protected part may cause unexpected hazards.
- When removing a part that secures a motor, gear, or other moving part, disassembling a unit, or reinstalling any of such parts and units, be careful about moving parts and use care not to drop any part or unit. During the service procedure, give sufficient support for any heavy unit.  
You may be injured by a falling part or unit.

**F. Precautions during setup or transportation**

- **Whenever mounting an option on the machine, be attentive to the motion of the fellow worker of the joint work.**

The fellow worker may be injured with his or her finger or hand pinched between the machine and the option.

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

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

- **Do not leave the machine unattended during transportation, installation, and inspection of the machine. If it is to be unavoidably left unattended, face protrusions toward the wall or take other necessary risk reducing action.**

The user may stumble over a protrusion of the machine or be caught by a cable, falling to the floor or being injured.

**7.1.1 PH unit****A. Reason for prohibition**

- The laser runs inside the PH unit. Opening the cover may cause dust to enter and interrupt the laser. Do not remove any screw which may disassemble the PH unit.

**7.1.2 Fusing unit****A. Reason for prohibition**

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

## 7.2 Disassembly/reassembly parts list

Section	Part name	Ref. Page
Exterior parts	Rear cover	P.43
	Left cover	P.43
	Rear right cover	P.44
	Exit cover	P.44
	Front right cover	P.45
	Operation panel	P.48
	Upper cover	P.49
Boards and etc.	FAX board (FAXB)	P.50
	MFP board/1 (MFPB/1)	P.51
	MFP board/2 (MFPB/2)	
	Printer control board (PRCB)	P.53
	DC power supply (DCPU)	P.55
	High voltage unit (HV1)	P.57
	Temperature/ humidity sensor (TEM/HUMS)	P.90
	IDC sensor (IDC)	P.91
Units	Tray1	P.47
	Tray2	P.46
	PH unit	P.61
	Hard disk kit (HD-P03) *1	P.63
	CF adapter (MK-725) *1	P.65
	Dual In-Line Memory Module (DIMM)	P.67
	CIS module	P.95
	Scanner unit	P.96
	ADF	P.98



Section	Part name	Ref.Page
Other parts	Developing motor (M1)	P.68
	Main motor (M2)	P.68
	Color PC drum motor (M4)	P.69
	DC power supply fan motor (FM10)	P.70
	Cooling fan motor (FM11)	P.71
	Tray2 media feed clutch (CL1)	P.72
	Tray1 media feed clutch (CL2)	
	Registration clutch (CL3)	P.74
	Toner supply motor/Y (CL4)	P.75
	Toner supply motor/M (CL5)	
	Toner supply motor/C (CL6)	
	Toner supply motor/K (CL7)	
	Loop detection clutch (CL8)	P.77
	Switchback roller feed clutch (CL11)	P.80
	Switchback roller reverse clutch (CL12)	
	Duplex conveyance roller clutch (CL13)	P.83
2nd transfer release solenoid (SD2)	P.88	
Other parts	Scanner motor (M101)	P.93
	ADF pick-up roller	P.100
	ADF feed roller	
	ADF separation pad	P.103

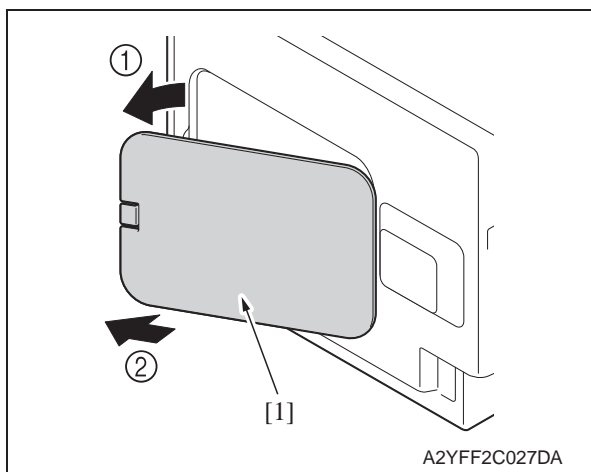
\*1: Option

### 7.2.1 Cleaning parts list

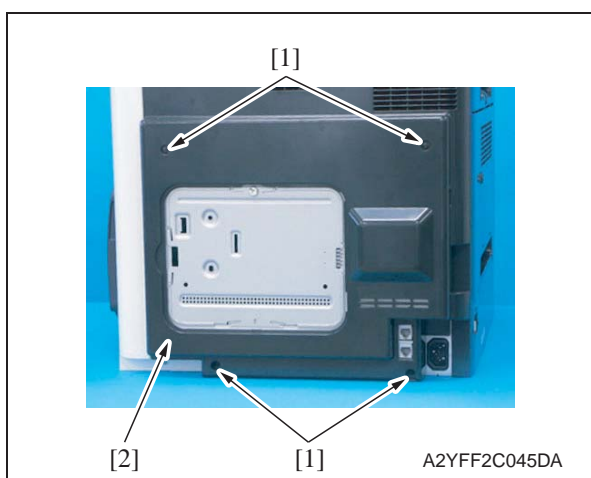
Section	Part name	Ref.Page
Tray1	Tray1 feed roller	P.104
Tray2	Tray2 feed roller	P.104
ADF	ADF feed roller	P.105
Processing section	Laser irradiation section	P.106

### 7.3 Disassembly/reassembly procedure

#### 7.3.1 Rear cover



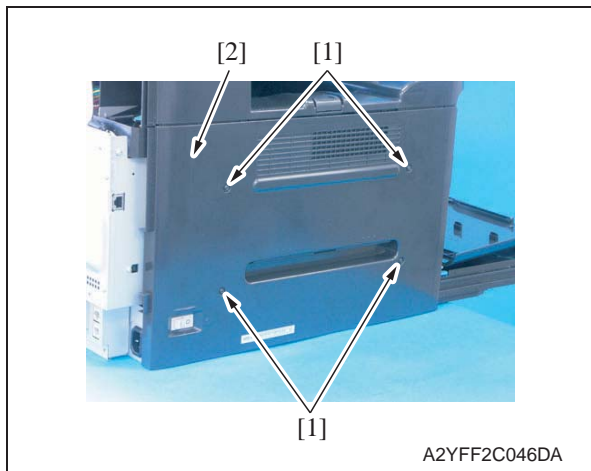
1. Remove the rear center cover [1].



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

#### 7.3.2 Left cover

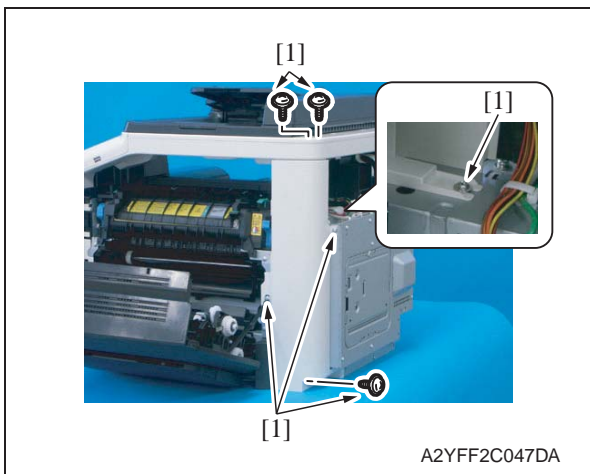
1. Slide out tray2.
2. Open the front door.
3. Remove the waste toner bottle  
[See P.14](#)
4. Remove the rear cover.  
[See P.43](#)



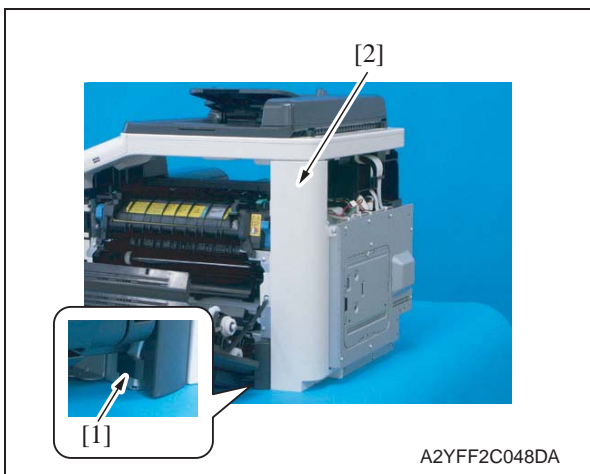
5. Remove four screws [1], and remove the left cover [2].

### 7.3.3 Rear right cover

1. Remove the rear cover.  
See P.43
2. Open the right door.



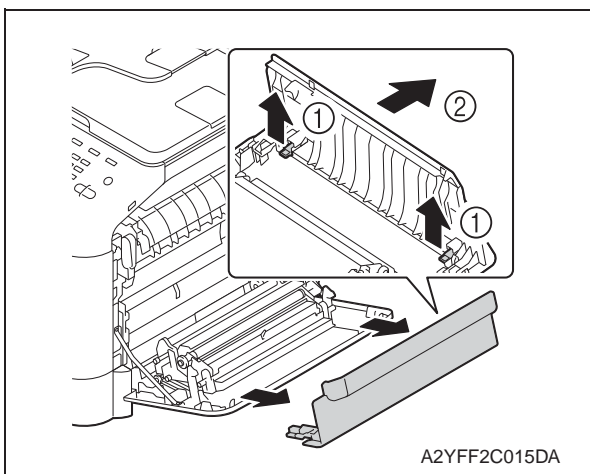
3. Remove six screws [1].



4. Release the tab [1], raise the scanner unit, and remove the rear right cover [2].

### 7.3.4 Exit cover

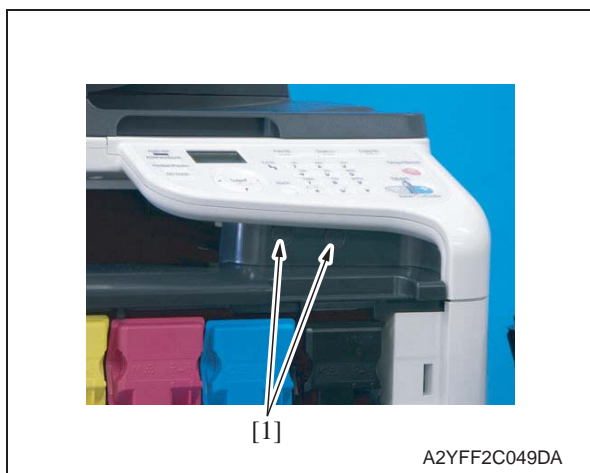
1. Open the right door.



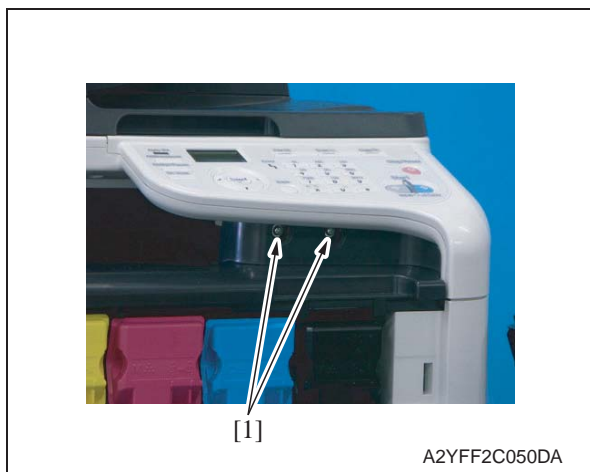
2. Remove the exit cover.

### 7.3.5 Front right cover

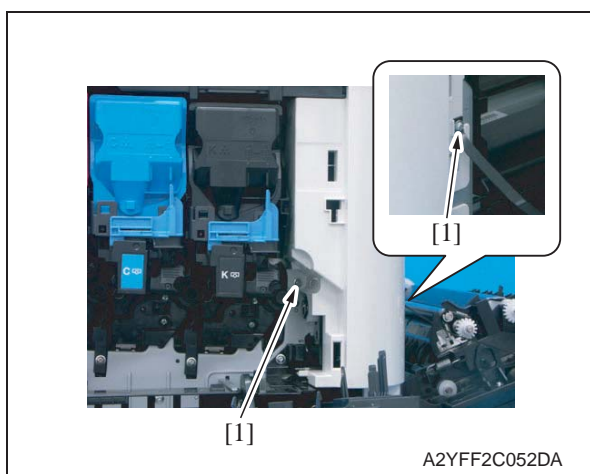
1. Open the right door.
2. Remove the waste toner bottle.  
See P.14



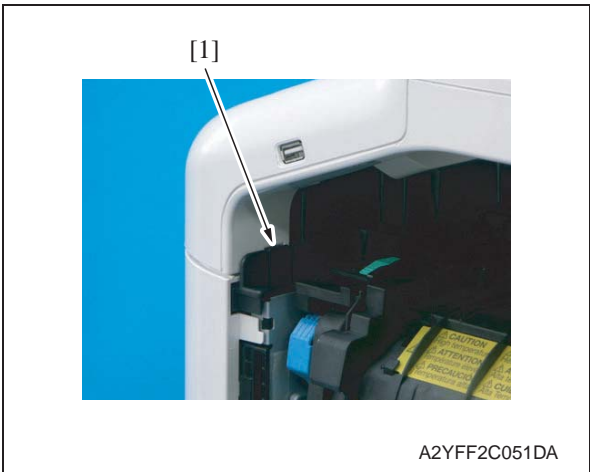
3. Remove two caps [1].



4. Remove two screws [1].



5. Remove two screws [1].

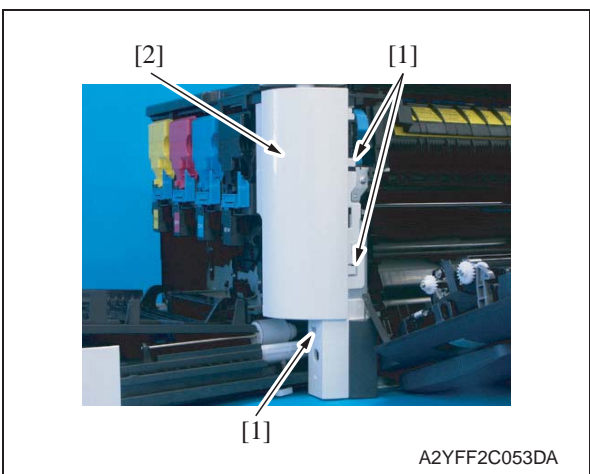


A2YFF2C051DA

- Unhook the tab [1], and raise the operation panel.

**NOTE**

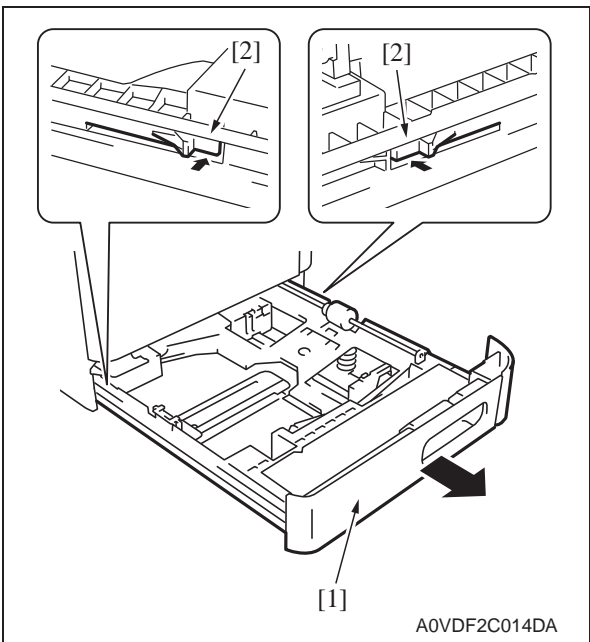
- When unhook the tab [1], use the flathead screwdriver or the similar tool.



A2YFF2C053DA

- Unhook three tabs [1], and remove the front right cover [2].

**7.3.6 Tray2**

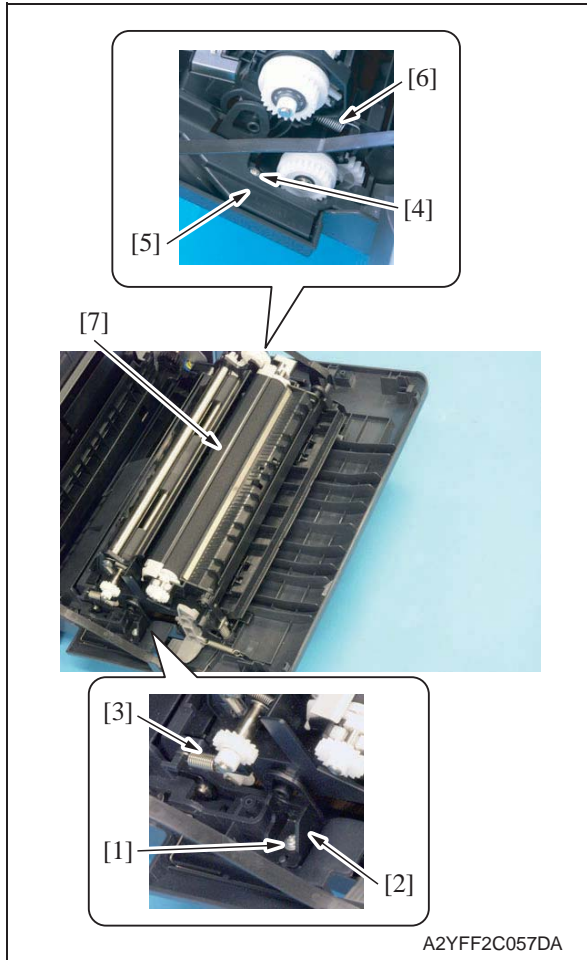


A0VDF2C014DA

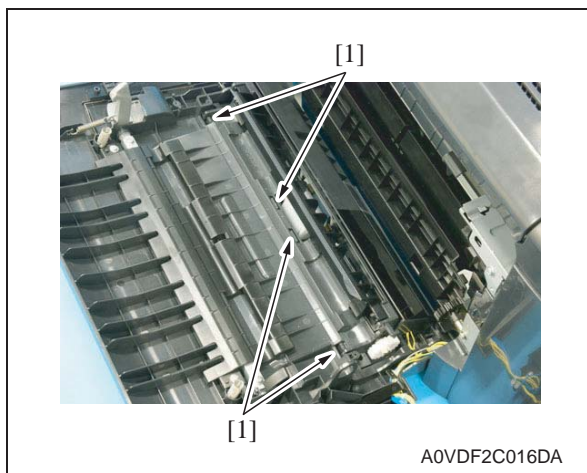
- Pull out the tray 2 [1].
- While pushing the left and right tabs [2], remove the tray 2 [1].

### 7.3.7 Tray1

1. Open the right door.



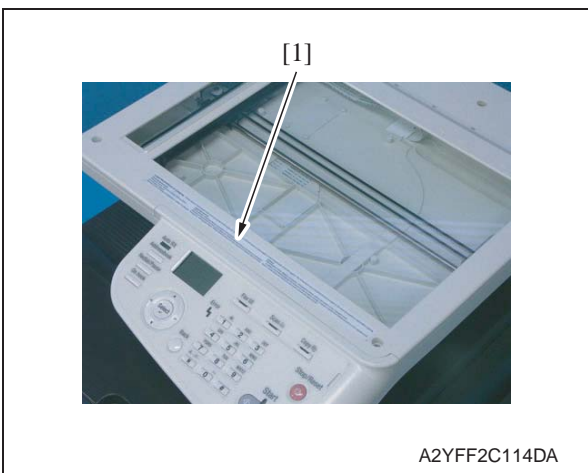
2. Remove the screw [1], and remove the fixed cover [2].
3. Remove the spring [3].
4. Remove the screw [4], and remove the harness cover [5].
5. Remove the spring [6].
6. Remove the conveyance unit [7].



7. Unlock four tabs [1], and remove the tray 1.

### 7.3.8 Operation panel

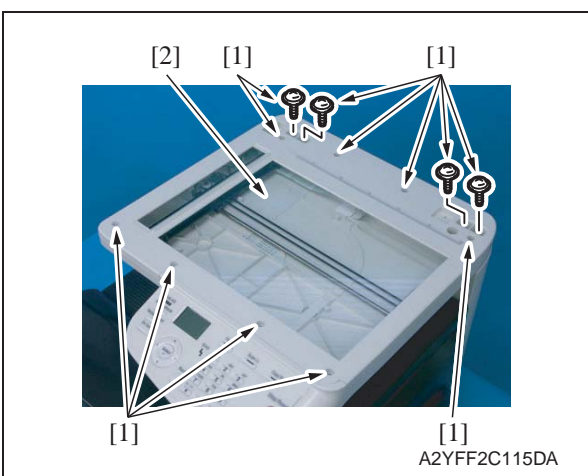
1. Remove the ADF.  
See P.98



2. Peel off the label [1].

**NOTE**

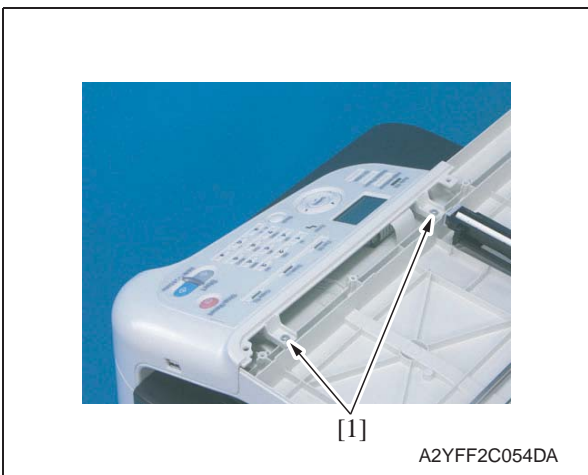
- After reinstalling the original glass, attach the label (Parts No.: A121 9447 ##) again.



3. Remove 12 screws [1], and remove the original glass [2].

**NOTE**

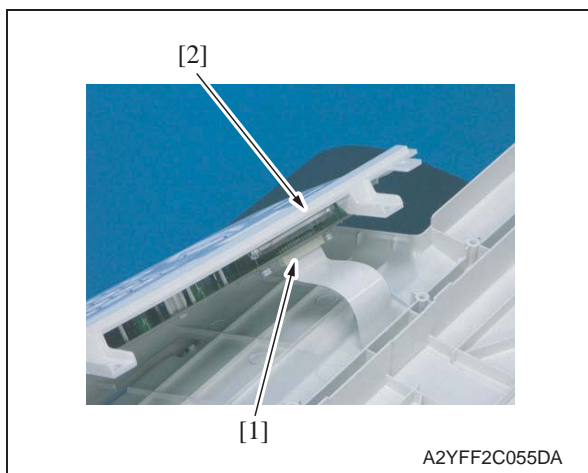
- During installation of the original glass, use care not to allow dust or dirt to enter the machine. Clean any dust or dirt that may have entered before attempting to install the original glass.



4. Remove two screws [1].





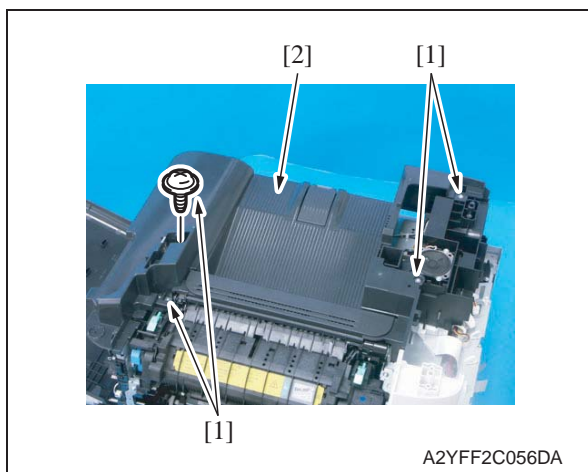


5. Disconnect the flat cable [1], and remove the operation panel [2].

6. To reinstall, reverse the order of removal.

### 7.3.9 Upper cover

1. Remove the waste toner bottle.  
[See P.14](#)
2. Remove the rear cover.  
[See P.43](#)
3. Remove the left cover.  
[See P.43](#)
4. Remove the ADF.  
[See P.98](#)
5. Remove the scanner unit.  
[See P.96](#)
6. Remove the front right cover.  
[See P.45](#)

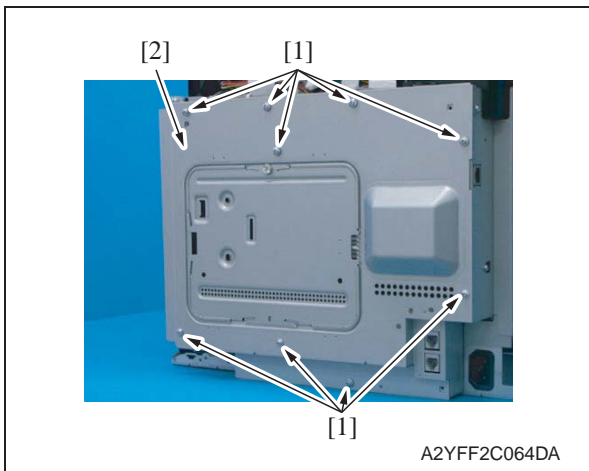


7. Remove four screws [1], and remove the upper cover [2].

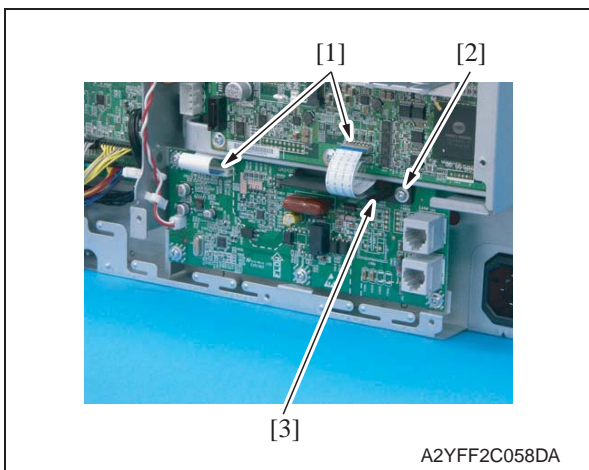


**7.3.10 FAX board**

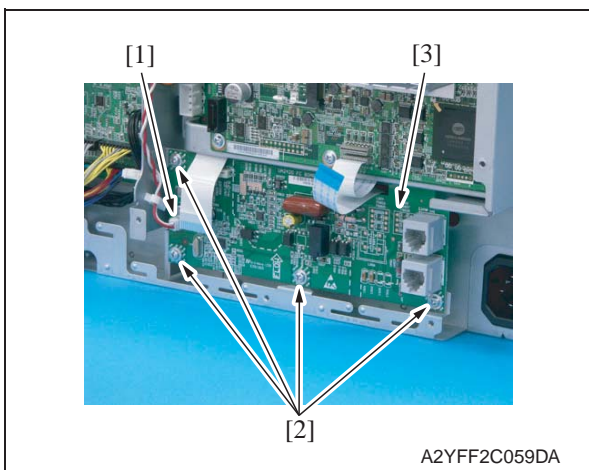
1. Remove the waste toner bottle.  
See P.14
2. Remove the rear cover.  
See P.43
3. Remove the left cover.  
See P.43



4. Remove nine screws [1], and remove the board protective shield [2].



5. Disconnect two flat cables [1].
6. Remove the screw [2], and remove the flat cables guide [3].



7. Disconnect the connector [1].
8. Remove four screws [2], and remove the FAX board [3].

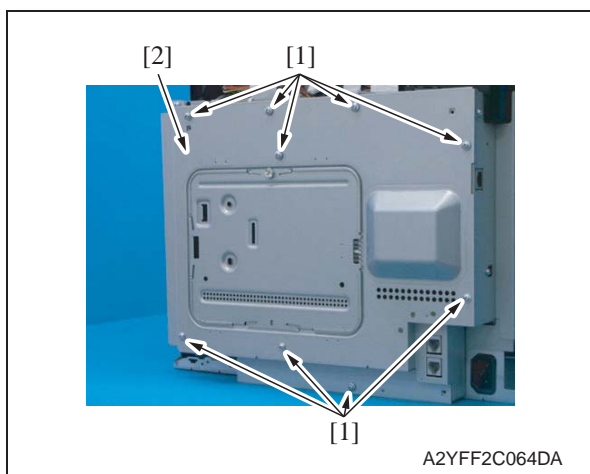
9. To reinstall, reverse the order of removal.

### 7.3.11 MFP board /1(MFPB /1)/ MFP board /2(MFPB /2)

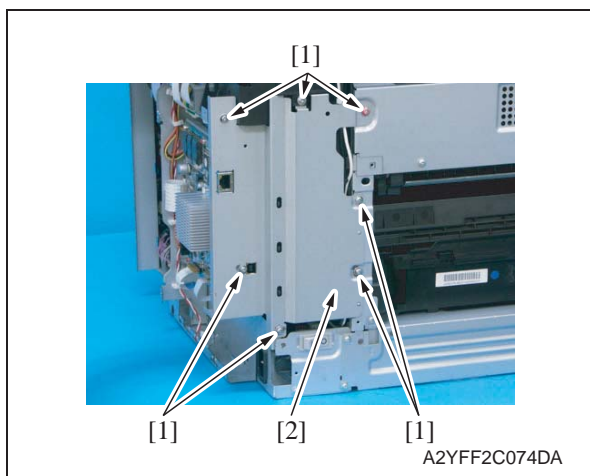
#### NOTE

- When the MFP board is replaced, upgrade the firmware to the latest version.  
See P.25
- When the MFP board is replaced with a new one, be sure to execute [BK CLEAR].  
See P.149

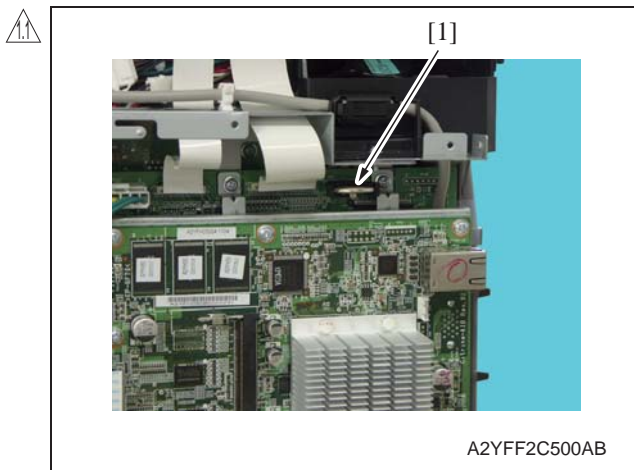
1. Remove the waste toner bottle.  
See P.14
2. Remove the rear cover.  
See P.43
3. Remove the left cover.  
See P.43



4. Remove nine screws [1], and remove the board protective shield [2].

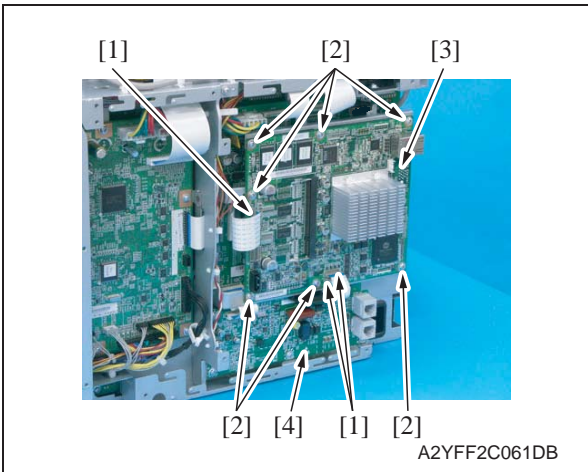


5. Remove seven screws [1], and remove the bracket [2].

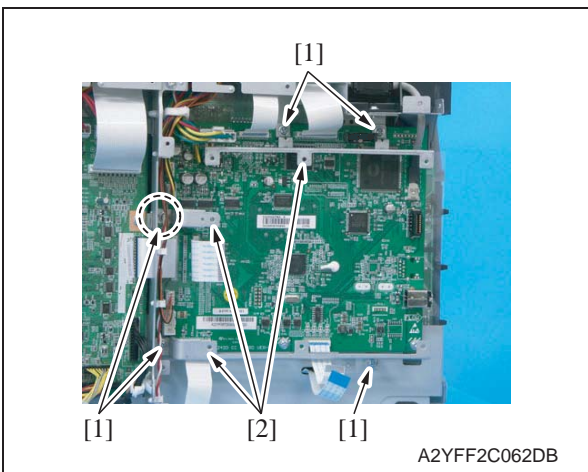


6. Remove the backup battery [1].

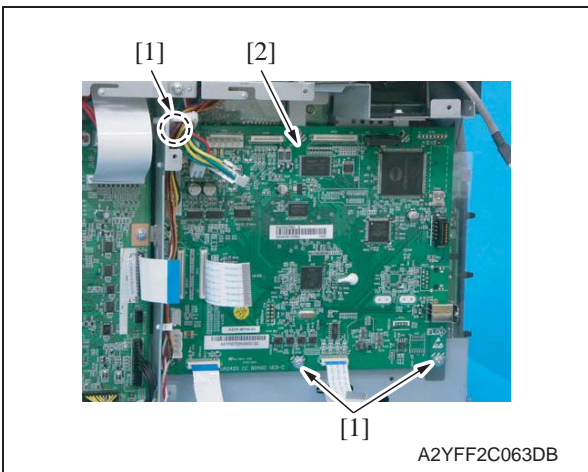




- 7. Disconnect three flat cables [1].
- 8. Remove seven screws [2], and remove the MFP board /2 [3].
- 9. Remove the FAX board [4].  
See P.50



- 10. Disconnect all connectors and flat cables.
- 11. Remove five screws [1], and remove the three brackets [2].



- 12. Remove three screws [1], and remove the MFP board /1 [2].

13. To reinstall, reverse the order of removal.

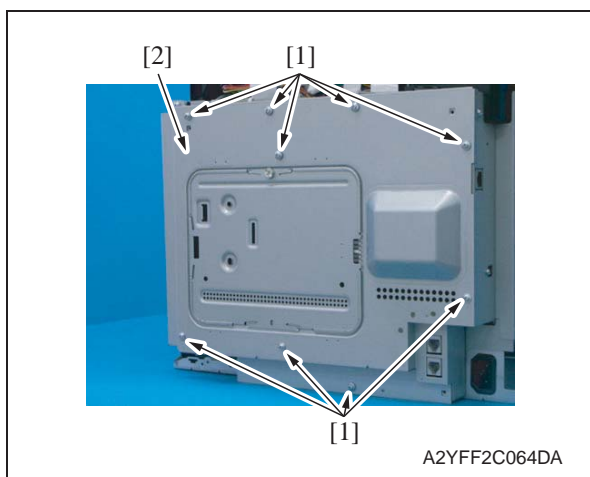
**7.3.12 Printer control board (PRCB)**

**NOTE**

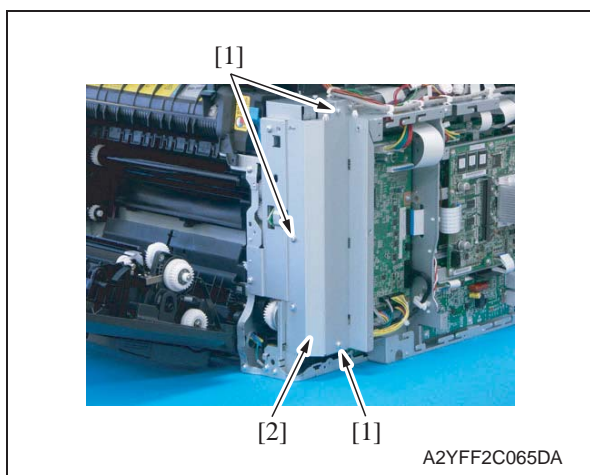
- When the printer control board is replaced with a new one, be sure to execute [BK CLEAR].

See P.149

1. Remove the waste toner bottle.  
See P.14
2. Remove the rear cover.  
See P.43
3. Remove the left cover.  
See P.43
4. Remove the rear right cover.  
See P.44

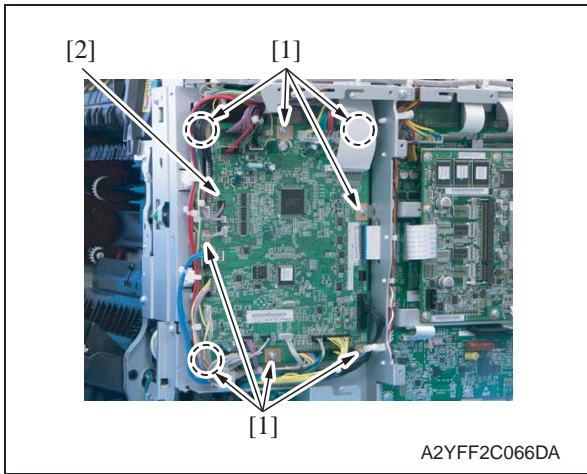


5. Remove nine screws [1], and remove the board protective shield [2].

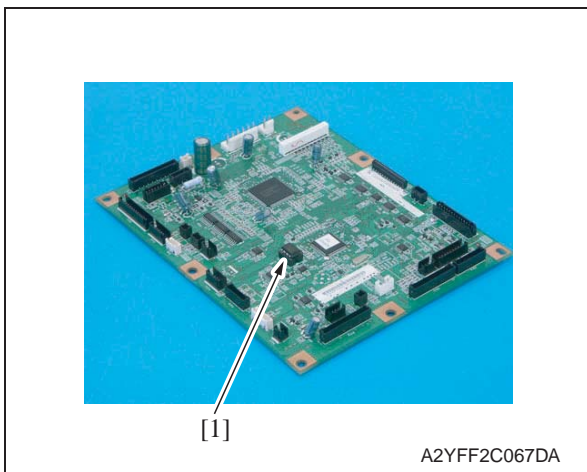


6. Remove three screws [1], and remove the bracket [2].

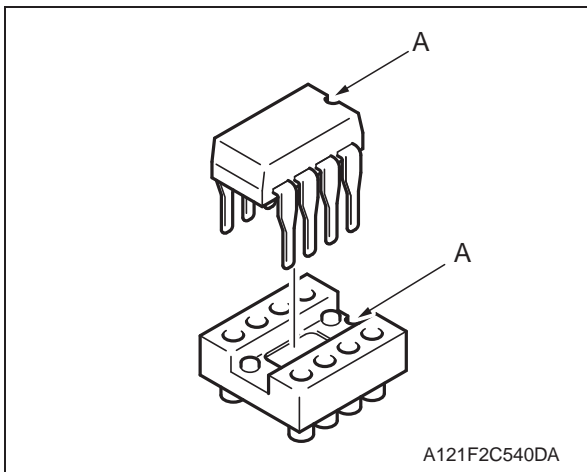




7. Disconnect all connectors and flat cables.
8. Remove eight screws [1].
9. Remove the print control board [2].

**NOTE**

- When the printer control board (PRCB) has been replaced, be sure to remount EEPROM [1] (ICS1). Unmount EEPROM [1] (ICS1) from the old printer control board and mount it on the new printer control board.



**NOTE**

- When mounting EEPROM (ICS1), make sure the notches "A" are precisely lined up.

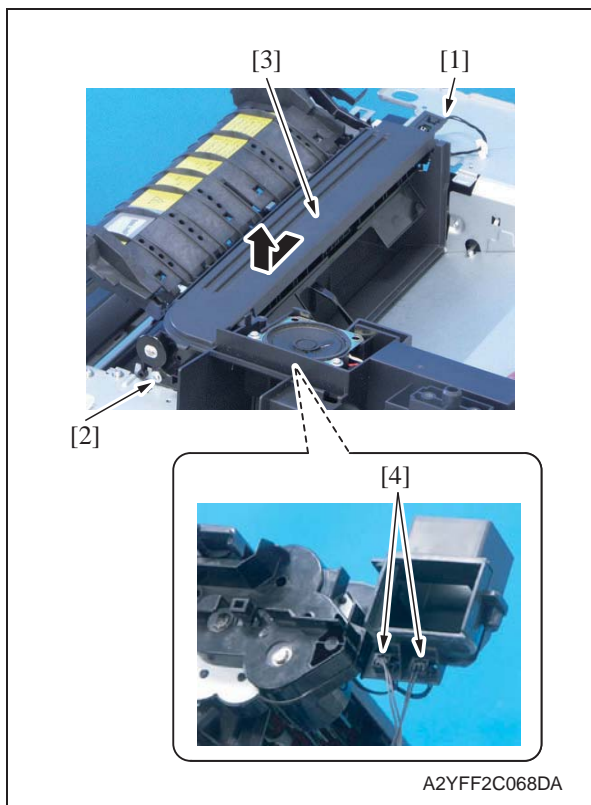
10. To reinstall, reverse the order of removal.



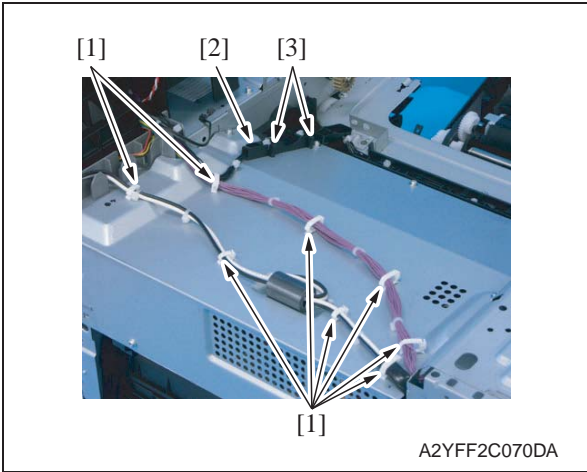
### 7.3.13 DC power supply (DCPU)

 <b>CAUTION</b>	
	<ul style="list-style-type: none"><li>• <b>Note that in the event of DC power supply failure, it can take long before voltage drops even after turning OFF the power switch. To avoid electrical shock, after turning OFF the power switch, do not touch the DC power supply for 9 minutes.</b></li></ul>

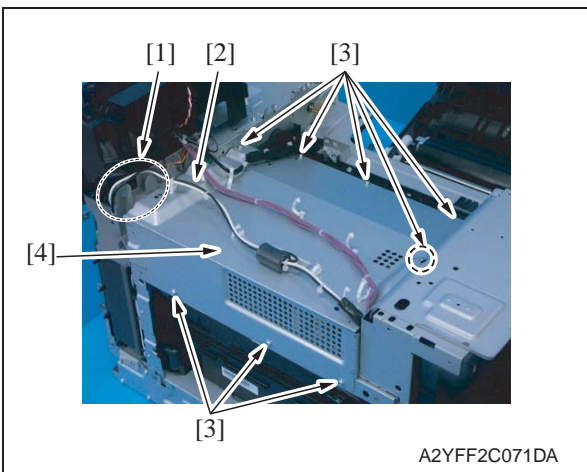
1. Remove the fuser unit.  
[See P.19](#)
2. Remove the waste toner bottle.  
[See P.14](#)
3. Remove the rear cover.  
[See P.43](#)
4. Remove the left cover.  
[See P.43](#)
5. Remove the ADF.  
[See P.98](#)
6. Remove the scanner unit.  
[See P.96](#)
7. Remove the front right cover.  
[See P.45](#)
8. Remove the upper cover.  
[See P.49](#)



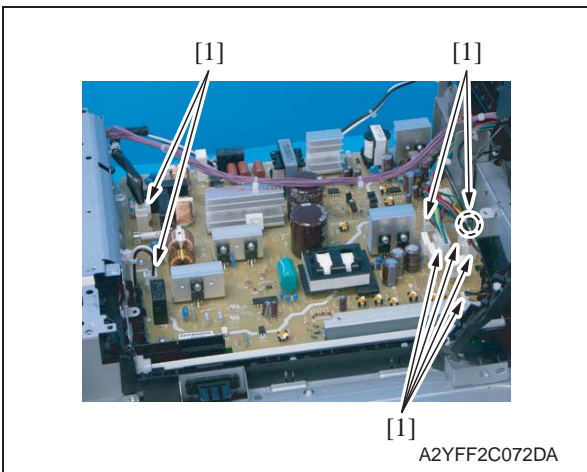
9. Disconnect the connector [1].
10. Remove the screw [2], and remove the exit drive assy [3].
11. Disconnect two connectors [4].



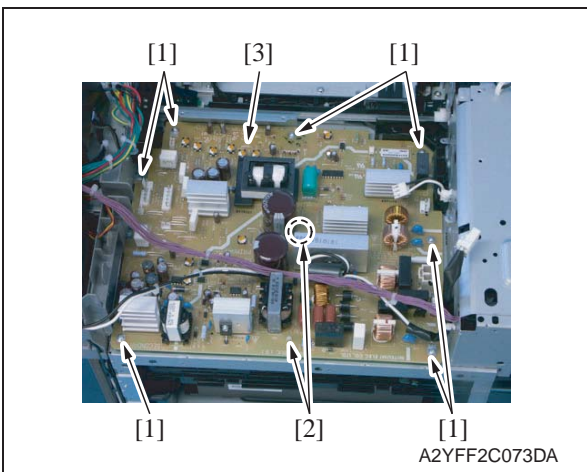
- 12. Remove all harness from eight wire saddles [1].
- 13. Unhook two tabs [3], and remove the harness guide [2].



- 14. Remove the harness [2] from the harness guide [1].
- 15. Remove eight screws [3], and remove the DC power supply protective cover [4].



- 16. Disconnect eight connectors [1].

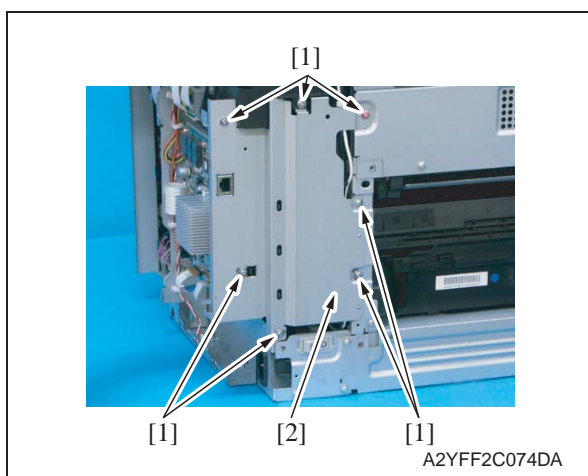


- 17. Remove seven screws [1] and two board supports [2], and remove the DC power supply [3].

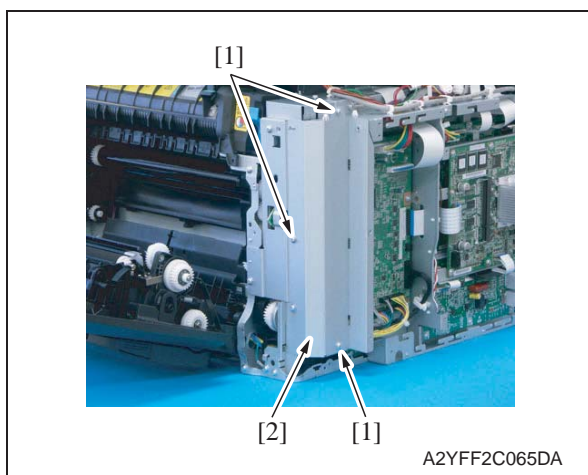
18. To reinstall, reverse the order of removal.

### 7.3.14 High voltage unit (HV1)

1. Remove the waste toner bottle.  
See P.14
2. Remove the rear cover.  
See P.43
3. Remove the left cover.  
See P.43
4. Remove the rear right cover.  
See P.44
5. Remove the FAX board.  
See P.50

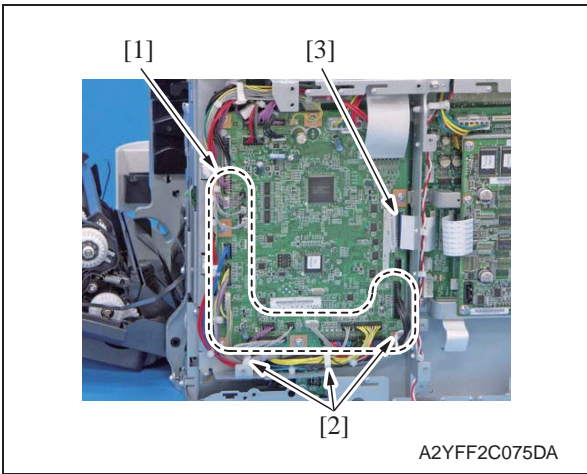


6. Remove seven screws [1], and remove the bracket [2].



7. Remove three screws [1], and remove the bracket [2].



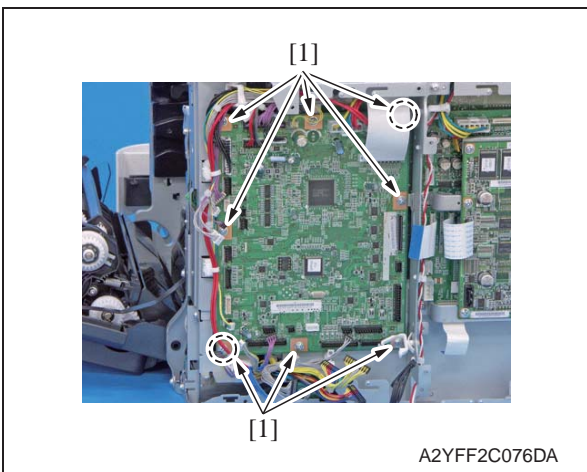


8. Disconnect 18 connectors [1] from the printer control board, and remove them from three wire saddles [2].

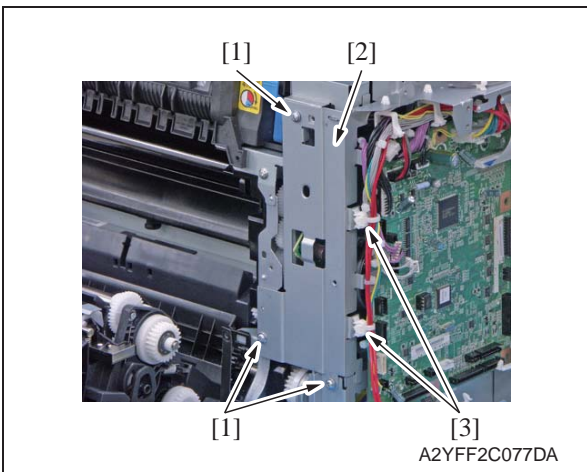
**NOTE**

- **Disconnect all connectors located between the top left connector PJ12 and the bottom right connector PJ25.**

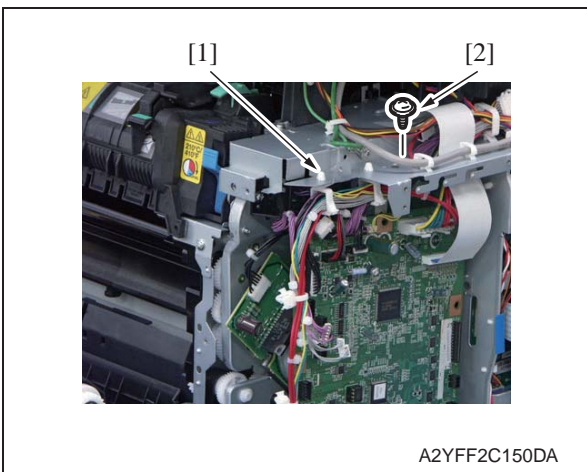
9. Disconnect flat cable [3].



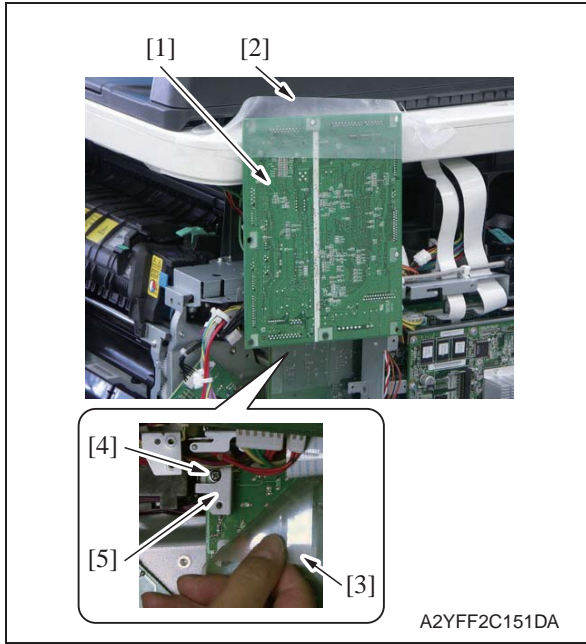
10. Remove eight screws [1]



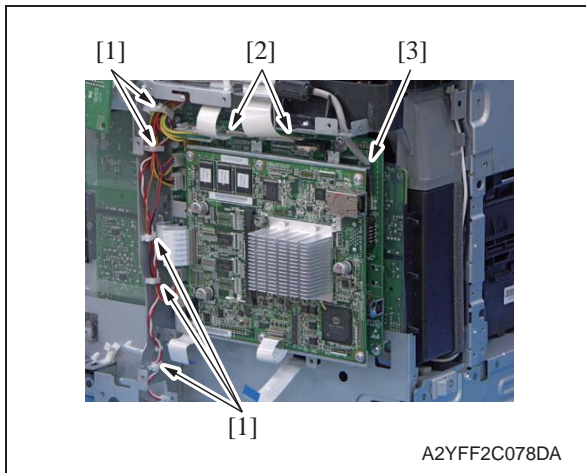
11. Remove three screws [1], and remove the bracket [2].
12. Remove two bands [3] from the bracket.



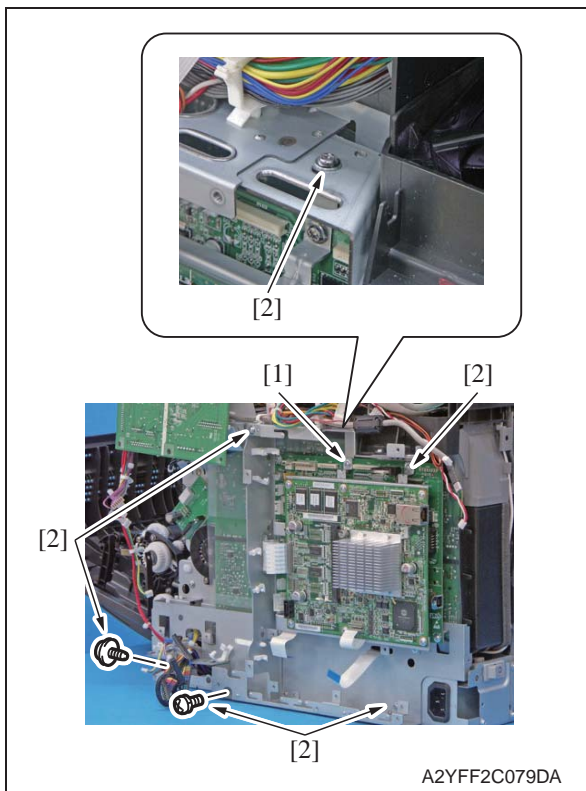
13. Remove the wire saddle [1] from the bracket.
14. Remove the screw [2]



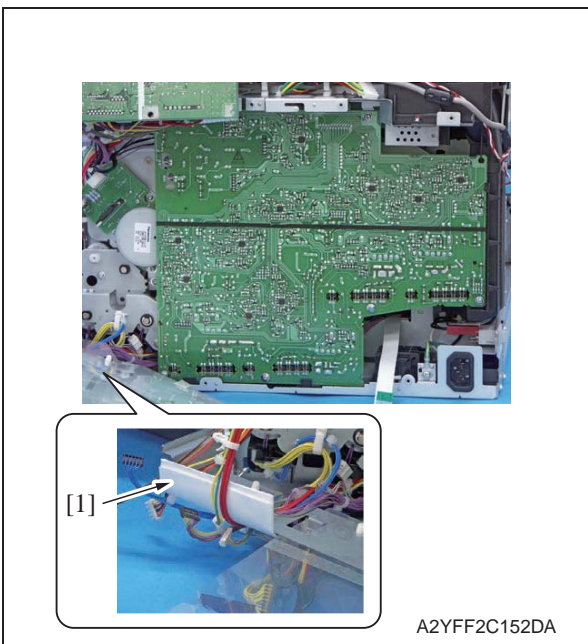
- 15. Flip the printer control board [1] up, and fasten it to the scanner unit by tape [2].
- 16. Flip the protective sheet [3], and remove the screw [4].
- 17. Remove the bracket [5].



- 18. Remove the harness from five wire saddles [1].
- 19. Disconnect all connectors, two flat cables [2], and the USB cable [3] from MFP board / 1.



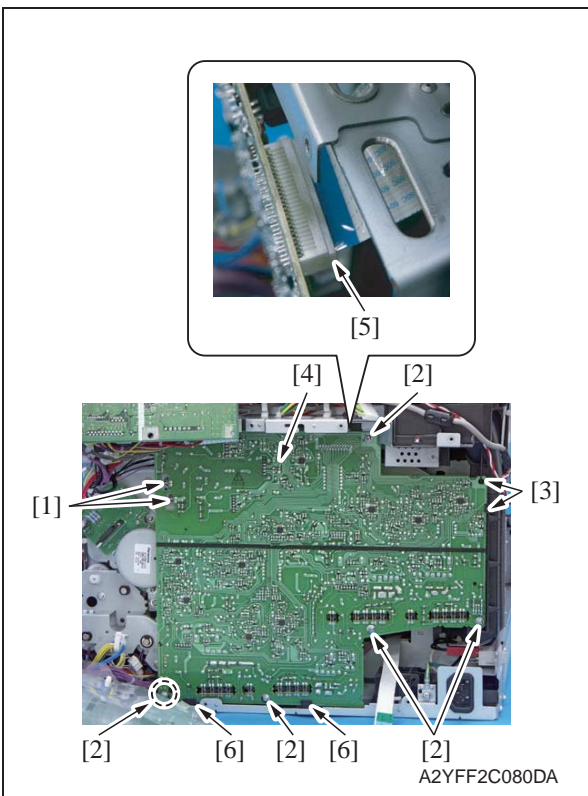
- 20. Loosen the screw [1].
- 21. Remove six screws [2].
- 22. Remove the MFP boards 1/2 together with their plate.



A2YFF2C152DA

**NOTE**

- To protect the harness, insert paper [1] between the plate and the harness.






A2YFF2C080DA

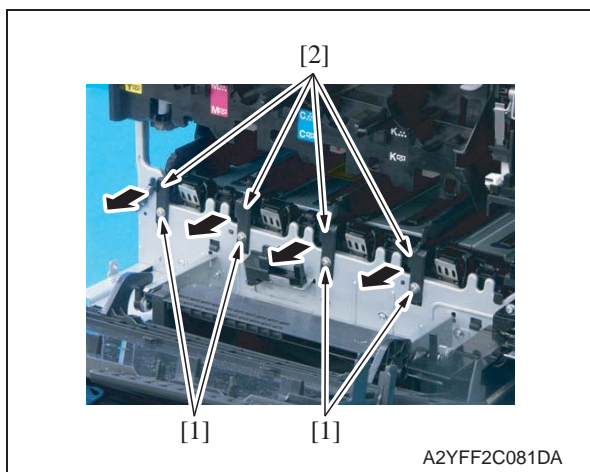
23. Remove two hooks [1].
24. Remove five screws [2].
25. Release two tabs [3], and tilt the high voltage unit [4] toward you.
26. Disconnect the flat cable [5].
27. Release two tabs [6], and remove the high voltage unit [4].

28. To reinstall, reverse the order of removal.

### 7.3.15 PH Unit

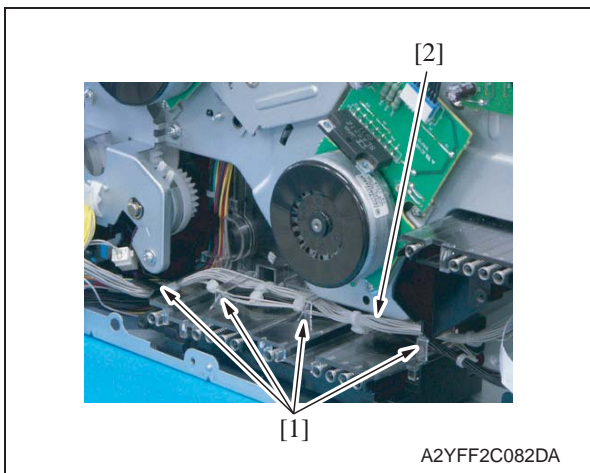
 CAUTION	
	<ul style="list-style-type: none"><li>• Do not replace the printer head unit while the power is ON. Laser beam generated during the above mentioned activity may cause blindness.</li></ul>
	<ul style="list-style-type: none"><li>• Do not disassemble or adjust the printer head unit. Laser beam generated during the above mentioned activity may cause blindness.</li></ul>

1. Remove the waste toner bottle.  
[See P.14](#)
2. Remove the toner cartridge (C, M, Y, K).  
[See P.8](#)
3. Remove the imaging unit (C, M, Y, K).  
[See P.11](#)
4. Remove the exit cover.  
[See P.44](#)
5. Remove the transfer belt unit.  
[See P.16](#)
6. Remove the fuser unit.  
[See P.19](#)
7. Remove the left cover.  
[See P.43](#)
8. Remove the rear right cover.  
[See P.44](#)
9. Remove the FAX board.  
[See P.50](#)
10. Remove the high voltage unit.  
[See P.57](#)

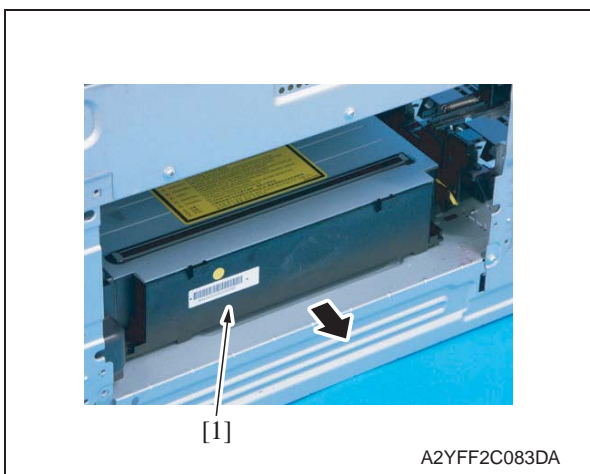


11. Remove four screws [1], and remove four rails [2].





12. Remove the harness [2] from four harness guides [1].

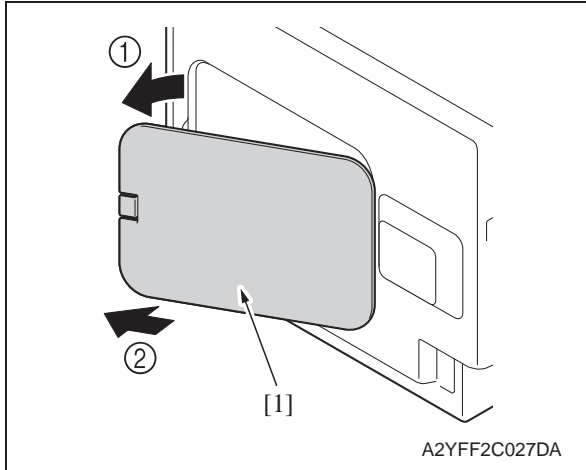


13. Remove the PH unit [1].

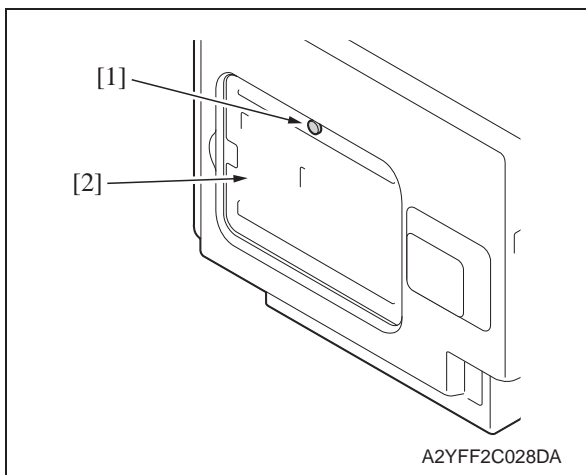
14. To reinstall, reverse the order of removal.

**7.3.16 Hard disk kit (HD-P03)**

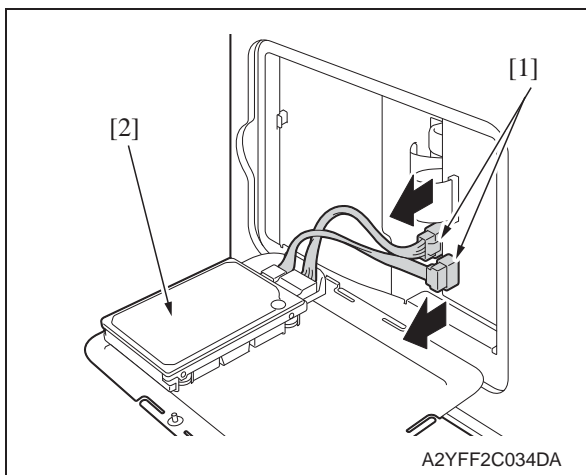
1. Turn OFF the power switch.



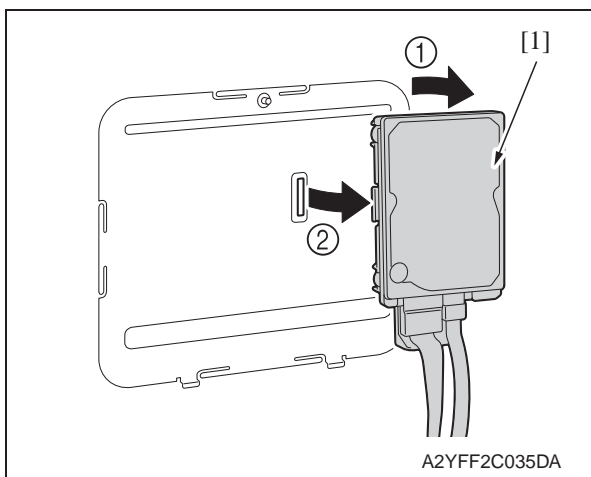
2. Remove the rear center cover [1].



3. Loosen the screw [1], and remove the metal plate [2].



4. Disconnect two connectors [1], and remove the hard disk kit [2].

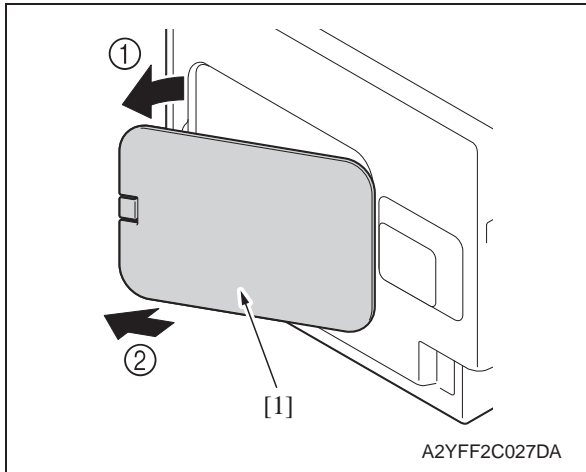


5. Remove the hard disk kit [1] from metal plate.

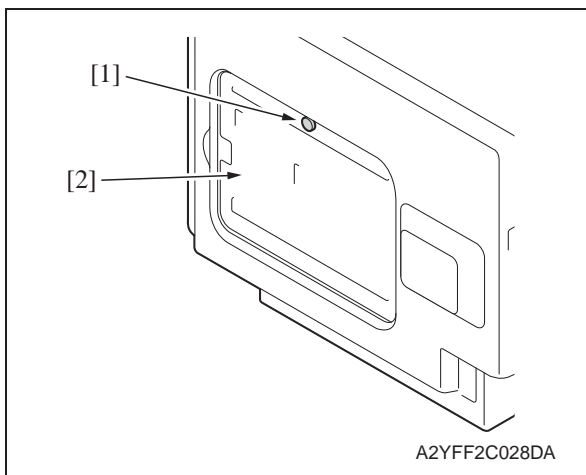
6. To reinstall, reverse the order of removal.

**7.3.17 CF adapter (MK-725)**

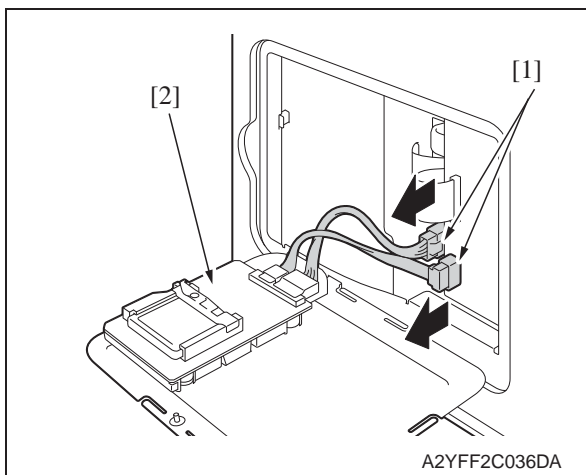
1. Turn OFF the power switch.



2. Remove the rear center cover [1].

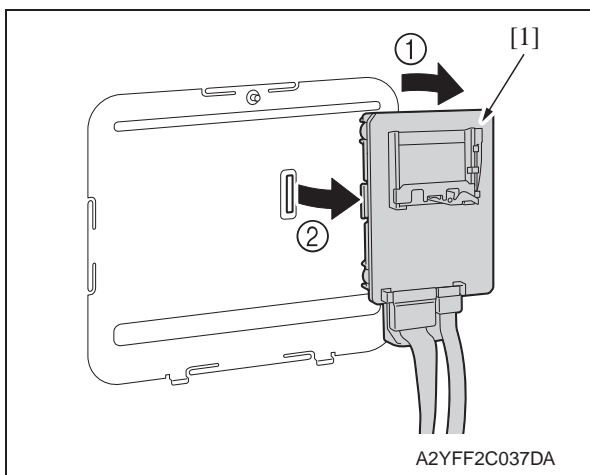


3. Loosen the screw [1], and remove the metal plate [2].



4. Disconnect two connectors [1], and remove the CF adapter [2].



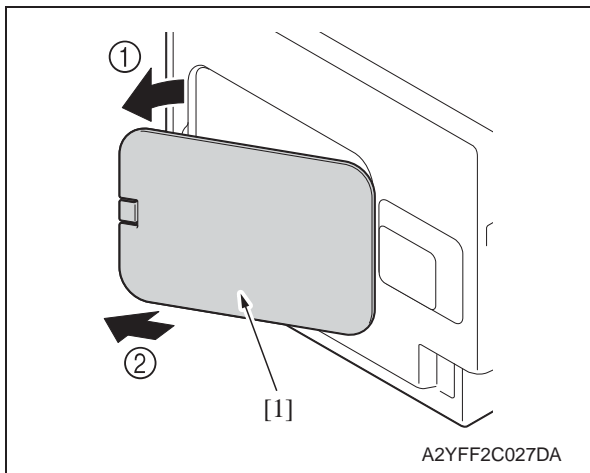


5. Remove the CF adapter [1] from metal plate.

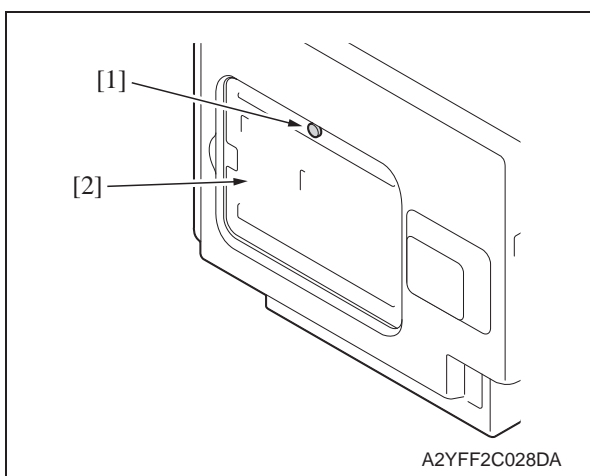
6. To reinstall, reverse the order of removal.

### 7.3.18 Dual In-Line Memory Module (DIMM)

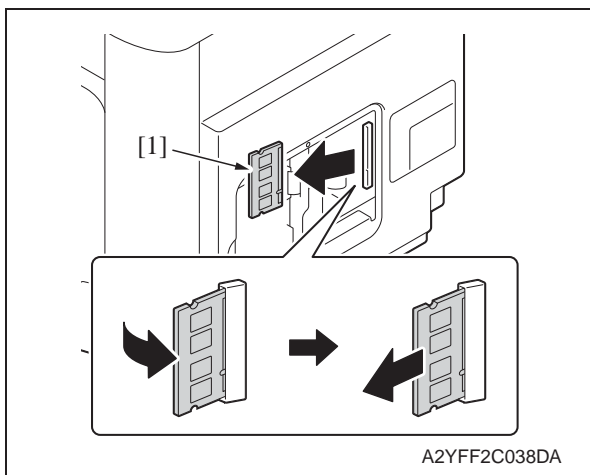
1. Turn OFF the power switch.



2. Remove the rear center cover [1].



3. Loosen the screw [1], and remove the metal plate [2].

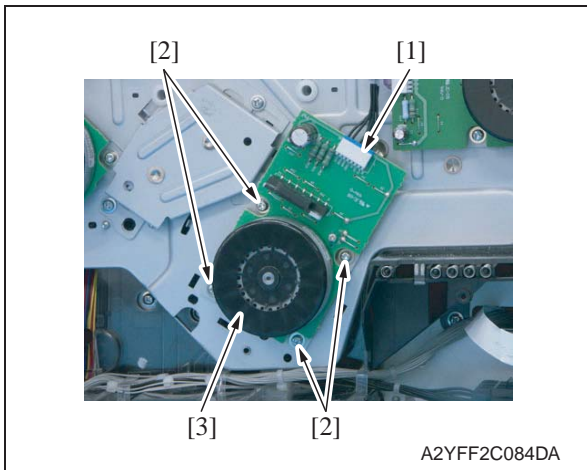


4. Pull the DIMM [1] toward you about 45 degrees, and remove it.

5. To reinstall, reverse the order of removal.

**7.3.19 Developing motor (M1)**

1. Remove the waste toner bottle.  
[See P.14](#)
2. Remove the rear cover.  
[See P.43](#)
3. Remove the left cover.  
[See P.43](#)
4. Remove the rear right cover.  
[See P.44](#)
5. Remove the FAX board.  
[See P.50](#)
6. Remove the high voltage unit.  
[See P.57](#)



7. Disconnect the connector [1].
8. Remove four screws [2], and remove the developing motor [3].

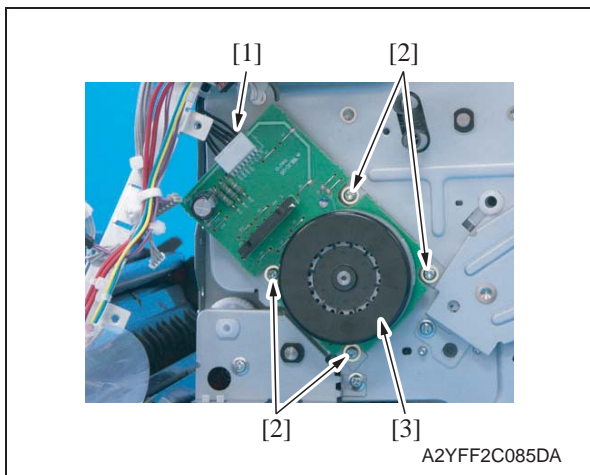
**NOTE**

- **When installing the motor, try to insert it straight, and take care not to damage the gears.**

9. To reinstall, reverse the order of removal.

**7.3.20 Main motor (M2)**

1. Remove the waste toner bottle.  
[See P.14](#)
2. Remove the rear cover.  
[See P.43](#)
3. Remove the left cover.  
[See P.43](#)
4. Remove the rear right cover.  
[See P.44](#)
5. Remove the FAX board.  
[See P.50](#)
6. Remove the high voltage unit.  
[See P.57](#)



7. Disconnect the connector [1].
8. Remove four screws [2], and remove the main motor [3].

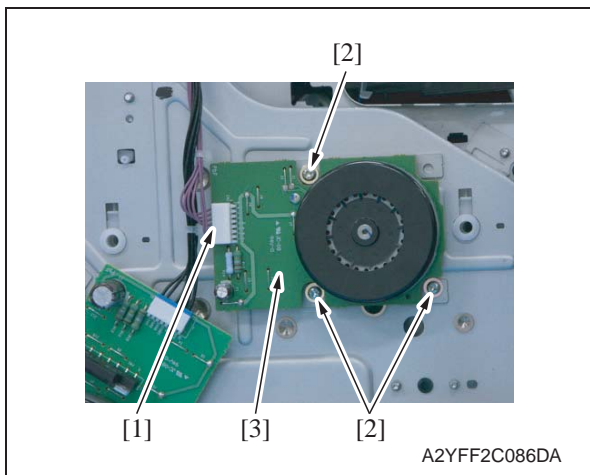
**NOTE**

- When installing the motor, try to insert it straight, and take care not to damage the gears.

9. To reinstall, reverse the order of removal.

**7.3.21 Color PC drum motor (M4)**

1. Remove the waste toner bottle.  
[See P.14](#)
2. Remove the rear cover.  
[See P.43](#)
3. Remove the left cover.  
[See P.43](#)
4. Remove the rear right cover.  
[See P.44](#)
5. Remove the FAX board.  
[See P.50](#)
6. Remove the high voltage unit.  
[See P.57](#)



7. Disconnect the connector [1].
8. Remove three screws [2], and remove the color PC drum motor [3].

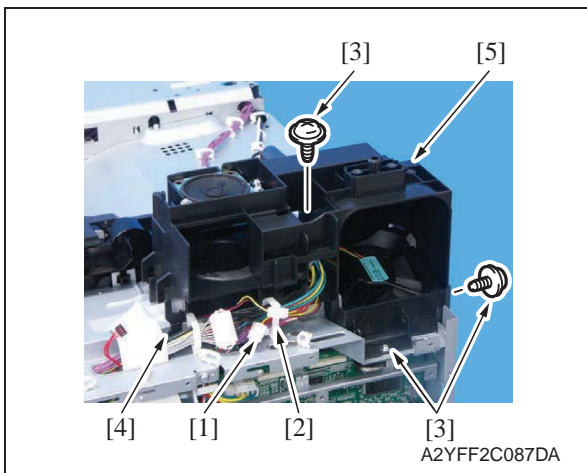
**NOTE**

- When installing the motor, try to insert it straight, and take care not to damage the gears.

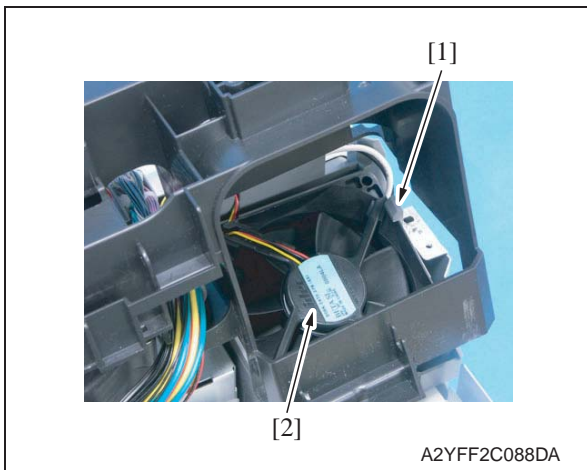
9. To reinstall, reverse the order of removal.

**7.3.22 DC power supply fan motor (FM10)**

1. Remove the waste toner bottle.  
[See P.14](#)
2. Remove the rear cover.  
[See P.43](#)
3. Remove the left cover.  
[See P.43](#)
4. Remove the ADF.  
[See P.98](#)
5. Remove the scanner unit.  
[See P.96](#)
6. Remove the front right cover.  
[See P.45](#)
7. Remove the upper cover.  
[See P.49](#)



8. Disconnect the connector [1], and remove it from the wire saddle [2].
9. Remove three screws [3], release the tab [4], and slide the duct [5].

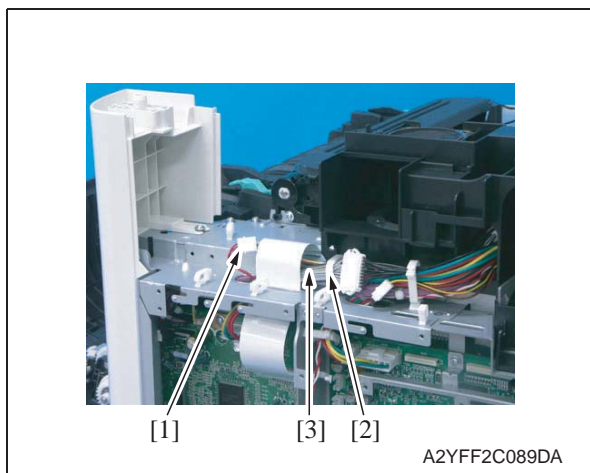


10. Unlock the tab [1], and remove the DC power supply fan motor [2].

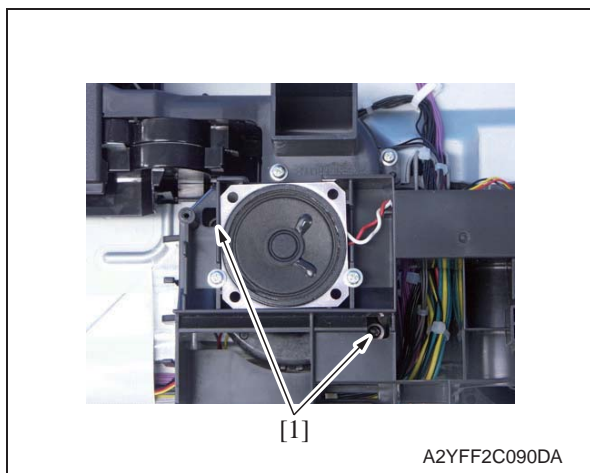
11. To reinstall, reverse the order of removal.

### 7.3.23 Cooling fan motor (FM11)

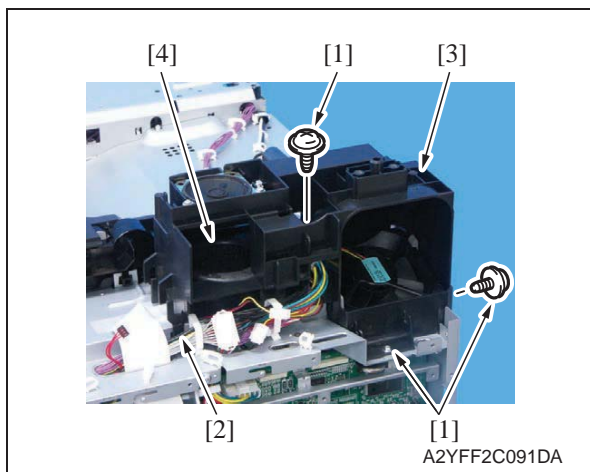
1. Remove the rear cover.  
[See P.43](#)
2. Remove the ADF.  
[See P.98](#)
3. Remove the Scanner unit.  
[See P.96](#)
4. Remove the front right cover.  
[See P.45](#)
5. Remove the upper cover.  
[See P.49](#)



6. Disconnect the connector [1].
7. Remove the harness [3] from the wire saddle [2].



8. Remove two screws [1].

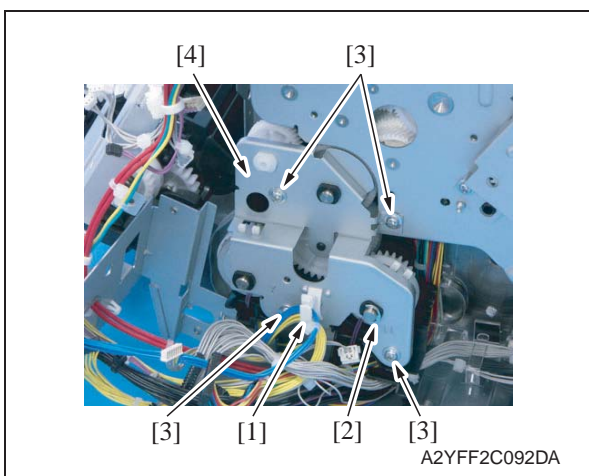


9. Remove three screws [1], release the tab [2], and slide the duct [3].
10. Remove the cooling fan motor [4].

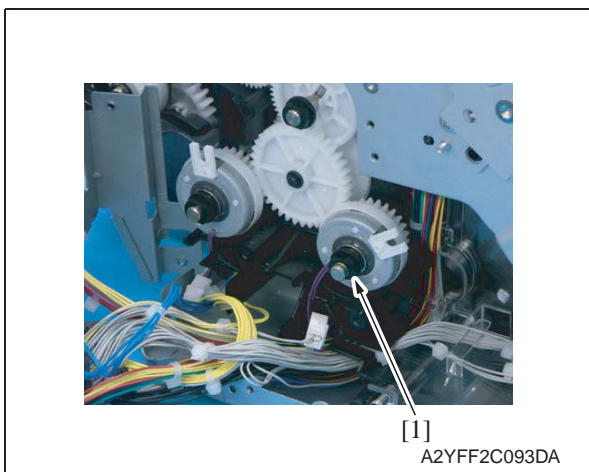
11. To reinstall, reverse the order of removal.

**7.3.24 Tray2 media feed clutch (CL1) / Tray1 media feed clutch (CL2)**

1. Remove the waste toner bottle.  
[See P.14](#)
2. Remove the rear cover.  
[See P.43](#)
3. Remove the left cover.  
[See P.43](#)
4. Remove the rear right cover.  
[See P.44](#)
5. Remove the FAX board.  
[See P.50](#)
6. Remove the high voltage unit.  
[See P.57](#)
7. Remove the main motor.  
[See P.68](#)

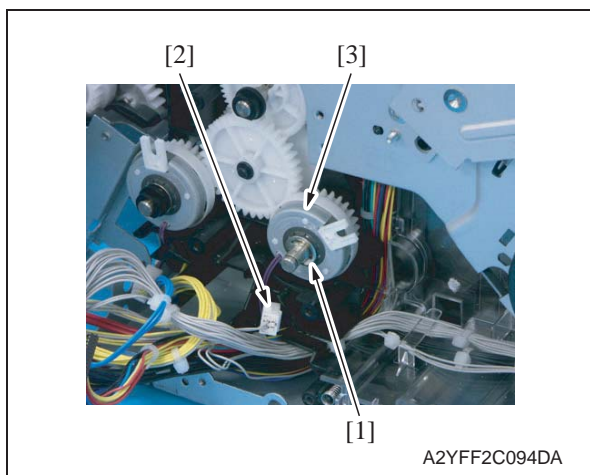


8. Remove the harness from the wire saddle [1].
9. Remove the E-ring [2].
10. Remove four screws [3], and remove the fixing metal plate [4].

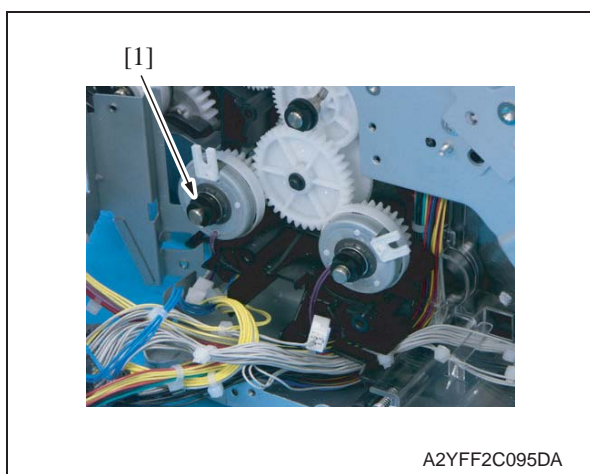


11. Remove the bushing [1].

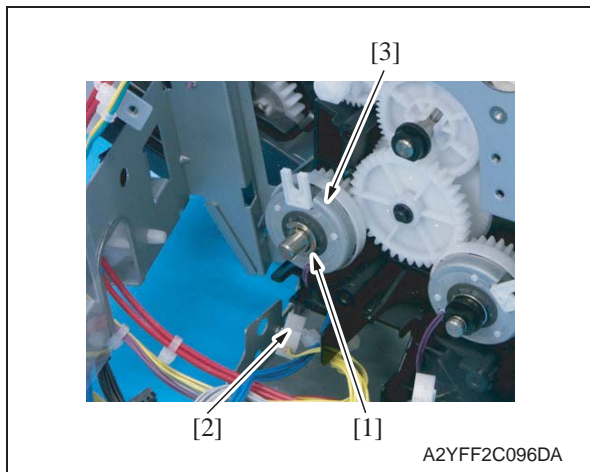




- 12. Remove the E-ring [1].
- 13. Disconnect the connector [2], and remove the tray2 media feed clutch [3].



- 14. Remove the bushing [1].



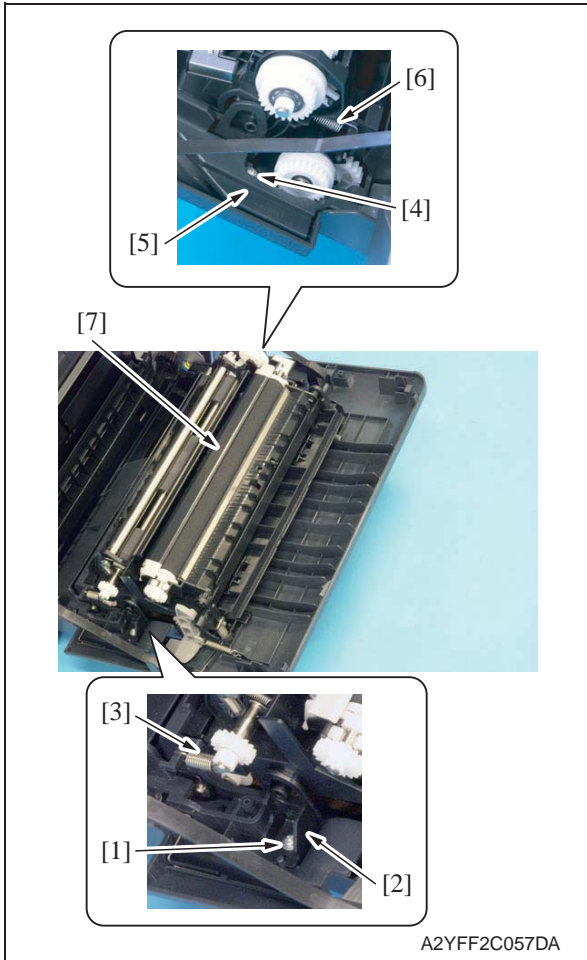
- 15. Remove the E-ring [1].
- 16. Disconnect the connector [2], and remove the tray1 media feed clutch [3].

17. To reinstall, reverse the order of removal.

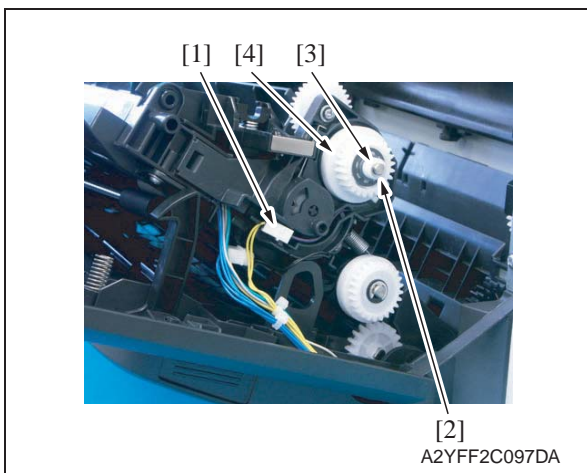


**7.3.25 Registration clutch (CL3)**

1. Open the right door.



2. Remove the screw [1], and remove the fixed cover [2].
3. Remove the spring [3].
4. Remove the screw [4], and remove the harness cover [5].
5. Remove the spring [6].
6. Remove the conveyance unit [7].

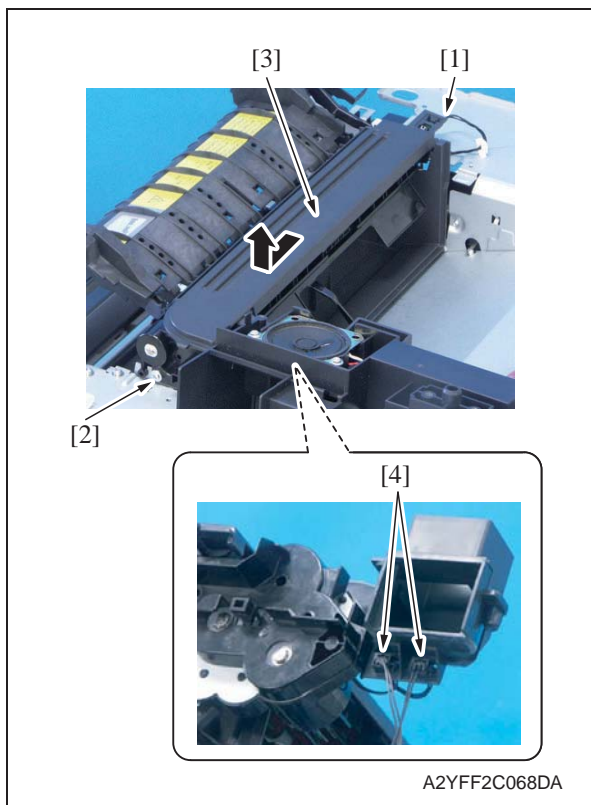


7. Disconnect the connector [1].
8. Remove the E-ring [2] and the bushing [3], and remove the registration clutch [4].

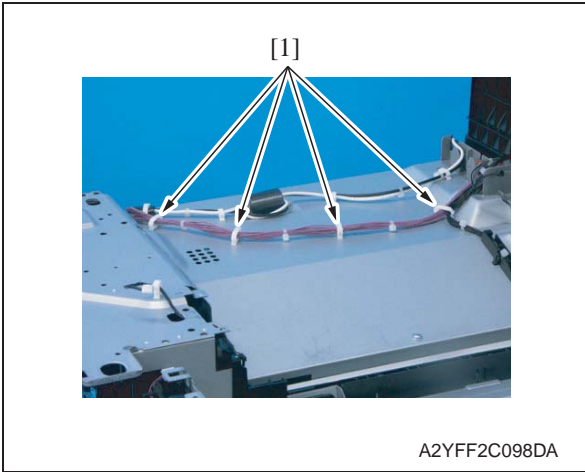
9. To reinstall, reverse the order of removal.

### 7.3.26 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) / Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)

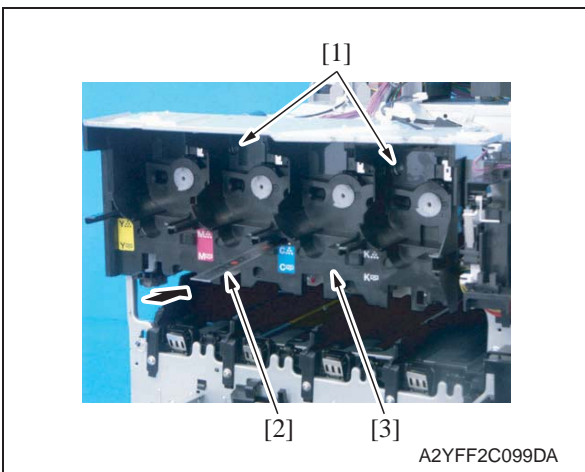
1. Remove the toner cartridge (C,M,Y,K).  
[See P.8](#)
2. Remove the waste toner bottle.  
[See P.14](#)
3. Remove the imaging unit (C,M,Y,K).  
[See P.11](#)
4. Remove the fuser unit.  
[See P.19](#)
5. Remove the rear cover.  
[See P.43](#)
6. Remove the left cover.  
[See P.43](#)
7. Remove the ADF.  
[See P.98](#)
8. Remove the scanner unit.  
[See P.96](#)
9. Remove the front right cover.  
[See P.45](#)
10. Remove the upper cover.  
[See P.49](#)



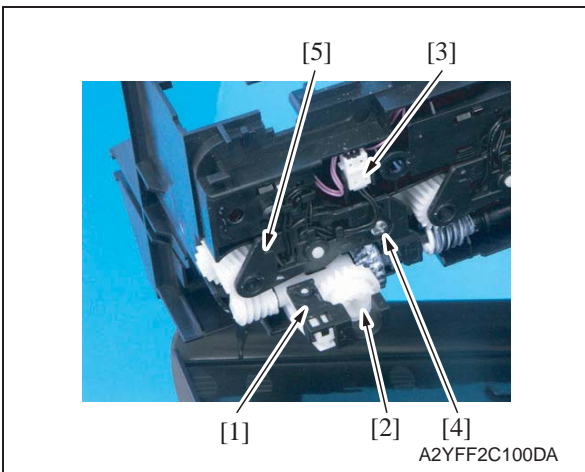
11. Disconnect the connector [1].
12. Remove the screw [2], and remove the exit drive assy [3].
13. Disconnect two connector [4].



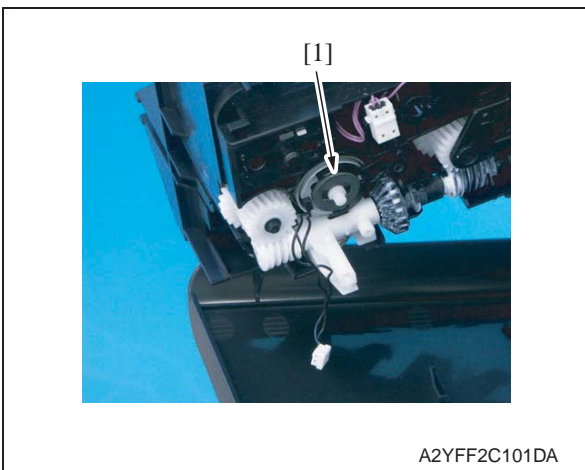
14. Remove the harness from four wire saddles [1].



15. Remove two screws [1].  
16. While releasing the lock with the inserted metal ruler [2] or another similar tool as shown in the illustration, remove the toner box drive Assy [3].



17. Remove the stopper [1], and remove the gear [2].  
18. Remove the harness from guide, and disconnect the connector [3].  
19. Remove the screws [4], and remove the cover [5].

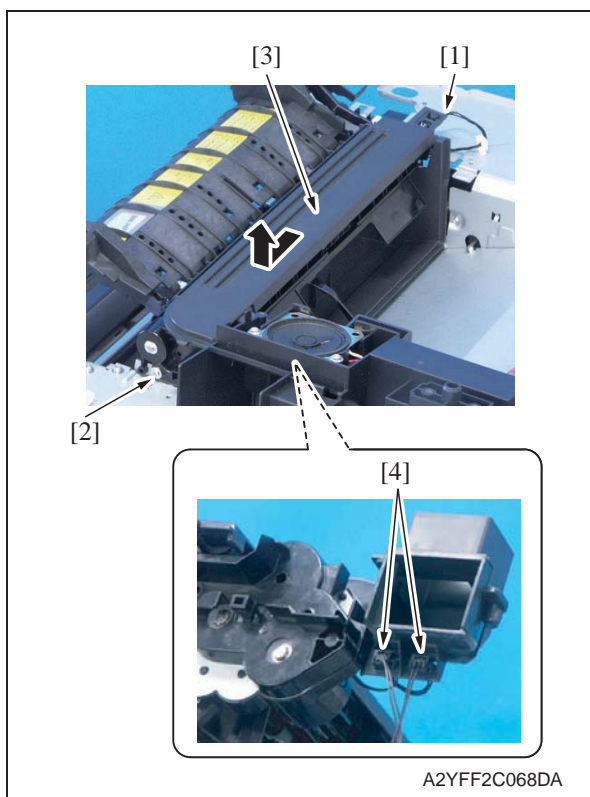


20. Remove the toner supply clutch [1].

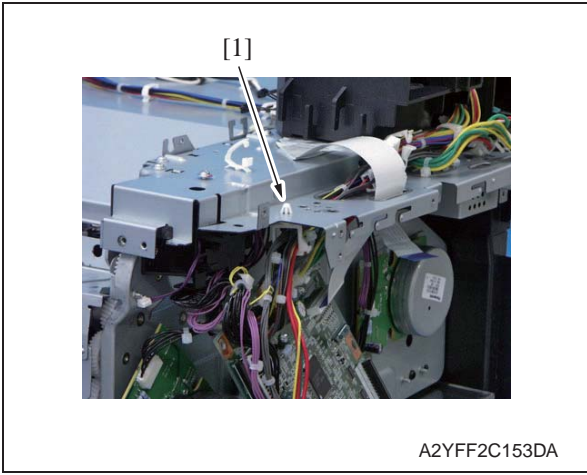
21. To reinstall, reverse the order of removal.

**7.3.27 Loop detection clutch (CL8)**

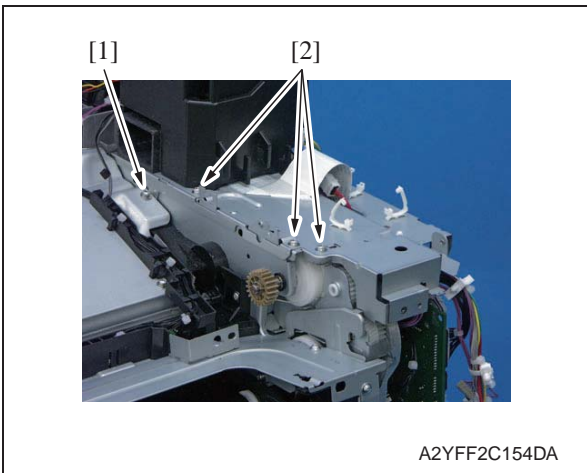
1. Remove the fuser unit.  
See P.19
2. Remove the waste toner bottle.  
See P.14
3. Remove the rear cover.  
See P.43
4. Remove the left cover.  
See P.43
5. Remove the rear right cover.  
See P.44
6. Remove the FAX board.  
See P.50
7. Remove the high voltage unit.  
See P.57
8. Remove the ADF.  
See P.98
9. Remove the scanner unit.  
See P.96
10. Remove the front right cover.  
See P.45
11. Remove the upper cover.  
See P.49



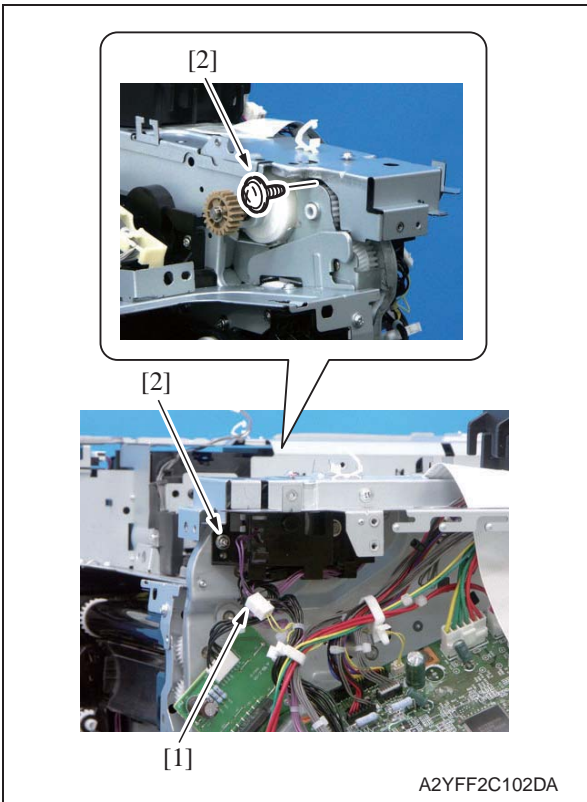
12. Disconnect the connector [1].
13. Remove the screw [2], and remove the exit drive assy [3].
14. Disconnect two connectors [4].



15. Remove the wire saddle [1] from metal plate.

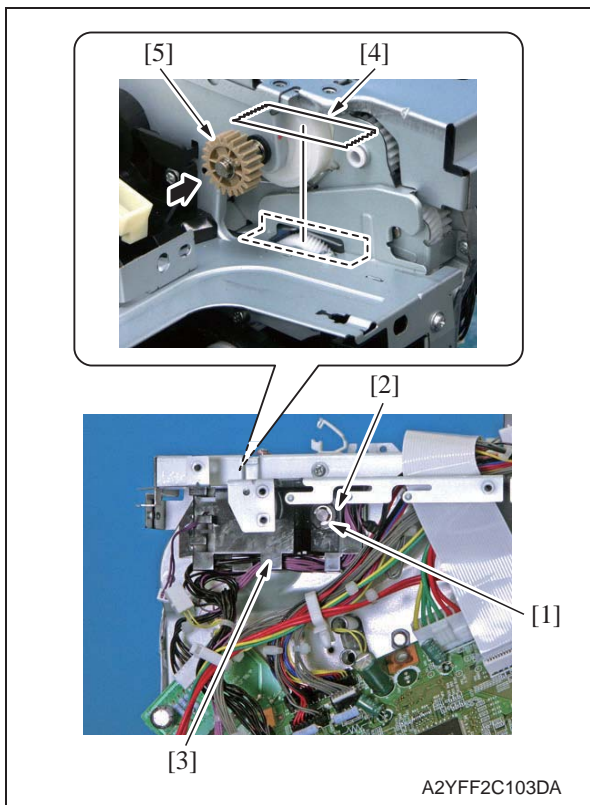


16. Loosen the screw [1].  
17. Remove the three screws [2].



18. Disconnect the connector [1].  
19. Remove two screws [2].

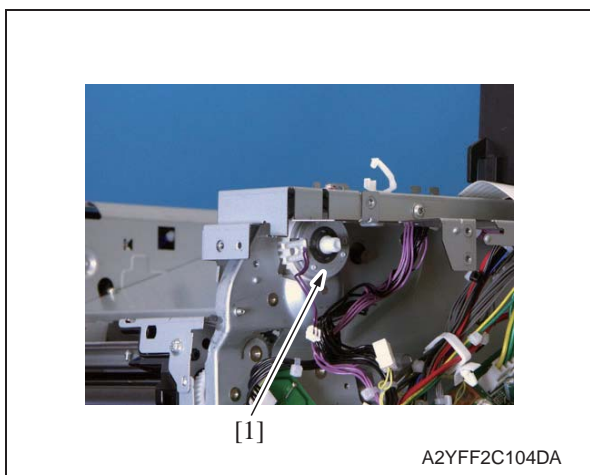




20. Remove the E-ring [1] and bushing [2], and remove the holder [3].

**NOTE**

- Before removing the holder [3], attach tape or similar material [4] to the section shown in the illustration to prevent the shaft from falling down and being lost.
- While removing the holder [3], the gear [5] needs to be pushed in the direction of the arrow.



21. Remove the loop detection clutch [1].

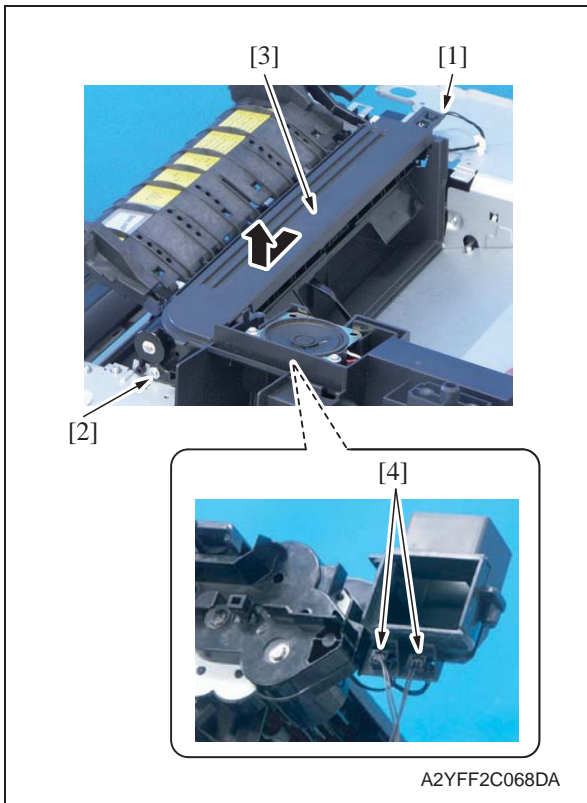
22. To reinstall, reverse the order of removal.

**NOTE**

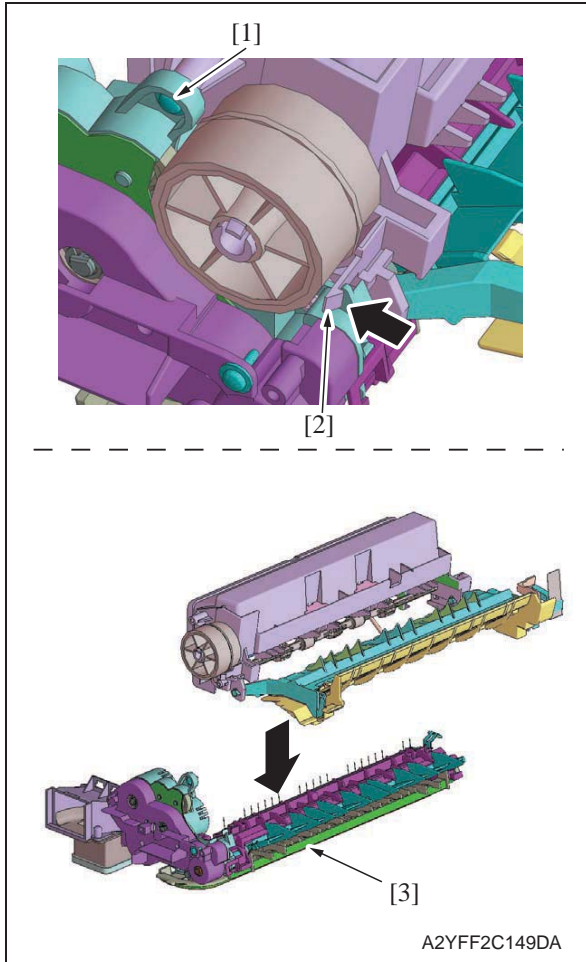
- While reinstalling the holder, the gear needs to be pushed.
- After reinstallation, remove the tape attached in step 20.

### 7.3.28 Switchback roller feed clutch (CL11) / Switchback roller reverse clutch (CL12)

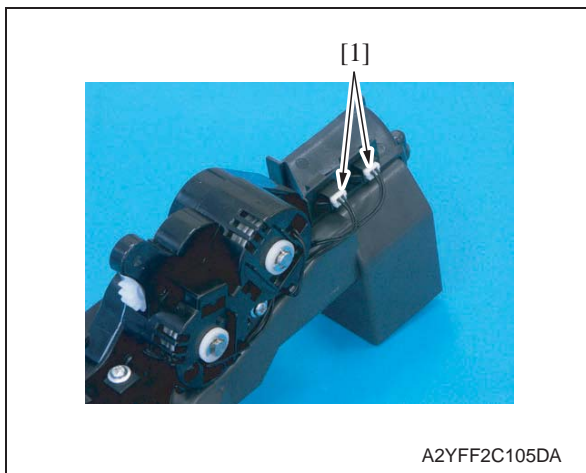
1. Remove the fuser unit.  
See P.19
2. Remove the waste toner bottle.  
See P.14
3. Remove the rear cover.  
See P.43
4. Remove the left cover.  
See P.43
5. Remove the ADF.  
See P.98
6. Remove the scanner unit.  
See P.96
7. Remove the front right cover.  
See P.45
8. Remove the upper cover.  
See P.49



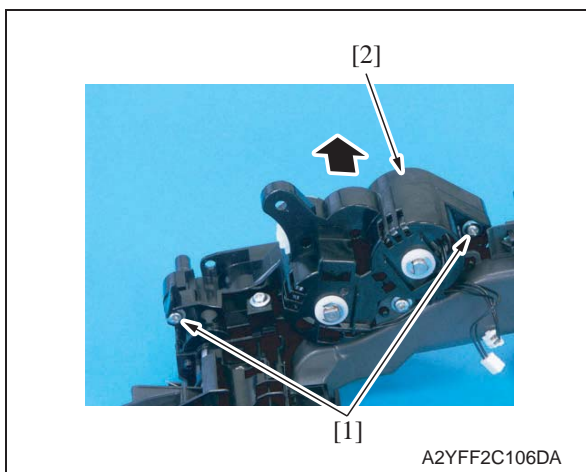
9. Disconnect the connector [1].
10. Remove the screw [2], and remove the exit drive assy [3].
11. Disconnect two connectors [4].



12. Remove the screw [1].
13. While pushing the tab [2] in the direction of the arrow to unlock it, disassemble and remove the exit drive assy [3].

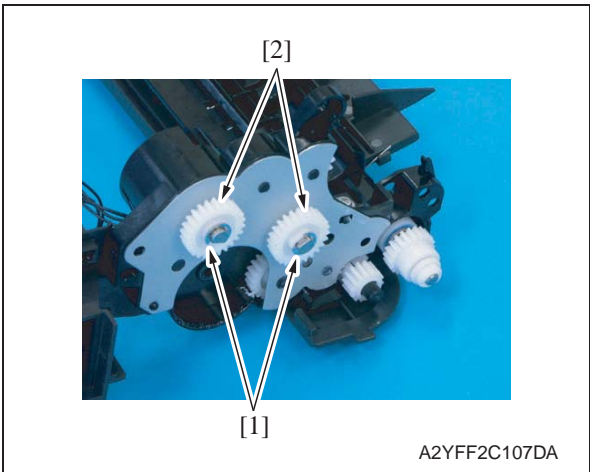


14. Disconnect two connectors [1].

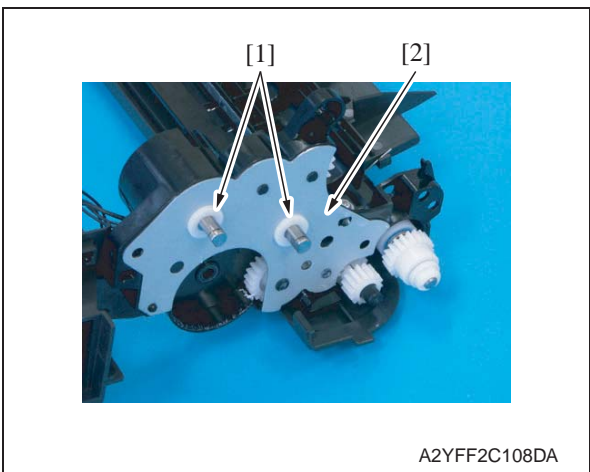


15. Remove two screws [1], and remove the gear assy [2].

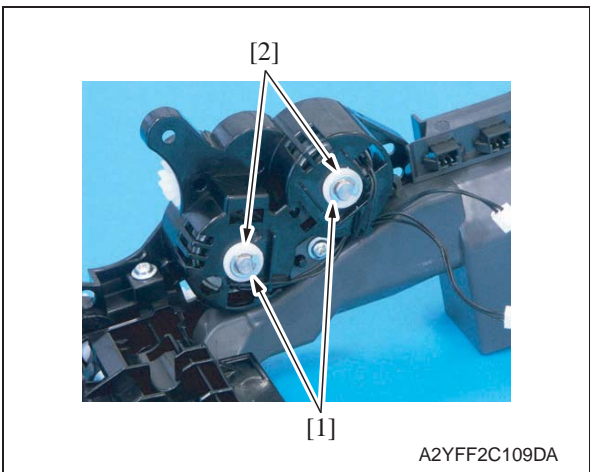




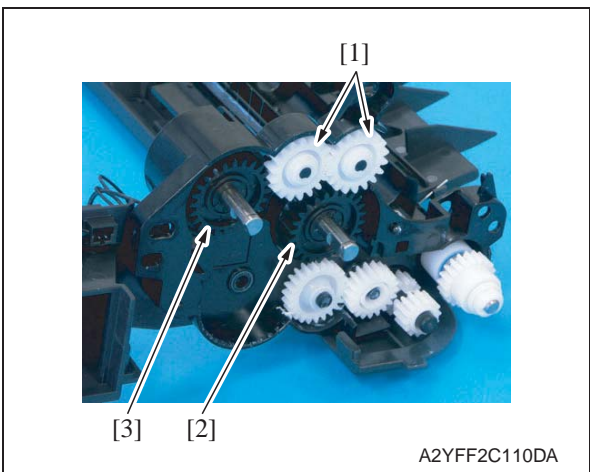
- 16. Remove two E-rings [1]
- 17. Remove two gears [2].



- 18. Remove two bushings [1], and remove the metal plate [2].



- 19. Remove two E-rings [1] and two bushings [2].

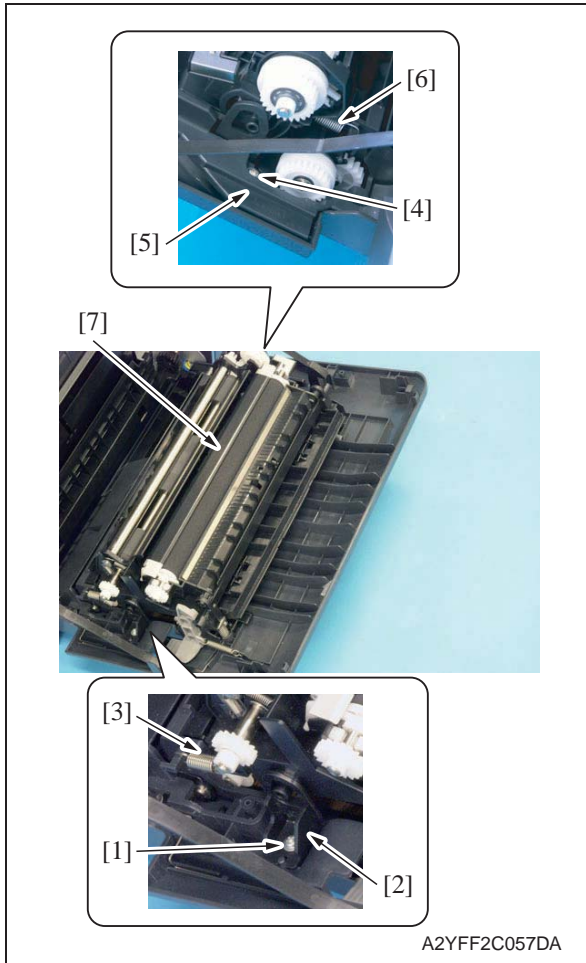


- 20. Remove two gears [1] and remove the switchback roller feed clutch [2] or the switchback roller reverse clutch [3].

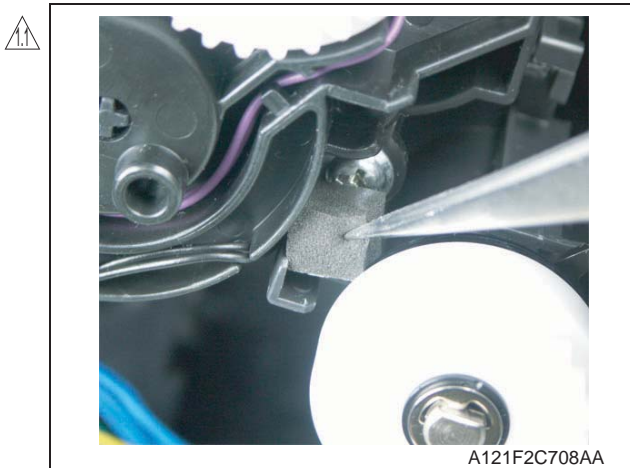
21. To reinstall, reverse the order of removal.

### 7.3.29 Duplex conveyance roller clutch (CL13)

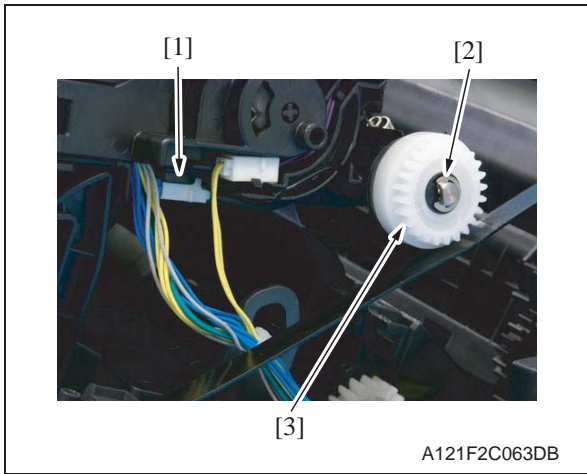
1. Open the right door.



2. Remove the screw [1], and remove the fixed cover [2].
3. Remove the spring [3].
4. Remove the screw [4], and remove the harness cover [5].
5. Remove the spring [6].
6. Remove the conveyance unit [7].



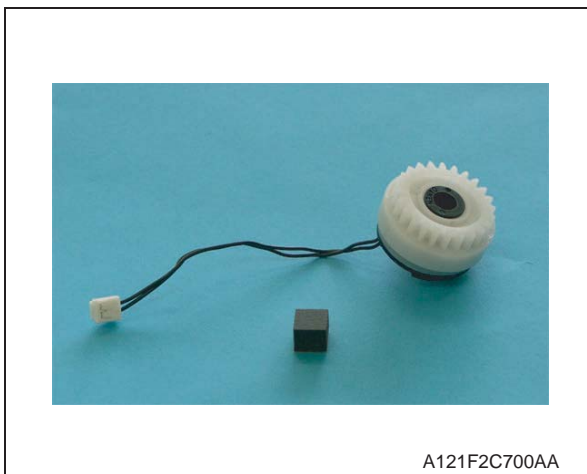
7. Remove the heavy sponge.



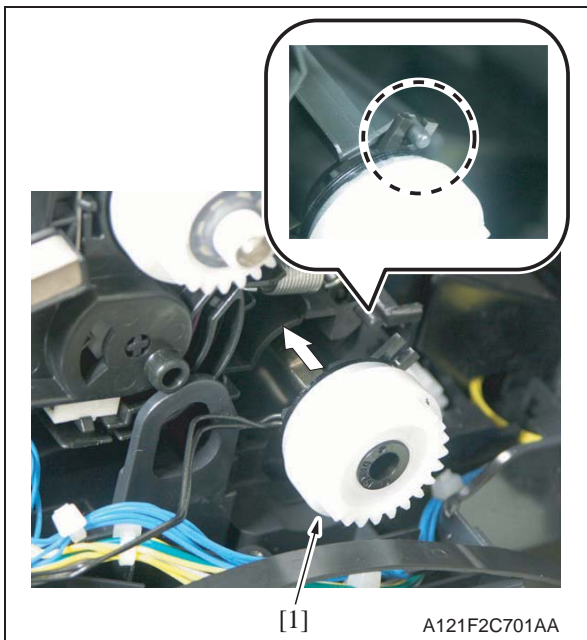
8. Remove the hookup connector from the holder and pull out the connector [1].
9. Remove the E-ring [2] and the bushing [3], and remove the registration clutch [4].



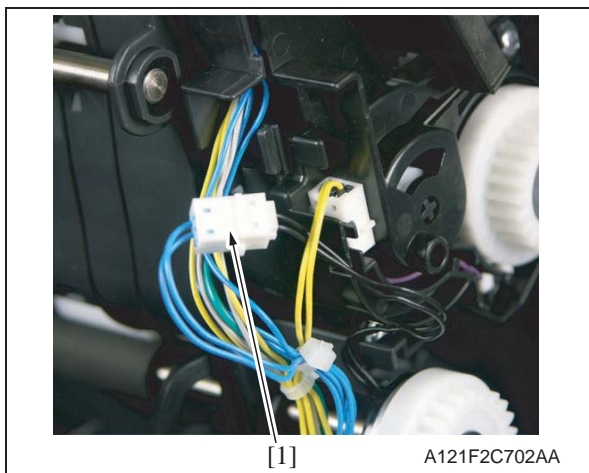
### 7.3.30 Installation of the duplex conveyance roller clutch (CL13)



1. Prepare the heavy sponge shipped with the replacement clutch.

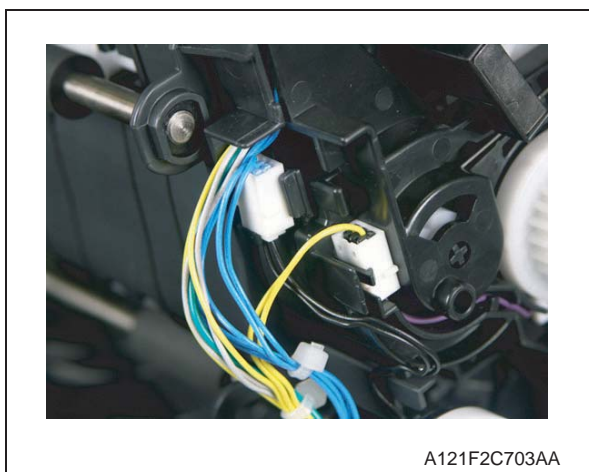


2. Install the duplex conveyance roller clutch [1] and fix it with the E-ring.



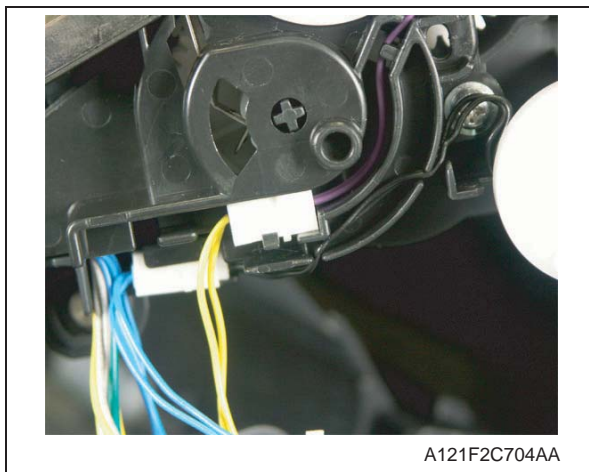
[1] A121F2C702AA

3. Connect the duplex conveyance roller clutch connector [1].



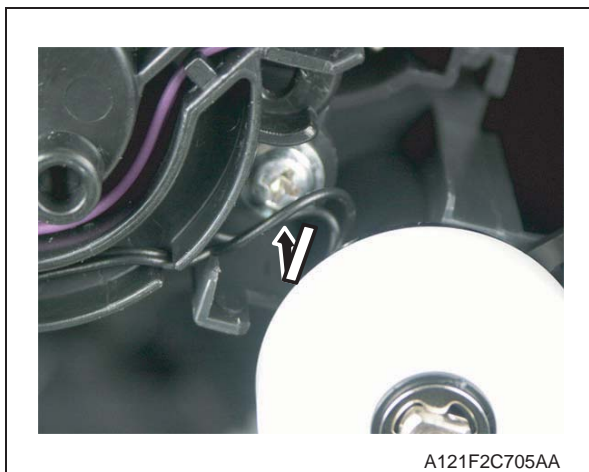
A121F2C703AA

4. Fix the hookup connector of the duplex conveyance roller clutch to the holder of the conveyance unit.



A121F2C704AA

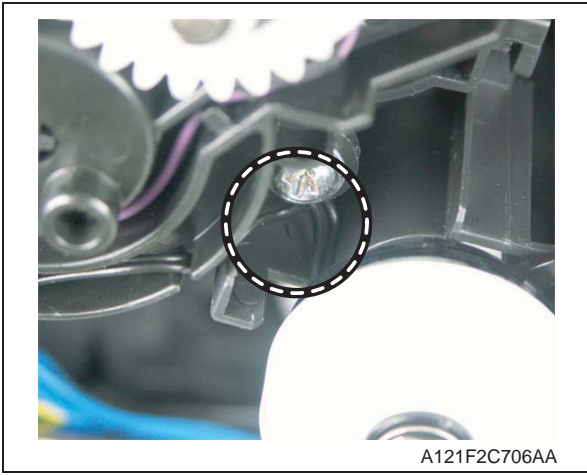
5. Route the harness of the duplex conveyance roller clutch as illustrated on the left.



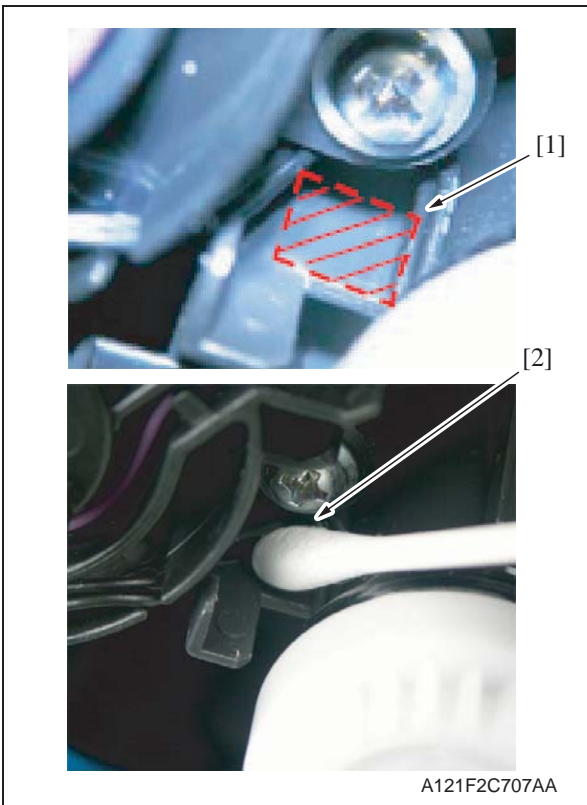
A121F2C705AA

6. Using tweezers or similar tool, tidy up the harness on the duplex conveyance roller clutch side by pushing it in the direction of the arrow.

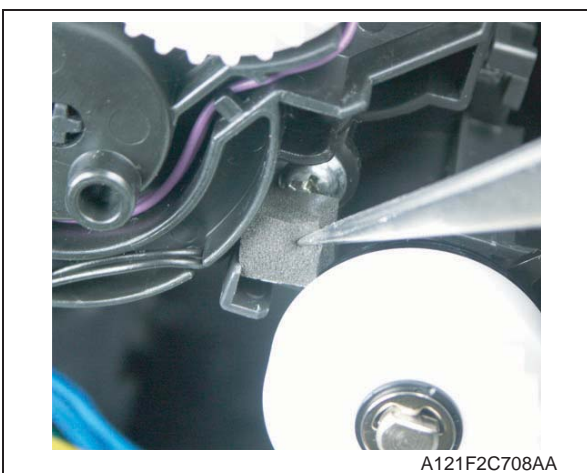




7. Make sure that the harness is neatly stored inside.



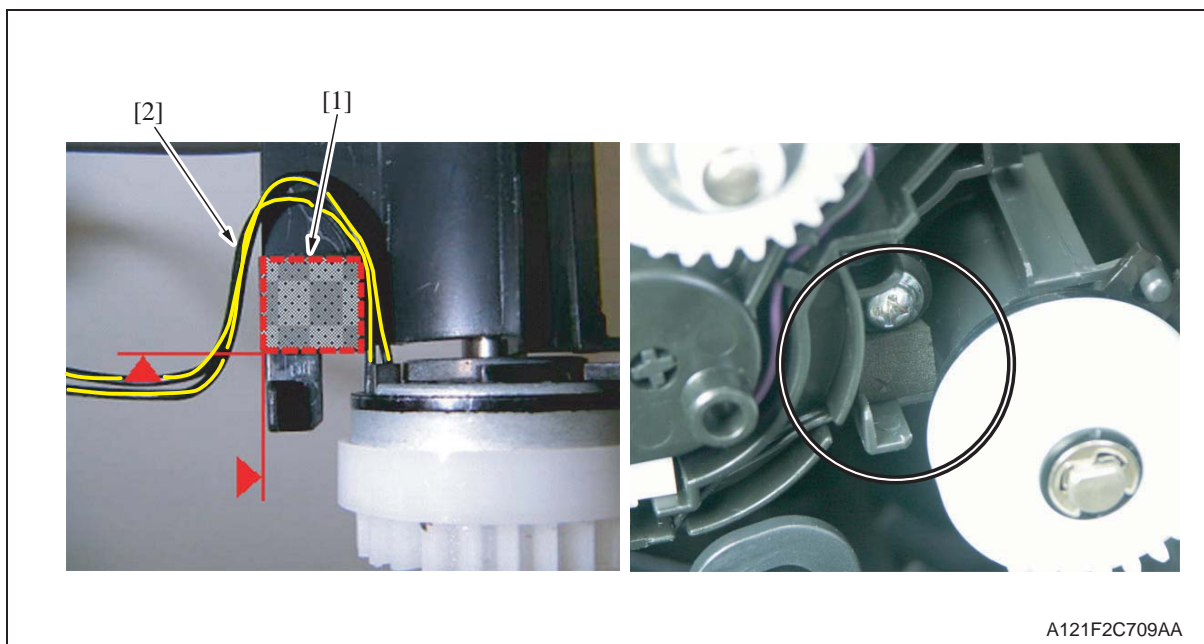
8. Dampen a cotton swab with alcohol and clean [2] the shaded area [1] shown on the left.



9. Mount the heavy sponge shipped with the clutch on the area cleaned earlier.

**NOTE**

- When mounting the heavy sponge, affix it at the location [1] shown in the affixing standard.
- Make sure that the heavy sponge and the harness [2] are not in contact with the harness when the heavy sponge is mounted.



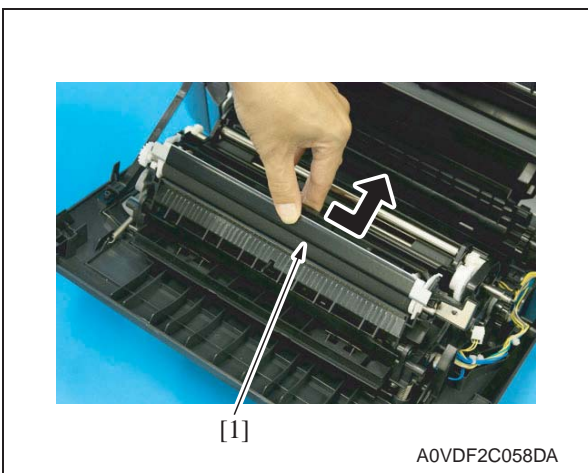
10. Perform steps from 6 to 1 of the duplex conveyance roller clutch (CL13).

[See P.83](#)

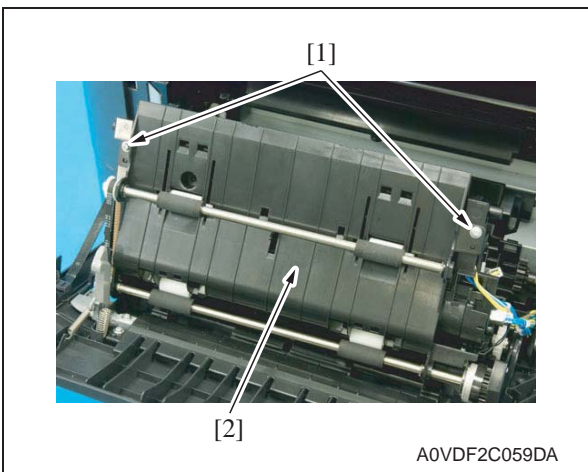


### 7.3.31 2nd transfer release solenoid (SD2)

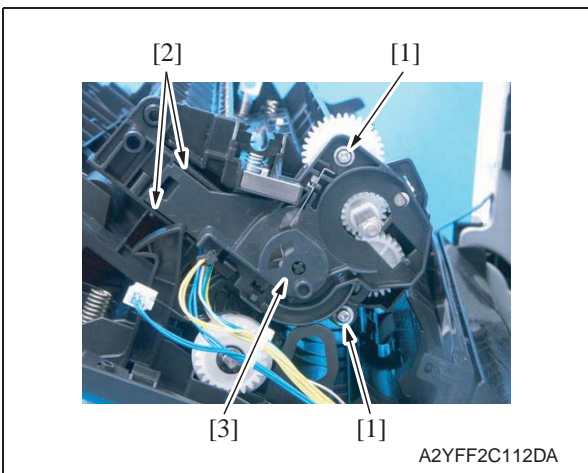
1. Remove the registration clutch.  
See P.74



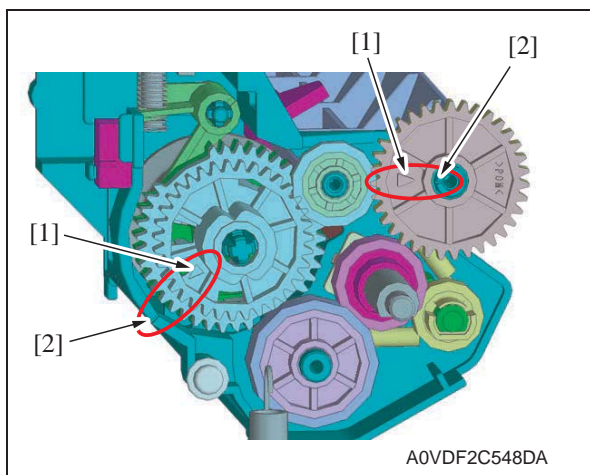
2. Remove the 2nd transfer roller unit assy [1].



3. Remove two screws [1], and remove the duplex conveyance roller assy [2].

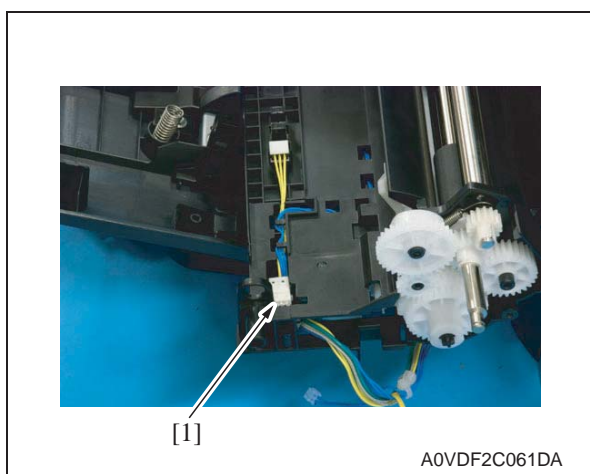


4. Remove two screws [1] and unlock two tabs [2], and remove the holder [3].

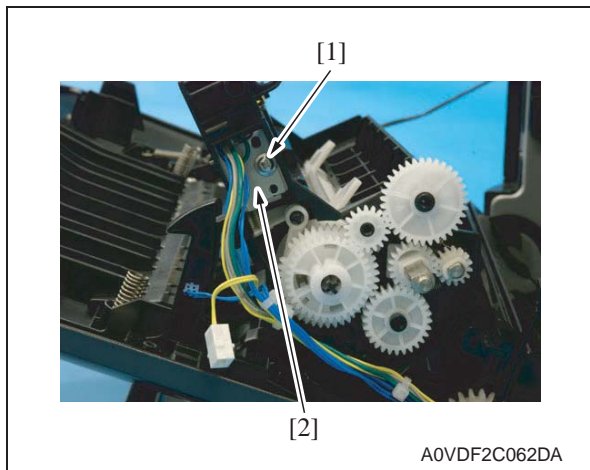


**NOTE**

- If the gears come off and they need to be reinstalled, align the arrow [1] on the gear with the marked line [2] on the holder.



5. Disconnect the connector [1].



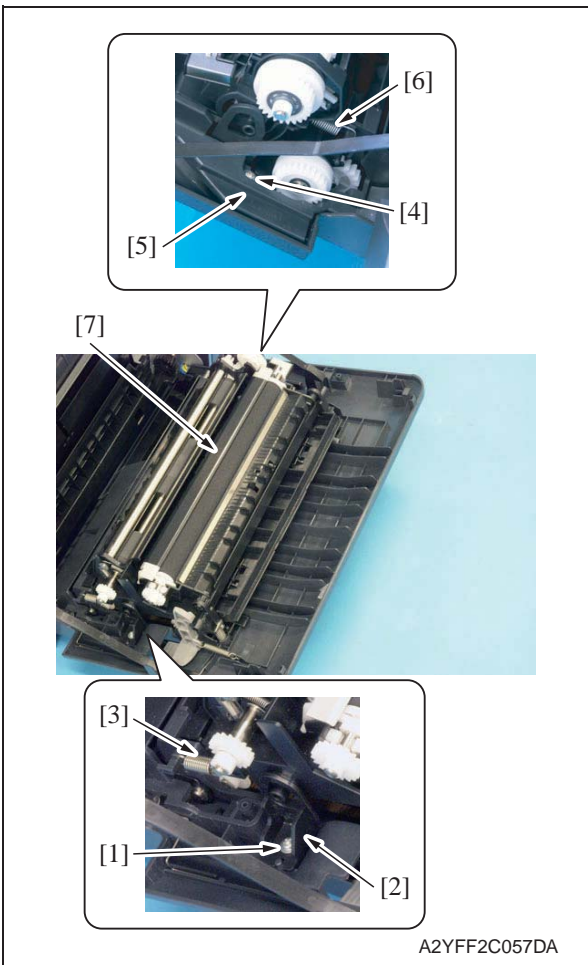
6. Remove the screw [1], and remove the 2nd transfer release solenoid [2].

7. To reinstall, reverse the order of removal.

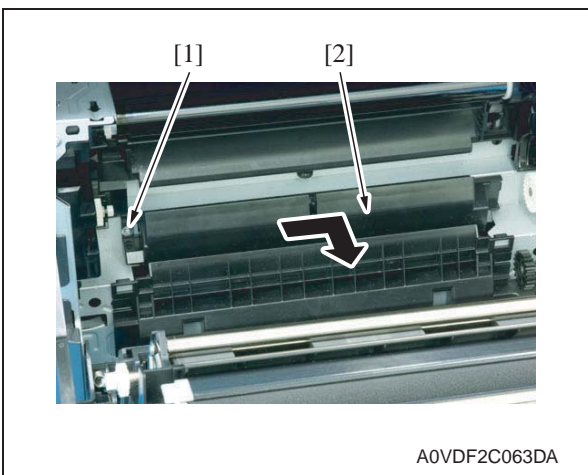


### 7.3.32 Temperature/ humidity sensor (TEM/HUMS)

1. Open the right door.



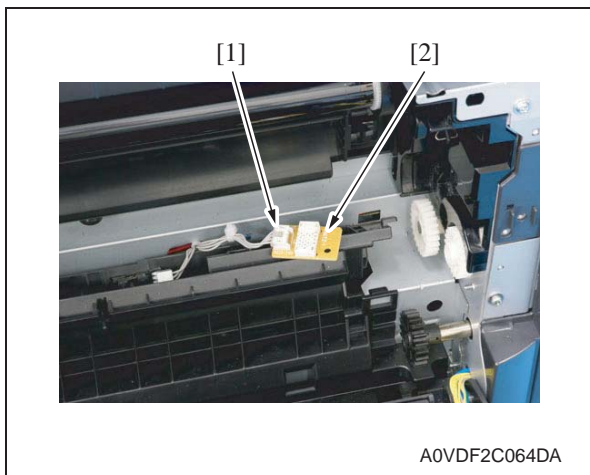
2. Remove the screw [1], and remove the fixed cover [2].
3. Remove the spring [3].
4. Remove the screw [4], and remove the harness cover [5].
5. Remove the spring [6].
6. Remove the conveyance unit [7].



7. Remove the screw [1] and remove the sensor holder [2] as shown in the illustration on the left.

**NOTE**

- Do not jerk off the sensor holder, to which a harness is connected.

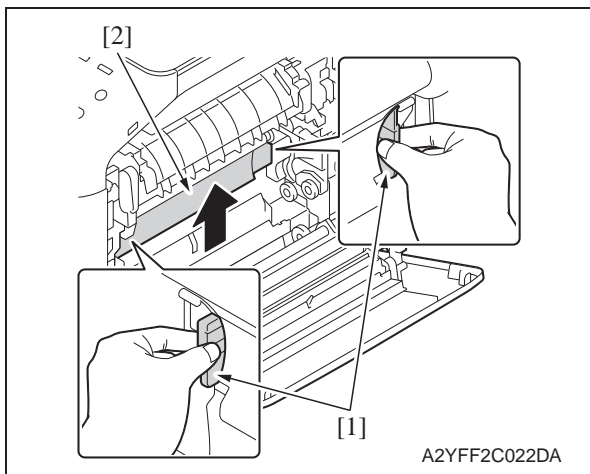


8. Disconnect the connector [1], and remove the temperature/humidity sensor [2].

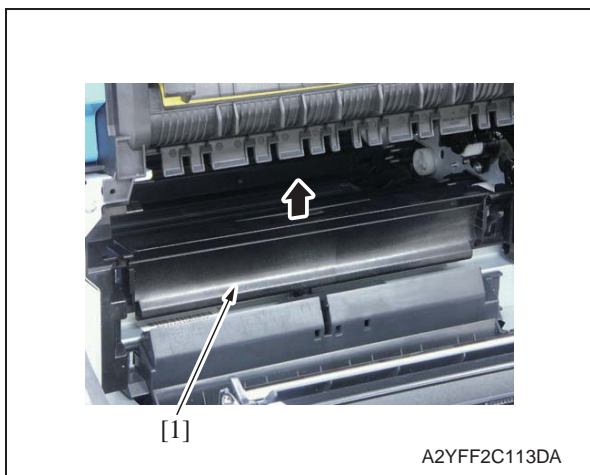
9. To reinstall, reverse the order of removal.

### 7.3.33 IDC sensor (IDC)

1. Remove the toner cartridge (C,M,Y,K).  
See P.8
2. Remove the waste toner bottle.  
See P.14
3. Remove the imaging unit (C,M,Y,K).  
See P.11
4. Remove the exit cover.  
See P.44
5. Remove the transfer belt unit.  
See P.16



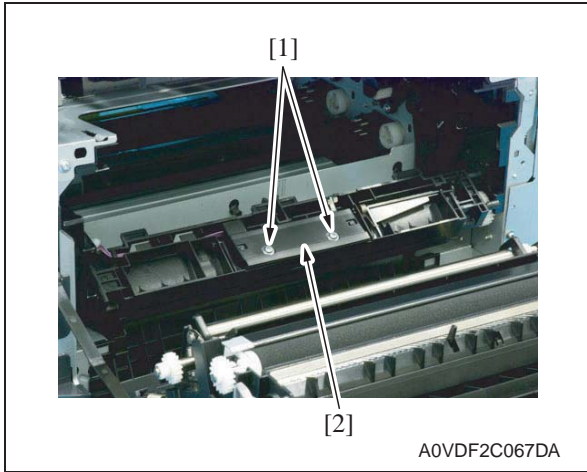
6. Hold the both handles [1] and raise the guide [2].



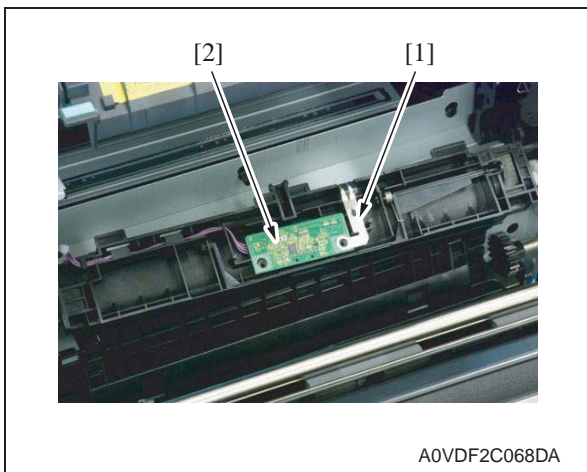
7. Raise the guide [1] further and remove it.

**NOTE**

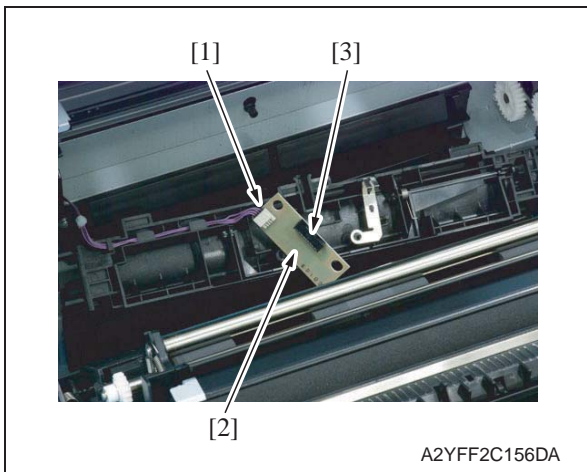
- Do not jerk off the sensor holder, to which a harness is connected.



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



9. While slightly raising the ground plate [1], remove the IDC sensor [2].



10. Disconnect the connector [1], and remove the IDC sensor [2].

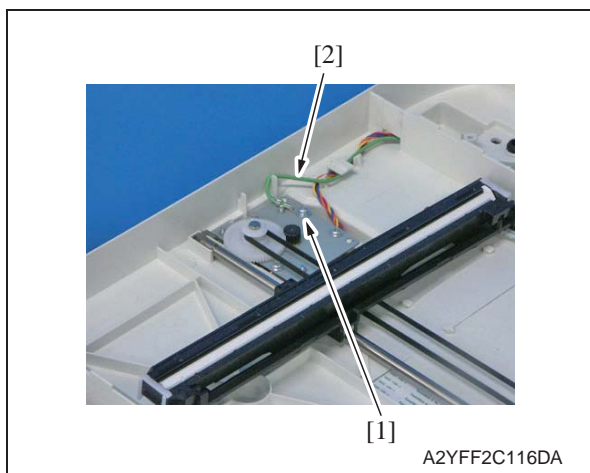
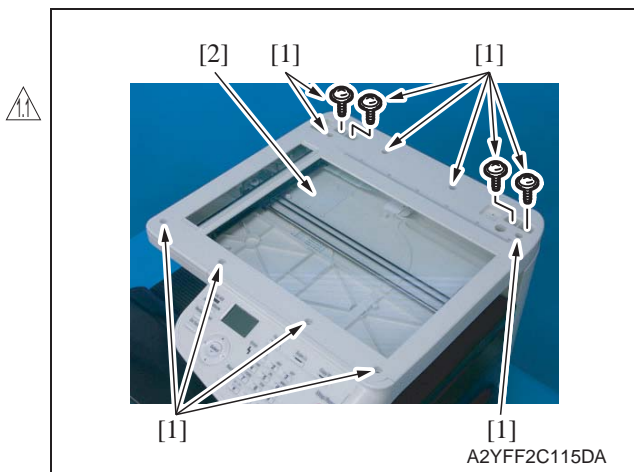
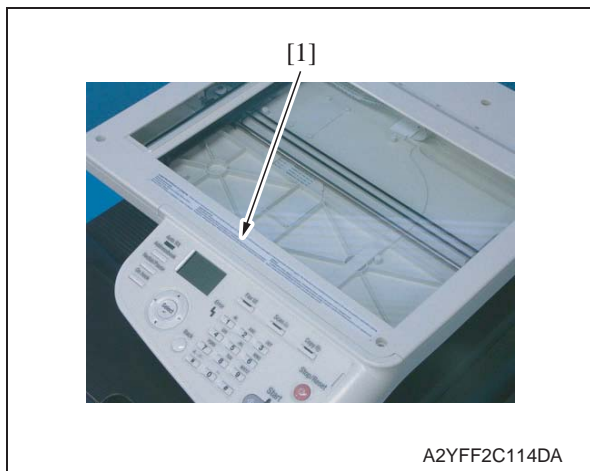
**NOTE**

- Be careful not to break the sensor head [3] of the IDC sensor.

11. To reinstall, reverse the order of removal.

### 7.3.34 Scanner motor (M101)

1. Remove the rear cover.  
[See P.43](#)
2. Remove the ADF.  
[See P.98](#)



3. Peel off the label [1].

**NOTE**

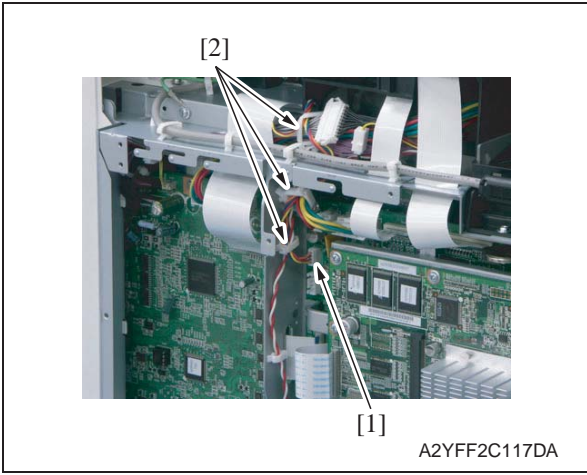
- After reinstalling the original glass, attach the label (Parts No.: A121 9447 ##) again.

4. Remove 12 screws [1], and remove the original glass [2].

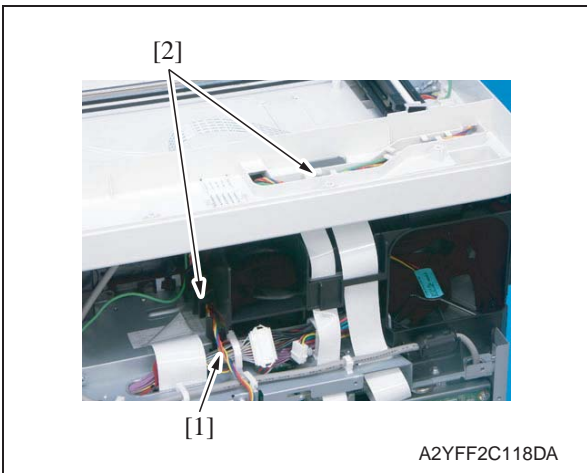
**NOTE**

- During installation of the original glass, use care not to allow dust or dirt to enter the machine. Clean any dust or dirt that may have entered before attempting to install the original glass.

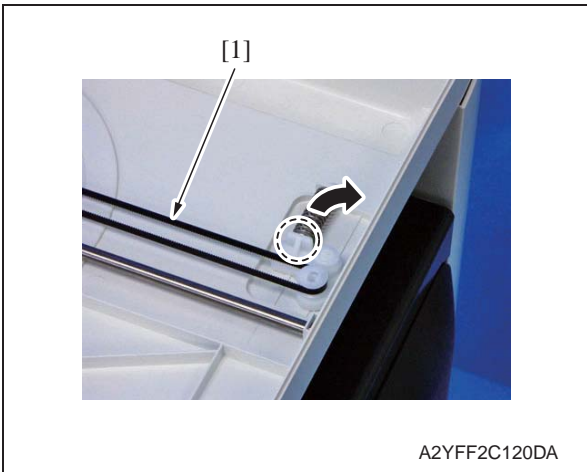
5. Remove the screw [1], and remove the earth cable [2].



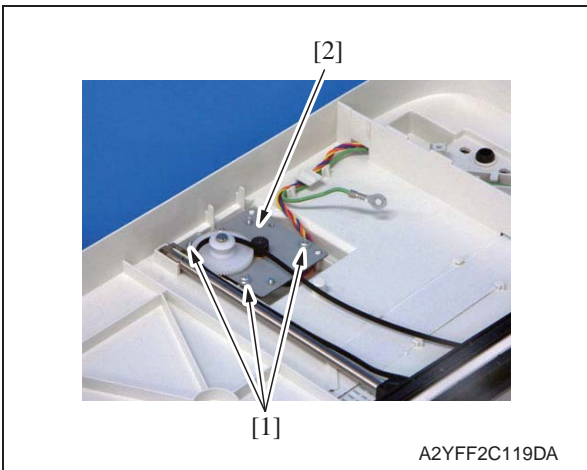
6. Disconnect the connector [1] (P106), and remove it from three wire saddles [2].



7. Remove the harness [1] from two harness guides [2].



8. While releasing the stopper, remove the belt [1].



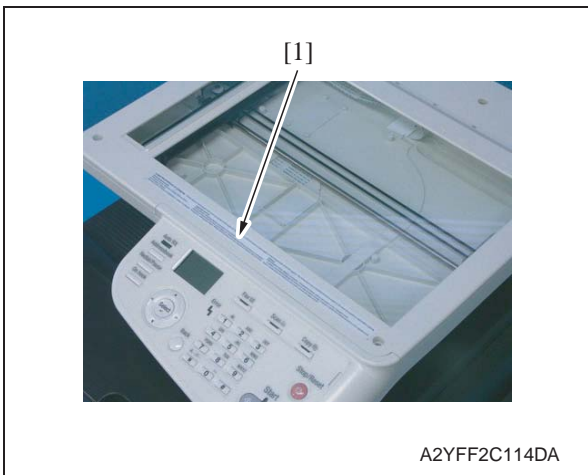
9. Remove three screws [1], and remove the scanner motor [2].



10. To reinstall, reverse the order of removal.

### 7.3.35 CIS module

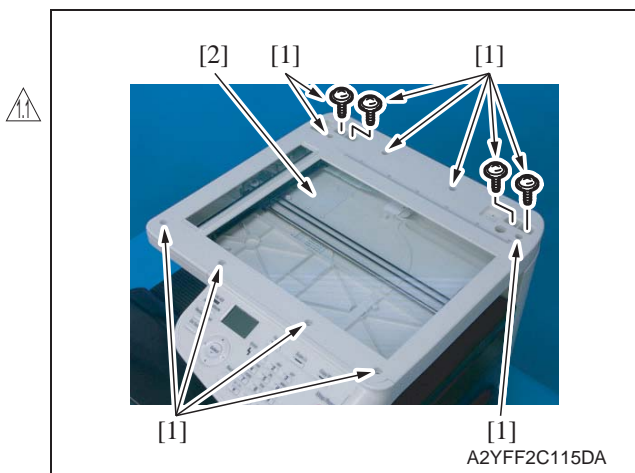
1. Remove the rear cover.  
See P.43
2. Remove the ADF.  
See P.98



3. Peel off the label [1].

#### NOTE

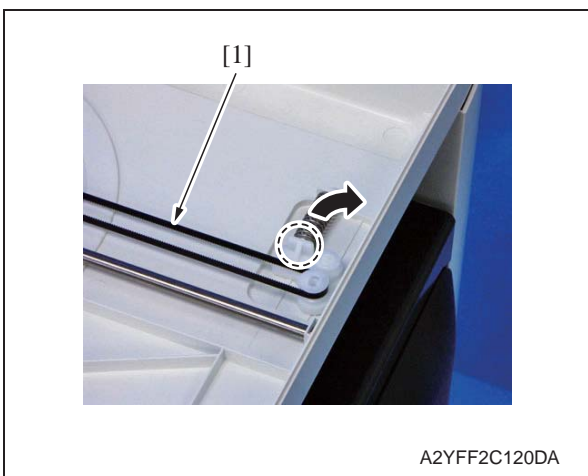
- After reinstalling the original glass, attach the label (Parts No.: A121 9447 ##) again.



4. Remove 12 screws [1], and remove the original glass [2].

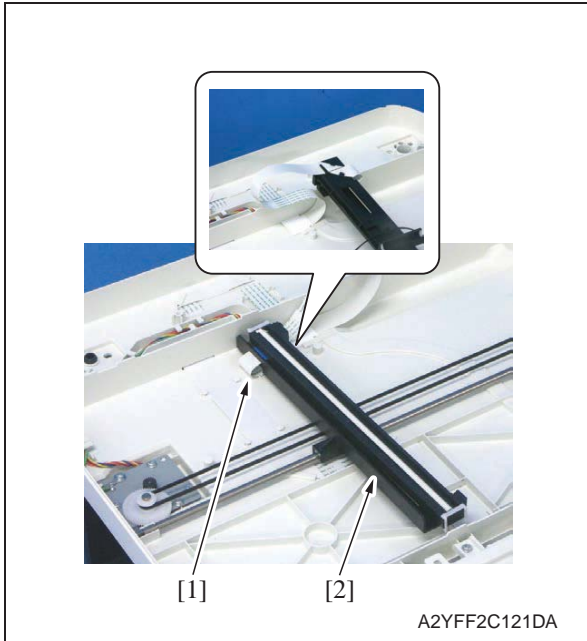
#### NOTE

- During installation of the original glass, use care not to allow dust or dirt to enter the machine. Clean any dust or dirt that may have entered before attempting to install the original glass.



5. While releasing the stopper, remove the belt [1].





6. Disconnect the flat cable [1], and remove it from the flat cable guide.
7. Remove the CIS module [2].

8. To reinstall, reverse the order of removal.

### 7.3.36 Scanner unit

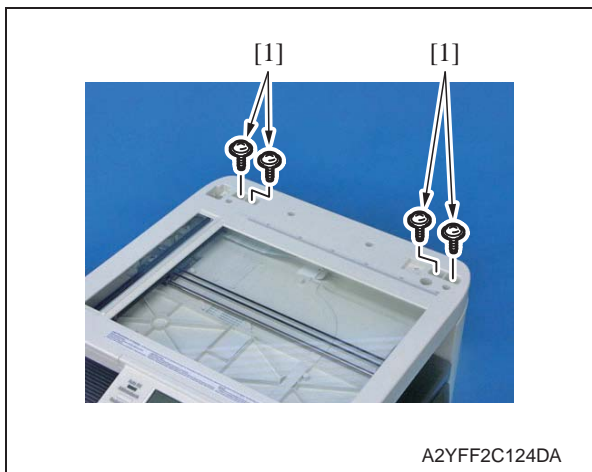
1. Remove the rear cover.  
[See P.43](#)
2. Remove the left cover.  
[See P.43](#)
3. Remove the ADF.  
[See P.98](#)



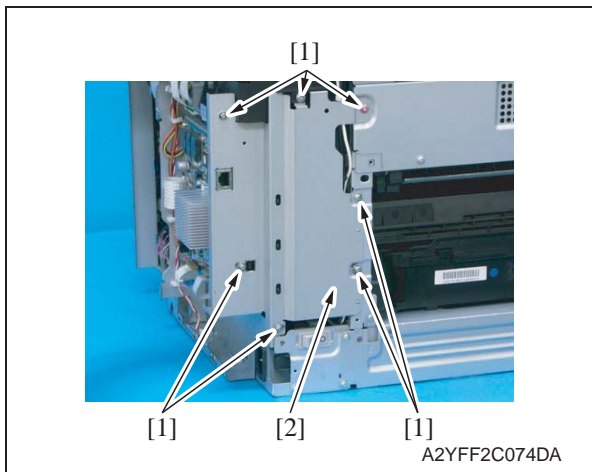
4. Remove two caps [1].



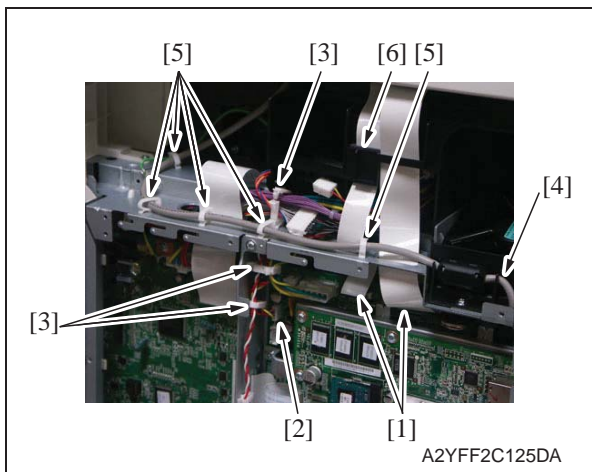
5. Remove two screws [1].



6. Remove four screws [1].



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



8. Disconnect two flat cables [1] (P103, P104).

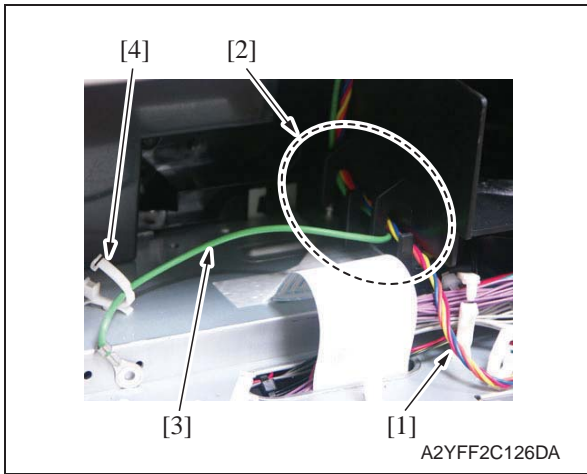
9. Disconnect the connector [2] (P106), and remove it from three wire saddles [3].

10. Disconnect the USB cable [4] (CN101) from the MFP board/1, and remove it from five wire saddles [5].

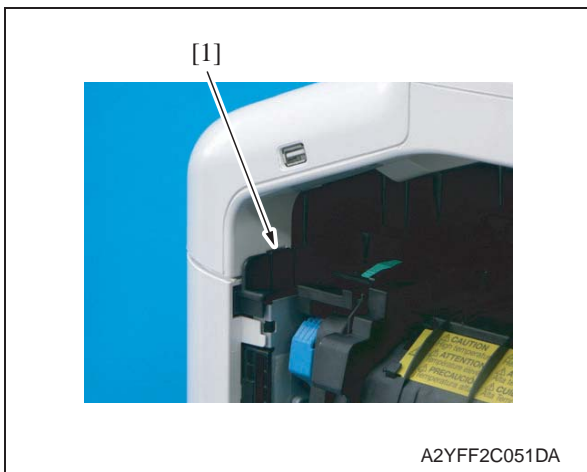
**NOTE**

- When disconnecting the flat cable, make sure not to lose the ferrite core [6].





11. Remove the harness [1] from the harness guide [2].
12. Remove the earth cable [3] from the wire saddle [4] and the harness guide [2].



13. Remove the tab [1].
14. Remove the scanner unit.

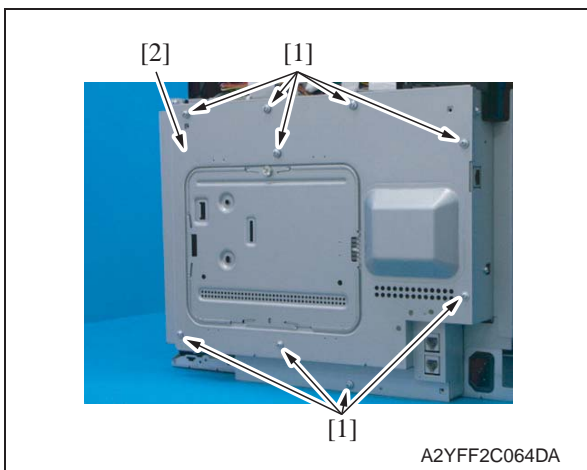
**NOTE**

- When unhook the tab [1], use the flathead screwdriver or the similar tool.

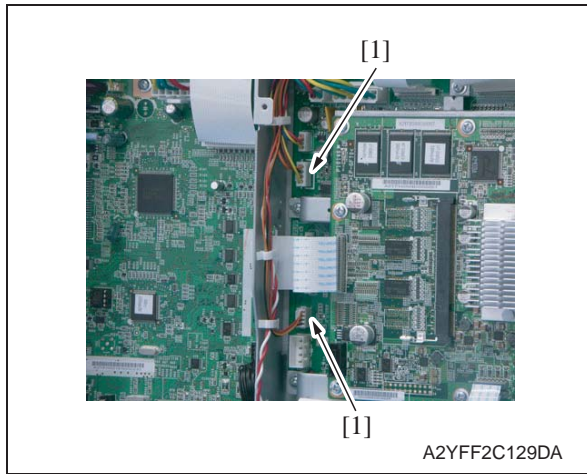
15. To reinstall, reverse the order of removal.

**7.3.37 ADF**

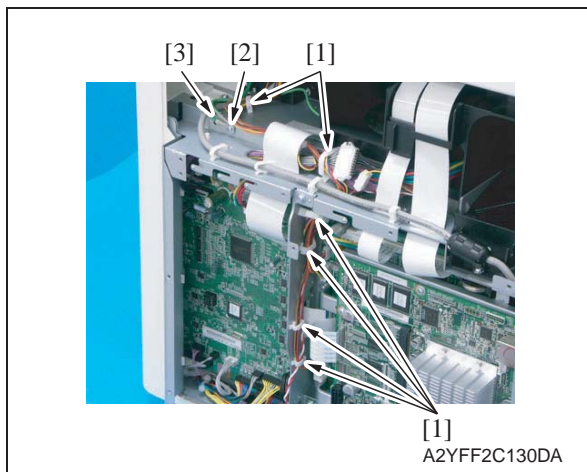
1. Remove the rear cover.  
See P.43



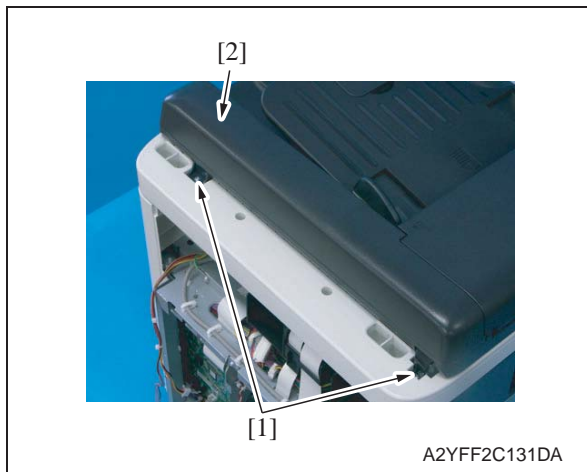
2. Remove nine screws [1], and remove the board protective shield [2].



3. Disconnect two connectors [1] (P107,P110).

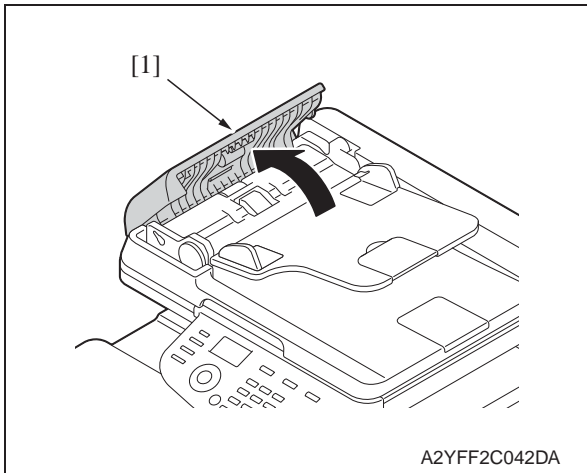


4. Remove the harness from six wire saddles [1].
5. Remove the screw [2], and remove the earth cable [3] from wire saddle.

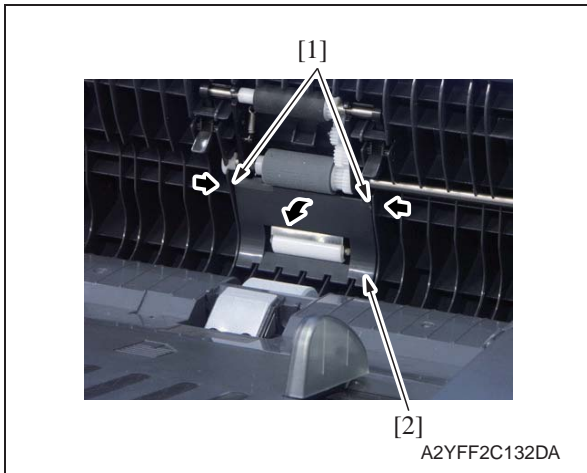


6. Remove two screws [1], and remove the ADF [2].

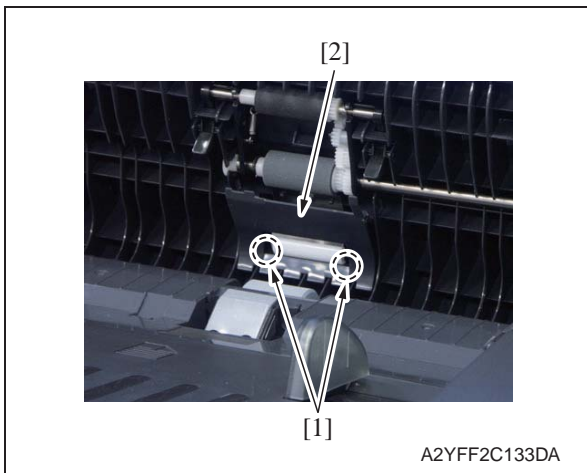
## 7.3.38 ADF pick-up roller / ADF feed roller



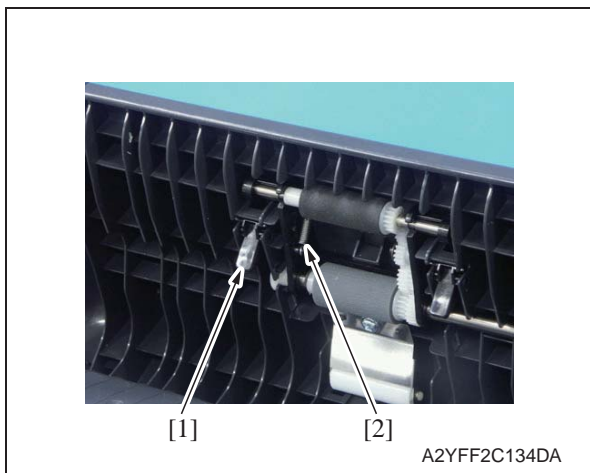
1. Open the ADF feed cover [1].



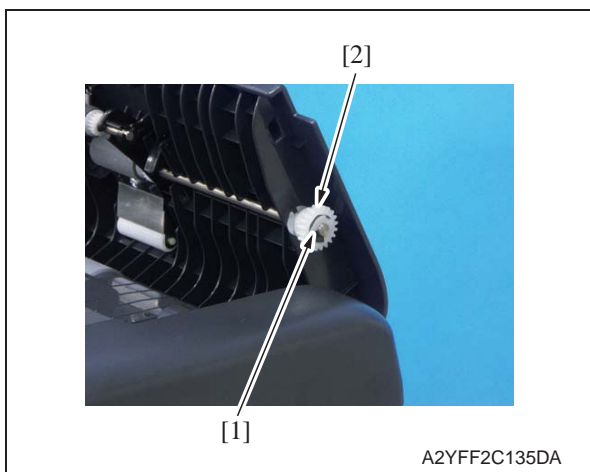
2. Release two tabs [1], and pull the cover [2] toward you.



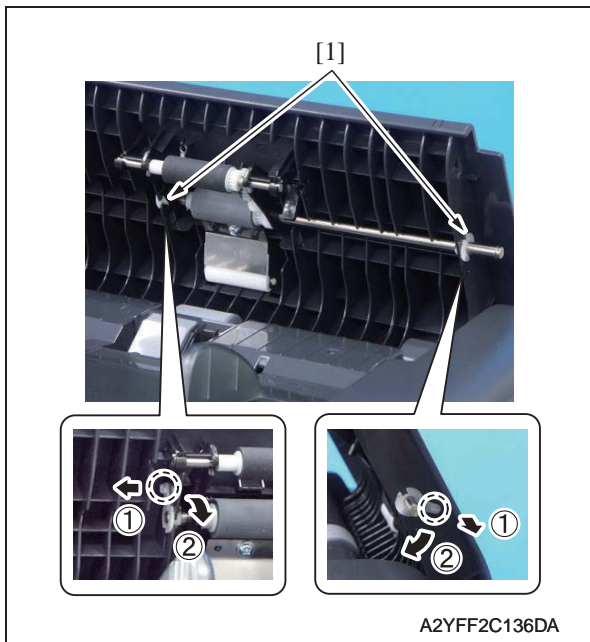
3. Unhook two tabs [1], and remove the cover [2].



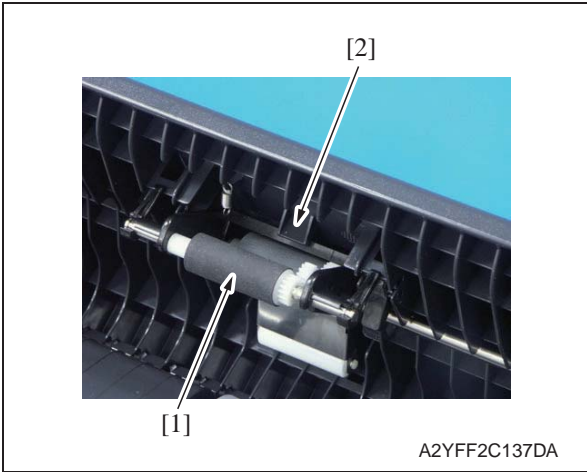
- 4. Remove the lever [1], and remove the spring [2].



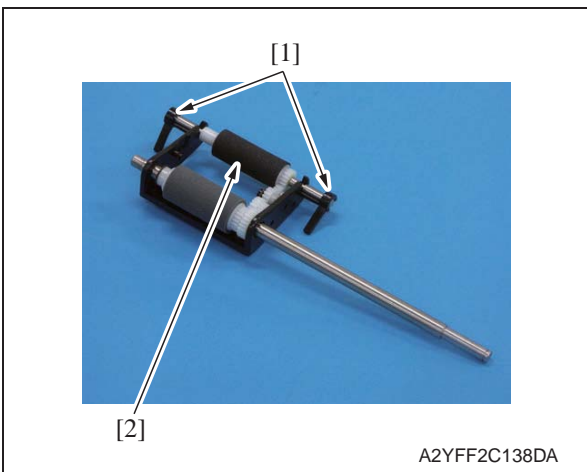
- 5. Remove the C-ring [1], and remove the gear [2].



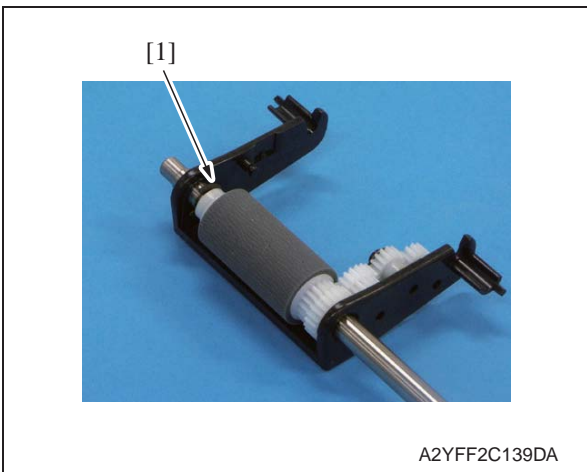
- 6. Remove two bushing [1].



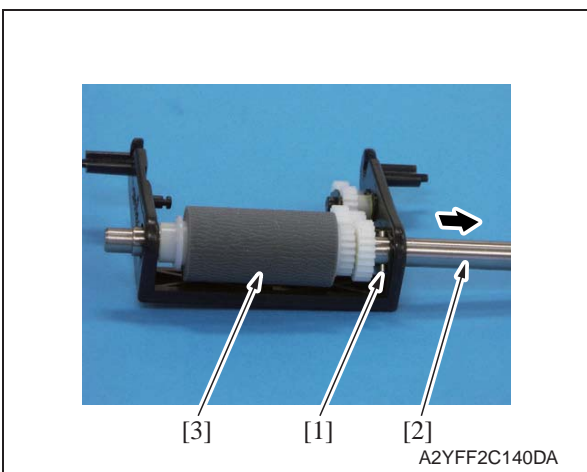
7. Pull the pick-up roller [1] toward you, and release the tab [2].
8. Remove the roller unit.



9. Remove two levers [1], and remove the pick-up roller [2].

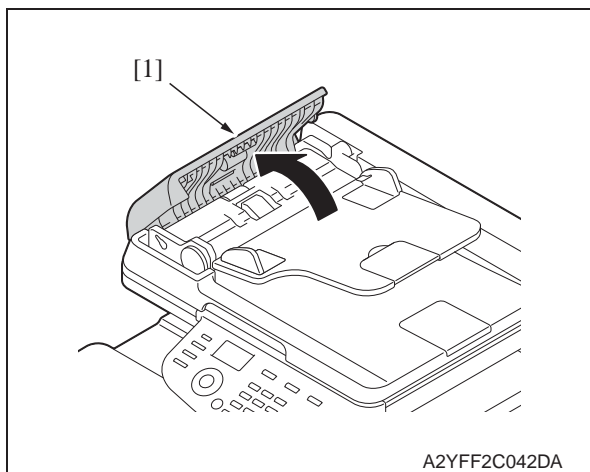


10. Remove the C-ring [1].

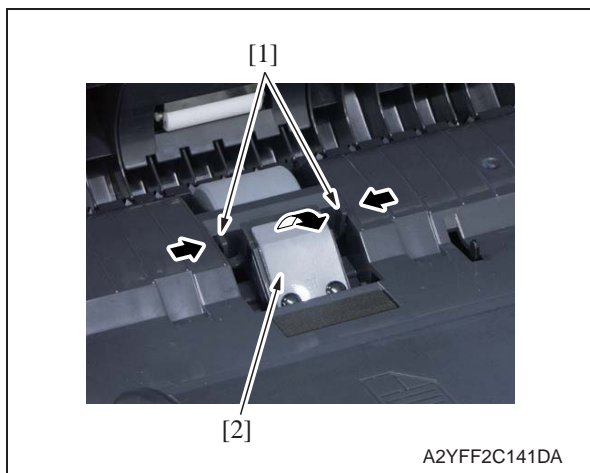


11. Remove the pin [1], and remove the shaft [2].
12. Remove the feed roller [3].

### 7.3.39 ADF separation pad



1. Open the ADF feed cover [1].



2. Unhook two tabs [1], and remove the ADF separator pad [2].

d-Color MF2400

MAINTENANCE

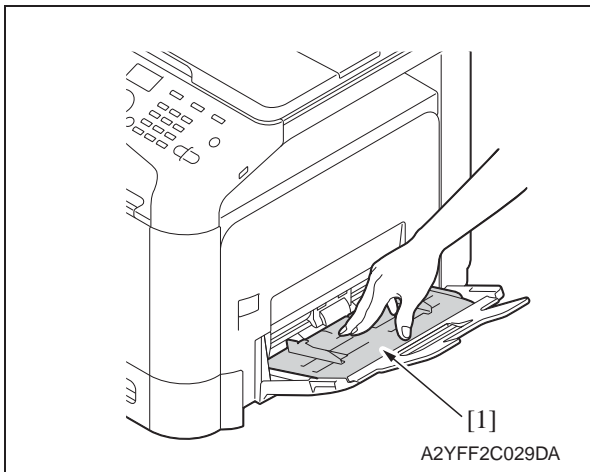
## 7.4 Cleaning procedure

### NOTE

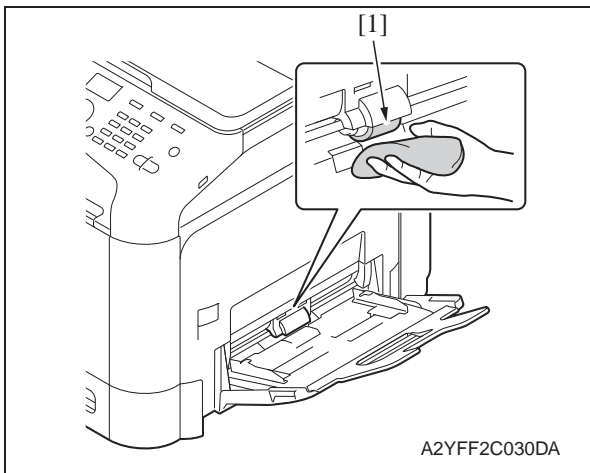
- The alcohol described in the cleaning procedure represents the isopropyl alcohol.

#### 7.4.1 Tray1 feed roller

1. Open the tray1.



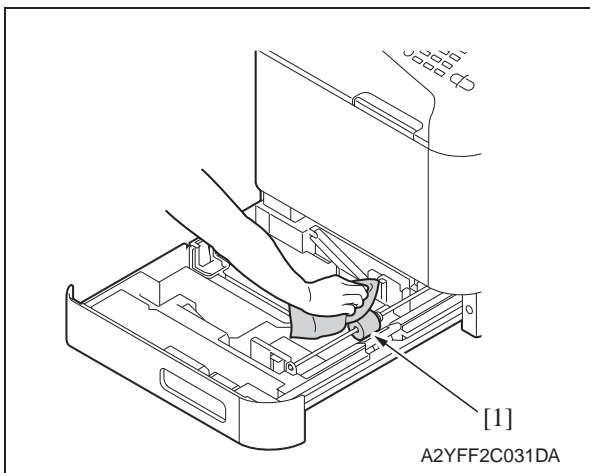
2. Press down the media lifting metal plate [1].



3. Using a cleaning pad dampened with alcohol, wipe the tray1 feed roller [1] clean of dirt.

#### 7.4.2 Tray2 feed roller

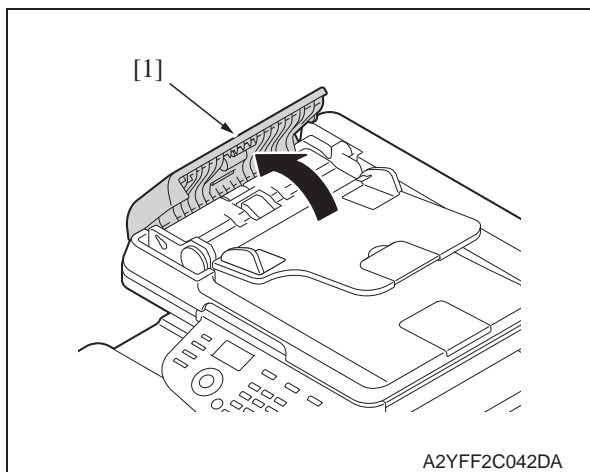
1. Slide out tray2.



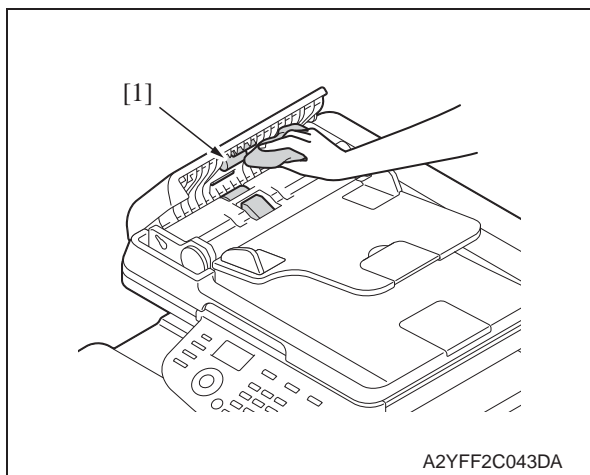
2. Using a cleaning pad dampened with alcohol, wipe the tray2 feed roller [1] clean of dirt.



### 7.4.3 ADF feed roller



1. Open the ADF feed cover [1].

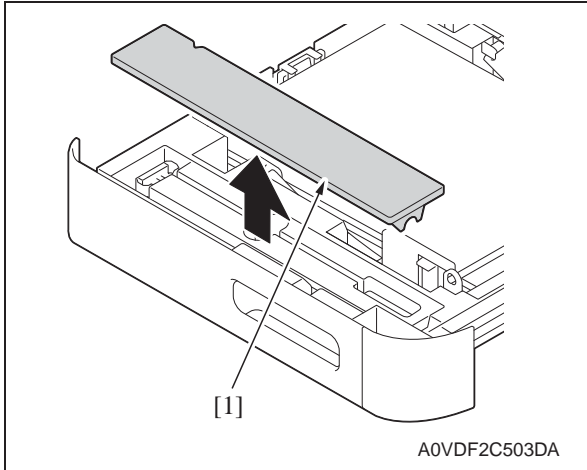


2. Using a cleaning pad dampened with alcohol, wipe the ADF feed roller [1] clean of dirt.

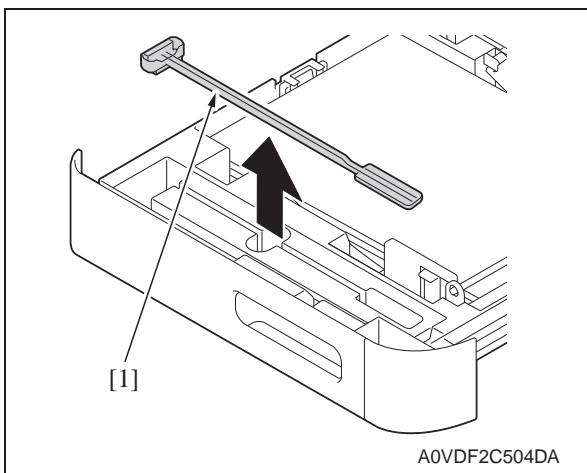


### 7.4.4 Laser irradiation section

1. Slide out tray2.

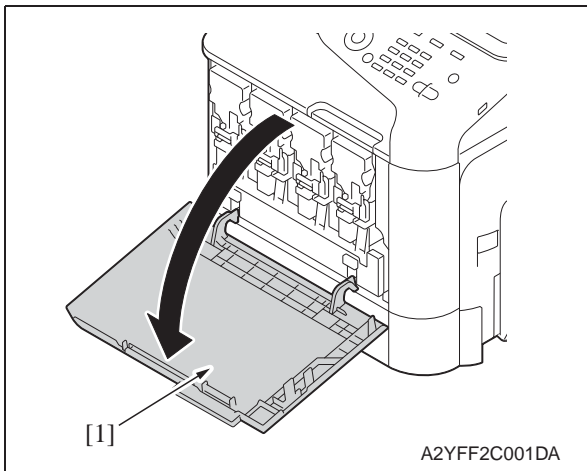


2. Remove the cover [1].

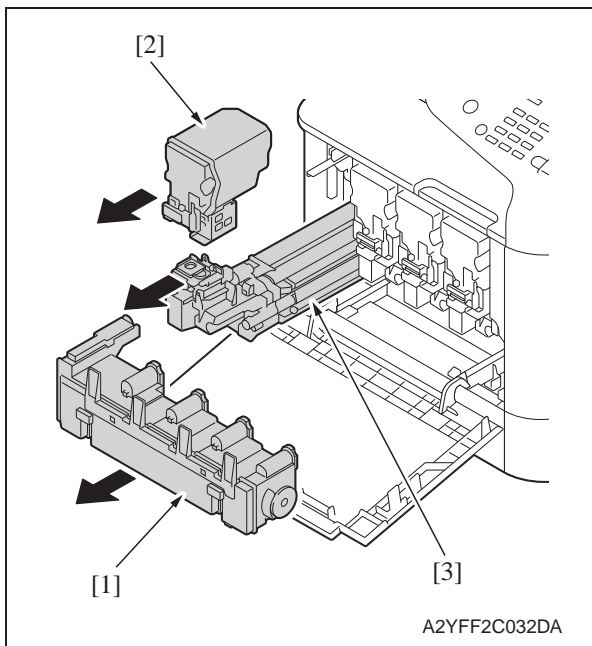


3. Remove the laser lens cleaning tool [1].

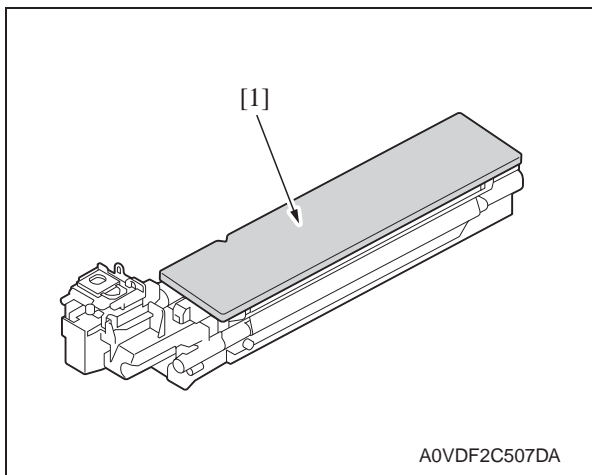
4. Close the tray2.



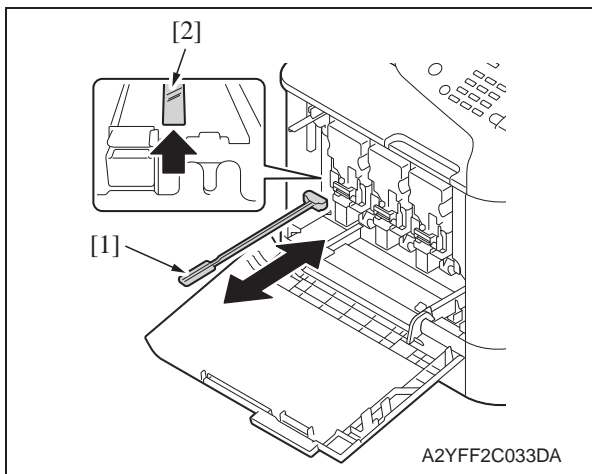
5. Open the front door [1].



- 6. Remove the waste toner bottle [1].  
[See P.14](#)
- 7. Remove the toner cartridge [2].  
[See P.8](#)
- 8. Remove the imaging unit [3].  
[See P.11](#)



- 9. Attach the cover [1] to the removed imaging unit.



- 10. Insert the laser lens cleaning tool [1] into the imaging unit opening [2], pull it out, and then repeat this back and forth movement 2 or 3 times.

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MAINTENANCE

Blank Page

# ADJUSTMENT/SETTING

## 8. HOW TO USE THE ADJUSTMENT/SETTING SECTION

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

### Advance checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
  - The power supply voltage meets the specifications.
  - The power supply is properly grounded.
  - The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
  - The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
  - The original has a problem that may cause a defective image.
  - The density is properly selected.
  - The original glass, slit glass, or related part is dirty.
  - Correct paper is being used for printing.
  - The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
  - Toner is not running out.

### CAUTION

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fuser unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

# 9. UTILITY

## 9.1 List of UTILITY mode

### NOTE

- Keys displayed on screens are different depending on the setting.

\*1: It will be displayed only when the optional lower feeder unit PF-P09 is installed.

UTILITY mode			
ACCESSIBILITY	SOUND SETTINGS		
	LCD CONTRAST		
	KEY SPEED	TIME TO START	
		INTERVAL	
MACHINE SETTING	AUTO PANEL RESET		
	SLEEP MODE		
	LANGUAGE		
	INITIAL MODE		
	TONER EMPTY		
	ENABLE WARNING	Toner Low	
		I-Unit Low	
		WASTE NEAR FULL	
	AUTO CONTINUE		
CALIBRATION			
PAPER SETUP	TRAY1 PAPER	PLAIN PAPER	
		THICK PAPER	
		THICK PAPER2	
		TRANSPARENCY	
		LABELS	
		LETTERHEAD	
		GLOSSY	
		GLOSSY2	
		ENVELOPE	
	POSTCARD		
	TRAY2 PAPER		
	TRAY3 PAPER *1		
	ADMIN. MANAGEMENT	PASSWORD SETTING	ADMINISTRATOR NO.
PASSWORD SETTING		FULL FUNC. NO.	CHANGE FUNC. NO.
			RESTRICT
REMOTE MONITOR			

UTILITY mode			
ADMIN. MANAGEMENT	NETWORK SETTING	TCP/IP	
		IP ADDR. SETTING	
		DHCP	
		BOOTP	
		ARP/PING	
		HTTP	
		FTP SERVER	
		FTP TX	
		SMB	
		BONJOUR	
		DYNAMIC DNS	
		IPP	
		RAW PORT	DISABLE/ENABLE
			BIDIRECTIONAL
		SLP	
		SNMP	
		WSD PRINT	
		IPSEC	
		IP ADDR. FILTER	ACCESS PER.
			ACCESS REFUSE
		IPv6	DISABLE/ENABLE
			AUTO SETTING
			LINK LOCAL
			GLOBAL ADDRESS
			GATEWAY ADDRESS
		NETWARE	
		APPLETALK	
SPEED/DUPLEX			

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ADJUSTMENT / SETTING

UTILITY mode			
ADMIN. MANAGEMENT	NETWORK SETTING	IEEE802.1X	
	E-MAIL SETTING	SMTP	
		SENDER NAME	
		E-MAIL ADDRESS	
		DEFAULT SUBJECT	
		SMTP SERVER ADDR.	
		SMTP PORT NO.	
		SMTP TIMEOUT	
		TEXT INSERT	
		POP BEFORE SMTP	DISABLE/ENABLE
			POP3 SERVER ADDR.
			POP3 PORT NO.
			POP3 TIMEOUT
			POP3 ACCOUNT
			POP3 PASSWORD
		SMTP AUTH.	DISABLE/ENABLE
			SMTP USER NAME
			SMTP PASSWORD
	LDAP SETTING	DISABLE/ENABLE	
		LDAP SERVER ADDR.	
		LDAP PORT NO.	
		SSL SETTING	
		SEARCH BASE	
		ATTRIBUTE	
		SEARCH METHOD	
		LDAP TIMEOUT	
		MAX. SEARCH RESULTS	
		AUTHENTICATION	
		LDAP ACCOUNT	
		LDAP PASSWORD	
		DOMAIN NAME	
	MEMORY DIRECT		
	USB SETTING		
FAX SETTING	AUTO REDIAL	NUMBER OF REDIAL	
		INTERVAL	

UTILITY mode			
ADMIN. MANAGEMENT	FAX SETTING	CONFRIM FAX NO.	
		DETECT DIAL TONE	
	COMM. SETTING	TONE/PULSE	
		LINE MONITOR	
		PSTN/PBX	
	USER SETTING	PTT SETTING	
		DATE&TIME	
		DAYLIGHT SAVING	
		DATE FORMAT	
		PRESET ZOOM	
		USER FAX NUMBER	
		USER NAME	
	SUPPLIES REPLACE	TRANSFER BELT	
		FUSER UNIT	
TRANSFER ROLLER			
COPY SETTING	PAPER PRIORITY		
	TRAY CHAINING		
	QUALITY PRIORITY		
	DENSITY PRIORITY		
	DENSITY LEVEL	AUTO	
		MANUAL	
	SHARPNESS		
	OUTPUT PRIORITY		
	N-UP PRIORITY		
	4IN1 COPY ORDER		
	DUPLEX COPY		
DIAL REGISTER	FAVORITE		
	SPEED DIAL		
	GROUP DIAL		
FAX TX OPERATION	QUALITY PRIORITY		
	DENSITY LEVEL		
	DEFULT TX		
	HEADER		
FAX RX OPERATION	MEMORY RX MODE		
	NO. of RINGS		
	REDUCTION RX		
	RX PRINT		
	RX MODE		
	FORWARD		
	FOOTER		
	SELECT TRAY		
	DUPLEX PRINT		

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ADJUSTMENT / SETTING



UTILITY mode	
REPORTING	ACTIVITY REPORT
	TX RESULT REPORT
	RX RESULT REPORT
SCAN SETTING	IMAGE FORMAT
	CODING METHOD
	RESOLUTION
	QUALITY PRIORITY
	DENSITY LEVEL
	SHARPNESS
	SCAN SIZE
	FILE SIZE
	START KEY

\* The settings list shown in the above is in accordance with the screen display format.

## 9.2 Starting/Exiting

### 9.2.1 Starting procedure

1. Select [UTILITY] in the main screen.
2. Press the Select key.
3. The UTILITY mode screen will appear.
  - When accessing to [ADMIN. MANAGEMENT], the following procedure is needed starting UTILITY mode.
4. Select [ADMIN. MANAGEMENT], and press the Select key.
5. Enter the 6-digit administrator password using the 10-key pad.  
(The initial setting for administrator password is "000000.")
6. Press the Select key.
7. [ADMIN. MANAGEMENT] menu will appear.

### 9.2.2 Exiting procedure

- Press the Stop/Reset key.

## 10. REPORT/STATUS

### 10.1 List of REPORT/STATUS mode

\*1: It will be displayed only when the optional hard disk kit HD-P03 or CompactFlash card is installed.

REPORT/STATUS mode	
TOTAL PRINT	TOTAL PRINT
	MONO COPY
	COLOR COPY
	MONO PRINT
	COLOR PRINT
	FAX PRINT
	TOTAL SCAN
SUPPLY STATUS	C TONER
	M TONER
	Y TONER
	K TONER
	C I-UNIT
	M I-UNIT
	Y I-UNIT
K I-UNIT	
TX/RX RESULT	
REPORT	TX RESULT REPORT
	RX RESULT REPORT
	ACTIVITY REPORT
	MEMORY DATA LIST
	MEMORY IMAGE PRINT
	FAVORITE LIST
	SPEED DIAL LIST
	GROUP DIAL LIST
	UTILITY MAP
	PS/PCL MENU MAP
	CONFIGURATION PAGE
	PS FONT LIST
	PCL FONT LIST
	DIRECTORY LIST *1

## 10.2 Starting/Exiting

### 10.2.1 Starting procedure

1. Select [REPORT/STATUS] in the main screen.
2. Press the Select key.
3. The REPORT/STATUS mode screen will appear.

### 10.2.2 Exiting procedure

- Press the Stop/Reset key.



**A. Supplies Status**

- Display the estimated percent of life remaining in the toner cartridge and imaging unit. The type of the toner cartridges that are installed in the printer is also displayed (See the table below).
- Display the status of the waste toner bottle.

Types of toner cartridges	
Starter	• Toner cartridge included with a product shipped from the factory: 2.0 K
High	• High-capacity toner cartridge: 4.5 K (C, M, Y)/5.0 K (K)

**NOTE**

- **The percent of life remaining in the toner cartridge or print unit can be used as a guide, but may not exactly reflect the amount that has been used in the toner cartridge or print unit.**

**B. Coverage Information**

- The total number of pages that have been printed is counted and displayed based on the description shown in the following table.
- Normalization: printed pages converted into the standard page size (A4/Letter)

Coverage Information		Count condition	
Normalized Total Faces Counter	Color Faces Printed	• Counts by converting the size outputted in color to a value corresponding to A4 pages. 1-sided (A4): Counts +1; 2-sided (A4): Counts +2	
	Monochrome Faces Printed	• Counts by converting the size outputted in monochrome to a value corresponding to A4 pages. 1-sided (A4): Counts +1; 2-sided (A4): Counts +2	
	Total	• Total count of the above printed pages in color and monochrome	
Normalized Total Faces Coverage	Copy	• Average of total dot coverage of copy printing	
	Printer	• Average of total dot coverage of pc-print printing	
Normalized Coverage Information	Color Average	• Average of total dot coverage of color printing	
	Monochrome Average	• Average of total dot coverage monochrome printing	
	Color Faces	Copy	• Average of total dot coverage of color copy printing
		Printer	• Average of total dot coverage of color pc-print printing
	Mono-chrome Faces	Copy	• Average of total dot coverage of monochrome copy printing
		Printer	• Average of total dot coverage of monochrome pc-print printing
		Fax	• Average of total dot coverage of fax printing include received data and report.
Current Toner Cartridge	• Average of total dot coverage each color current toner cartridge.		
Last Job	• Average of dot coverage of each color of the final job		

**C. PM parts information**

- The lower right part of the configuration page shows numerical values that represent consumable/periodic replacement parts (units) counter information.  
The table below explains counter information that is provided by each numerical data.

**(1) Display on the configuration page**

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Display	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/
No.	25																							
Display	1B01/																							
No.	26	27	28	29	30	31	32	33	34	35	36	37												
Display	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/												

**(2) Meaning of counter value**

No.	Contents	
1	Replace	Number of times a High-capacity toner cartridge (K) has been replaced
2		Number of times a Standard-capacity toner cartridge (K) has been replaced * This item is not available in this machine.
3		Number of times a Non-genuine toner cartridge (K) has been replaced
4		Number of times a High-capacity toner cartridge (C) has been replaced
5		Number of times a Standard-capacity toner cartridge (C) has been replaced * This item is not available in this machine.
6		Number of times a Non-genuine toner cartridge (C) has been replaced
7		Number of times a High-capacity toner cartridge (M) has been replaced
8		Number of times a Standard-capacity toner cartridge (M) has been replaced * This item is not available in this machine.
9		Number of times a Non-genuine toner cartridge (M) has been replaced
10		Number of times a High-capacity toner cartridge (Y) has been replaced
11		Number of times a Standard-capacity toner cartridge (Y) has been replaced * This item is not available in this machine.
12		Number of times a Non-genuine toner cartridge (Y) has been replaced
13		If Non-genuine TC was used, value is 1. (default is 0)
14		If Refill TC was used, value is 1. (default is 0)
15		Rate of transfer roller remaining (%)
16		Number of times a transfer roller has been replaced
17		Rate of transfer belt unit remaining (%)
18		Number of times a transfer belt unit has been replaced
19		Rate of fuser unit remaining (%)
20		Number of times a fuser unit has been replaced
21		Number of times a imaging unit (K) has been replaced
22		Number of times a imaging unit (C) has been replaced
23		Number of times a imaging unit (M) has been replaced
24		Number of times a imaging unit (Y) has been replaced

No.		Contents
25	Machine setting date	Year (e.g. The year 2011 is displayed as 1.)
		Month (e.g. January is displayed as A. February is B. March is C. and December is L.)
		Day (e.g. The day 1 is displayed as 01.)
26	Application counter	Copy print
27		Fax Reception print
28		Report output print
29		PC Print
30		Fax Transmitting pages
31		Scan to E-mail
32		Scan to FTP
33		Scan to SMB
34		Scan to USB
35		Twain
36		USB to Printing

# 11. PS/PCL PRINT

## 11.1 List of PS/PCL PRINT mode

- \*1: This menu item appears only if an optional hard disk kit HD-P03 is installed.
- \*2: This function becomes available only when the optional lower feeder unit PF-P09 is mounted on the machine.
- \*3: This menu item appears only if an optional hard disk kit or a CompactFlash card of 1GB or more is installed.
- \*4: This menu item appears only if an optional CompactFlash card is installed.

PS/PCL PRINT mode				
PROOF/PRINT MENU *1				
PAPER MENU	ANY TRAY SETTING	TRAY1 PAPER	TRAY1 ANY SIZE	
			TRAY1 ANY TYPE	
		TRAY2 PAPER	TRAY2 ANY SIZE	
			TRAY2 ANY TYPE	
		TRAY3 PAPER *2	TRAY3 ANY TYPE	
		TRAY CHAINING		
	TRAY MAPPING	TRAY MAPPING MD.		
		LOGICAL TRAY 0-9		
	DUPLEX			
	COPIES			
	COLLATE *3			
QUALITY MENU	COLOR MODE			
	BRIGHTNESS			
	HALFTONE	IMAGE PRINTING		
		TEXT PRINTING		
		GRFX. PRINTING		
	EDGE ENHANCEMENT	IMAGE PRINTING		
		TEXT PRINTING		
		GRFX. PRINTING		
	EDGE STRENGTH			
	ECONOMY PRINT			
	PCL SETTING	CONTRAST		
		IMAGE PRINTING	RGB SOURCE	
			RGB INTENT	
			RGB GRAY	
		TEXT PRINTING	RGB SOURCE	
			RGB INTENT	
			RGB GRAY	
GRFX. PRINTING		RGB SOURCE		
		RGB INTENT		
	RGB GRAY			



PS/PCL PRINT mode			
QUALITY MENU	PS SETTING	IMAGE PRINTING	RGB SOURCE
			RGB INTENT
			RGB GRAY
			DESTINATION PROF
		TEXT PRINTING	RGB SOURCE
			RGB INTENT
			RGB GRAY
			DESTINATION PROF
		GRFX. PRINTING	RGB SOURCE
			RGB INTENT
			RGB GRAY
			DESTINATION PROF
	SIMULATION	SIMULATION PROF	
		SIM. INTENT	
		CMYK GRAY	
	CALIBRATION	TONE CALIBRATION	
CMYK DENSITY		CYAN	
		MAGENTA	
		YELLOW	
		BLACK	
COLOR SEPARATION			
SYS DEFAULT MENU	EMULATION	DEF. EMULATION	
		POSTSCRIPT	WAIT TIMEOUT
			PS ERROR PAGE
			PS PROTOCOL
		PCL	CR/LF MAPPING
			LINES PER PAGE
			FONT SOURCE
		XPS <*3>	DIGITAL SGN.
	XPS ERROR PAGE		
	PAPER	DEFAULT PAPER	PAPER SIZE
			CUSTOM SIZE
			PAPER TYPE
	GRAYSCALE PAGE		
	STARTUP OPTIONS	DO STARTUP PAGE	
HOLD JOB TIMEOUT *1			
HDD FORMAT *1	USER AREA ONLY		
	ALL		
CARD FORMAT *4	USER AREA ONLY		
	ALL		

## 12. USER SERVICE MODE

### 12.1 List of USER SERVICE MODE

USER SERVICE MODE		
FAX MAINTENANCE	TX SPEED	
	RX SPEED	
	TX LEVEL	
	RX LEVEL	
	DTMF LEVEL	
	CNG LEVEL	
	CED LEVEL	
	ECM MODE	
	CODING SCHEME	
	TONER EMPTY REPORT	
	PROTOCOL REPORT	
	PC FAX TIMEOUT	
	TAD TIME OUT	
	TWAIN TIME OUT	
	SLEEP OFF	
DETECT DIAL TONE		
ADJUST	CIS MAIN ZOOM	
	CIS SUB ZOOM	
	CIS MAIN REGIST	
	CIS SUB REGIST	
	ADF SUB ZOOM	
	ADF MAIN REGIST	
	ADF SUB REGIST	
	FUSER CONTROL	
	TOP ADJ. (FRONT)	PLAIN PAPER
		THICK1
		THICK2
		ENVELOPE
	LEFT ADJ. (FRONT)	TRAY1
		TRAY2
		TRAY3
	LEFT ADJ. (BACK)	TRAY1
		TRAY2
		TRAY3

USER SERVICE MODE			
ADJUST	TRANSFER POWER	SIMPLEX PASS	
		DUPLEX PASS	
	IMAGE ADJ PARAM		
	TEMPERATURE		
	ENGINE SW		
	MAIN-SCAN SCALE	MAIN SCAN PAGE	
		SCAN ADJUST VALUE	
	AIDC MODE		
	THICK MODE		
	FINE LINE ADJ		
CRU USAGE	TRANSFER BELT		
	FUSER UNIT		
	TRANSFER ROLLER		
SUPPLIES REPLACE	TRANSFER BELT		
	FUSER UNIT		
	TRANSFER ROLLER		
MAINTEN. MENU	PRINT MENU	EVENT LOG	
		HALFTONE 64	CYAN64
			MAGENTA64
			YELLOW64
			BLACK64
		HALFTONE128	CYAN128
			MAGENTA128
			YELLOW128
			BLACK128
		HALFTONE256	CYAN256
			MAGENTA256
			YELLOW256
			BLACK256
		GRADATION	
	IMG ADJ THICK	CYAN	
MAGENTA			
YELLOW			
BLACK			
IMG ADJ BLACK			

## 12.2 Starting/Exiting

### A. Starting procedure

1. Call the UTILITY mode display to the screen.
2. Keep on pressing ◀ key over three seconds.

### B. Exiting procedure

- Press the Stop/Reset key.

# 13. SERVICE MODE

## 13.1 LIST OF SERVICE MODE

\* The function tree is shown to comply with the format displayed on the screen.

\*1: It will be displayed only when the optional lower feeder unit PF-P09 is installed.

SERVICE MODE		Ref. page	
SERVICE'S CHOICE	TX SPEED	P.130	
	RX SPEED	P.130	
	TX LEVEL	P.130	
	RX LEVEL	P.130	
	DTMF LEVEL	P.131	
	CNG LEVEL	P.131	
	CED LEVEL	P.131	
	ECM MODE	P.131	
	CODING SCHEME	P.132	
	TONER EMPTY REPORT	P.132	
	PROTOCOL REPORT	P.133	
	PC FAX TIMEOUT	P.133	
	TWAIN TIMEOUT	P.133	
	SLEEP OFF	P.133	
	ENABLE WARNING	TONER LOW	P.133
		I-UNIT LOW	P.134
		WASTE NEAR FULL	P.134
	DETECT DIAL TONE	P.134	
	COUNT MODE	COUNT MODE	P.134
		LARGE PAPER MODE	P.135
	MANUAL INPUT DEST.	P.135	
	ADJUST	CIS MAIN ZOOM	P.136
		CIS SUB ZOOM	P.137
CIS MAIN REGIST		P.138	
CIS SUB REGIST		P.139	
ADF SUB ZOOM		P.140	
ADF MAIN REGIST		P.141	
ADF SUB REGIST		P.142	
FUSER CONTROL		P.143	
TOP ADJ. (FRONT)		PLAIN PAPER	P.143
		THICK1	
	THICK2		
	ENVELOPE		

SERVICE MODE			Ref. page	
ADJUST	LEFT ADJ. (FRONT)	LEFT ADJ TRAY1	P.143	
		LEFT ADJ TRAY2		
		LEFT ADJ TRAY3		
	LEFT ADJ. (BACK)	LEFT ADJ TRAY1	P.144	
		LEFT ADJ TRAY2		
		LEFT ADJ TRAY3		
	TRANSFER POWER	SIMPLEX PASS	PLAIN PAPER	P.144
			THICK1	
			THICK2	
			POSTCARD	
			ENVELOPE	
			LABEL	
			GLOSSY1	
			GLOSSY2	
		DUPLEX PASS	THICK1	P.145
			THICK2	
			POSTCARD	
			ENVELOPE	
			LABEL	
			GLOSSY1	
	IMAGE ADJ PARAM			P.145
TEMPERATURE	PLAIN PAPER	P.145		
	THICK			
	ENVELOPE			
MAIN SCAN SCALE	MAIN SCAN PAGE	P.146		
	SCAN ADJUST VALUE	P.146		
AIDC MODE			P.147	
THICK MODE			P.148	
FINE LINE ADJ			P.148	
IU YIELD SETTING			P.148	
SUPPLIES REPLACE	TRANSFER BELT	P.149		
	FUSER UNIT	P.149		
	TRANSFER ROLLER	P.149		
BK CLEAR			P.149	

SERVICE MODE		Ref. page	
COUNTER	TOTAL PRINT	P.150	
	FAX COUNTER	P.151	
	SCAN COUNTER	P.151	
	TRAY COUNTER	P.151	
	PAPER SIZE COUNTER	P.151	
	PAPER TYPE COUNTER	P.151	
	APPLICATION COUNT.	P.152	
	SUPPLIES STATUS	P.152	
	CRU USAGE	P.152	
	JAM COUNTER	P.152	
	TROUBLE COUNTER	P.152	
	TOTAL SCAN	P.153	
DISPLAY	MAIN F/W VER.	P.154	
	ENGINE F/W VER.	P.154	
	MAIN RAM SIZE	P.154	
	SERIAL NO.	P.154	
	PP F/W VER.	P.154	
	PP BOOT VER.	P.154	
	PRINTER RAM SIZE	P.154	
	HARD DISK	P.154	
	CARD	P.154	
	CPLD VER.	P.154	
FUNCTION	PAPER FEED TEST	TRAY1	P.155
		TRAY2	
		TRAY3 <*1>	
	PRN TEST PATTERN	TRAY1	P.155
		TRAY2	
		TRAY3 <*1>	
	ADF FEED TEST		P.156
	COPY ADF GLASS		P.156
	FAX RES. COPY TEST		P.156
	SCAN TEST		P.157
	PRINTER TEST	SENSOR	P.159
		ELECTRIC PARTS	
		PRINT TEST	
ADF TEST	SENSOR	P.159	
	ELECTRIC PARTS		
SOFT SWITCH	CONTROLLER SW	P.160	
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ADJUSTMENT / SETTING

SERVICE MODE		Ref. page		
REPORT	SERVICE DATA LIST	P.161		
	ERROR CODE LIST	P.164		
	T.30 PROTOCOL LIST	P.165		
	SERVICE REPORT	P.167		
ADMIN. REGISTRATION	ADMIN. NO.	P.168		
	FULL - FUNC. NO.	P.168		
FIXED ZOOM CHANGE	REDUCTION2	P.168		
	REDUCTION1			
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FACTORY TEST	SIGNAL TEST	P.169		
	SENSOR TEST			
	DIAL TEST			
	VOLUME TEST			
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CLEAR DATA	SRAM CLEAR	P.169		
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PS/PCL	PRINT MENU	MAINTENANCE INFO	P.170	
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		HALFTONE 64	CYAN64	P.174
			MAGENTA64	
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			BLACK64	
		HALFTONE 128	CYAN128	P.174
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			YELLOW128	
			BLACK128	
		HALFTONE 256	CYAN256	P.174
			MAGENTA256	
			YELLOW256	
			BLACK256	
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	IMG ADJ THICK	P.175		
	IMG ADJ BLACK	P.175		
	SOFT SWITCH	P.175		
	CS REMOTE CARE	P.176		

## 13.2 STARTING/EXITING

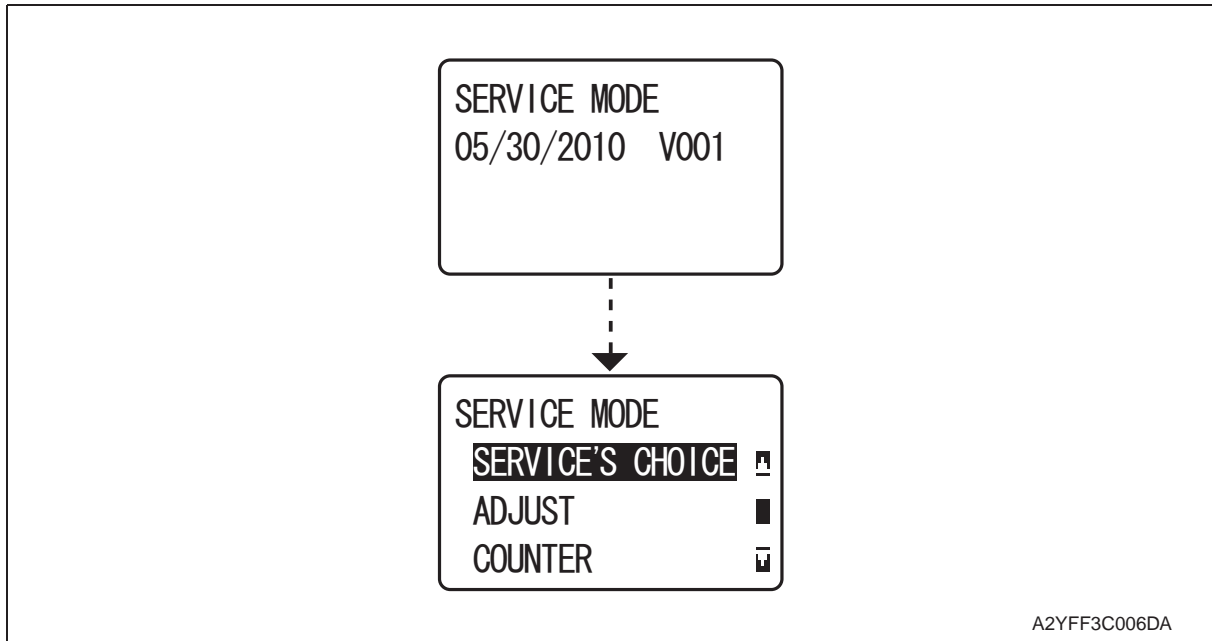
### 13.2.1 STARTING PROCEDURE

#### NOTE

- Ensure appropriate security for Service Mode function setting procedures. They should NEVER be shown to any unauthorized person not involved with service jobs.

#### A. Procedure

1. Press the Select key.
2. Press the following keys in this order.; Stop/Reset → 0 → 0 → Stop/Reset → 0 → 1
3. The Service Mode menu will appear.



#### B. Exiting procedure

- Press the Stop/ Reset Key.



## 13.3 SERVICE'S CHOICE

### 13.3.1 TX SPEED

#### A. Use

- Transmit start speed setting. Choose the mode from among the following.

#### B. Procedure

- The default setting is V.34 33600 bps.

"V.34 33600 bps"	V.34 31200 bps	V.34 28800 bps	V.34 26400 bps
V.34 24000 bps	V.34 21600 bps	V.34 19200 bps	V.34 16800 bps
V.17 14400 bps	V.17 12000 bps	V.17 9600 bps	V.17 7200 bps
V.29 9600 bps	V.29 7200 bps	V.27 4800 bps	V.27 2400 bps

### 13.3.2 RX SPEED

#### A. Use

- Reception start speed setting. Choose the mode from among the following.

#### B. Procedure

- The default setting is V.34 33600 bps.

"V.34 33600 bps"	V.34 31200 bps	V.34 28800 bps	V.34 26400 bps
V.34 24000 bps	V.34 21600 bps	V.34 19200 bps	V.34 16800 bps
V.17 14400 bps	V.17 12000 bps	V.17 9600 bps	V.17 7200 bps
V.29 9600 bps	V.29 7200 bps	V.27 4800 bps	V.27 2400 bps

### 13.3.3 TX LEVEL

#### A. Use

- PSK/FSK signal output level.

#### B. Procedure

- The default setting is -10 dbm.

-2 dbm	-3 dbm	-4 dbm	-5 dbm	-6 dbm	-7 dbm
-8 dbm	-9 dbm	"-10 dbm"	-11 dbm	-12 dbm	-13 dbm
-14 dbm	-15 dbm	-16 dbm	-17 dbm		

### 13.3.4 RX LEVEL

#### A. Use

- Reception sensitivity level.

#### B. Procedure

- The default setting is -43 dbm.

-36 dbm	-37 dbm	-38 dbm	-39 dbm	-40 dbm	-41 dbm
-42 dbm	"-43 dbm"	-44 dbm	-45 dbm	-46 dbm	-47 dbm
-48 dbm	-49 dbm				

**13.3.5 DTMF LEVEL**

**A. Use**

- Dual tone output level.

**B. Procedure**

- The default setting is -6 dbm.

-2 dbm	-3 dbm	-4 dbm	-5 dbm	"-6 dbm"	-7 dbm
-8 dbm	-9 dbm	-10 dbm	-11 dbm	-12 dbm	-13 dbm
-14 dbm	-15 dbm	-16 dbm	-17 dbm		

**13.3.6 CNG LEVEL**

**A. Use**

- Calling tone output level.

**B. Procedure**

- The default setting is -10 dbm.

-2 dbm	-3 dbm	-4 dbm	-5 dbm	-6 dbm	-7 dbm
-8 dbm	-9 dbm	"-10 dbm"	-11 dbm	-12 dbm	-13 dbm
-14 dbm	-15 dbm	-16 dbm	-17 dbm		

**13.3.7 CED LEVEL**

**A. Use**

- Answer tone output level.

**B. Procedure**

- The default setting is -10 dbm.

-2 dbm	-3 dbm	-4 dbm	-5 dbm	-6 dbm	-7 dbm
-8 dbm	-9 dbm	"-10 dbm"	-11 dbm	-12 dbm	-13 dbm
-14 dbm	-15 dbm	-16 dbm	-17 dbm		

**13.3.8 ECM MODE**

**A. Use**

- Select error correction mode.
  - ON: When an error occurs during communication, re-send the frame where the error occurs.
  - OFF: Any error is ignored during communication.

**B. Procedure**

- The default setting is ON.

"ON" OFF





**13.3.16 ENABLE WARNING - I-UNIT LOW****A. Use**

- Specifies whether or not a warning appears when the imaging unit is about to reach the end of its service life.

**B. Procedure**

- The default setting is OFF.

ON

"OFF"

**13.3.17 ENABLE WARNING - WASTE NEAR FULL****A. Use**

- Specifies whether or not a warning appears when the waste toner bottle becomes a near full condition.

**B. Procedure**

- The default setting is ON.

"ON"

OFF

**13.3.18 DETECT DIAL TONE****A. Use**

- To set whether to use the Dial Tone detection or not.  
ON: Detect dial tone before dial.  
OFF: Not detect dial tone before dial.

**B. Procedure**

- The default setting is ON.

"ON"

OFF

**13.3.19 COUNT MODE - COUNT MODE****A. Use**

- To set the counting method for the total counter and size counter.
- Use to change the counting method for the counters.

**B. Procedure**

- The default setting is depend on the marketing area.  
Mode 1 : 1 count per 1 copy cycle (Default: Japan)  
Mode 2 : Large size is double counts  
(Default: US, Europe, Asian pacific and other areas)

**13.3.20 COUNT MODE - LARGE PAPER MODE****A. Use**

- To set the size regarded as the large size (2 counts.)

**B. Procedure**

- The default setting is depend on the marketing area.
  - Mode 0 : Not counted - Never regard any size as the large size (Default: Japan)
  - Mode 1 : Regard A3/11 x 17 or more size as the large size.
    - In this machine, it is virtually no different than [Large Paper size Mode 0]. (Default: US)
  - Mode 2 : Regard 8<sup>1</sup>/<sub>2</sub> x 14 or more size as the large size. When it exceeds 215.9 mm in the main scan direction and 355.6 mm in the sub scan direction (Default: Europe, Asian pacific)
  - Mode 3 : Regard Foolscap or more size as the large size.

**13.3.21 MANUAL INPUT DEST.****A. Use**

- To set whether to allow or prohibit to manually enter the destination address on the Fax/Scan mode.

**B. Procedure**

- The default setting is ENABLE.

“ENABLE”

DISABLE

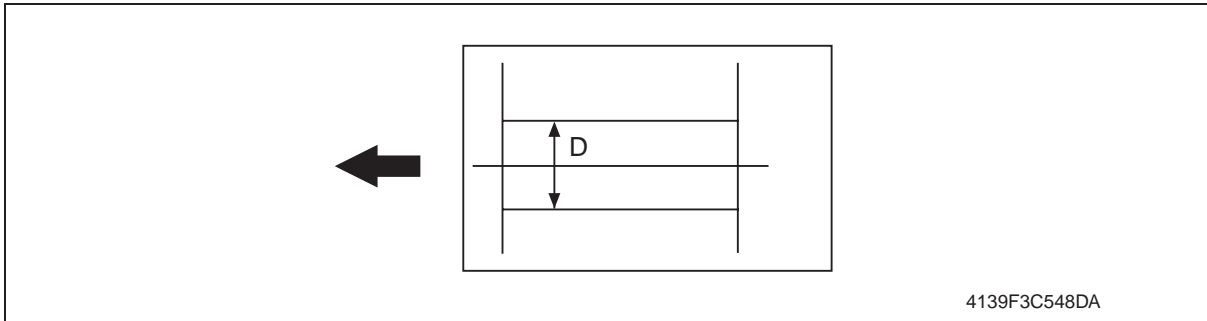
When set DISABLE, user can not input destination by ten keys in Fax/Scan mode.

## 13.4 ADJUST

### 13.4.1 CIS MAIN ZOOM

#### A. Use

- To adjust for variations in the accuracy of IR parts and their mounting accuracy by varying the scanning zoom ratio in the main scanning direction.
- When the scanner unit has been replaced.
- Adjust the width of D in the copy of the test pattern1 so that the following specification is met.
- $100 \pm 0.5\%$  (Zoom Ratio = Full Size:100%)



#### B. Procedure

- The default setting is 0%.

-2%~ +2%; step: 0.2%

1. Print the test pattern1.

See P.155

2. Enter the [ADJUST] menu in the service mode.
3. Select [CIS MAIN ZOOM] of [ADJUST] and press the Select key.
4. Place the test pattern1 on the original glass and make a test copy.

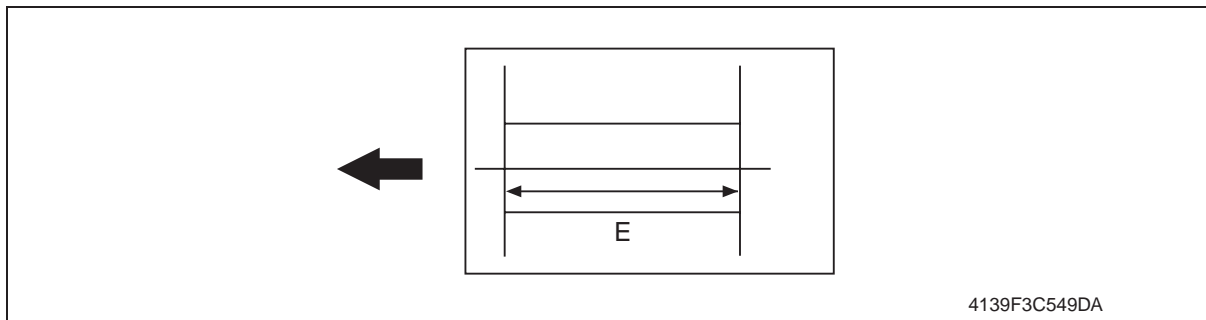
#### NOTE

- **The test pattern1 should be positioned vertically.**
  - **Use A4 or Letter paper loaded into tray1 to make the test copy.**
5. Check that the width of D in the copy of the test pattern1 meets the specification.  
Calculation:  $(1 - \text{Width of D in the document} \div \text{Width of D in the copy}) \times 100$   
If the width of D is out of specification, adjust it according to the following procedure.
  6. Press the Select key.
  7. Using the ▲/▼ key, change the setting value and then press the Select key.
  8. Place the test pattern1 on the original glass. Then, make a test copy again and check it.
- <Adjustment instructions>
- If the width of D in the test pattern is longer than the specified width.. Decrease the setting.  
If the width of D in the test pattern is shorter than the specified width.. Increase the setting.

### 13.4.2 CIS SUB ZOOM

#### A. Use

- To adjust for variations in the accuracy of IR parts and their mounting accuracy by varying the scanning zoom ratio in the sub-scanning direction.
- When the Scanner unit has been replaced
- Adjust the width of E in the copy of the test pattern1 so that the following specification is met.
- $200 \pm 0.5\%$  (Zoom Ratio = Full Size:100%)



#### B. Procedure

- The default setting is 0%.

-2.0% ~ "0%" ~ +2.0%; Step: 0.2%

1. Print the test pattern1.

See P.155

2. Enter the [ADJUST] menu in the service mode.
3. Select [CIS SUB ZOOM] of [ADJUST] and press the Select key.
4. Place the test pattern1 on the original glass and make a test copy.

#### NOTE

- **The test pattern1 should be positioned vertically.**
  - **Use A4 or Letter paper loaded into tray1 to make the test copy.**
5. Check that the width of E in the copy of the test pattern1 meets the specification.  
Calculation:  $(1 - \text{Width of E in the document} \div \text{Width of E in the copy}) \times 100$   
If the width of E is out of specification, adjust it according to the following procedure.
  6. Press the Select key.
  7. Using the ▲/▼ key, change the setting value and then press the Select key.
  8. Place the test pattern1 on the original glass. Then, make a test copy again and check it.
- <Adjustment instructions>
- If the width of E in the test pattern is longer than the specified width.. Decrease the setting.  
If the width of E in the test pattern is shorter than the specified width.. Increase the setting.



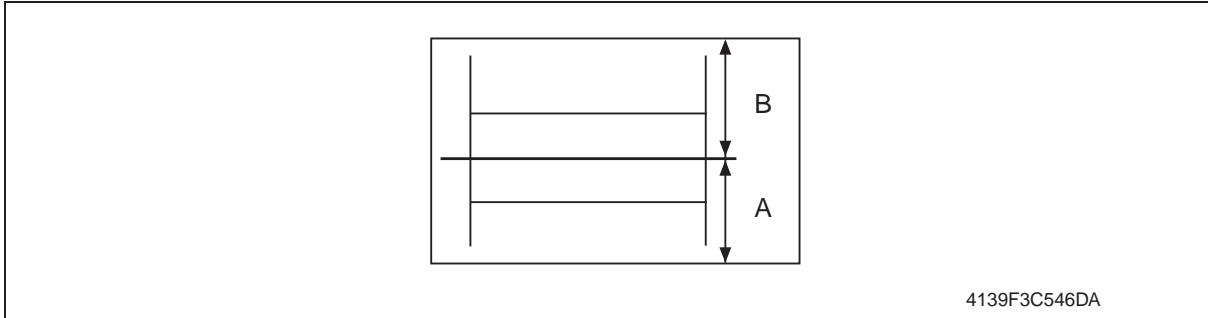
### 13.4.3 CIS MAIN REGIST

#### A. Use

- To adjust for variations in the accuracy of IR parts and their mounting accuracy by varying the scanning start position in the main scanning direction.
- When the original glass is replaced.
- When the Scanner unit has been replaced.

#### NOTE

- **After the [CIS MAIN ZOOM] adjustments have been performed**
- Adjust the amount that widths A and B in the copy of the test pattern1 so that the following specification is met.
- $0 \pm 2.0$  mm



#### B. Procedure

- The default setting is 0.  
-1.5 (-1.5 mm) ~ "0.0 (0.0 mm)" ~ +1.5 (+1.5 mm); Step: 0.5 mm
1. Print the test pattern1.  
[See P.155](#)
  2. Enter the [ADJUST] menu in the service mode.
  3. Select [CIS MAIN REGIST] of [ADJUST] and press the Select key.
  4. Place the test pattern1 on the original glass and make a test copy.

#### NOTE

- **The test pattern1 should be positioned vertically.**
  - **Use A4 or Letter paper loaded into tray1 to make the test copy.**
5. Check the amount that widths A and B in the copy of the test pattern are shifted.  
If the shift is out of specification, adjust it according to the following procedure.
  6. Press the Select key.
  7. Using the ▲/▼ key, change the setting value and then press the Select key
  8. Place the test pattern1 on the original glass. Then, make a test copy again and check it.

<Adjustment instructions>

If the width of A is less than the width of B..... Increase the setting.

If the width of B is less than the width of A..... Decrease the setting.

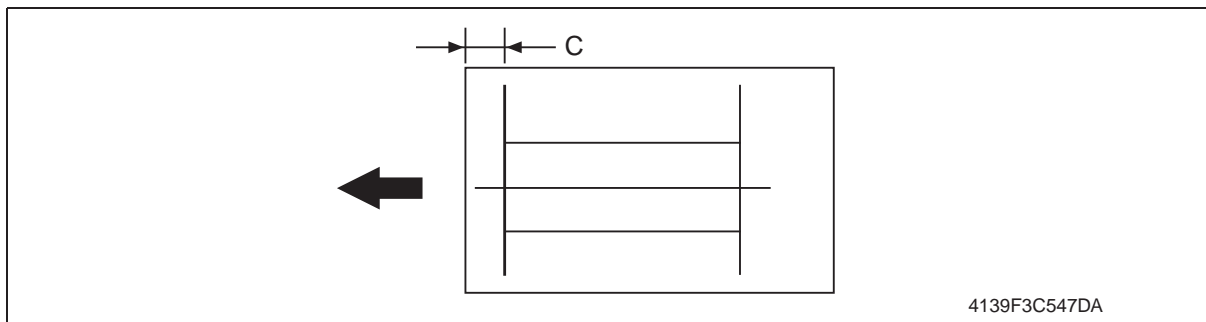
### 13.4.4 CIS SUB REGIST

#### A. Use

- To adjust for variations in the accuracy of IR parts and their mounting accuracy by varying the scanning start position in the sub-scanning direction.
- When the original glass is replaced.
- When the Scanner unit has been replaced.

#### NOTE

- **After the [CIS SUB ZOOM] adjustments have been performed.**
- Adjust the width of C in the copy of the test pattern1 so that the following specification is met.
- $20 \pm 2.5$  mm



#### B. Procedure

- The default setting is 0.

-5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm); Step: 0.5 mm

1. Print the test pattern1.

[See P.155](#)

2. Enter the [ADJUST] menu in the service mode.
3. Select [CIS SUB REGIST] of [ADJUST] and press the Select key.
4. Place the test pattern1 on the original glass and make a test copy.

#### NOTE

- **The test pattern1 should be positioned vertically.**
  - **Use A4 or Letter paper loaded into tray1 to make the test copy.**
5. Check that the width of C in the copy of the test pattern are shifted.  
If the width of C is out of specification, adjust it according to the following procedure.
  6. Press the Select key.
  7. Using the ▲/▼ key, change the setting value and then press the Select key.
  8. Place the test pattern1 on the original glass. Then, make a test copy again and check it.

<Adjustment instructions>

If the width of C in the test pattern is longer than the specified width.. Increase the setting.  
If the width of C in the test pattern is shorter than the specified width.. Decrease the setting.

### 13.4.5 ADF SUB ZOOM

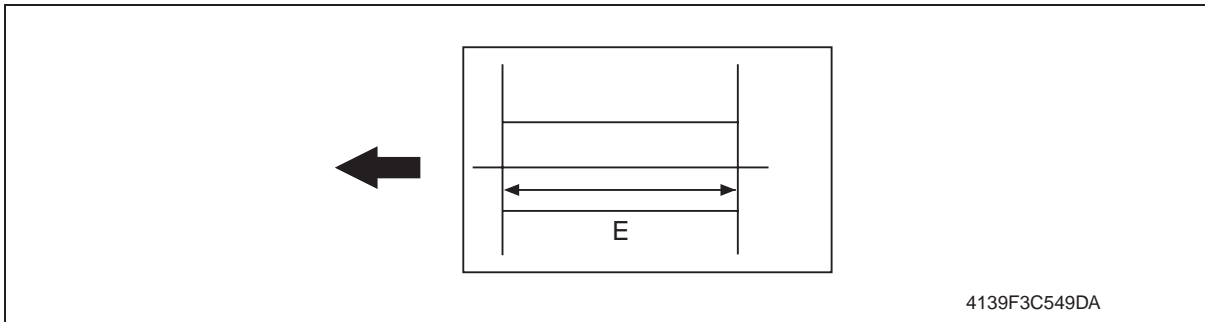
#### A. Use

- To adjust for variations in the accuracy of all parts and their mounting accuracy by varying the scanning zoom ratio in the sub-scanning direction (1-side) when using the Automatic Document Feeder
- When the original glass is replaced.
- When a new Auto Document Feeder Unit is mounted

#### NOTE

**After the [CIS SUB ZOOM] adjustments have been performed**

- Adjust the length of E in the copy of the test pattern so that the following specification is met.
- $200 \pm 0.5 \%$  (Zoom Ratio = Full Size: 100 %)



#### B. Procedure

- The default setting is 0%.

-2.0% ~ "0%" ~ +2.0%; step: 0.4%

1. Print the test pattern1.  
*See P.155*
2. Enter the [ADJUST] menu in the service mode.
3. Select [ADF SUB ZOOM], and press the Select key.
4. Place the test pattern1 on the original glass and make a test copy
5. Select [TEST COPY] and press the Select key to make a test copy.

#### NOTE

**The test pattern1 should be positioned vertically.**

**Use A4 or Letter paper loaded into tray1 to make the test copy.**

6. Check that the width of E in the copy of the test pattern1 meets the specification.  
Calculation:  $(1 - \text{Width of E in the document} \div \text{Width of E in the copy}) \times 100$   
If the width of E is out of specification, adjust it according to the following procedure.
7. Select [ADJUST], and press the Select key.
8. Using the ▲/▼ key, change the setting value and then press the Select key
9. Place the test pattern1 on the original glass. Then, make a test copy again and check it.

<Adjustment instructions>

If the width of D in the test pattern is longer than the specified width.. Decrease the setting.  
If the width of D in the test pattern is shorter than the specified width.. Increase the setting.

### 13.4.6 ADF MAIN REGIST

#### A. Use

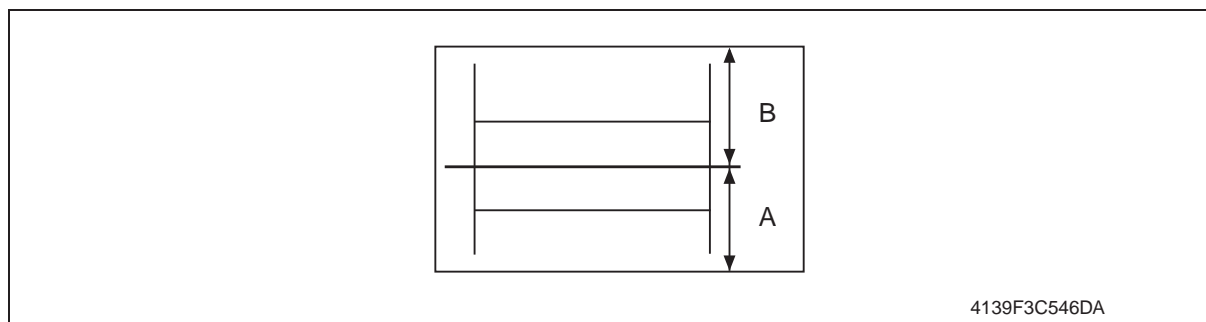
- To adjust for variations in the accuracy of all parts and their mounting accuracy by varying the scanning start position in the main scanning direction (1-side) when using the Automatic Document Feeder.
- When the original glass is replaced.
- When a new Auto Document Feeder Unit is mounted

#### NOTE

After the [CIS SUB ZOOM] adjustments have been performed

After the [ADF SUB ZOOM] adjustments have been performed

- Adjust the amount that widths A and B in the copy of the test pattern1 so that the following specification is met.
- $0 \pm 2.0$  mm



#### B. Procedure

- The default setting is 0%.

-1.5 (-1.5 mm) ~ "0.0 (0.0 mm)" ~ +5.0 (+1.5 mm); Step: 0.5 mm

1. Print the test pattern1.

See P.155

2. Enter the [ADJUST] menu in the service mode.
3. Select [ADF MAIN REGIST], and press the Select key.
4. Place test pattern 1 in the ADF with its printed surface up.
5. Select [TEST COPY] and press the Select key to make a test copy.

#### NOTE

**The test pattern1 should be positioned vertically.**

**Use A4 or Letter paper loaded into tray1 to make the test copy.**

6. Check the amount that widths A and B in the copy of the test pattern are shifted. If the shift is out of specification, adjust it according to the following procedure.
7. Select [ADJUST], and press the Select key
8. Using the ▲/▼ key, change the setting value and then press the Select key.
9. Place the test pattern1 into the Automatic Document Feeder. Then, make a test copy again and check it.

<Adjustment instructions>

If the width of A is less than the width of B.... Increase the setting.

If the width of B is less than the width of A.... Decrease the setting.

### 13.4.7 ADF SUB REGIST

#### A. Use

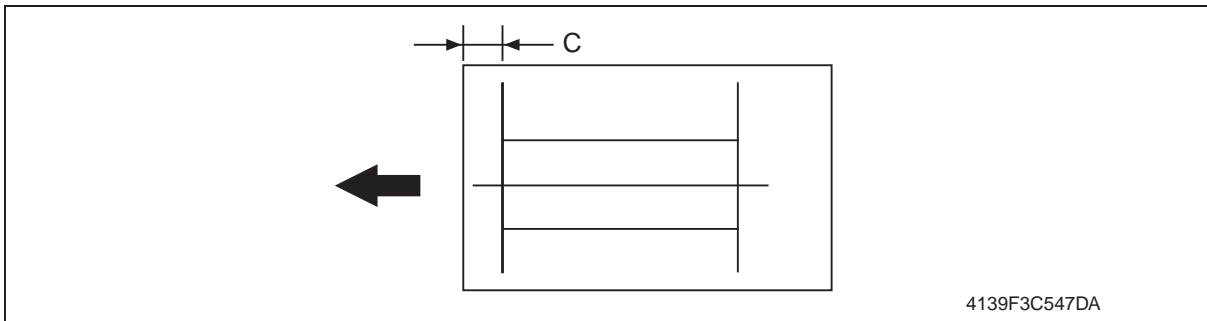
- To adjust for variations in the accuracy of all parts and their mounting accuracy by varying the scanning start position in the sub-scanning direction (1-side) when using the Automatic Document Feeder.
- When the original glass is replaced.
- When a new Auto Document Feeder Unit is mounted

#### NOTE

After the [CIS SUB ZOOM] adjustments have been performed

After the [ADF SUB ZOOM] adjustments have been performed

- Adjust the width of C in the copy of the test pattern1 so that the following specification is met.
- $20 \pm 2.5$  mm



#### B. Procedure

- The default setting is 0%.

-5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm); Step: 0.5 mm

1. Print the test pattern1.  
See P.155
2. Enter the [ADJUST] menu in the service mode.
3. Select [ADF SUB REGIST], and press the Select key.
4. Place test pattern 1 in the ADF with its printed surface up.
5. Select [TEST COPY] and press the Select key to make a test copy.

#### NOTE

The test pattern1 should be positioned vertically.

Use A4 or Letter paper loaded into tray1 to make the test copy.

6. Check that the width of C in the copy of the test pattern are shifted. If the width of C is out of specification, adjust it according to the following procedure.
7. Select [ADJUST], and press the Select key.
8. Using the ▲/▼ key, change the setting value and then press the Select key.
9. Place the test pattern1 into the Automatic Document Feeder. Then, make a test copy again and check it

<Adjustment instructions>

If the width of C in the test pattern is longer than the specified width.. Increase the setting.

If the width of C in the test pattern is shorter than the specified width.. Decrease the setting.

### 13.4.8 FUSER CONTROL

#### A. Use

- Sets the heater lamp lighting control so that it implements the flicker standards.
- To use when flickering from fluorescent light occurs.
  - 0: Flicker Control is determined according to an area code (Default)
  - 1: Flicker Control is always on (disregarding area code)
  - 2: Flicker Control is always off (disregarding area code)

#### B. Procedure

- The default setting is 0.

### 13.4.9 TOP ADJ (FRONT)

#### A. Use

- To correct a misaligned print image.
  - PLAIN PAPER: Adjust the head margin of plain paper.
  - THICK1: Adjust the head margin of thick paper.
  - THICK2: Adjust the head margin of thick paper.
  - ENVELOPE: Adjust the head margin of envelope.

#### B. Procedure

1. Select [TOP ADJ (FRONT)] and press the Select key.
2. Select desired paper type and press the Select key.
3. Select desired adjustment amount with the up key▲/down key▼ and press the Select key.

-15 to +15 (1 step: 0.21 mm)

### 13.4.10 LEFT ADJ. (FRONT)

#### A. Use

- To correct a misaligned print image.
  - TRAY 1: Adjust the left margin of media fed from tray 1 (manual tray.)
  - TRAY 2: Adjust the left margin of media fed from tray 2.
  - TRAY 3: Adjust the left margin of media fed from tray 3.

#### B. Procedure

1. Select [LEFT ADJ. (FRONT)] and press the Select key.
2. Select desired tray and press the Select key.
3. Select desired adjustment amount with the up key▲/down key▼ and press the Select key.

-15 to +15 (1 step: 0.21 mm)

**13.4.11 LEFT ADJ. (BACK)****A. Use**

- To correct a misaligned print image.
  - TRAY 1: Adjust the left margin of media fed from tray 1 (manual tray.)
  - TRAY 2: Adjust the left margin of media fed from tray 2.
  - TRAY 3: Adjust the left margin of media fed from tray 3.

**B. Procedure**

1. Select [LEFT ADJ. (BACK)] and press the Select key.
2. Select desired tray and press the Select key.
3. Select desired adjustment amount with the up key▲/down key▼ and press the Select key.
4. Select desired setting value with the up key▲/down key▼ and press the Select key.

-15 to +15 (1 step: 0.21 mm)

**13.4.12 TRANSFER POWER- SIMPLEX PASS****A. Use**

- Adjust the 2nd image transfer output (ATVC) on the single-sided pages for each media type.
- To use when the transfer failure at the trailing edge occurs.

**B. Procedure**

- The default setting is 0.

-8 to +7

1. Select [TRANSFER POWER] and press the Select key.
2. Select [SIMPLEX PASS] and press the Select key.
3. Select desired media type with the up key▲/down key▼ and press the Select key.
4. Select desired setting value with the up key▲/down key▼ and press the Select key.

<Adjustment instructions>

To increase the ATVC value (in the direction of a foggier image), decrease the setting value.  
To decrease the ATVC value (in the direction of a less foggy image), increase the setting value.

**13.4.13 TRANSFER POWER- DUPLEX PASS****A. Use**

- Adjust the 2nd image transfer output (ATVC) on the duplexed pages for each media type.
- To use when the transfer failure at the trailing edge occurs.

**B. Procedure**

- The default setting is 0.

-8 to +7

1. Select [TRANSFER POWER] and press the Select key.
2. Select [DUPLEX PASS] and press the Select key.
3. Select desired media type with the up key▲/down key▼ and press the Select key.
4. Select desired setting value with the up key▲/down key▼ and press the Select key.

&lt;Adjustment instructions&gt;

To increase the ATVC value (in the direction of a foggier image), decrease the setting value.  
To decrease the ATVC value (in the direction of a less foggy image), increase the setting value.

**13.4.14 IMAGE ADJ PARAM****A. Use**

- Adjusts the printer in case of an image quality problem (uneven density)
- To correct image quality problems (uneven density) due to the machine being operated at a high altitude.

**B. Procedure**

- The default setting is 0.

0 to 6

**13.4.15 TEMPERATURE****A. Use**

- When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change.
- Use this function when curled paper, or paper misfeed as a result of the curled paper, occurs under varying environmental conditions or depending on the type of paper used.

**B. Procedure**

- PLAIN PAPER: -10 °C to 0 °C (step: 5 °C)
- THICK: -10 °C to 0 °C (step: 5 °C)
- ENVELOPE: -10 °C to 0 °C (step: 5 °C)

1. Select [TEMPERATURE] and press the Select key.
2. Select the type of paper and press the Select key.
3. Select desired setting value with the up key▲/down key▼ and press the Select key.

&lt;Adjustment instructions&gt;

If fusing performance is poor, increase the setting.

If wax streaks occur, decrease the setting.

If offset is poor, decrease the setting.

If curling of the paper occurs, decrease the setting.



**13.4.16 MAIN SCAN SCALE - MAIN SCAN PAGE**

**A. Use**

- Prints the test pattern used for the main scan adjustment.

**B. Procedure**

1. Call the Service Mode to the display.
2. Select [ADJUST] → [MAIN SCAN SCALE] → [MAIN SCAN PAGE], and press the Select key.
3. Select [PRINT], and press the Select key.
4. The test pattern is output.

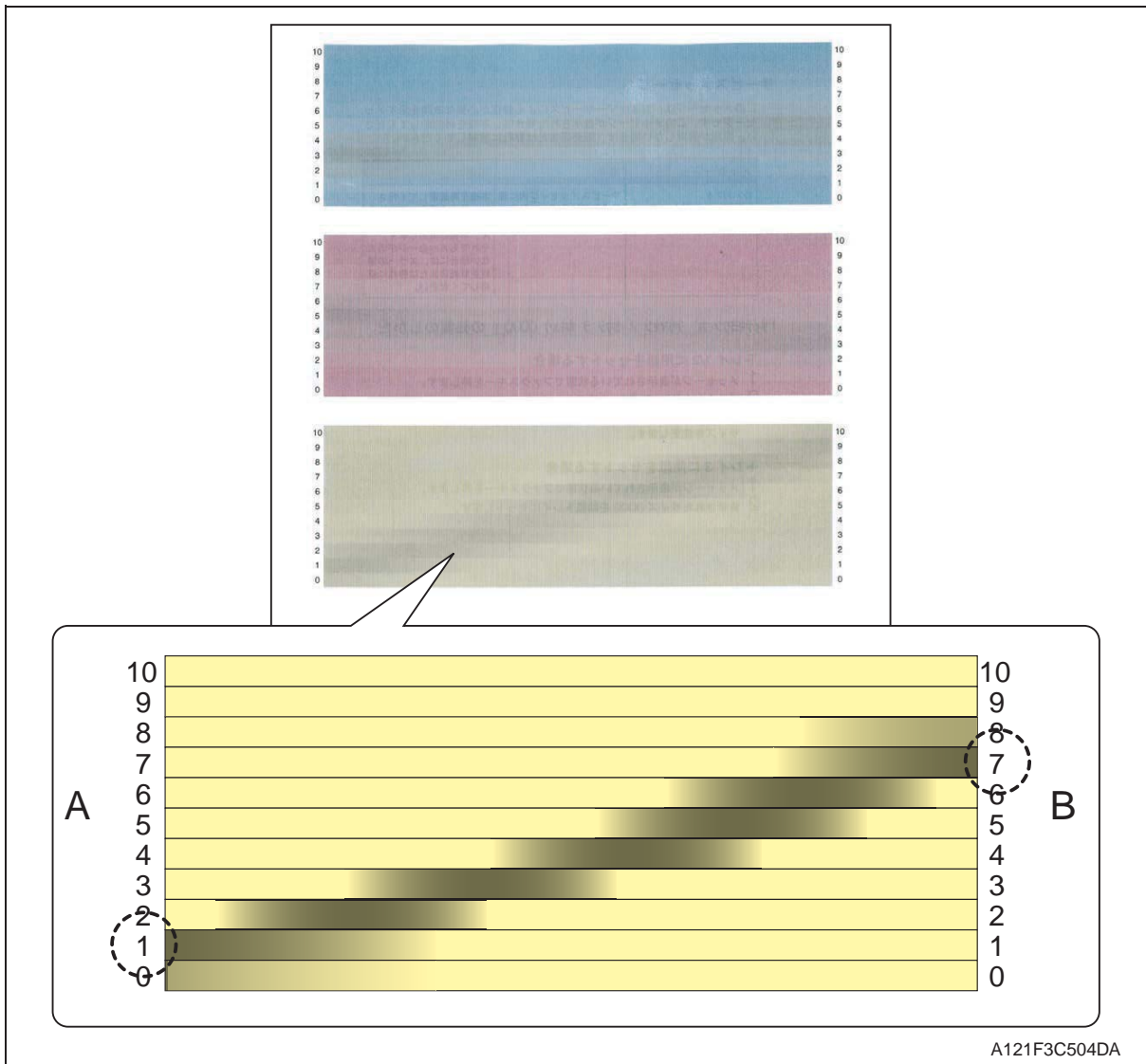
**13.4.17 MAIN SCAN SCALE - SCAN ADJUST VALUE**

**A. Use**

- Adjusts magnification in the main scan direction.
- Use when replacing the PH unit.
- This adjustment is necessary when the adjustment values are cleared due to the replacement of the EEPROM on the print control board or other reasons.

**B. Procedure**

1. Select [ADJUST] → [MAIN SCAN SCALE] → [MAIN SCAN PAGE] to print the test pattern.



2. Make adjustments so that the gray area on each color sample of the output test pattern becomes parallel to the main scan direction.  
Calculate the correction values for cyan, magenta, and yellow in the following way.  
<1> Check the numbers indicated on the ends of A and B which correspond to the darkest black lines in the gray area of each color pattern.  
(In the example of the yellow pattern, "1" is selected for the end of A and "7" is selected for the end of B.)  
<2> The number indicated on the end of A minus the number on the end of B equals the correction value.  
(In the example of the yellow pattern, the calculation is  $1-7=-6$ . "-6" is the correction value.)
  3. Call the Service Mode to the display.
  4. Select [ADJUST] → [MAIN SCAN SCALE] → [SCAN ADJUST VALUE], and press the Select key.
  5. Select the key for color to be adjusted.
  6. Enter the correction value calculated in step 2 and press the Select key.
  7. Enter the correction values for cyan, magenta, and yellow respectively.
  8. Select [ADJUST] → [MAIN SCAN SCALE] → [MAIN SCAN PAGE] and output the test pattern again to check the results of the adjustments.
- **Specification: The difference between the respective numbers indicated on the ends of A and B which correspond to the darkest black lines must be within 2 steps.**

#### 13.4.18 AIDC MODE



- Not used.



**13.4.19 THICK MODE**

**A. Use**

- In order to prevent toner from clogging within the developer unit as a result of it being driven at half-speed, select the timing for driving the developer unit at full speed for a fixed length of time when thick paper is being fed.

**QUALITY MODE:** While printing on thick paper, printing is periodically paused, and the developer unit is driven at full speed for a fixed length of time. Since printing is paused, the quality is not affected; however, a standby time of approximately 70 seconds occurs every 400 seconds or so of half-speed operation.

**SPEED MODE:** While printing on thick paper, only the drive of the developer unit periodically switches to full speed for a fixed length of time. Since printing continues during full-speed drive, the print quality is slightly affected, however the standby time is short.

**B. Procedure**

- The default setting is QUALITY MODE.

“QUALITY MODE”

SPEED MODE

**13.4.20 FINE LINE ADJ**

**A. Use**

- Adjust how fine lines are reproduced by changing the applied voltage (VC) to the electrostatic roller.

**B. Procedure**

- The default setting is 0.

-4 to 3

**NOTE**

- **The User Service Mode can also make this setting by selecting [USER SERVICE MODE]→[ADJUST]→[FINE LINE ADJ]. However, the adjustable range of the parameter is narrowed to -3 to 2.**

**13.4.21 IU YIELD SETTINGS**

**A. Use**

- Sets the life detection timing of the imaging unit.

**STANDARD:** Detect the imaging unit life (prohibition of printing) as the specification value.

**LONG :** Change the threshold value of the imaging unit life (prohibition of printing) detection, and extend the detection timing.

	Standard	Long
Life (prohibition of printing) threshold value (consumption rate)	105 %	150 %

**B. Procedure**

- The default setting is STANDARD.

“STANDARD”

LONG

### 13.4.22 SUPPLIES REPLACE - TRANSFER BELT

#### A. Use

- Resets the transfer belt unit counter.
- To use when the transfer belt unit has been replaced.

#### B. Procedure

1. Call the Service Mode to the display.
2. Select [ADJUST]→[SUPPLIES REPLACE]→[TRANSFER BELT], and press the Select key.
3. Press the Select key to clear the counter.

### 13.4.23 SUPPLIES REPLACE - FUSER UNIT

#### A. Use

- Resets the fuser unit counter.
- To use when the fuser unit has been replaced.

#### B. Procedure

1. Call the Service Mode to the display.
2. Select [ADJUST]→[SUPPLIES REPLACE]→[FUSER UNIT], and press the Select key.
3. Press the Select key to clear the counter.

### 13.4.24 SUPPLIES REPLACE - TRANSFER ROLLER

#### A. Use

- Resets the transfer roller unit counter.
- To use when the transfer roller unit has been replaced.

#### B. Procedure

1. Call the Service Mode to the display.
2. Select [ADJUST]→[SUPPLIES REPLACE]→[TRANSFER ROLLER], and press the Select key.
3. Press the Select key to clear the counter.

### 13.4.25 BK CLEAR

#### A. Use

- To clear engine information backup data.
- Use when the engine information backup data is cleared.
- Use when the MFP board is replaced.

#### B. Procedure

1. Call the Service Mode to the display.
2. Select [ADJUST]→[BK CLEAR], and press the Select key.
3. Press the Select key to clear the data.

## 13.5 COUNTER

### 13.5.1 TOTAL PRINT

#### A. TOTAL FACE

- Count the total number of face.

#### B. COLOR COPY

- Count the copy number of faces of copy by Color.

#### C. COLOR PRINT

- Count the output number of faces of the printing paper by the Color print.

#### D. MONO COPY

- Count the copy number of faces of copy by Monochrome.

#### E. MONO PRINT

- Count the output number of faces of the printing paper by the Monochrome print.

#### F. FAX PRINT

- Count the output number of faces of the printing paper by the Fax print.

#### G. TOTAL DUP.

- Count the total number of sheets of duplex copy or duplex print or duplex fax.

#### H. D COLOR COPY

- Count the copy number of sheets of duplex copy by Color.

#### I. D COLOR PRINT

- Count the output number of sheets of the printing paper by the Color print.

#### J. D MONO COPY

- Count the copy number of sheets of copy by Monochrome.

#### K. D MONO PRINT

- Count the output number of sheets of the printing paper by the Monochrome print.

#### L. D FAX PRINT

- Count the output number of sheets of the printing paper by the Fax print.

#### M. TOTAL LARGE

- Count the total number of faces of large size.

#### N. COLOR COPY L

- Count the copy number of faces of large size by color copy.

#### O. COLOR PRN L

- Count the output number of faces of the printing large size paper by the color print.

#### P. MONO COPY L

- Count the copy number of faces of large size by Monochrome copy.

**Q. MONO PRINT L**

- Count the output number of faces of the printing large size paper by the mono print.

**R. FAX PRINT L**

- Count the output number of faces of the printing large size paper by the fax print.
- However, it does not count to the output of the printing paper which users cannot direct, such as the test printing and the report output in the service mode, the protocol report directed in the service mode.
- Do not count to a blank paper at the time of ejecting a blank paper by the size error.

**13.5.2 FAX COUNTER****A. Use**

- Displays the number of FAX printed pages produced.
- When checking the number of FAX printed pages produced.
  - TX JOB: Counter the number of transmission job.
  - RX JOB: Counter the number of reception job.

**13.5.3 SCAN COUNTER****A. Use**

- To display the count of the scan counter.
- When checking the number of scans made.
  - IR: Count one when one time of IR action completed.
  - ADF (SINGLE): Count the number of sheet of ADF (single) scanning.
  - ADF (DUPLEX): Count the number of sheet of ADF (Duplex) scanning.

**13.5.4 TRAY COUNTER****A. Use**

- Displays the number of sheets of paper used for each tray.
- The element to count is as follows.

TRAY1, TRAY2, TRAY3

**13.5.5 PAPER SIZE COUNTER****A. Use**

- Displays the number of sheets of paper used for each size and type.
- A paper size counter is as follows.

A4, B5, A5, LEGAL, LETTER, OTHERS

**13.5.6 PAPER TYPE COUNTER****A. Use**

- Displays the number of sheets of paper used for each paper type.
- A paper type counter is as follows.

PLAIN PAPER, RECYCLED, THICK, THICK2, GLOSSY, GLOSSY2, SINGLE SIDE., SPECIAL, ENVELOPE, LETTERHEAD, POSTCARD, LABEL

**13.5.7 APPLICATION COUNTER****A. Use**

- When checking the number of sheets of paper used for each of different applications.  
COPY PRINT: Number of copies made.  
FAX RX PRN.: Number of printed pages received by Fax.  
REPORT PRN.: Number of printed report pages.  
PC PRINT: Number of printed pages produced from PC.  
FAX TX: Number of transmitting to Fax.  
MAIL TX: Number of transmitting to mail server.  
SCAN TO FTP: Number of transmitting to FTP server.  
SCAN TO SMB: Number of transmitting to SMB.  
SCAN TO USB: Number of transmitting to USB memory.  
TWAIN: Number of transmitting to PCI.  
USB TO PRN.: Number of sheets counts at the time of the completion of USB printing.

**13.5.8 SUPPLIES STATUS****A. Use**

- C TONER: Displays the remaining amount of toner in the cyan (C) toner cartridge as a percentage.
- M TONER: Displays the remaining amount of toner in the magenta (M) toner cartridge as a percentage.
- Y TONER: Displays the remaining amount of toner in the yellow (Y) toner cartridge as a percentage.
- K TONER: Displays the remaining amount of toner in the black (K) toner cartridge as a percentage.
- C I-UNIT: Displays the remaining service life of the cyan imaging unit as a percentage.
- M I-UNIT: Displays the remaining service life of the magenta imaging unit as a percentage.
- Y I-UNIT: Displays the remaining service life of the yellow imaging unit as a percentage.
- K I-UNIT: Displays the remaining service life of the black imaging unit as a percentage.

**13.5.9 CRU USAGE****A. Use**

- To check the remaining life of the maintenance service parts.  
TRANSFER BELT: Displays the remaining life of the transfer belt.  
FUSER UNIT: Displays the remaining life of the fuser unit.  
TRANSFER ROLLER: Displays the remaining life of the transfer roller.

**13.5.10 JAM COUNTER****A. Use**

- When checking for the number of misfeeds that have occurred  
PRINTER, ADF

**13.5.11 TROUBLE COUNTER****A. Use**

- When checking for the number of malfunctions detected  
TOTAL: Total numbers of all malfunctions detected.  
4FFF: Number of the malfunction "4FFF" detected.

**13.5.12 TOTAL SCAN**

Displays the total number of scanned document pages.  
When checking for the total number of scanned document pages.

**A. SCAN/FAX**

- Count the total number of Scan/Fax.

**B. SCAN/FAX L**

- Count the total number of faces of large size by Scan/Fax.

**C. SCAN**

- Count the total number of Scan.

**D. SCAN LARGE**

- Count the total number of faces of large size by Scan.

**E. COLOR SCAN**

- Count the scan number of faces of scan by Color.

**F. COLOR SCAN L**

- Count the scan number of faces of large size scan by color scan.

**G. MONO SCAN**

- Count the scan number of faces of scan by Monochrome.

**H. MONO SCAN L**

- Count the scan number of faces of large size scan by Monochrome.

**I. FAX SCAN**

- Count the total number of FAX Scan.

**J. FAX SCAN L**

- Count the total number of faces of large size by FAX Scan.

**K. COLOR COPY**

- Count the scan number of faces of Color Copy.

**L. COLOR COPY L**

- Count the scan number of faces of large size scan by color copy.

**M. MONO COPY**

- Count the scan number of faces of scan by Mono Copy.

**N. MONO COPY L**

- Count the scan number of faces of large size scan by mono copy.



## 13.6 DISPLAY

### 13.6.1 MAIN F/W VER.

#### A. Use

- Displays the version of the controller firmware.
- When upgrading the firmware.
- When the image processing board has been replaced with a new one.

### 13.6.2 ENGINE F/W VER.

#### A. Use

- Displays the version of the engine firmware.
- When the printer control board has been replaced with a new one.

### 13.6.3 MAIN RAM SIZE

#### A. Use

- Displays the size of the main memory.
- When checking for the memory size.

### 13.6.4 SERIAL NO.

#### A. Use

- Displays the serial number of the printer engine.
- When checking for the printer serial number.

### 13.6.5 PP F/W VER.

#### A. Use

- Displays the version of the PP firmware.

### 13.6.6 PP BOOT VER.

#### A. Use

- Displays the version of the PP boot firmware.

### 13.6.7 PRINTER RAM SIZE

#### A. Use

- Displays the size of the printer memory.
- When checking for the memory size.

### 13.6.8 HARD DISK

#### A. Use

- Displays the size of the hard disk.
- When checking for the hard disk size.

### 13.6.9 CARD

#### A. Use

- Displays the size of the CF card.
- When checking for the CF card size.

### 13.6.10 CPLD VER.

#### A. Use

- Display the version of the CPLD.

## 13.7 FUNCTION

### 13.7.1 PAPER FEED TEST

#### A. Use

- To check the paper feeding in the paper take-up/transport sections without printing on the paper
- When a paper misfeed occurs.

#### B. Procedure

1. Select the paper tray.
2. Press the Select key to begin testing paper feeding.
3. Press the Stop/Reset key to stop testing paper feeding.

#### NOTE

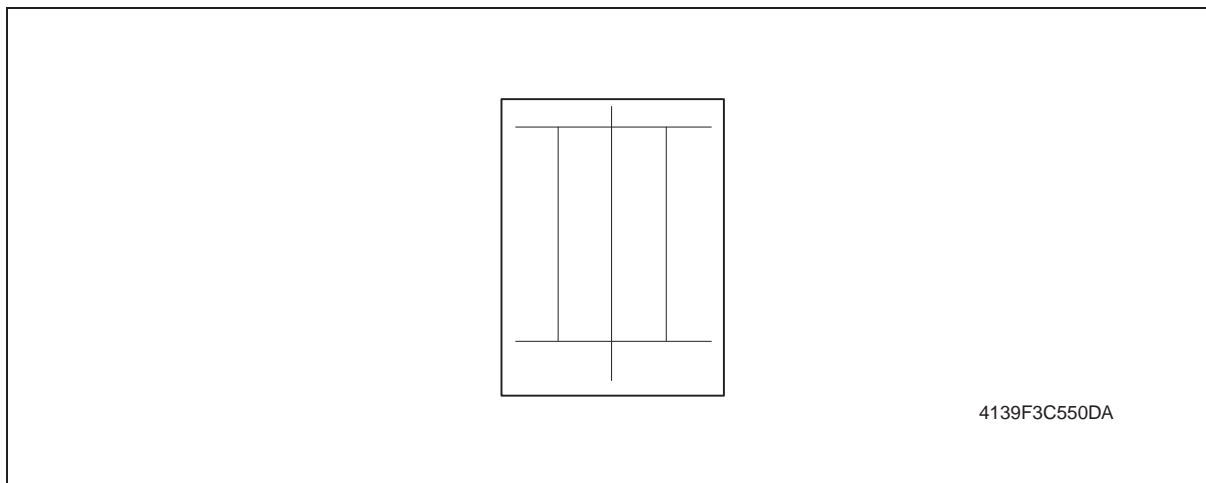
- It cannot be operated at the time of warming up.
- Don't count.

### 13.7.2 PRN TEST PATTERN

#### (1) PATTERN1

#### A. Use

- To print the test pattern for adjusting the image.
- If there is tilt or when registration or zoom ratio adjustments are performed.

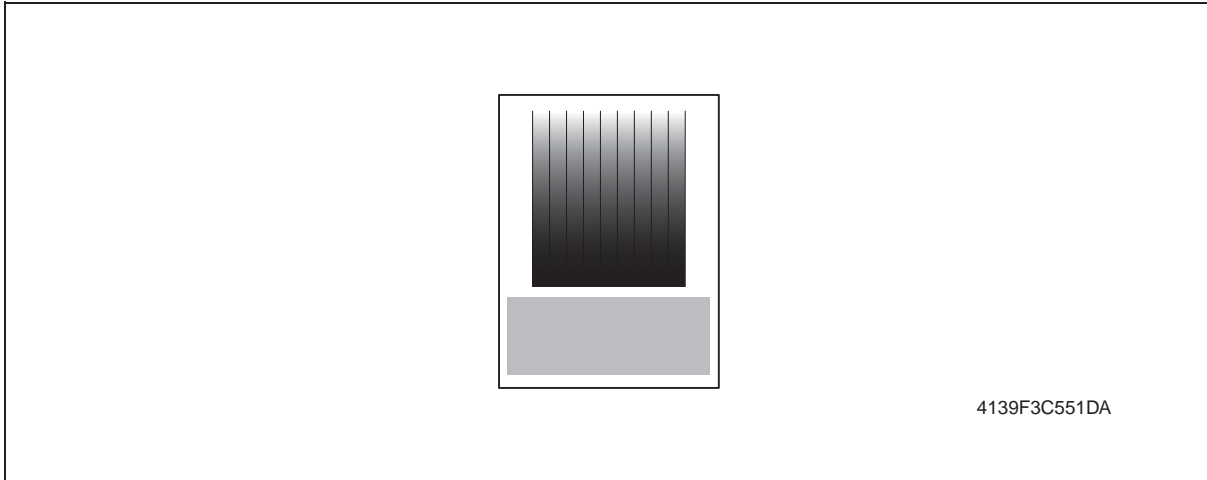


#### B. Procedure

1. Select the paper tray.
2. Select the [PATTERN1].
3. Press the Select key to print the test pattern.

**(2) PATTERN2****A. Use**

- To print the test pattern for halftones and gradations.
- When checking density and pitch irregularities.
- When checking reproducibility of gradations.

**B. Procedure**

1. Select the paper tray.
2. Press the Select key to print the test pattern.

**13.7.3 ADF FEED TEST****A. Use**

- When a document misfeed occurs.

**B. Procedure**

1. Load paper into the Automatic Document Feeder.
2. Press the Select key to begin testing paper feeding.
3. Press the Stop/Reset key to stop testing paper feeding.

**13.7.4 COPY ADF GLASS****A. Use**

- If spots appear in the copies.

**B. Procedure**

1. Load A4S or LetterS paper into Tray1.
2. Press the Select key to start the [COPY ADF GLASS] function.
3. Two copy samples are fed out.
4. Check that no spots appear in the copy samples.
5. Press the Stop/Reset key to stop the [COPY ADF GLASS] function.

**13.7.5 FAX RES. COPY TEST****A. Use**

- To check whether the encoding/ decoding process is correct.

**B. Procedure**

- The paper source is fixed to Tray1. (Tray cannot be changed.)
- When A4 or Letter is not loaded in Tray1, operation of printing is not performed.

**13.7.6 SCAN TEST**

**A. Use**

- If the scanner malfunctions.

**B. Procedure**

1. Press the Select key to begin the scanner test.
2. Press the Stop/Reset key to stop the scanner test.

**13.7.7 PRINTER TEST- SENSOR**

**A. Use**

- Used for troubleshooting when a malfunction or a misfeed occurs. (Main body)

**B. Procedure**

- The operation of each of the switches and sensors can be checked on a real-time basis.
- It can be checked as long as the 5 V power line remains intact even when a door is open.

**(1) SENSOR TEST**

Test Item	Description	Sensor Condition	
		0	1
TRAY2 EMPTY	Tray2 media empty sensor (PS2)	No Paper	Paper Exist
TRAY1 EMPTY	Tray1 media empty sensor (PS3)	No Paper	Paper Exist
TRAY3 EMPTY	Media empty sensor (PS1)	No Paper	Paper Exist
SYNC. ROLLER	Registration sensor (PS5)	No Paper	Paper Exist
PAPER LOOP	Loop detection sensor (PS6)	No Paper	Paper Exist
EXIT	Exit sensor/1 (PS8)	No Paper	Paper Exist
PAPER FULL	Media full sensor (PS7)	No Paper	Paper Exist
DUPLEX PAPER	Duplex conveyance sensor (PS9)	No Paper	Paper Exist
TRAY3 FEEDER	Media feed sensor (PS3)	No Paper	Paper Exist
RETRACTION 1ST	1st image transfer retraction position sensor (PS9)	Media not present	Media present
RETRACTION 2ND	2nd image transfer retraction position sensor (PS10)	Media not present	Media present
CASSETTE SET	Tray2 set switch (SW5)	Not set	Set
Tray3 Size1	Tray3 Paper Size1 Switch	OFF	ON
Tray3 Size2	Tray3 Paper Size2 Switch	OFF	ON
Tray3 Size3	Tray3 Paper Size3 Switch	OFF	ON
WASTE TONER FULL	Waste toner sensor (PS11)	Not Full	Full

**13.7.8 PRINTER TEST- ELECTRIC PARTS****A. Use**

- Used for troubleshooting when a malfunction or a misfeed occurs. (Main body)

**B. Procedure**

- The operation of each of the switches and sensors can be checked on a real-time basis. It can be checked as long as the 5 V power line remains intact even when a door is open.

**(1) ELECTRIC PARTS LIST**

Panel display	Parts name
LV FAN (H-S)	DC power supply fan motor (FM10)
DUPLEX FAN (H-S)	Fusing fan motor (FM2)
DUPLEX FAN (M-S)	
POLYGON MOTOR	POLYGON MOTOR (M5)
TRAY3 FEEDER MOTOR	MEDIA FEED MOTOR (M1)
COLOR PC MOTOR	COLOR PC DRUM MOTOR (M4)
DEV. MOTOR K	DEV. MOTOR K
DEV. MOTOR YMC	DEV. MOTOR YMC
TRAY2 FEED CLUTCH	TRAY2 MEDIA FEED CLUTCH (CL1)
TRAY1 FEED CLUTCH	TRAY1 MEDIA FEED CLUTCH (CL2)
SYNC. ROLLER CLUTCH	REGISTRATION ROLLER CLUTCH (CL3)
2ND TRANS. CLUTCH	2nd image transfer pressure/retraction clutch (CL5)
1ST TRANS. CLUTCH	1st image transfer pressure/retraction clutch (CL4)
TRAY3 FEED CLUTCH	MEDIA FEED CLUTCH (CL1)
TONER CLUTCH Y	TONER SUPPLY CLUTCH /Y (CL4)
TONER CLUTCH M	TONER SUPPLY CLUTCH /M (CL5)
TONER CLUTCH C	TONER SUPPLY CLUTCH /C (CL6)
TONER CLUTCH K	TONER SUPPLY CLUTCH /K (CL7)
DUP. NORMAL CLUTCH	DUPLEX CONVEYANCE ROLLER CLUTCH (CL13)
DUP. REV. CLUTCH	SWITCHBACK ROLLER REVERS CLUTCH (CL12)
DUP. FEED CLUTCH	SWITCHBACK ROLLER FEED CLUTCH (CL11)
MAIN MORTOR	MAIN MOTOR (M2)
FUSER LOOP CLUTCH	LOOP DETECTION CLUITCH (CL8)

### 13.7.9 PRINTER TEST- PRINT TEST

#### A. Use

- Produces an image pattern on the engine side as commanded from the controller, thereby making a test print on the engine only.

#### B. Procedure

1. Load tray 1 with paper.
2. Select [SERVICE MODE]→[FUNCTION]→[PRINTER TEST]→[PRINT TEST] and press the Select key.

#### NOTE

- Using A4 or Letter depend on PTT setting.
- Paper is fed from only Tray1.

### 13.7.10 ADF TEST- SENSOR

#### A. Use

- Used for troubleshooting when a malfunction or a misfeed occurs. (ADF)

#### B. Procedure

1. The operation of each of the switches and sensors can be checked on a real-time basis.
2. It can be checked as long as the 5 V power line remains intact even when a door is open.

#### (1) SENSOR CHECK LIST

Panel display	Sensor name	Operation characteristics/panel display	
		0	1
DOCUMENT	Leading edge detection sensor	Media not present	Media present
RS	Registration sensor	Media not present	Media present

### 13.7.11 ADF TEST- ELECTRIC PARTS

#### A. Use

- Use to make an operation check of each of electrical parts of the ADF.

#### B. Procedure

1. Select the electrical part to be operated.
2. Press the Select key, which operates the electrical part for 1 sec. before being automatically stopped.

#### NOTE

- After the test, be sure to turn OFF and then turn ON the power switch of the main body.

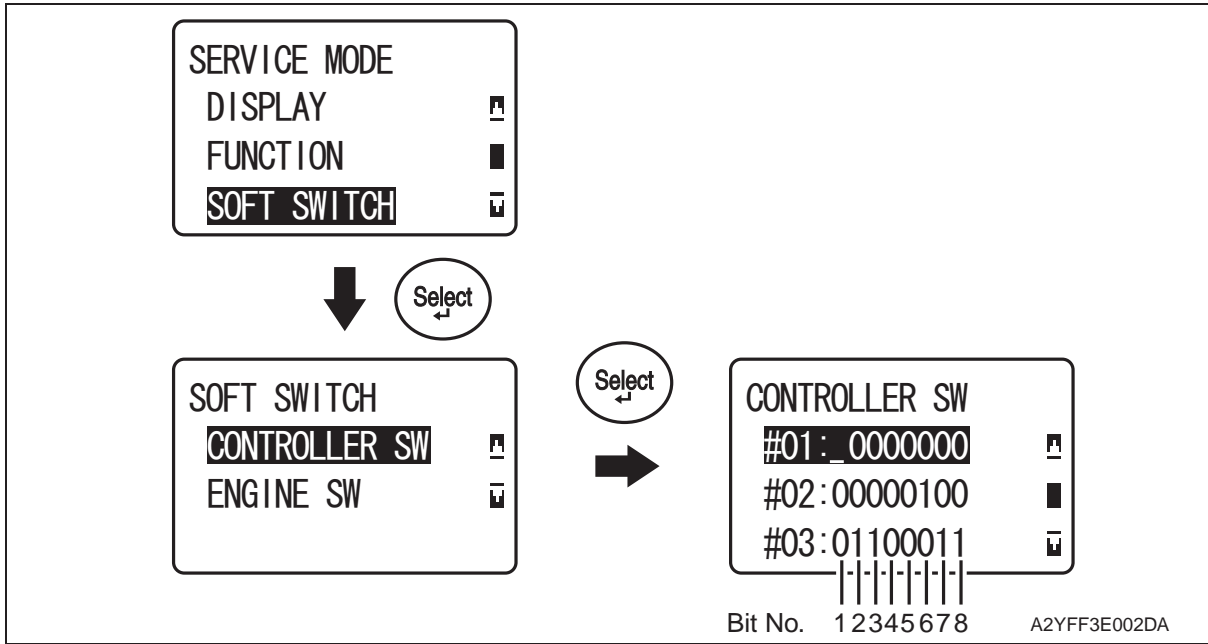
#### (1) ELECTRIC PARTS LIST

Panel display	Sensor name
ADF MOTOR	Transport motor (M1)

### 13.8 SOFT SWITCH

#### 13.8.1 CONTROLLER SW

- Refer to the chapter of soft switch for the explanation of soft switch.  
See P.186



#### A. KEY DEFINITION FOR SOFT SWITCH

Key	Definition
▼	Soft switch number forward.
▲	Soft switch number backward.
▶	Bit No. forward.
◀	Bit No. backward.
1 or 0	Bit No. is changed.
Select	The setting value of soft switch number is defined.

#### 13.8.2 ENGINE SW

- Not used.

## 13.9 REPORT

### 13.9.1 SERVICE DATA LIST

#### A. Use

##### (1) Service Data list includes the following items:

- SOFT SWITCH
- COMMUNICATION HISTORY & COUNTER
- ADJUST
- RX IN MEMORY
- ADMINISTRATOR PASSWORD
- MAIN RAM SIZE
- ROM ID

##### (2) Error log history list includes the following items:

- Index: Index number from 0 - 9999
- Error: Error code number
- Maker: NSF frame maker code
- Tell.: Remote side or TX side telephone number for that transaction

#### B. Procedure

1. Enter the [SERVICE MODE].
2. Select [REPORT] and press the Select key.
3. Select [SERVICE DATA LIST] and press the Select key.



(1) SERVICE DATA LIST (example)

SERVICE DATA LIST

NAME :
TEL :
DATE :NOV.26.2010 09:35

--- SOFT SWITCH ---
SW01-SW16 01 20 C6 0D C1 00 87 60 10 F7 01 84 10 0A 80 03
SW17-SW32 00 02 7B C0 C0 07 07 02 02 00 00 57 14 40 2A 0D
SW33-SW48 40 00 A0 8A 00 21 01 00 00 00 00 00 0A 00 A8
SW49-SW64 01 09 00 00 00 A8 40 09 00 00 00 00 0F 00 80 00

---COMMUNICATION HISTORY & COUNTER ---
000000:ECM RX TIME 000000:ECM TX TIME
000000:G3 RX TIME 000000:G3 RX PAGE
000000:V.17 14.4K 000000:V.17 12K
000000:V.17 9.6K 000000:V.17 7.2K
000000:V.29 9.6K 000000:V.29 7.2K
000000:V.27 4.8K 000000:V.27 2.4K
000000:G3 TX TIME 000000:G3 TX PAGE
000000:V.17 14.4K 000000:V.17 12K
000000:V.17 9.6K 000000:V.17 7.2K
000000:V.29 9.6K 000000:V.29 7.2K
000000:V.27 4.8K 000000:V.27 2.4K
000000:V.34 RX TIME 000000:V.34 RX PAGE
000000:33.6K 000000:31.2K
000000:28.8K 000000:26.4K
000000:24.0K 000000:21.6K
000000:19.2K 000000:16.8K
000000:9.6K 000000:7.2K
000000:4.8K 000000:2.4K
000000:V.34 TX TIME 000000:V.34 TX PAGE
000000:33.6K 000000:31.2K
000000:28.8K 000000:26.4K
000000:24.0K 000000:21.6K
000000:19.2K 000000:16.8K
000000:9.6K 000000:7.2K
000000:4.8K 000000:2.4K
000000:JBIG TX TIME 000000:JBIG RX TIME
000015:TOTAL COUNTER
000004:COPY PRINT 000009:FAX PRINT
000011:REPORT PRINT 000000:PC PRINT

--- ADJUST ---
CIS MAIN ZOOM : 100 LEFT ADJ BACK : 0 IMAGE ADJ PARAM : 0
CIS SUB ZOOM : 100 TRAY1 : 0
CIS MAIN REGIST : 115 TRAY2 : 0 TEMPERATURE
CIS SUB REGIST : 095 PLAIN PAPER : 0
THICK1 : 0
ENVELOPE : 0
ADF MAIN REGIST : 095 TRANSFER POWER
ADF SUB ZOOM : 100 SIMPLEX PASS
ADF SUB REGIST : 080 PLAIN PAPER : 0 AIDC MODE : MODE2
THICK1 : 0
THICK2 : 0 THICK MODE : QUALITY MODE
POSTCARD : 0
ENVELOPE : 0 FINE LINE ADJ : 0
I.U. YIELD SETTING : STANDARD
TOP ADJ FRONT
PLAIN PAPER : 0 LABEL : 0
THICK1 : 0 GLOSSY1 : 0
THICK2 : -04 GLOSSY2 : 0
ENVELOPE : 0 DUPLEX PASS
LEFT ADJ FRONT
PLAIN PAPER : 0
TRAY1 : 0 THICK1 : 0
TRAY2 : 0 THICK2 : 0
POSTCARD : 0
ENVELOPE : 0
LABEL : 0
GLOSSY1 : 0
GLOSSY2 : 0

RX IN MEMORY :
ADMIN. PASSWORD : 000000
MAIN RAM SIZE : 128Mb

--- ROM ID ---
MAIN : A2YF35G0010200
BOOT : A2YF98G0010000
ENGINE: A2YF-50F0-0100-00

A2YFF3C007DA

**(2) ERROR LOG HISTORY LIST (example)**

- The following table is the error log history. The table keeps the last 40 records only.

ERROR LOG HISTORY LIST			
Index	Error	Maker	Tele.
0001	:00A0	4230	88634733507
0002	:00A0	49EE	
0003	:0070	0000	
0004	:0070	0000	
0005	:0070	0000	
0006	:0070	0000	
0007	:0070	0000	
0008	:0070	0000	
0009	:0070	0000	123

NSF signal 3rd. and 4th byte

Keep 20 digits of TSI or CSI

4139F3E552DA

d-Color MF2400

ADJUSTMENT / SETTING

13.9.2 ERROR CODE LIST

A. Use

- Print error code (CODE) and error occurrence time (ERROR TIMES).

B. Procedure

1. Enter the [SERVICE MODE].
2. Select [REPORT] and press the Select key.
3. Select [ERROR CODE LIST] and press the Select key.

(1) ERROR CODE LIST (example)

ERROR CODE LIST					
CODE	ERROR TIMES	CODE	ERROR TIMES	CODE	ERROR TIMES
0001	00000000	0002	00000000	0003	00000000
0004	00000000	0005	00000000	0006	00000000
0007	00000000	0008	00000000	0009	00000000
000A	00000000	000B	00000000	000C	00000000
000D	00000000	000E	00000000	000F	00000000
0010	00000000	0011	00000000	0012	00000000
0013	00000000	0014	00000000	0015	00000000
0016	00000000	0017	00000000	0018	00000000
0019	00000000	001A	00000000	001B	00000000
001C	00000000	001D	00000000	001E	00000000
001F	00000000	0020	00000000	0021	00000000
0022	00000000	0023	00000000	0024	00000000
0025	00000000	0026	00000000	0027	00000000
0028	00000000	0029	00000000	002A	00000000
002B	00000000	002C	00000000	002D	00000000
002E	00000000	002F	00000000	0030	00000000
0031	00000000	0032	00000000	0033	00000000
0034	00000000	0035	00000000	0036	00000000
0037	00000000	0038	00000000	0039	00000000
003A	00000000	003B	00000000	003C	00000000
003D	00000000	003E	00000000	003F	00000000
0040	00000000	0041	00000000	0042	00000000
0043	00000000	0044	00000000	0045	00000000
0046	00000000	0047	00000000	0048	00000000
0049	00000000	004A	00000000	004B	00000000
004C	00000000	004D	00000000	004E	00000000
004F	00000000	0050	00000000	0051	00000000
0052	00000000	0053	00000000	0054	00000000
0055	00000000	0056	00000000	0057	00000000
0058	00000000	0059	00000000	005A	00000000
005B	00000000	005C	00000000	005D	00000000
005E	00000000	005F	00000000	0060	00000000
0061	00000000	0062	00000000	0063	00000000
0064	00000000	0065	00000000	0066	00000000
0067	00000000	0068	00000000	0069	00000000
006A	00000000	006B	00000000	006C	00000000
006D	00000000	006E	00000000	006F	00000000
0070	00000002	0071	00000000	0072	00000008
0073	00000000	0074	00000000	0075	00000000
0076	00000000	0077	00000000	0078	00000017
0079	00000000	007A	00000000	007B	00000000
007C	00000000	007D	00000000	007E	00000000
007F	00000000	0080	00000000	0081	00000000
0082	00000000	0083	00000001	0084	00000000
0085	00000000	0086	00000000	0087	00000000
0088	00000000	0089	00000000	008A	00000000
008B	00000000	008C	00000000	008D	00000000
008E	00000000	008F	00000000	0090	00000000
0091	00000001	0092	00000000	0093	00000000
0094	00000000	0095	00000000	0096	00000000
0097	00000000	0098	00000000	0099	00000000
009A	00000000	009B	00000000	009C	00000000
009D	00000000	009E	00000000	009F	00000000
00A0	00000024	00A1	00000000	00A2	00000000
00A3	00004558	00A4	00000002	00A5	00000000
00A6	00000000	00A7	00000006	00A8	00000000
00A9	00000001	00AA	00000000	00AB	00000000
00AC	00000000	00AD	00000000	00AE	00000000
00AF	00000000	00B0	00000000	00B1	00000000
00B2	00000000	00B3	00000000	00B4	00000000
00B5	00000000	00B6	00000000	00B7	00000000
00B8	00000000	00B9	00000000	00BA	00000000
00BB	00000000	00BC	00000000	00BD	00000000
00BE	00000000	00BF	00000000	00C0	00000000
00C1	00000000	00C2	00000000	00C3	00000000
00C4	00000000	00C5	00000000	00C6	00000000
00C7	00000000	00C8	00000000	00C9	00000000
00CA	00000000	00CB	00000000	00CC	00000000
00CD	00000000	00CE	00000000	00CF	00000000
00D0	00000000	00D1	00000000	00D2	00000000
00D3	00000000	00D4	00000000	00D5	00000000
00D6	00000000	00D7	00000000	00D8	00000000
00D9	00000000	00DA	00000000	00DB	00000000
00DC	00000000	00DD	00000000	00DE	00000000
00DF	00000000	00E0	00000000	00E1	00000000
00E2	00000000	00E3	00000000	00E4	00000000
00E5	00000000	00E6	00000000	00E7	00000000
00E8	00000000	00E9	00000000	00EA	00000000
00EB	00000000	00EC	00000000	00ED	00000000
00EE	00000000	00EF	00000000	00F0	00000000
00F1	00000000	00F2	00000000	00F3	00000000
00F4	00000000	00F5	00000000	00F6	00000000
00F7	00000000	00F8	00000000	00F9	00000000
00FA	00000000	00FB	00000000	00FC	00000000
00FD	00000000	00FE	00000006	00FF	00000002

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### 13.9.3 T.30 PROTOCOL LIST

#### A. Use

- Print out T.30 or V8 protocol after communication.
  - SESSION: Session number
  - FUNCTION: Function name
  - DESTINATION STATION: Destination Name/Tel. No.
  - DATE/TIME: Communication Date & Time
  - PAGE: Total page number for this session
  - DURATION: Communication using time
  - MODE: Communication speed and ECM mode
  - RESULT: Communication result
  - RING: Recording ring ON/OFF time by “ms”
    - Only for RX function and record last 16 time
  - TX: T.30 command sent by local fax
  - RX: T.30 command received from remote fax
  - DATA: T.30 frame that include address & control & data

#### B. Procedure

1. Enter the [SERVICE MODE].
2. Select [REPORT] and press the Select key.
3. Select [T.30 PROTOCOL LIST] and press the Select key.



**(2) V.34 communication (example)**

**PROTOCOL MONITOR REPORT**

NAME:TMFP  
 TEL :886 3 4733507  
 DATE:APR.10.2008 12:20

SESSION	FUNCTION	NO.	DESTINATION STATION	DATE	TIME	PAGE	DURATION	MODE	RESULT
0001	TX	010	27187480	OCT.27	17:19	008	00h00min03s	ECM -33.6	OK

RING	DATA
ON Time (ms)	1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200
OFF Time (ms)	3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000

TX	RX	DATA
CM	ANS	<div style="text-align: center; border: 1px solid black; width: fit-content; margin: 0 auto; padding: 5px;"> <b>V.8 PROTOCOL DUMP</b> </div> <pre> FF 03 20 00 00 25 00 00 00 12 10 6D 02 00 58 00 28 B8 A4 A0 80 91 60 FF 03 20 00 00 25 01 45 43 4E 45 59 45 4B FF 03 40 30 38 34 37 38 31 37 32 20 20 20 20 20 20 20 20 20 20 FF 13 80 20 EE A8 C4 80 98 81 80 80 60 FF 13 83 00 02 F0 84 80 80 80 80 80 20 FF 13 84 FF 13 BF 2F 00 00 7F FF 13 8C FF 13 FB                     </pre>
CJ	JM	
	NSF	
	NSF	
	CSI	
	DIS	
DCS		
	CFR	
▶PIX		
PPS-EOP		
	MCF	
DCN		

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**13.9.4 SERVICE REPORT**

**A. Use**

- The report will generate and sending when toner empty happens and report request is set to "ON".

**B. Procedure**

1. Enter the [SERVICE MODE].
2. Select [REPORT] and press the Select key.
3. Select [SERVICE REPORT] and press the Select key.

## 13.10 ADMIN REGISTRATION

### 13.10.1 ADMIN. NO.

#### A. Use

- Use to display or change the current Administrator number.

#### B. Procedure

- Administrator number: 000000 to 999999
  1. Enter the [SERVICE MODE].
  2. Select [ADMIN. REGISTRATION] and press the Select key.
  3. Check that the current ADMIN. No. is displayed and then press the [Back] key.
  4. Enter the new ADMIN. No. from the 10-key pad and press the Select key.

### 13.10.2 FULL - FUNC. NO

#### A. Use

- The mode which only the user of an administrator level can use.

#### B.

- Full function number: 000000 to 999999
  1. Enter the [SERVICE MODE].
  2. Select [ADMIN. REGISTRATION] and press the Select key.
  3. Check that the current FULL - FUNC. No. is displayed and then press the [Back] key.
  4. Enter the new FULL - FUNC. No. from the 10-key pad and press the Select key.

## 13.11 FIXED ZOOM CHANGE

#### A. Use

- The fixed zoom ratios can be changed.

#### B. Procedure

1. Enter the [SERVICE MODE].
2. Select [FIXED ZOOM CHANGE] and press the Select key.
3. Select the fixed zoom ratio that you wish to change and press the Select key.
4. Use the 10-Key Pad to type in the desired fixed zoom ratio.

- Default fixed zoom ratios and setting ranges according to marketing area

<Metric>

Setting name	Initial fixed zoom ratio	Setting range
REDUCTION2	70%	51% to 70%
REDUCTION1	86%	71% to 99%
EXPANSION1	115%	101% to 140%
EXPANSION2	141%	141% to 199%

<Inch>

Setting name	Initial fixed zoom ratio	Setting range
REDUCTION2	64%	51% to 64%
REDUCTION1	78%	65% to 99%
EXPANSION1	129%	101% to 153%
EXPANSION2	154%	154% to 199%

### 13.12 FACTORY TEST

- This test is for factory adjustment only and should NOT be used.

	Functions/Use
SIGNAL TEST	• This test is for factory adjustment only and should NOT be used.
RELAY TEST	• This test is for factory adjustment only and should NOT be used.
SENSOR TEST	• This test is for factory adjustment only and should NOT be used.
DIAL TEST	• This test is for factory adjustment only and should NOT be used.
VOLUME TEST	• To check the volume of the speaker.
PANEL BUZZER TEST	• To check the operation of the display and all indicators and buttons. • When the panel buzzer test are finish, press the panel reset key twice.
RAM TEST	• To test reading and writing of the memory.

### 13.13 CLEAR DATA

#### 13.13.1 SRAM CLEAR

##### A. Use

- The following items are cleared (initialization).  
Menu mode (Except for [ADMIN. MANAGEMENT]→[USER SETTING]→[DATE&TIME] that keeps its setting value):  
Only [USER SERVICE MODE] of the user service mode: Set to default.  
Only [TX/RX Result] of the Display mode: Clear.  
Only [SERVICE'S CHOICE] and [SOFT SWITCH] of the Service mode: Set to default.

##### B. Procedure

###### NOTE

- Before executing [SRAM CLEAR], be sure to record the setting values that are to be initialized through [SRAM CLEAR].
- For the record of the setting values, it is a good idea to have reports and lists printed.
- Some setting values are not included any of these reports or lists. Be sure to make a note of them separately.
- After [SRAM CLEAR] has been executed, make necessary entries of data again based on the setting values recorded.

#### 13.13.2 MEMORY CLEAR

##### A. Use

- The following items are cleared (initialization).  
Only [SERVICE'S CHOICE] and [FIXED ZOOM CHANGE] of the Service mode: Set to default.

##### B. Procedure

###### NOTE

- Before executing [MEMORY CLEAR], be sure to record the setting values that are to be initialized through [MEMORY CLEAR].
- For the record of the setting values, it is a good idea to have reports and lists printed.
- Some setting values are not included any of these reports or lists. Be sure to make a note of them separately.
- After [MEMORY CLEAR] has been executed, make necessary entries of data again based on the setting values recorded.



### 13.14 PS/PCL

#### 13.14.1 PRINT MENU - MAINTENANCE INFO

##### A. Use

- To check the maintenance information.
- The items which can be checked are as follows.
  - [Device Caution Information]: Process caution information.
  - [Count (total)]: Counter value for each color.
  - [Coverage (total)]: Coverage rate for each color
  - [Replace count (total)]: Number of times IU, TC, transfer belt, transfer roller, and fuser unit have been replaced.
  - [Imaging Unit Information]: Information concerning the print unit.
  - [Toner Cartridge Information]: Information concerning the toner cartridge.

##### B. Procedure

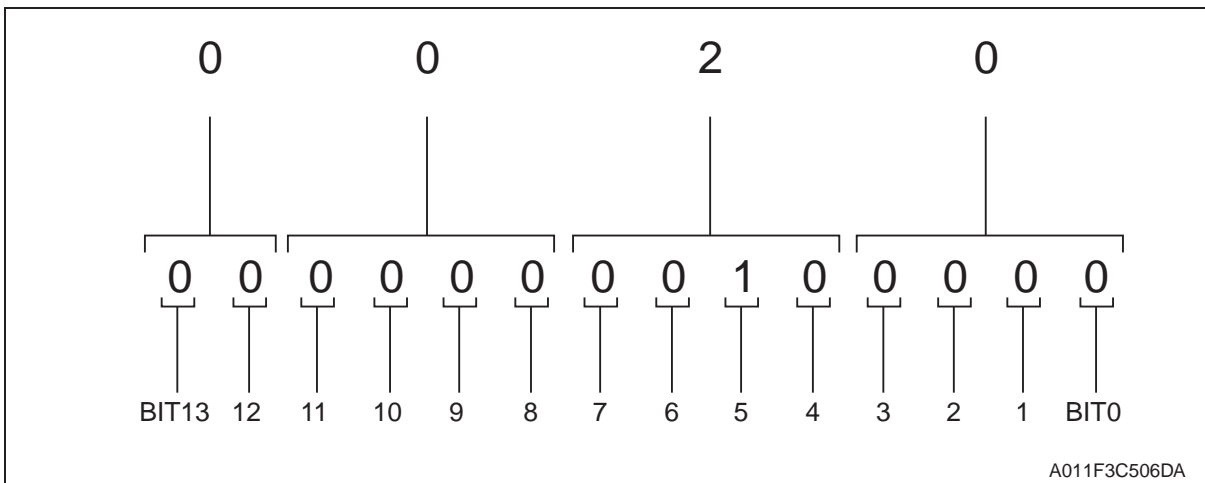
1. Call the service mode to the display.
2. Select [PS/PCL] → [PRINT MENU] → [MAINTENANCE INFO] and press the Select key.
3. Select [PRINT] and press the Select key.

##### (1) How to read process caution information

- Convert the numerical value of the hexadecimal number printed on “PROCESS CAUTION INFORMATION” in [Maintenance Information] into the binary number, it compares with the allocation of each BIT, and the caution status is confirmed.

ex. When process caution information is displayed as 0x0020.

1. Convert four end digits “0020” of 0x0020 into the binary number (14 digits).
2. The BIT number is allocated in converted value “000000010000.”  
(BIT0 to BIT13 is sequentially allocated from the first digit.)



3. In this case, BIT No. “5” corresponds to “1”. From the “PROCESS CAUTION INFORMATION”, IDC sensor (front) malfunction can be detected.

**(2) Conversion method from hexadecimal number to binary number**

1. The hexadecimal number (four digits) is converted in each digit based on the following table.

Hexadecimal number	Binary number	Hexadecimal number	Binary number	Hexadecimal number	Binary number	Hexadecimal number	Binary number
0	0000	4	0100	8	1000	C	1100
1	0001	5	0101	9	1001	D	1101
2	0010	6	0110	A	1010	E	1110
3	0011	7	0111	B	1011	F	1111

2. Match the converted numerical value of four digits, then two head digits are excluded and it is assumed the binary number of 14 digits.

**PROCESS CAUTION INFORMATION**

BIT	Item	Description
0	—	—
1	—	—
2	—	—
3	—	—
4	—	—
5	IDC sensor board/Fr failure	1 • IDC sensor output values are out of the specified range.
		0 • Right door or front cover open/close, power switch OFF/ON, and normal image stabilization are complete besides the ones listed above.
6	—	—
7	—	—
8	—	—
9	—	—
10	IDC sensor board/Re failure	1 • IDC sensor output values are out of the specified range.
		0 • Right door or front cover open/close, power switch OFF/ON, and normal image stabilization are complete besides the ones listed above.
11	Color shift test pattern failure	1 • The number of points detected in the main scan direction is more or less than the specified value during main scan direction registration correction. • The number of points detected in the sub scan direction is more or less than the specified value during sub scan direction registration correction.
		0 • Right door or front cover open/close, power switch OFF/ON, and normal image stabilization are complete besides the ones listed above.
12	Color shift adjust failure	1 • The color shift amount is greater than the specified range during main scan direction registration correction. • The color shift amount is greater than the specified range during sub scan direction registration correction.
		0 • Right door or front cover open/close, power switch OFF/ON, and normal image stabilization are complete besides the ones listed above.
13	—	—

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### 13.14.2 PRINT MENU - EVENT LOG

#### A. Use

- To check the jams/troubles which occurred, and the history of replacing the consumables.
- The items which can be checked are as follows.
  - [Paper Jam Error]: The number of times jam have occurred and its history.
  - [Engine Fatal Error]: The history of the troubles which required service call.
  - [Fuser Unit]: The history of replacing the fuser unit.
  - [Transfer Belt]: The history of replacing the transfer belt.
  - [Second Trans]: The history of replacing the transfer roller.
  - [Toner Cartridge]: The history of replacing the toner cartridge.
  - [Imaging Unit]: The history of replacing the print unit.
  - [Trouble Counter]: Trouble counting for each section.

#### B. Procedure

1. Call the service mode to the display.
2. Select [PS / PCL] → [PRINT MENU] → [EVENT LOG] and press the Select key.
3. Select [PRINT], and press the Select key.

### 13.14.3 PRINT MENU - ELEMENT PAGE

#### A. Use

- To check the Element Data.
- See the attached chart listed below for details.

#### B. Procedure

1. Call the service mode to the display.
2. Select [PS/PCL] → [PRINT MENU] → [ELEMENT PAGE] and press the Select key.
3. Select [PRINT] and press the Select key.

**Engine Element Data Information**

Element Data Name	Description
INSIDE HUMIDITY	<ul style="list-style-type: none"> <li>Displays the inside humidity (in 1% increments).</li> </ul>
INSIDE TEMPERATURE	<ul style="list-style-type: none"> <li>Displays the inside temperature (in 1 °C increments).</li> </ul>
PH TEMPERATURE	<ul style="list-style-type: none"> <li>Displays the PH temperature (in 1 °C increments).</li> </ul>
SENSOR INFORMATION1	<ul style="list-style-type: none"> <li>Displays the input port status of the sensors and switches in hexadecimal numbers.</li> <li>To be used for troubleshooting when troubles/jams occur. For allocating Bits for SENSOR INFORMATION 1 to 3, see the attached chart, "Sensor Information List."</li> </ul>
SENSOR INFORMATION2	
SENSOR INFORMATION3	
SENSOR INFORMATION4	
SENSOR INFORMATION5	
FUSER HEATER1 TEMPERATURE	<ul style="list-style-type: none"> <li>Displays the latest temperature on the middle of the heating roller (in 1°C increments).</li> </ul>
FUSER HEATER2 TEMPERATURE	<ul style="list-style-type: none"> <li>Displays the latest temperature at the edges of the heating roller (in 1 °C increments).</li> </ul>
IDC SENSOR1 PS	<ul style="list-style-type: none"> <li>Shows the latest IDC data.</li> <li>Range of output: 0V to 9.99V (in 0.01V increments)</li> </ul>
IDC SENSOR1 P	
TONER LEVEL SENSOR C	<ul style="list-style-type: none"> <li>Displays the number of times the toner level sensor has detected an empty condition during one cycle of developer agitation.</li> <li>Range of output: 0 to 200 (in increments of one time)</li> </ul>
TONER LEVEL SENSOR M	
TONER LEVEL SENSOR Y	
TONER LEVEL SENSOR K	
VDC VOLT C	<ul style="list-style-type: none"> <li>Displays the Vdc voltage of each color of toner.</li> <li>Range of output: -1000V to 255V (in 1V increments)</li> </ul>
VDC VOLT M	
VDC VOLT Y	
VDC VOLT K	
VPP VOLT C	<ul style="list-style-type: none"> <li>Displays the Vpp voltage of each color of toner.</li> <li>Range of output: 700V to 2000V (in 1V increments)</li> </ul>
VPP VOLT M	
VPP VOLT Y	
VPP VOLT K	
VPP VOLT LIMIT C	<ul style="list-style-type: none"> <li>Displays the limit value of Vpp voltage of each color of toner.</li> <li>Range of output: 700V to 2000V (in 1V increments)</li> </ul>
VPP VOLT LIMIT M	
VPP VOLT LIMIT Y	
VPP VOLT LIMIT K	
DUTY C	<ul style="list-style-type: none"> <li>Displays the duty ratio of each color of toner.</li> <li>Range of output: 0% to 100.0% (in 0.1% increments)</li> </ul>
DUTY M	
DUTY Y	
DUTY K	
IDC BASE REFLECTION1	<ul style="list-style-type: none"> <li>Displays the IDC intensity adjustment value.</li> <li>Range of output: 0 to 1023 (in 1 increments)</li> </ul>
TRANS CURRENT2	<ul style="list-style-type: none"> <li>Displays the latest second image transfer output value.</li> <li>Range of output: -800V to 5000V (in 1V increments)</li> </ul>

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**13.14.4 PRINT MENU - HALFTONE 64****A. Use**

- To check the unevenness of the density and the pitch.

**B. Procedure**

1. Call the service mode to the display.
2. Select [PS / PCL] → [PRINT MENU] → [HALFTONE 64] and press the Select key.
3. Select desired color with the up key ▲/down key ▼ and press the Select key.
4. Select [PRINT] and press the Select key.

**13.14.5 PRINT MENU - HALFTONE 128****A. Use**

- To check the unevenness of the density and the pitch.

**B. Procedure**

1. Call the service mode to the display.
2. Select [PS / PCL] → [PRINT MENU] → [HALFTONE 128] and press the Select key.
3. Select desired color with the up key ▲/down key ▼ and press the Select key.
4. Select [PRINT] and press the Select key.

**13.14.6 PRINT MENU - HALFTONE 256****A. Use**

- To check the unevenness of the density and the pitch.

**B. Procedure**

1. Call the service mode to the display.
2. Select [PS / PCL] → [PRINT MENU] → [HALFTONE 256] and press the Select key.
3. Select desired color with the up key ▲/down key ▼ and press the Select key.
4. Select [PRINT] and press the Select key.

**13.14.7 PRINT MENU - GRADATION****A. Use**

- To check the gradation reproductively.

**B. Procedure**

1. Call the service mode to the display.
2. Select [PS / PCL] → [PRINT MENU] → [GRADATION] and press the Select key.
3. Select [PRINT] and press the Select key.

### 13.14.8 IMG ADJ THICK

#### A. Use

- To fine-adjust density of printed images of each color for thick paper.
- To change the density of the printed image for each color with thick paper.

#### B. Procedure

- The default setting is 0.

-5 to +5

1. Call the Service Mode to the display.
2. Select [PS / PCL] → [IMG ADJ THICK].
3. Select desired color with the up key ▲/down key ▼ and press the Select key.
4. Select correction amount with the up key ▲/down key ▼ and press the Select key.

<Adjustment instructions>

Light color: increase the setting value.

Dark color: decrease the setting value.

### 13.14.9 IMG ADJ BLACK

#### A. Use

- To fine-adjust the density of the printed image for a black printing.
- To vary the density of the printed image of a black printing.

#### B. Procedure

- The default setting is 0.

-2 to +2

1. Call the Service Mode to the display.
2. Select [PS / PCL] → [IMG ADJ BLACK].
3. Select correction amount with the up key ▲/down key ▼ and press the Select key.

<Adjustment instructions>

If the black is light, increase the setting value.

If the black is dark, decrease the setting value.

### 13.14.10 SOFT SWITCH

#### A. Use

- Not used

#### B. Procedure

- Not used

## 13.15 CS REMOTE CARE

### 13.15.1 OUTLINES

- CS Remote Care enables the machine and the computer at CS Remote Care center to exchange data through network in order to control the machine.
- CS Remote Care enables the machine to call the computer at the center when trouble occurs. It also enables the computer at the center to contact the machine for the necessary data.
- Data which CS Remote Care handles can be divided into the following groups.
  - a. Data which show the status of use of the machine such as total count, PM count.
  - b. Data which show the abnormal situation on the machine such as where and how often errors occur.
  - c. Data on adjustment
  - d. Data on setting

### 13.15.2 SETTING UP THE CS REMOTE CARE

#### NOTE

- **The following describes how to set up the CS Remote Care from the Service Mode on the control panel.**  
In addition to the set-up from the control panel, the CS Remote Care can be set from the PageScope Web Connection.
- **For resetting up the machine which CS Remote Care has already been set up, clear the RAM for CS Remote Care before resetting.**

[See P.184](#)

	Two-way communication	One-way communication
Step	Procedure	
0	Register the device ID to the application at CS Remote Care center. The initial connection is not available unless the device ID is registered.	
1	Clearing the RAM for CS Remote Care 1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[RAM CLEAR]. 2. Select [Yes], and press the Select key. <a href="#">See P.184</a>	
2	Setting the date and time for CS Remote Care 1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[CSRC CLOCK]. 2. Select [DATE], [TIME] or [TIME ZONE], and press the Select key. 3. Input the date, time or time zone, and press the Select key. <a href="#">See P.181</a>	
3	Setting the communication method 1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[BASIC SETTING]→[COMM. METHOD]. 2. Select [DUPLEX], and press the Select key.	Setting the communication method 1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[BASIC SETTING]→[COMM. METHOD]. 2. Select [SIMPLEX], and press the Select key.
4	Inputting the ID code 1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[SERVICE ENGR ID]. 2. Input the seven digits ID of the service engineer, and press the Select key. <a href="#">See P.178</a>	
5	Setting the Center ID 1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[BASIC SETTING]→[CENTER ID]. 2. Input the five digits ID of the CS Remote Care center, and press the Select key. <a href="#">See P.179</a>	

	Two-way communication	One-way communication
Step	Procedure	
6	Encryption setting 1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[BASIC SETTING]→[ENCRYPTION]. 2. Select [YES] or [NO] according to the necessity of encryption, and press the Select key.	
7	Heart Beat *1 1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[CSRC SETTINGS]→[HEARTBEAT SETTINGS]. 2. In [ENABLE HEATBEAT], set whether or not to enable Heart Beat communication. (Default: YES) 3. Select [INTERVAL] and enter a Heart Beat transmission interval (1 to 256 minutes, Default: 30 minutes). 4. In [ENABLE FIXED TIME], set whether or not to enable Heartbeat transmission at a fixed interval. (Default: Yes) 5. Select [FIXED TIME] and enter a Heartbeat transmission interval (1 to 256 minutes, Default: 30 minutes).	
8	Proceed to step 10.	Periodic transmission setting 1. Select [SERVICE MODE]→[PS/PCL]→[CS REMOTE CARE]→[CSRC SETTING]→[PERIODIC TRANS.]. 2. In [ENABLE TRANS.], set whether or not to enable periodic transmission. (Default: On) 3. Select [INTERVAL], [TIME], [DAY OF THE WEEK] or [DATE] and set the schedule of periodic transmission. <a href="#">See P.182</a>
9		Report setting 1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[CSRC SETTING]→[REPORT SETTING]. 2. Select the report item and set items that will be reported to the Center. <a href="#">See P.182</a>
10	Setting the http server 1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[BASIC SETTING]→[WEB SERVER] 2. Input the server name of the CS Remote Care center, and press the Select key. 3. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[WEBDAV SETTING], and make the settings of communication with the server according to the network environment. <a href="#">See P.180</a>	
11	Enables/disables some special warning and report functions 1. Select [SERVICE MODE]→[PS /PCL]→[CS REMOTE CARE]→[CSRC SETTING]→[SWITCHES SETTING], and set whether or not to enable each function. <a href="#">See P.182</a>	
12	Executing the initial transmission 1. Select [SERVICE MODE]→[PS /PCL]→[CS REMOTE CARE]→[SUBSCRIBE]. 2. Select [YES], and press the Select key to start initial transmission.	

\*1 Heartbeat is a feature that uploads a Heartbeat file to the registered web server at a specified interval to report that the device is operating. Heartbeat files include total counter and status information.



**13.15.3 SERVICE ENGR ID****A. Use**

- To register the service engineer ID.
- Use when registering and changing service engineer ID.

**B. Procedure**

- Enter a 7-digit code using the software keyboard.  
(0000001 to 9999999)

**13.15.4 SUBSCRIBE**

- Not displayed when the machine is registered in the CS Remote Care center.

**A. Use**

- Sent the information to the CS Remote Care center to register the machine.

**B. Procedure**

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[SUBSCRIBE].
2. Press the Select key to start initial transmission.

**13.15.5 MAINTENANCE START.****A. Use**

- Starts the maintenance using the CS Remote Care.
- Not displayed in the following cases.  
The machine is not registered in the center.  
The Service Engineer ID is not registered.  
The maintenance is already provided.

**B. Procedure**

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[MAINTENANCE STRT].
2. Select [YES], and press the Select key to start the maintenance.

**13.15.6 MAINTENANCE END.****A. Use**

- Ends the maintenance provided by the CS Remote Care.
- Not displayed in the following cases.  
The machine is not registered in the center.  
The Service Engineer ID is not registered.  
The maintenance is not provided.

**B. Procedure**

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[MAINTENANCE END].
2. Select [YES], and press the Select key to finish the maintenance.

### 13.15.7 MANUAL TRANS.

#### A. Use

- Use when enabling the manual transmission for the CS Remote Care.
- Not displayed in the following cases.  
The machine is not registered in the center.  
The maintenance is already provided.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[MANUAL TRANS.].
2. Select [YES], and press the Select key to start manual transmission.

### 13.15.8 BASIC SETTINGS - CENTER ID

#### A. Use

- Registers and checks the Center ID for the CS Remote Care.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[BASIC SETTING]→[CENTER ID].
2. Press the [CENTER ID].
3. Enter the ID number using the software keyboard.

### 13.15.9 BASIC SETTINGS - WEB SERVER

#### A. Use

- Registers and checks the Web Server which is used for communication with the CS Remote Care.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[BASIC SETTING]→[WEB SERVER].
2. Press the [WEB SERVER].
3. Enter the server address or domain name using the software keyboard.

### 13.15.10 BASIC SETTINGS - ENCRYPTION

#### A. Use

- Sets whether or not to enable encryption for communication with the CS Remote Care.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[BASIC SETTING]→[ENCRYPTION].
2. Select [YES] or [NO], and press the Select key.

### 13.15.11 BASIC SETTINGS - COMM. METHOD

#### A. Use

- Sets the communication method for the CS Remote Care.  
Simplex: One-way communication  
Duplex: Two-way communication

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[BASIC SETTING]→[COMM. METHOD].
2. Select [SIMPLEX] or [DUPLEX], and press the Select key.

**13.15.12 WEBDAV SETTINGS - ENABLE PROXY****A. Use**

- Sets whether or not to use the proxy server for communication with the CS Remote Care

**B. Procedure**

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[WEBDAV SETTING]→[ENABLE PROXY].
2. Select [YES] or [NO], and press the Select key.

**13.15.13 WEBDAV SETTINGS - PROXY ADDRESS****A. Use**

- Sets the proxy server address.

**B. Procedure**

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[WEBDAV SETTING]→[PROXY ADDRESS].
2. Press the Select key.
3. Enter the server address or domain name using the software keyboard.

**13.15.14 WEBDAV SETTINGS - PROXY PORT****A. Use**

- Sets the proxy server port number.

**B. Procedure**

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[WEBDAV SETTING]→[PROXY PORT].
2. Press the Select key.
3. Enter the port number using the software keyboard.

**13.15.15 WEBDAV SETTINGS - PROXY USER NAME****A. Use**

- Sets the user name of the proxy server.

**B. Procedure**

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[WEBDAV SETTING]→[PROXY USER NAME].
2. Press the Select key.
3. Enter the user name using the software keyboard.

**13.15.16 WEBDAV SETTINGS - PROXY PASSWORD****A. Use**

- Sets the proxy server password.

**B. Procedure**

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[WEBDAV SETTING]→[PROXY PASSWORD].
2. Press the Select key.
3. Enter the password using the software keyboard.

### 13.15.17 WEBDAV SETTINGS - ENABLE SSL

#### A. Use

- Sets whether or not to enable SSL for communication with the CS Remote Care.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[WEBDAV SETTING]→[ENABLE SSL].
2. Select [YES] or [NO], and press the Select key.

### 13.15.18 WEBDAV SETTINGS - WEBDAV AUTH.

#### A. Use

- Sets whether or not to use the WEBDAV server authentication for communication with the CS Remote Care.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[WEBDAV SETTING]→[WEB DAV AUYPH.].
2. Select [YES] or [NO], and press the Select key.

### 13.15.19 WEBDAV SETTINGS - WEBDAV USER NAME

#### A. Use

- Sets the user name used to access the WEBDAV server.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[WEBDAV SETTING]→[WEBDAV USER NAME].
2. Press the Select key.
3. Enter the user name using the software keyboard.

### 13.15.20 WEBDAV SETTINGS - WEBDAV PASSWORD

#### A. Use

- Sets the password used to access the WEBDAV server.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[WEBDAV SETTING]→[WEBDAV PASSWORD].
2. Press the Select key.
3. Enter the password using the software keyboard.

### 13.15.21 CSRC CLOCK

#### A. Use

- Sets the time for the time stamp used in the reports provided by the CS Remote Care.
- Not displayed in the following cases.  
The machine is registered in the center but the maintenance is not provided.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[CSRC CLOCK].
2. Select [DATE], [TIME] or [TIME ZONE].
3. Input the date, time or time zone, and press the Select key.

### 13.15.22 CSRC SETTINGS

#### A. Use

- Not displayed in the following cases.
  - The machine is not registered in the center.
  - The Service Engineer ID is not registered.
  - The maintenance is not provided.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[CSRC SETTING].
2. Press the Select key.

### 13.15.23 HEARTBEAT SETTING

#### A. Use

- To make Heartbeat related settings.
- Heart Beat is a feature that uploads a Heartbeat file to the registered web server at a specified interval to report that the device is operating. Heartbeat files include total counter and status information.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[CSRC SETTING]→[HEARTBEAT SETTING].
2. Press the Select key.

### 13.15.24 SWITCHES SETTINGS

#### A. Use

- To change the CS Remote Care settings.
- The items which can be set are as follows.

Retry Settings	Retry Count
	• Retransmission times on http communication error
	Retry Interval
	• Retransmission interval on http communication error
SC ERROR [SC]	
SPECIFY DATE [A5]	
PARTS LIFE [TP]	
WARNING [TT]	
PARTS RESET [Z1]	
TONER REP. [TN]	
WASTE FULL [T0]	
PAPER JAM THRES.	
ADF JAM THRES.	
PAPER JAM WARNING	
ADF JAM WARNING	
JAM HISTORY	

### 13.15.25 PERIODIC TRANS.

#### A. Use

- Set the schedule of periodic transmission to the center.
- Select the notification interval from [DAILY], [WEEKLY], or [MONTHLY].  
 When selecting [DAILY] for the notification interval, set the [TIME].  
 When selecting [WEEKLY] for the notification interval, set the [TIME] and [DAY OF THE WEEK].  
 When selecting [MONTHLY], set the [TIME] and [DATE].

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[CSRC SETTING]→[PERIODIC TRANS].

### 13.15.26 FIXED DATE TRANS.

#### A. Use

- Set the schedule of fixed date transmission to the center.
- Set the transmission date and transmission time in [FIXED DATE] and [FIXED TIME] respectively.

#### B. Procedure

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[CSRC SETTING]→[FIXED DATE TRANS].

**13.15.27 REPORT SETTING****A. Use**

- Select the items of report data that will be sent to the center.
- The items of report data which can be set are as follows.  
SALES COUNT/ERROR COUNT/SERVICE COUNT/LIFE COUNT/SYSTEM DATA/  
HISTORY DATA/ADJUSTMENT DATA/COVERAGE DATA

**B. Procedure**

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[CSRC SETTING]→[REPORT SETTING].

**13.15.28 RAM CLEAR****A. Use**

- To reset the every setting data for CS Remote Care to the default settings.
- To be used for setting CS Remote Care.

**B. Procedure**

1. Select [SERVICE MODE]→[PS / PCL]→[CS REMOTE CARE]→[CSRC SETTING]→[RAM CLEAR].

**NOTE**

- If RAM clear is selected during transmission, RAM clear processing will be implemented at the time the transmission is completed regardless of whether it is done properly or not.

# 14. SOFT SWITCH SET

## 14.1 Description

This machine is equipped with totally 64 soft switches that are used for fax adjustment in order to conform to the standard of each country.

The default setting is changeable.

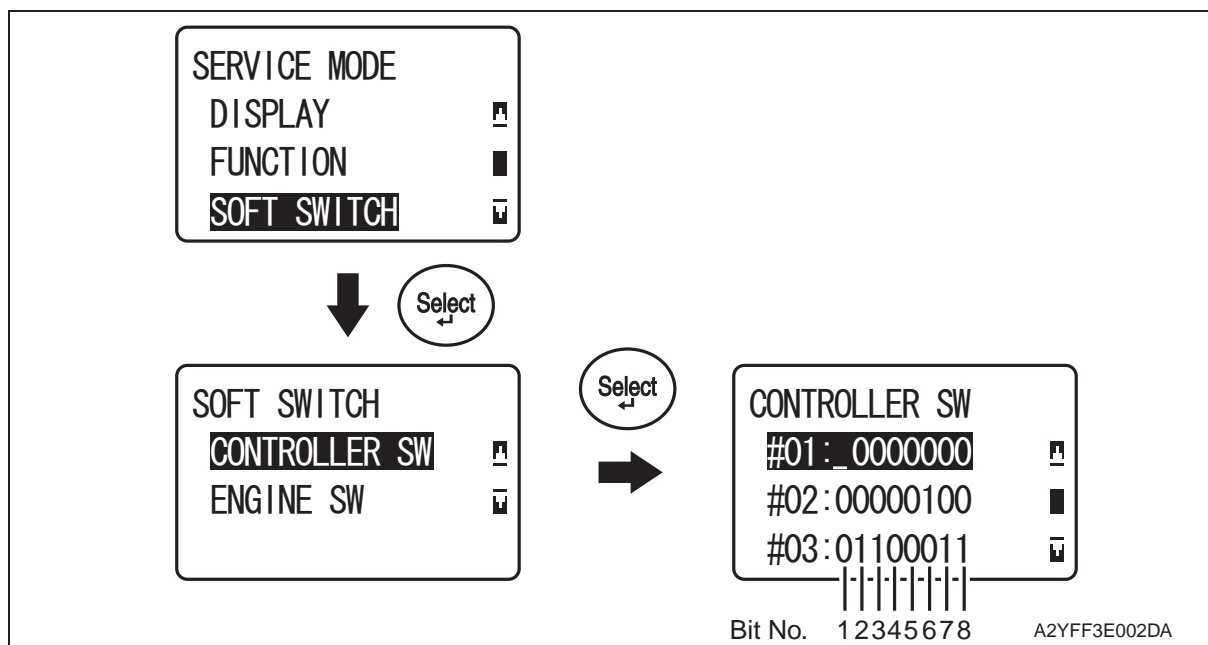
The default setting of soft switch is automatically changed according to the following settings.

- The marketing area is set in procedures of [UTILITY] → [ADMIN. MANAGEMENT] → [USER SETTING] → [PTT SETTING].
- The marketing area is set at [PTT Setting] by using LSU utility software.
- When the setting is made in the procedures of [SERVICE MODE] → [CLEAR DATA] → [SRAM CLEAR], the default setting is defined according to the current setting of marketing area.

Bit No. can be changed with the following way.

- [SERVICE MODE] → [SOFT SWITCH] → [CONTROLLER SW].

See P.160



Hex-binary conversion list		HEX															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Bit No.	4 (8)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	3 (7)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
	2 (6)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
	1 (5)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1



## 14.2 Default setting

### 14.2.1 Country for each marketing area

#### NOTE

- A different country may be applicable depending on the communications standard.
- The marketing area settings is set in the procedure of [UTILITY] → [ADMIN. MANAGEMENT] → [USER SETTING] → [PTT SETTING].

### 14.2.2 Soft switch list

Soft Switch No.	Bit No.	Designation	Page No.
#01	3	Start key default for N-Scan	P.213
	2/1	V.34 CI signal byte number	
#02	8/7	Time between phase C to phase D signal in V.17	P.214
	6	Header TX selection open to user	
	5	Confirm fax No.	
	3/2	Transmit RTN/RTP/MCF signal level criteria	
	1	Sent N.G page	
#03	8	Send out NSF frame with station ID	P.215
	7	Number of Pause within phone number	
	6	Re-dial prohibit for no answer	
	4/3/2/1	RX level setting	
#04	4	Visible alarm for RTN signal	P.216
	3	Audible alarm for RTN signal	
	2/1	Pulse shape	
#05	8/7	Push button ON/OFF timing (PB)	P.217
	6/5	Relation between 10 key # & No. of dial pulse	
	4	10 PPS/20 PPS	
	3/2/1	PPS ratio	
#06	5	The time switch line to external phone after dialing the last digits	P.218
#07	8	Dial tone or busy tone detection	P.218
	7	PSTN/PBX setting	
	6	PBX dial tone detect	
	5	Dial mode select	
	4/3/2/1	TX level select for PSK/FSK	
#08	7	Detect busy tone after dialing	P.219
	6	Sending CED signal after connection	
#09	8/7	Ringer frequency detection	P.219
	5	TSI/CSI append "+"	
	2/1	Time from RX DIS signal to send DCS signal	

Soft Switch No.	Bit No.	Designation	Page No.
#10	8	Print out RTN page report	P.220
	7	Confirmation report result field	
	6/5	Get gap time between digit for pulse dial	
	3	Received DIS signal within reception	
	2	Transmission time limitation	
	1	Audio alarm after communication fail	
#11	7	Detect dial tone after pre-fix number	P.221
	6	Pulse dial allowed to select	
	5	Protocol signal display mode	
	2	USB port number fixed	
	1	DTMF low frequency compensation	
#12	8	ECM mode capability	P.222
	7/6	V.34 fall back counter for V.34 TX	
	5	Send CTC after 4th PPR	
	3	Send EOR after lowest speed	
	2/1	TCF transmission timing after DCS signal	
#13	8	MR capability for G3	P.223
	7/6	Delay time between transaction	
	5	Super fine printing capability for receiving	
	3	DTS mode	
	2	Send DTC signal if RX DIS signal in manual RX mode (no function on G4)	
#14	6	Memory size level to RX	P.223
	5/4	Impedance	
	3/2/1	Time between V.34 ANSam signal and FSK DIS signal	
#15	—	Reserved	P.224
#16	2/1	Fax communication coding method	P.224
#17	6	CED frequency	P.225
	5/4/3	Pause between off hook and CED signal	
	2/1	Inactivity timer [T5]	
#18	6/5	G3 mode training quality level	P.226
	4/3/2/1	Redefine re-dial attempts counter	
#19	8/7/6/5	CNG signal level	P.227
	4/3/2/1	DTMF high frequency level	
#20	8/7/6	Max. ring off time	P.227
#21	8	NSS signal before DCS	P.228
	7/6	CNG sending duration after dialing	
	5	T4 timer	
	4	VOIP (Voice over IP)	
	3	DIS signal length	
	2/1	Increase default T1 timing during calling (Only for TX function)	
#22	4/3/2/1	CED signal output level	P.229

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Soft Switch No.	Bit No.	Designation	Page No.
#23	4/3/2/1	DTMF low frequency level	P.229
#24	8	Ring cadence	P.230
	7/6/5/ 4/3/2/1	Re-dial interval	
#25	6/5	Delay time to catch line after detect ring	P.233
	4/3	Flash key time	
	2/1	RX gain adjustment	
#26	8/7	Dial tone detection time before disconnected	P.233
#27	—	Reserved	P.234
#28	8/7/6/5	Time to dial after dial tone on the line	P.234
	4/3/2/1	CED duration time within calling period	
#29	5/4/3/ 2/1	Time to dial after seize the line when dial tone detection	P.235
#30	8/7	Pause delay time within digits	P.236
#31	7/6/5	Min re-dial interval	P.236
	4/3/2/1	Max. re-dial attempts	
#32	8	Toner type (PA model only)	P.237
	7	USB ID (PA model only)	
	6	Phone book sequence	
	5	N-Scan report	
	4/3/2/1	Adjust V.34 RX connection speed threshold	
#33	8	Handset detects method in manual dial	P.238
	7	V.17 echo protection tone	
	6	V.29 echo protection tone	
	5	Compromise equalize enable (CEQ) in the transmit path (TCEQ)	
	4	Compromise equalize enable (CEQ) in the receiver path (RCEQ)	
#34	—	Reserved	P.238
#35	8/7	Dial tone table switch time	P.239
	6/5/4	Dial tone frequency upper range index	
	3/2/1	Dial tone frequency low range index	
#36	8	Re-dial attempts continue fail counter (Using for detect line problem error)	P.240
	4/3/2/1	Re-dial attempts fail limitation counter (Using for detect line problem error)	
#37	7	Auto dial learning for V.34 modem	P.241
	6/5/4	RX start symbol rate for V.34 modem	
	3/2/1	TX start symbol rate for V.34 modem	
#38	6/5	V.34 flag number between ECM frame	P.241
	4	Phase 2 guard tone power level (V.34)	
	3/2	Host detects ringing status in low frequency or one cycle	
	1	V.8 /V.34 capability	

Soft Switch No.	Bit No.	Designation	Page No.
#39	8	Disable V.34 TX for V.34 modem	P.242
	7	Disable V.34 RX for V.34 modem	
	6/5	Flags number in FSK for V.34 modem	
	4	Manual TX mode for V.34 modem	
	3	Switch from V.17 to V.34 if DIS Bit 6 set after received DIS	
	2/1	Delay time in primary channel for V.34 transmit after CFR or MCF signal	
#40	8/7/6/5	V.17 RX start speed select receiving start speed for V.17	P.243
	3/2/1	V.34 RX start speed prohibit V.34 mode when upper speed less	
#41	8/7/6/5	V.17 TX start speed select receiving start speed for V.17	P.244
	3/2/1	V.34 TX start speed prohibit V.34 mode when upper speed less	
#42	—	Reserved	P.245
#43	—	Reserved	P.245
#44	—	Reserved	P.245
#45	5	Call transfer	P.246
	4/3/2/1	No. of call transfer	
#46	7	Daylight savings timer (Manual)	P.246
	4	RX print mode	
	3	Default TX mode	
	2	Header for FAX TX	
	1	Print model name on top of TX page if name not register	
#47	6	RX mode	P.247
	5	Footer	
#48	8	Activity report	P.247
	7/6	TX result report	
	5/4	RX result report	
#49	5	Re-dial method if Comm. Fail	P.248
	4/3/2/1	No. of rings	
#50	8	Transmit or cancel after time out in "Memory TX"	P.248
	6/5/4	Min. ring on time	
	3/2/1	Min. ring off time	
#51	6/5	Max pages of T30 monitor report	P.249
	4/3	T30 monitor report selection	
	2	Send unsent page mode for memory transmission	
#52	—	Reserved	P.249
#53	—	Reserved	P.250
#54	8	Report Date/Time type	P.250
	7/6	Report Date/Time format	
	5/4	Memory near full capacity for Fax and I-Fax scanning	
	3/2	Memory near full capacity for N-Scan scanning	
#55	8/7/6	DC characteristics	P.251
	1	Fast edge pulse dial	

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Soft Switch No.	Bit No.	Designation	Page No.
#56	8/7/6/5	Pulse dial setup (\$74C)	P.251
	4/3/2/1	Pulse clear (\$74D)	
#57	5	Compensation for loading from bridge capacitor	P.252
	3/2/1	Resistance for pulse dialing	
#58	8	Time out from PSK to FSK delay time	P.252
#59	6/5/4/ 3/2/1	Time Between GMT (Greenwich Mean Time)	P.253
#60	6	Quick memory TX	P.256
	2	Off hook alarm after communication	
	1	Display destination selection within TX phase C	
#61	4/3/2/1	Max. No. of ring	P.256
#62	—	Reserved	P.257
#63	8	"#" key definition in PBX mode	P.257
	2	Fax TX image adjust	
	1	TX result report with image	
#64	6	Print RX error report in RX side if no any FAX signal detected	P.258
	5	10 PPS & 20 PPS selectable by user	

14.2.3 Default soft switch setting for each market area

A. Market area 1

Soft Switch No.	Marketing area																																									
	U.S.A								United Kingdom								Argentina								Australia																	
	Bit No.								Bit No.								Bit No.								Bit No.																	
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8										
#01	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0						
#02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0					
#03	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	1	1	0	1	0	0	0	0	1	0	1	1	0	0	0	0	1	1	0	0	0	1				
#04	0	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0				
#05	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0			
#06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#07	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0			
#08	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	1			
#09	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0			
#10	1	0	0	0	0	1	0	1	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0	1	1	1	0	1	1	0	1	1	0	1	0	1	0	1		
#11	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
#12	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
#13	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#14	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
#16	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#19	0	0	0	1	1	1	1	1	0	1	1	0	1	1	1	1	1	0	1	1	0	1	1	1	1	1	0	0	0	1	1	1	1	1	0	0	0	1	1	1	0	
#20	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#22	1	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#23	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#24	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#25	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#28	1	1	1	0	0	1	0	1	0	1	1	1	0	1	0	1	0	1	0	1	1	1	0	0	1	0	1	1	1	0	1	0	1	0	1	1	0	1	0	1	1	
#29	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#31	0	1	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#32	1	0	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#33	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#35	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#36	0	1	0	1	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

d-Color MF2400

ADJUSTMENT / SETTING

Soft Switch No.	Marketing area																																
	U.S.A								United Kingdom								Argentina								Australia								
	Bit No.								Bit No.								Bit No.								Bit No.								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
#38	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	
#39	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	
#47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#48	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	
#49	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0		
#50	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	
#51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	
#55	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	
#56	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0		
#57	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
#58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#59	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	1	0	1	0	0	
#60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#61	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0
#62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#63	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
#64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	





Soft Switch No.	Marketing area																																	
	Austria								Belgium								Brazil								Canada									
	Bit No.								Bit No.								Bit No.								Bit No.									
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
#39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	
#47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#48	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	1	0	1	0	1
#49	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#50	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	1	0	1	0	1
#55	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	
#56	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#59	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	1	0	1	0	1	0	
#60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#61	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
#62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#63	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
#64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

**C. Market area 3**

Soft Switch No.	Marketing area																																										
	China								Czech								Denmark								Europe																		
	Bit No.								Bit No.								Bit No.								Bit No.																		
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8											
#01	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
#02	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0						
#03	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	1	0	0	0	0	1	1	0	0	0					
#04	0	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0					
#05	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0			
#06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#07	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0		
#08	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0			
#09	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
#10	1	1	1	0	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1			
#11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
#12	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#13	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#14	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#16	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#19	0	0	0	1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	0	0	
#20	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#22	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#23	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#24	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#25	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#28	1	1	1	0	0	1	0	1	1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
#29	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#31	0	1	0	1	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#32	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#33	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#35	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#36	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#38	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

d-Color MF2400

ADJUSTMENT / SETTING

Soft Switch No.	Marketing area																																	
	China								Czech								Denmark								Europe									
	Bit No.								Bit No.								Bit No.								Bit No.									
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
#39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	
#47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#48	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	
#49	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#50	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	
#55	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	
#56	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#57	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#59	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	
#60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#61	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
#62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
#64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**D. Market area 4**

Soft Switch No.	Marketing area																																
	Finland								France								Germany								Greece								
	Bit No.								Bit No.								Bit No.								Bit No.								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
#01	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
#02	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
#03	0	1	1	0	0	0	1	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	1	1	
#04	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	
#05	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	
#06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#07	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	1		
#08	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0		
#09	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0		
#10	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1		
#11	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0		
#12	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1		
#13	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0		
#14	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0		
#15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1		
#16	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0		
#17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#18	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
#19	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1		
#20	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1		
#21	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1		
#22	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0		
#23	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
#24	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
#25	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
#26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#28	1	1	1	0	1	0	1	0	1	1	1	0	1	0	1	0	1	1	1	0	1	0	1	0	1	1	1	0	1	0	1		
#29	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0		
#30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0		
#31	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	1	0		
#32	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0		
#33	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0		
#34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#35	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1		
#36	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	0	0	1	0		
#37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#38	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0		

d-Color MF2400

ADJUSTMENT / SETTING

Soft Switch No.	Marketing area																																	
	Finland								France								Germany								Greece									
	Bit No.								Bit No.								Bit No.								Bit No.									
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
#39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	
#47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#48	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	
#49	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#50	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	
#55	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	
#56	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#59	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	
#60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#61	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
#62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#63	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
#64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

**E. Market area 5**

Soft Switch No.	Marketing area																																								
	Hong Kong								Hungary								Ireland								Israel																
	Bit No.								Bit No.								Bit No.								Bit No.																
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8									
#01	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#02	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0			
#03	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0		
#04	0	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0		
#05	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
#06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#07	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0		
#08	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0		
#09	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#10	1	0	0	0	0	1	0	1	0	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	0	1	0	1	0	1		
#11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#12	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
#13	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#14	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#16	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#19	0	0	0	1	1	1	1	0	0	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#20	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#21	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#22	1	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#23	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#24	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#25	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#28	1	1	1	0	0	1	0	1	0	1	1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
#29	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#31	0	1	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#32	1	0	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#33	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#35	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#36	0	1	0	1	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#38	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

d-Color MF2400

ADJUSTMENT / SETTING

Soft Switch No.	Marketing area																																	
	Hong Kong								Hungary								Ireland								Israel									
	Bit No.								Bit No.								Bit No.								Bit No.									
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
#39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	
#47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#48	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	1	0	1	0	1
#49	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#50	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#54	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1
#55	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	
#56	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#59	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
#60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#61	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
#62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#63	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
#64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

**F. Market area 6**

Soft Switch No.	Marketing area																																		
	Italy								Korea								Malaysia								Mexico										
	Bit No.								Bit No.								Bit No.								Bit No.										
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8			
#01	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
#02	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
#03	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1
#04	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0
#05	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#07	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0
#08	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1
#09	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#10	1	1	1	0	1	1	1	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0
#11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#12	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
#13	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
#14	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
#15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#16	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#19	1	1	0	1	1	1	1	1	0	0	0	1	1	1	1	1	0	1	0	0	1	1	1	1	1	0	0	0	1	1	1	1	1	0	0
#20	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0
#21	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#22	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#23	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#24	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#25	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#28	1	1	1	0	1	0	1	0	1	0	1	1	0	0	1	0	1	1	1	0	0	1	0	1	0	1	1	1	0	0	1	0	1	0	1
#29	0	0	0	0	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	0	0	0
#30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#31	0	1	0	1	0	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	0
#32	1	0	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#33	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#35	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#36	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#38	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

d-Color MF2400

ADJUSTMENT / SETTING



Soft Switch No.	Marketing area																																	
	Italy								Korea								Malaysia								Mexico									
	Bit No.								Bit No.								Bit No.								Bit No.									
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
#39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	
#47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#48	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	
#49	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0		
#50	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0		
#51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	0	0	0	1	0	1	0	1	0	1	
#55	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
#56	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#59	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	1	0	0	
#60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#61	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
#62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#63	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
#64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**G. Market area 7**

Soft Switch No.	Marketing area																																										
	Netherlands								New Zealand								Norway								Philippines																		
	Bit No.								Bit No.								Bit No.								Bit No.																		
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8											
#01	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
#02	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0					
#03	0	1	1	0	0	0	1	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0				
#04	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#05	1	0	0	0	0	0	1	1	0	1	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#07	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0				
#08	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0				
#09	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#10	1	1	1	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0	0	0	1	0	1	0	0	0	0	0				
#11	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
#12	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#13	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#14	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#16	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#19	1	1	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#20	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#21	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#22	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#23	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#24	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#25	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#28	1	1	1	0	1	0	1	0	1	1	1	0	0	1	0	1	0	1	1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	
#29	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#31	0	1	0	1	0	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#32	1	0	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#33	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#35	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#36	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#38	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

d-Color MF2400

ADJUSTMENT / SETTING

Soft Switch No.	Marketing area																																	
	Netherlands								New Zealand								Norway								Philippines									
	Bit No.								Bit No.								Bit No.								Bit No.									
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
#39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	
#47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#48	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	1	0	1	0	1
#49	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#50	1	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	1	0	1	0	1
#55	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	0	
#56	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#59	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	
#60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#61	1	1	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
#62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
#64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**H. Market area 8**

Soft Switch No.	Marketing area																																			
	Poland								Portugal								Russia								Saudi Arabia											
	Bit No.								Bit No.								Bit No.								Bit No.											
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8				
#01	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
#02	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	
#03	0	1	1	0	0	0	1	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	1	0	1	0	1	0	0	0	1	1	0	0	
#04	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0		
#05	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	
#06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#07	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	
#08	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	1	1
#09	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#10	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	0	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1
#11	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#12	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
#13	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
#14	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
#15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
#16	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#18	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#19	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	0	1	0
#20	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0
#21	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
#22	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#23	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#24	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#25	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#28	1	1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
#29	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#31	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#32	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#33	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#35	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#36	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#38	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

d-Color MF2400

ADJUSTMENT / SETTING

Soft Switch No.	Marketing area																																	
	Poland								Portugal								Russia								Saudi Arabia									
	Bit No.								Bit No.								Bit No.								Bit No.									
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
#39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	
#47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#48	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	1	0	1	0	1
#49	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
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#51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	1	0	1	0	1
#55	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
#56	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#59	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	
#60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#61	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
#62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#63	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
#64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

I. Market area 9

Soft Switch No.	Marketing area																																															
	Singapore								Slovakia								South Africa								Spain																							
	Bit No.								Bit No.								Bit No.								Bit No.																							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8																
#01	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
#02	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0										
#03	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	1	1	0	1	0	0	0	0	0	1	0	1	1	0	0	0	0	1	1	0	0	0	1	1								
#04	0	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0								
#05	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1								
#06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
#07	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1							
#08	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0							
#09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0						
#10	1	0	0	0	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
#11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
#12	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
#13	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
#14	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
#15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
#16	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
#17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#19	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	0	1	0	1	1	1	1	0	0	1	1	1	0	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0				
#20	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#21	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
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#23	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
#24	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
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#26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
#27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
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#34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#35	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#36	0	1	0	1	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#38	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

d-Color MF2400

ADJUSTMENT / SETTING

Soft Switch No.	Marketing area																																
	Singapore								Slovakia								South Africa								Spain								
	Bit No.								Bit No.								Bit No.								Bit No.								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
#39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
#40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0
#47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#48	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0
#49	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
#50	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0
#51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0
#55	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0
#56	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0
#57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#59	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
#60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#61	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0
#62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
#64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**J. Market area 10**

Soft Switch No.	Marketing area																																								
	Sweden								Switzerland								Taiwan								Turkey																
	Bit No.								Bit No.								Bit No.								Bit No.																
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8									
#01	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
#02	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0			
#03	0	1	1	0	0	0	1	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	1	1	0	0	0	1	1		
#04	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0		
#05	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1		
#06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#07	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
#08	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	
#09	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
#10	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
#11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#12	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
#13	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#14	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
#16	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#19	1	1	0	1	1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	1	0	1	1	1	1	0	0	
#20	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
#21	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
#22	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#23	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#24	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#25	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#28	1	1	1	0	1	0	1	0	1	0	1	1	0	1	0	1	0	1	0	1	0	1	0	1	1	1	0	0	1	0	1	0	1	0	1	0	1	0	1	0	
#29	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#31	0	1	0	1	0	1	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#32	1	0	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#33	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#35	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#36	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#38	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

d-Color MF2400

ADJUSTMENT / SETTING



Soft Switch No.	Marketing area																																	
	Sweden								Switzerland								Taiwan								Turkey									
	Bit No.								Bit No.								Bit No.								Bit No.									
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
#39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	
#47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#48	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	
#49	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#50	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	
#55	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	
#56	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
#57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#59	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
#60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#61	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
#62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#63	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
#64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

**K. Market area 11**

Soft Switch No.	Marketing area							
	Vietnam							
	Bit No.							
	1	2	3	4	5	6	7	8
#01	1	0	0	0	0	0	0	0
#02	0	0	0	0	0	0	1	0
#03	0	1	1	0	0	0	1	1
#04	1	0	1	1	0	0	0	0
#05	1	0	0	0	0	0	1	1
#06	0	0	0	0	0	0	0	0
#07	1	1	1	0	0	0	0	1
#08	0	0	0	0	0	0	1	1
#09	0	0	0	0	1	0	0	0
#10	1	1	1	0	1	1	1	1
#11	1	0	0	0	0	0	0	0
#12	0	0	1	0	0	0	0	1
#13	0	0	0	0	1	0	0	0
#14	0	1	0	1	0	0	0	0
#15	0	0	0	0	0	0	0	1
#16	1	1	0	0	0	0	0	0
#17	0	0	0	0	0	0	0	0
#18	0	1	0	0	0	0	0	0
#19	1	1	0	1	1	1	1	0
#20	0	0	0	0	0	0	1	1
#21	0	0	0	0	0	0	1	1
#22	1	1	1	0	0	0	0	0
#23	0	1	1	0	0	0	0	0
#24	0	1	0	0	0	0	0	0
#25	0	1	0	0	0	0	0	0
#26	0	0	0	0	0	0	0	0
#27	0	0	0	0	0	0	0	0
#28	1	1	1	0	1	0	1	0
#29	0	0	0	0	1	0	0	0
#30	0	0	0	0	0	0	1	0
#31	0	1	0	1	0	1	0	0
#32	1	0	1	1	0	0	0	0
#33	0	0	0	0	0	0	1	0
#34	0	0	0	0	0	0	0	0
#35	0	0	0	0	0	1	0	1
#36	0	1	0	1	0	0	0	1
#37	0	0	0	0	0	0	0	0
#38	1	0	0	0	0	1	0	0

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Soft Switch No.	Marketing area							
	Vietnam							
	Bit No.							
	1	2	3	4	5	6	7	8
#39	1	0	0	0	0	0	0	0
#40	0	0	0	0	0	0	0	0
#41	0	0	0	0	0	0	0	0
#42	0	0	0	0	0	0	0	0
#43	0	0	0	0	0	0	0	0
#44	0	0	0	0	0	0	0	0
#45	0	0	0	0	0	0	0	0
#46	0	1	0	1	0	0	0	0
#47	0	0	0	0	0	0	0	0
#48	0	0	0	1	0	1	0	1
#49	1	0	0	0	0	0	0	0
#50	1	0	0	1	0	0	0	0
#51	0	0	0	0	0	0	0	0
#52	0	0	0	0	0	0	0	0
#53	0	0	0	0	0	0	0	0
#54	0	0	0	1	0	1	0	1
#55	0	0	0	0	0	0	0	0
#56	1	0	0	1	0	0	0	0
#57	0	0	0	0	0	0	0	0
#58	0	0	0	0	0	0	0	0
#59	0	0	0	0	0	0	0	0
#60	0	0	0	0	0	0	0	0
#61	1	1	1	1	0	0	0	0
#62	0	0	0	0	0	0	0	0
#63	0	0	0	0	0	0	0	1
#64	0	0	0	0	0	0	0	0

### 14.3 Soft switch definition

#### 14.3.1 SOFT SWITCH: #01

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	Reserved	Reserved	0	0															
7			0																
6			0																
5			0																
4			0																
3	Start key default for N-Scan	0: Color or Grayscale	0	1															
		1: BW only																	
2	V.34 CI signal byte number	<table border="1"> <thead> <tr> <th>Byte number</th> <th>30 bytes</th> <th>15 bytes</th> <th>9 bytes</th> <th>60 bytes</th> </tr> </thead> <tbody> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Byte number		30 bytes	15 bytes	9 bytes	60 bytes	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	0
Byte number		30 bytes	15 bytes		9 bytes	60 bytes													
Bit No. 2		0	0		1	1													
Bit No. 1	0	1	0	1															
1			1																

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14.3.2 SOFT SWITCH: #02

Bit No.	Designation	Function	Initial setting																											
			Bit	HEX																										
8	Time between phase C to phase D signal in V.17 Example: Image → EOP	<table border="1"> <tr> <td>RX insensitivity</td> <td>70 ms</td> <td>120 ms</td> <td>180 ms</td> <td>60 ms</td> </tr> <tr> <td>Bit No. 8</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 7</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	RX insensitivity	70 ms	120 ms	180 ms	60 ms	Bit No. 8	0	0	1	1	Bit No. 7	0	1	0	1	0	0											
RX insensitivity		70 ms	120 ms	180 ms	60 ms																									
Bit No. 8		0	0	1	1																									
Bit No. 7	0	1	0	1																										
7	0																													
6	Header TX selection open to user 0: No 1: Yes	0																												
5	Confirm fax No. 0: Not need to input fax number again 1: Need to input fax number again	0																												
4	Reserved	Reserved	0	0																										
3	Transmit RTN/RTP/MCF signal level criteria	<table border="1"> <tr> <td rowspan="3">Percentage of error line level</td> <td>Send RTN command</td> <td>11% or more</td> <td>12% or more</td> <td>13% or more</td> <td>14% or more</td> </tr> <tr> <td>Send RTP command</td> <td>6% to less than 11%</td> <td>7% to less than 12%</td> <td>8% to less than 13%</td> <td>9% to less than 14%</td> </tr> <tr> <td>Send MCF command</td> <td>Less than 6%</td> <td>Less than 7%</td> <td>Less than 8%</td> <td>Less than 9%</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Percentage of error line level		Send RTN command	11% or more	12% or more	13% or more	14% or more	Send RTP command	6% to less than 11%	7% to less than 12%	8% to less than 13%	9% to less than 14%	Send MCF command	Less than 6%	Less than 7%	Less than 8%	Less than 9%	Bit No. 3	0	0	1	1	Bit No. 2	0	1	0	1	0
Percentage of error line level		Send RTN command			11% or more	12% or more	13% or more	14% or more																						
		Send RTP command			6% to less than 11%	7% to less than 12%	8% to less than 13%	9% to less than 14%																						
		Send MCF command	Less than 6%		Less than 7%	Less than 8%	Less than 9%																							
Bit No. 3	0	0	1	1																										
Bit No. 2	0	1	0	1																										
2	0																													
1	Sent N.G page 0: Send N.G page and up to 3 times for that page 1: Not re-send that N.G page for G3 mode	0																												

- Bit 6: If this bit set to “0”, the header select function can not change by user, only changeable by serviceman in service mode.
- Bit 3-2: In G3 mode, if error line for each page, machine will send RTP instead of RTN, in this case, some machine will resend the same page again. The retry times depend on other end.
- Bit 1: N.G indicate our side detected RTP signal from other end. In this case machine can resend the same page up to three or just one time, and this use for G3 mode only.

14.3.3 SOFT SWITCH: #03

Bit No.	Designation	Function	Initial setting																															
			Bit	HEX																														
8	Send out NSF frame with station ID	0: No 1: Yes	1	8																														
7	Number of Pause within phone number	0: No any limitation 1: Max. up to 2 "P" within inputted telephone number	0																															
6	Re-dial prohibit for no answer	0: Continue to dial 1: Not allowed to re-dial if no any FAX signal or detected busy tone after dialing	0																															
5	Reserved	Reserved	0																															
4	RX level setting	<table border="1"> <tr><td>RX level</td><td>-49 dB</td><td>-48 dB</td><td>-47 dB</td><td>-46 dB</td><td>-45 dB</td></tr> <tr><td>Bit No. 4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td></tr> <tr><td>Bit No. 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td></tr> </table>	RX level	-49 dB	-48 dB	-47 dB	-46 dB	-45 dB	Bit No. 4	0	0	0	0	0	Bit No. 3	0	0	0	0	1	Bit No. 2	0	0	1	1	0	Bit No. 1	0	1	0	1	0	0	6
RX level		-49 dB	-48 dB	-47 dB	-46 dB	-45 dB																												
Bit No. 4		0	0	0	0	0																												
Bit No. 3		0	0	0	0	1																												
Bit No. 2		0	0	1	1	0																												
Bit No. 1		0	1	0	1	0																												
3		<table border="1"> <tr><td>RX level</td><td>-44 dB</td><td>-43 dB</td><td>-42 dB</td><td>-41 dB</td><td>-40 dB</td></tr> <tr><td>Bit No. 4</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 3</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 2</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 1</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	RX level	-44 dB	-43 dB	-42 dB	-41 dB	-40 dB	Bit No. 4	0	0	0	1	1	Bit No. 3	1	1	1	0	0	Bit No. 2	0	1	1	0	0	Bit No. 1	1	0	1	0	1	1	
RX level		-44 dB	-43 dB	-42 dB	-41 dB	-40 dB																												
Bit No. 4		0	0	0	1	1																												
Bit No. 3		1	1	1	0	0																												
Bit No. 2		0	1	1	0	0																												
Bit No. 1		1	0	1	0	1																												
2	<table border="1"> <tr><td>RX level</td><td>-39 dB</td><td>-38 dB</td><td>-37 dB</td><td>-36 dB</td></tr> <tr><td>Bit No. 4</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 3</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 2</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	RX level	-39 dB	-38 dB	-37 dB	-36 dB	Bit No. 4	1	1	1	1	Bit No. 3	0	0	1	1	Bit No. 2	1	1	0	0	Bit No. 1	0	1	0	1	1							
RX level	-39 dB	-38 dB	-37 dB	-36 dB																														
Bit No. 4	1	1	1	1																														
Bit No. 3	0	0	1	1																														
Bit No. 2	1	1	0	0																														
Bit No. 1	0	1	0	1																														
1	<table border="1"> <tr><td>RX level</td><td colspan="2">Reserved</td></tr> <tr><td>Bit No. 4</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 3</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 2</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td></tr> </table>	RX level	Reserved		Bit No. 4	1	1	Bit No. 3	1	1	Bit No. 2	1	1	Bit No. 1	0	1	0																	
RX level	Reserved																																	
Bit No. 4	1	1																																
Bit No. 3	1	1																																
Bit No. 2	1	1																																
Bit No. 1	0	1																																

- Bit 8: This bit set to 1, the answer machine will send machine name by NSF frame after connection.
- Bit 7: Can input Pause key to insert pause time between digits, this can put more than one "P" at the end of telephone number to increase calling time (T) after calling. In this case can use "P" to increase T1 time during calling to other parties.

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**14.3.4 SOFT SWITCH: #04**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5			0	
4	Visible alarm for RTN signal	0: No	1	C
		1: Yes - Display message while sending / receiving RTN signal (RTN= Retrain Negative).		
3	Audible alarm for RTN signal	0: No	1	
		1: Yes - Alarm (BZ-42) for sending or receiving RTN signal.		
2	Pulse shape		0	
1			0	

- Bit 4: The display message will keep on LCD 3 seconds or until next incoming T30 signal.
- Bit 3: The duration of alarm last 3 second after detect negative signal in G3 mode.

14.3.5 SOFT SWITCH: #05

Bit No.	Designation	Function	Initial setting					
			Bit	HEX				
8	Push button ON/OFF timing (PB)	Timing (ms)	ON: 100 OFF: 140	ON: 70 OFF: 70	ON: 70 OFF: 140	ON: 90 OFF: 90	0	0
7		Bit No. 8	0	0	1	1	0	
		Bit No. 7	0	1	0	1	0	
6	Relation between 10 key # & No. of dial pulse	#1	1	2	9	Reserved	0	0
5		#2	2	3	8			
		#3	3	4	7			
		#4	4	5	6			
		#5	5	6	5			
		#6	6	7	4			
		#7	7	8	3			
		#8	8	9	2			
		#9	9	10	1			
#0		10	1	10				
Bit No. 6		0	0	1	1		0	
Bit No. 5		0	1	0	1		0	
4	10 PPS/20 PPS	0: 10 PPS 1: 20 PPS				0	2	
3	PPS ratio	PPS ratio (%)	28	30	33	40		0
2		Bit No. 3	0	0	0	0		1
		Bit No. 2	0	0	1	1		0
1		Bit No. 1	0	1	0	1		0

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**14.3.6 SOFT SWITCH: #06**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5	The time switch line to external phone after dialing the last digits	0: 1 sec	0	
		1: 1.5 sec		
4	Reserved	Reserved	0	0
3			0	
2			0	
1			0	

**14.3.7 SOFT SWITCH: #07**

Bit No.	Designation	Function	Initial setting																				
			Bit	HEX																			
8	Dial tone or busy tone detection	0: Disable	0	0																			
		1: Enable - Detect dial tone before dial																					
7	PSTN/PBX setting	0: PSTN	0																				
		1: PBX - Select PBX line type																					
6	PBX dial tone detect	0: Not to detect dial tone before pre-fix number	0																				
		1: Detect dial tone before the pre-fix number in PBX mode																					
5	Dial mode select	0: DTMF - PB	0																				
		1: Pulse - DP																					
4	TX level select for PSK/FSK	<table border="1"> <tr> <th>Level (dBm)</th> <th>-17</th> <th>-16</th> <th>-15</th> <th>-14</th> <th>-13</th> <th>-12</th> <th>-11</th> <th>-10</th> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </table>	Level (dBm)	-17	-16	-15	-14	-13	-12	-11	-10	Bit No. 4	0	0	0	0	0	0	0	0	0	7	
Level (dBm)		-17	-16	-15	-14	-13	-12	-11	-10														
Bit No. 4		0	0	0	0	0	0	0	0														
		<table border="1"> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table>	Bit No. 3	0	0	0	0	1	1	1	1												
Bit No. 3		0	0	0	0	1	1	1	1														
3			<table border="1"> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> </table>	Bit No. 2	0	0	1	1	0	0	1	1	1										
Bit No. 2		0	0	1	1	0	0	1	1														
			<table border="1"> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Bit No. 1	0	1	0	1	0	1	0	1											
Bit No. 1		0	1	0	1	0	1	0	1														
5			<table border="1"> <tr> <th>Level (dBm)</th> <th>-9</th> <th>-8</th> <th>-7</th> <th>-6</th> <th>-5</th> <th>-4</th> <th>-3</th> <th>-2</th> </tr> <tr> <td>Bit No. 4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table>	Level (dBm)	-9	-8	-7	-6	-5	-4	-3	-2	Bit No. 4	1	1	1	1	1	1	1	1		1
Level (dBm)		-9	-8	-7	-6	-5	-4	-3	-2														
Bit No. 4		1	1	1	1	1	1	1	1														
		<table border="1"> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table>	Bit No. 3	0	0	0	0	1	1	1	1												
Bit No. 3	0	0	0	0	1	1	1	1															
		<table border="1"> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> </table>	Bit No. 2	0	0	1	1	0	0	1	1												
Bit No. 2	0	0	1	1	0	0	1	1															
1		<table border="1"> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Bit No. 1	0	1	0	1	0	1	0	1	1											
Bit No. 1	0	1	0	1	0	1	0	1															

**14.3.8 SOFT SWITCH: #08**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	6
7	Detect busy tone after dialing	0: Not to detect	1	
		1: Detect busy tone after dialing		
6	Sending CED signal after connection	0: Not to send	1	
		1: Send CED signal before DIS signal after connection		
5	Reserved	Reserved	0	
4			0	
3			0	
2			0	
1			0	

**14.3.9 SOFT SWITCH: #09**

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	Ringer frequency detection	<table border="1"> <tr> <td>Ringer frequency range (Hz)</td> <td>10 to 75</td> <td>20 to 57.5</td> <td>20 to 75</td> <td>10 to 75</td> </tr> <tr> <td>Bit No. 8</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 7</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Ringer frequency range (Hz)	10 to 75	20 to 57.5	20 to 75	10 to 75	Bit No. 8	0	0	1	1	Bit No. 7	0	1	0	1	0	0
Ringer frequency range (Hz)		10 to 75	20 to 57.5	20 to 75	10 to 75														
Bit No. 8		0	0	1	1														
Bit No. 7	0	1	0	1															
7	0																		
6	Reserved	Reserved	0																
5	TSI/CSI append “+”	0: Not append “+” before send out TSI/CSI 1: Automatically insert “+”	0																
4	Reserved	Reserved	0	0															
3			0																
2	Time from RX DIS signal to send DCS signal	<table border="1"> <tr> <td>Description</td> <td>70 ms</td> <td>120 ms</td> <td>180 ms</td> <td>240 ms</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Description	70 ms	120 ms	180 ms	240 ms	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	0	0
Description		70 ms	120 ms	180 ms	240 ms														
Bit No. 2		0	0	1	1														
Bit No. 1	0	1	0	1															
1	0																		

- Bit 5: This bit set to “1”, the “+” character will put in the first position on CSI and TSI command.

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**14.3.10 SOFT SWITCH: #10**

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	Print out RTN page report	0: Not to print	1	A															
		1: Print out RTN page report after transaction for TX/RX RTN signal																	
7	Confirmation report result field	0: Print "OK"	0																
		1: Print "NG" in case of sending or receiving RTN signal																	
6	Get gap time between digit for pulse dial	<table border="1"> <tr> <td>Value (ms)</td> <td>550</td> <td>650</td> <td>750</td> <td>850</td> </tr> <tr> <td>Bit No. 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Value (ms)		550	650	750	850	Bit No. 6	0	0	1	1	Bit No. 5	0	1	0	1	1
Value (ms)		550	650		750	850													
Bit No. 6		0	0		1	1													
Bit No. 5	0	1	0		1														
5			0																
4	Reserved	Reserved	0																
3	Received DIS signal within reception	0: Repeat sending DIS/DTC again until time out	0																
		1: Disconnected after sending DCN signal																	
2	Transmission time limitation	0: No any limitation until document jam	0																
		1: Limit to 32 minutes from data phase																	
1	Audio alarm after communication fail	0: Not to alarm after transaction fail	1																
		1: Alarm after disconnected																	

- Bit 8: If this bit set to 1, machine will print out confirmation report after each transaction.
- Bit 7: If this bit set to 1, the result field will show "NG" instead of "OK" in the confirmation report and activity report or checking the result on the LCD.
- Bit 2: This for manual TX only.

**14.3.11 SOFT SWITCH: #11**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	2
7	Detect dial tone after pre-fix number	0: No	0	
		1: Yes		
6	Pulse dial allowed to select	0: Yes	1	
		1: Not allowed		
5	Protocol signal display mode	0: Not to display	0	
		1: Display V8 or T30 command within communication.		
4	Reserved	Reserved	0	0
3			0	
2	USB port number fixed	0: OFF	0	
		1: ON		
1	DTMF low frequency compensation	0: Base on SW23 (1 to 4)	0	
		1: High 0.5 dB		

- Bit 6: If this bit set to 1, not allowed user to select pulse dial, and this function open serviceman to change.
- Bit 5: Bit set to 1, LCD will show the command between each party, the detail specification see service mode specification.

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**14.3.12 SOFT SWITCH: #12**

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	ECM mode capability	0: No - Also disable V.34 modem capability 1: Yes	1	8															
7	V.34 fall back counter for V.34 TX	<table border="1"> <tr> <td>Counter</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Bit No. 7</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 6</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Counter		1	2	3	4	Bit No. 7	0	0	1	1	Bit No. 6	0	1	0	1	0
Counter		1	2		3	4													
Bit No. 7	0	0	1	1															
Bit No. 6	0	1	0	1															
6			0																
5	Send CTC after 4th PPR	0: Send CTC (Continue To Correct) 1: Send EOR (End Of Transmission)	0	0															
4	Reserved	Reserved	0																
3	Send EOR after lowest speed	0: Send DCN (Re-dial) 1: Send EOR_xxx [Germany PTT]	0																
2	TCF transmission timing after DCS signal	<table border="1"> <tr> <td>Description (ms)</td> <td>70</td> <td>80</td> <td>90</td> <td>100</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Description (ms)		70	80	90	100	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	0
Description (ms)		70	80	90	100														
Bit No. 2	0	0	1	1															
Bit No. 1	0	1	0	1															
1			0																

- Bit 7-6: If counter equal "1", machine will down to next lower speed for next data phase.
- Bit 2-1: Delay time from FSK mode to PSK mode, this use for G3 mode only, V.34 do not need this setting.

**14.3.13 SOFT SWITCH: #13**

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	MR capability for G3	0: Yes 1: No	0	1															
7	Delay time between transaction	<table border="1"> <thead> <tr> <th>Description (sec)</th> <th>20</th> <th>60</th> <th>120</th> <th>240</th> </tr> </thead> <tbody> <tr> <td>Bit No. 7</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 6</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Description (sec)		20	60	120	240	Bit No. 7	0	0	1	1	Bit No. 6	0	1	0	1	0
Description (sec)		20	60		120	240													
Bit No. 7	0	0	1	1															
Bit No. 6	0	1	0	1															
6			0																
5	Super fine printing capability for receiving	0: No 1: Yes	1	0															
4	Reserved	Reserved	0																
3	DTS mode	0: No 1: Yes	0																
2	Send DTC signal if RX DIS signal in manual RX mode (no function on G4)	0: Yes 1: No - Send DIS again	0																
1	Reserved	Reserved	0																

- Bit 7-6: If set to 1, the time between each transaction will become longer, in this case machine will wait more time before start to dial next transaction.

**14.3.14 SOFT SWITCH: #14**

Bit No.	Designation	Function	Initial setting																																				
			Bit	HEX																																			
8	Reserved	Reserved	0	1																																			
7			0																																				
6	Memory size level to RX	0: Base on system configuration 1: Up to 128 KB	0																																				
5	Impedance	<table border="1"> <thead> <tr> <th>Description</th> <th>600 Ω</th> <th>Complex</th> <th>540 Ω</th> <th>(Reserved)</th> </tr> </thead> <tbody> <tr> <td>Bit No. 5</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Description		600 Ω	Complex	540 Ω	(Reserved)	Bit No. 5	0	0	1	1	Bit No. 4	0	1	0	1	1																				
Description		600 Ω	Complex		540 Ω	(Reserved)																																	
Bit No. 5	0	0	1	1																																			
Bit No. 4	0	1	0	1																																			
4			0																																				
3	Time between V.34 ANSam signal and FSK DIS signal	<table border="1"> <thead> <tr> <th>Timer (ms)</th> <th>430</th> <th>440</th> <th>450</th> <th>460</th> <th>470</th> <th>480</th> <th>490</th> <th>500</th> </tr> </thead> <tbody> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Timer (ms)	430	440	450	460	470	480	490	500	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	0
Timer (ms)		430	440	450	460	470	480	490	500																														
Bit No. 3		0	0	0	0	1	1	1	1																														
Bit No. 2	0	0	1	1	0	0	1	1																															
Bit No. 1	0	1	0	1	0	1	0	1																															
2			1	2																																			
1			0																																				

- Bit 6: If set to 1, machine will become manual RX mode if available memory size less than 128 K.

**14.3.15 SOFT SWITCH: #15**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5			0	
4			0	0
3			0	
2			0	
1			0	

**14.3.16 SOFT SWITCH: #16**

Bit No.	Designation	Function	Initial setting															
			Bit	HEX														
8	Reserved	Reserved	0	0														
7			0															
6			0															
5			0	3														
4			0															
3			0															
2	Fax communication coding method	<table border="1"> <thead> <tr> <th>Coding method</th> <th>MMR</th> <th>MR</th> <th>MH</th> <th>JBIG</th> </tr> </thead> <tbody> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Coding method	MMR	MR	MH	JBIG	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	1
Coding method		MMR	MR	MH	JBIG													
Bit No. 2		0	0	1	1													
Bit No. 1	0	1	0	1														
1			1															

14.3.17 SOFT SWITCH: #17

Bit No.	Designation	Function	Initial setting																					
			Bit	HEX																				
8	Reserved	Reserved	0	0																				
7			0																					
6	CED frequency	0: 2100 Hz	0																					
		1: 1100 Hz																						
5	Pause between off hook and CED signal	<table border="1"> <thead> <tr> <th>Time (T)</th> <th>T=1.8 sec to 2.5 sec</th> <th>T+ 100 ms</th> <th>T+ 200 ms</th> <th>T+ 300 ms</th> </tr> </thead> <tbody> <tr> <td>Bit No. 5</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Time (T)		T=1.8 sec to 2.5 sec	T+ 100 ms	T+ 200 ms	T+ 300 ms	Bit No. 5	0	0	0	0	Bit No. 4	0	0	1	1	Bit No. 3	0	1	0	1	0
Time (T)		T=1.8 sec to 2.5 sec	T+ 100 ms		T+ 200 ms	T+ 300 ms																		
Bit No. 5		0	0		0	0																		
Bit No. 4		0	0		1	1																		
Bit No. 3		0	1	0	1																			
4		<table border="1"> <thead> <tr> <th>Time (T)</th> <th>T+ 400 ms</th> <th>T+ 500 ms</th> <th>T+ 600 ms</th> <th>T+ 700 ms</th> </tr> </thead> <tbody> <tr> <td>Bit No. 5</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Time (T)	T+ 400 ms	T+ 500 ms	T+ 600 ms	T+ 700 ms	Bit No. 5	1	1	1	1	Bit No. 4	0	0	1	1	Bit No. 3	0	1	0	1	0	
			Time (T)	T+ 400 ms	T+ 500 ms	T+ 600 ms	T+ 700 ms																	
			Bit No. 5	1	1	1	1																	
Bit No. 4		0	0	1	1																			
Bit No. 3		0	1	0	1																			
3	<table border="1"> <thead> <tr> <th>Description</th> <th>T5</th> <th>T5 + 20 sec</th> <th>T5 + 40 sec</th> <th>T5 + 60 sec</th> </tr> </thead> <tbody> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Description	T5	T5 + 20 sec	T5 + 40 sec	T5 + 60 sec	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	0							
		Description	T5	T5 + 20 sec	T5 + 40 sec	T5 + 60 sec																		
Bit No. 2	0	0	1	1																				
Bit No. 1	0	1	0	1																				
2	Inactivity timer [T5]	<table border="1"> <thead> <tr> <th>Description</th> <th>T5</th> <th>T5 + 20 sec</th> <th>T5 + 40 sec</th> <th>T5 + 60 sec</th> </tr> </thead> <tbody> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Description	T5	T5 + 20 sec	T5 + 40 sec	T5 + 60 sec	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1							
Description			T5	T5 + 20 sec	T5 + 40 sec	T5 + 60 sec																		
Bit No. 2	0	0	1	1																				
Bit No. 1	0	1	0	1																				
1			0																					

- T5: 60 ± 5 sec. in ITU-T standard

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**14.3.18 SOFT SWITCH: #18**

Bit No.	Designation	Function	Initial setting																																																								
			Bit	HEX																																																							
8	Reserved	Reserved	0	0																																																							
7			0																																																								
6	G3 mode training quality level	<table border="1"> <thead> <tr> <th>Definition</th> <th>Level1</th> <th>Level2</th> <th>Level3</th> <th>Level4</th> </tr> </thead> <tbody> <tr> <td>Bit No. 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Definition	Level1	Level2	Level3	Level4	Bit No. 6	0	0	1	1	Bit No. 5	0	1	0	1	0	0																																								
Definition		Level1	Level2	Level3	Level4																																																						
Bit No. 6		0	0	1	1																																																						
Bit No. 5	0	1	0	1																																																							
5		0																																																									
4																																																											
4	Redefine re-dial attempts counter	<table border="1"> <thead> <tr> <th>Counter</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> </tr> </thead> <tbody> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Counter	1	2	3	4	5	6	7	8	9	10	Bit No. 4	0	0	0	0	0	0	0	1	1	1	Bit No. 3	0	0	0	1	1	1	1	0	0	0	Bit No. 2	0	1	1	0	0	1	1	0	0	1	Bit No. 1	1	0	1	0	1	0	1	0	1	0	0	1
Counter		1	2	3	4	5	6	7	8	9	10																																																
Bit No. 4		0	0	0	0	0	0	0	1	1	1																																																
Bit No. 3		0	0	0	1	1	1	1	0	0	0																																																
Bit No. 2		0	1	1	0	0	1	1	0	0	1																																																
Bit No. 1	1	0	1	0	1	0	1	0	1	0																																																	
3		0																																																									
2		0																																																									
1		1																																																									
		<table border="1"> <thead> <tr> <th>Counter</th> <th colspan="5">Reserved</th> </tr> </thead> <tbody> <tr> <td>Bit No. 4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Counter	Reserved					Bit No. 4	1	1	1	1	1	Bit No. 3	0	1	1	1	1	Bit No. 2	1	0	0	1	1	Bit No. 1	1	0	1	0	1																											
Counter	Reserved																																																										
Bit No. 4	1	1	1	1	1																																																						
Bit No. 3	0	1	1	1	1																																																						
Bit No. 2	1	0	0	1	1																																																						
Bit No. 1	1	0	1	0	1																																																						

- Bit 6-5: Level 1 training check phases are not so severe than level 2,3,4. Level 2,3,4 can keep higher RX speed communication than level 1 for poor line condition.

**14.3.19 SOFT SWITCH: #19**

Bit No.	Designation	Function	Initial setting			
			Bit	HEX		
8	CNG signal level	Level (dBm) -17 -16 -15 -14 -13 -12 -11 -10	0	7		
		Bit No. 8 0 0 0 0 0 0 0 0				
7		Bit No. 7 0 0 0 0 1 1 1 1	1			
		Bit No. 6 0 0 1 1 0 0 1 1				
		Bit No. 5 0 1 0 1 0 1 0 1				
6		Level (dBm) -9 -8 -7 -6 -5 -4 -3 -2	1			
		Bit No. 8 1 1 1 1 1 1 1 1				
		Bit No. 7 0 0 0 0 1 1 1 1				
5		Bit No. 6 0 0 1 1 0 0 1 1	1			
		Bit No. 5 0 1 0 1 0 1 0 1				
4		DTMF high frequency level	Level (dBm) -17 -16 -15 -14 -13 -12 -11 -10		1	8
			Bit No. 4 0 0 0 0 0 0 0 0			
3	Bit No. 3 0 0 0 0 1 1 1 1		0			
	Bit No. 2 0 0 1 1 0 0 1 1					
	Bit No. 1 0 1 0 1 0 1 0 1					
2	Level (dBm) -9 -8 -7 -6 -5 -4 -3 -2		0			
	Bit No. 4 1 1 1 1 1 1 1 1					
	Bit No. 3 0 0 0 0 1 1 1 1					
1	Bit No. 2 0 0 1 1 0 0 1 1		0			
	Bit No. 1 0 1 0 1 0 1 0 1					

**14.3.20 SOFT SWITCH: #20**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Max. ring off time	Timer (sec.) 4 5 6 7 8 9 10 13	1	E
		Bit No. 8 0 0 0 0 1 1 1 1	1	
7		Bit No. 7 0 0 1 1 0 0 1 1		
		Bit No. 6 0 1 0 1 0 1 0 1	1	
5	Reserved	Reserved	0	0
4			0	
3			0	
2			0	
1			0	

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**14.3.21 SOFT SWITCH: #21**

Bit No.	Designation	Function	Initial setting		
			Bit	HEX	
8	NSS signal before DCS	0: Not to send NSS signal for self mode in TX mode 1: Send NSS signal if remote side is same model	1	8	
7	CNG sending duration after dialing	Duration (unit=sec)    40    60    70    120	0		
6		Bit No. 7    0    0    1    1	0		
		Bit No. 6    0    1    0    1			
5	T4 timer	0: 3.0 sec. - Normal case 1: 4.5 sec.	0		
4	VOIP (Voice over IP)	0: Disable 1: Enable	0		0
3	DIS signal length	0: Normal length (Bit 1 to 64) 1: 4 bytes DIS command. - bit 1 to 32 only	0		
2	Increase default T1 timing during calling (Only for TX function)	Description (sec)    T1    T1 + 30    T1 + 40    T1 + 60	0		
1		Bit No. 2    0    0    1    1 Bit No. 1    0    1    0    1	0		

- Bit 8: Sender machine's name will show on the other party's LCD or print on the report if remote side is the same model.
- Bit 3: Some old machine can not accept DIS command over 4 bytes, and every time will become fail. In this case can set this bit to 1. If this bit set to 1, JBIG and V8 capability will disable automatically.
- Bit 2-1: T1 indicate the calling time after dialing, can adjust the T1 time more long by change the default value. The default T1 timer depends on each country regulation.

**14.3.22 SOFT SWITCH: #22**

Bit No.	Designation	Function	Initial setting																																														
			Bit	HEX																																													
8	Reserved	Reserved	0	0																																													
7			0																																														
6			0																																														
5			0																																														
4	CED signal output level	<table border="1"> <tr> <th>Level (dBm)</th> <th>-17</th> <th>-16</th> <th>-15</th> <th>-14</th> <th>-13</th> <th>-12</th> <th>-11</th> <th>-10</th> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Level (dBm)	-17	-16	-15	-14	-13	-12	-11	-10	Bit No. 4	0	0	0	0	0	0	0	0	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	0	7
Level (dBm)		-17	-16	-15	-14	-13	-12	-11	-10																																								
Bit No. 4		0	0	0	0	0	0	0	0																																								
Bit No. 3		0	0	0	0	1	1	1	1																																								
Bit No. 2		0	0	1	1	0	0	1	1																																								
Bit No. 1		0	1	0	1	0	1	0	1																																								
3		<table border="1"> <tr> <th>Level (dBm)</th> <th>-9</th> <th>-8</th> <th>-7</th> <th>-6</th> <th>-5</th> <th>-4</th> <th>-3</th> <th>-2</th> </tr> <tr> <td>Bit No. 4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Level (dBm)	-9	-8	-7	-6	-5	-4	-3	-2	Bit No. 4	1	1	1	1	1	1	1	1	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	1	
Level (dBm)		-9	-8	-7	-6	-5	-4	-3	-2																																								
Bit No. 4		1	1	1	1	1	1	1	1																																								
Bit No. 3		0	0	0	0	1	1	1	1																																								
Bit No. 2		0	0	1	1	0	0	1	1																																								
Bit No. 1		0	1	0	1	0	1	0	1																																								
2	1																																																
1	1																																																

**14.3.23 SOFT SWITCH: #23**

Bit No.	Designation	Function	Initial setting																																														
			Bit	HEX																																													
8	Reserved	Reserved	0	0																																													
7			0																																														
6			0																																														
5			0																																														
4	DTMF low frequency level	<table border="1"> <tr> <th>Level (dBm)</th> <th>-15</th> <th>-14</th> <th>-13</th> <th>-12</th> <th>-11</th> <th>-10</th> <th>-9</th> <th>-8</th> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Level (dBm)	-15	-14	-13	-12	-11	-10	-9	-8	Bit No. 4	0	0	0	0	0	0	0	0	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	0	4
Level (dBm)		-15	-14	-13	-12	-11	-10	-9	-8																																								
Bit No. 4		0	0	0	0	0	0	0	0																																								
Bit No. 3		0	0	0	0	1	1	1	1																																								
Bit No. 2		0	0	1	1	0	0	1	1																																								
Bit No. 1		0	1	0	1	0	1	0	1																																								
3		<table border="1"> <tr> <th>Level (dBm)</th> <th>-7</th> <th>-6</th> <th>-5</th> <th>-4</th> <th>-3</th> <th>-2</th> <th>-1</th> <th>0</th> </tr> <tr> <td>Bit No. 4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Level (dBm)	-7	-6	-5	-4	-3	-2	-1	0	Bit No. 4	1	1	1	1	1	1	1	1	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	1	
Level (dBm)		-7	-6	-5	-4	-3	-2	-1	0																																								
Bit No. 4		1	1	1	1	1	1	1	1																																								
Bit No. 3		0	0	0	0	1	1	1	1																																								
Bit No. 2		0	0	1	1	0	0	1	1																																								
Bit No. 1		0	1	0	1	0	1	0	1																																								
2	0																																																
1	0																																																

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ADJUSTMENT / SETTING

14.3.24 SOFT SWITCH: #24 (Part 1)

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Ring cadence	0: NO 1: Ring detect less than 100 ms	0	0
7	Re-dial interval	Interval (min.) Reserved 2 3 4 5 6 7 8 9 10	0	
		Bit No. 7 0 0 0 0 0 0 0 0 0 0		
		Bit No. 6 0 0 0 0 0 0 0 0 0 0		
		Bit No. 5 0 0 0 0 0 0 0 0 0 0		
		Bit No. 4 0 0 0 0 0 0 0 1 1 1		
		Bit No. 3 0 0 0 0 1 1 1 1 0 0 0		
		Bit No. 2 0 0 1 1 0 0 1 1 0 0 1		
6	Re-dial interval	Interval (min.) 11 12 13 14 15 16 17 18 19 20	0	
		Bit No. 7 0 0 0 0 0 0 0 0 0 0		
		Bit No. 6 0 0 0 0 0 0 0 0 0 0		
		Bit No. 5 0 0 0 0 0 1 1 1 1 1		
		Bit No. 4 1 1 1 1 1 0 0 0 0 0		
		Bit No. 3 0 1 1 1 1 0 0 0 0 1		
		Bit No. 2 1 0 0 1 1 0 0 1 1 0		
5	Re-dial interval	Interval (min.) 21 22 23 24 25 26 27 28 29 30	0	
		Bit No. 7 0 0 0 0 0 0 0 0 0 0		
		Bit No. 6 0 0 0 0 0 0 0 0 0 0		
		Bit No. 5 1 1 1 1 1 1 1 1 1 1		
		Bit No. 4 0 0 0 1 1 1 1 1 1 1		
		Bit No. 3 1 1 1 0 0 0 0 1 1 1		
		Bit No. 2 0 1 1 0 0 1 1 0 0 1		
4	Re-dial interval	Interval (min.) 31 32 33 34 35 36 37 38 39 40	0	
		Bit No. 7 0 0 0 0 0 0 0 0 0 0		
		Bit No. 6 0 1 1 1 1 1 1 1 1 1		
		Bit No. 5 1 0 0 0 0 0 0 0 0 0		
		Bit No. 4 1 0 0 0 0 0 0 0 0 1		
		Bit No. 3 1 0 0 0 0 1 1 1 1 0		
		Bit No. 2 1 0 0 1 1 0 0 1 1 0		
3	Re-dial interval	Interval (min.) 41 42 43 44 45 46 47 48 49 50	0	
		Bit No. 7 0 0 0 0 0 0 0 0 0 0		
		Bit No. 6 1 1 1 1 1 1 1 1 1 1		
		Bit No. 5 0 0 0 0 0 0 0 1 1 1		
		Bit No. 4 1 1 1 1 1 1 1 0 0 0		
		Bit No. 3 0 0 0 1 1 1 1 0 0 0		
		Bit No. 2 0 1 1 0 0 1 1 0 0 1		
2	Re-dial interval	Interval (min.) 41 42 43 44 45 46 47 48 49 50	1	
		Bit No. 7 0 0 0 0 0 0 0 0 0 0		
		Bit No. 6 1 1 1 1 1 1 1 1 1 1		
		Bit No. 5 0 0 0 0 0 0 0 1 1 1		
		Bit No. 4 1 1 1 1 1 1 1 0 0 0		
		Bit No. 3 0 0 0 1 1 1 1 0 0 0		
		Bit No. 2 0 1 1 0 0 1 1 0 0 1		
1	Re-dial interval	Interval (min.) 41 42 43 44 45 46 47 48 49 50	0	
		Bit No. 7 0 0 0 0 0 0 0 0 0 0		
		Bit No. 6 1 1 1 1 1 1 1 1 1 1		
		Bit No. 5 0 0 0 0 0 0 0 1 1 1		
		Bit No. 4 1 1 1 1 1 1 1 0 0 0		
		Bit No. 3 0 0 0 1 1 1 1 0 0 0		
		Bit No. 2 0 1 1 0 0 1 1 0 0 1		

14.3.25 SOFT SWITCH: #24 (Part 2)

Bit No.	Designation	Function	Initial setting														
			Bit	HEX													
7	Re-dial interval	Interval (min.)	51	52	53	54	55	56	57	58	59	60	0	2			
		Bit No. 7	0	0	0	0	0	0	0	0	0	0			0		
		Bit No. 6	1	1	1	1	1	1	1	1	1	1			1		
		Bit No. 5	1	1	1	1	1	1	1	1	1	1			1		
		Bit No. 4	0	0	0	0	0	1	1	1	1	1			1		
		6	Bit No. 3	0	1	1	1	1	0	0	0	0			1	1	0
			Bit No. 2	1	0	0	1	1	0	0	1	1			0	0	
Bit No. 1			1	0	1	0	1	0	1	0	1	0	0				
5		Interval (min.)	61	62	63	64	65	66	67	68	69	70	0				
		Bit No. 7	0	0	0	1	1	1	1	1	1	1					
		Bit No. 6	1	1	1	0	0	0	0	0	0	0					
		Bit No. 5	1	1	1	0	0	0	0	0	0	0					
		Bit No. 4	1	1	1	0	0	0	0	0	0	0					
		Bit No. 3	1	1	1	0	0	0	0	1	1	1					
		Bit No. 2	0	1	1	0	0	1	1	0	0	1					
4		Interval (min.)	71	72	73	74	75	76	77	78	79	80	0				
		Bit No. 7	1	1	1	1	1	1	1	1	1	1					
		Bit No. 6	0	0	0	0	0	0	0	0	0	0					
		Bit No. 5	0	0	0	0	0	0	0	0	0	1					
		Bit No. 4	0	1	1	1	1	1	1	1	1	0					
		Bit No. 3	1	0	0	0	0	1	1	1	1	0					
		Bit No. 2	1	0	0	1	1	0	0	1	1	0					
3		Interval (min.)	81	82	83	84	85	86	87	88	89	90	0				
		Bit No. 7	1	1	1	1	1	1	1	1	1	1					
		Bit No. 6	0	0	0	0	0	0	0	0	0	0					
		Bit No. 5	1	1	1	1	1	1	1	1	1	1					
		Bit No. 4	0	0	0	0	0	0	0	1	1	1					
		Bit No. 3	0	0	0	1	1	1	1	0	0	0					
	Bit No. 2	0	1	1	0	0	1	1	0	0	1						
2	Interval (min.)	91	92	93	94	95	96	97	98	99	1						
	Bit No. 7	1	1	1	1	1	1	1	1	1							
	Bit No. 6	0	0	0	0	0	1	1	1	1							
	Bit No. 5	1	1	1	1	1	0	0	0	0							
	Bit No. 4	1	1	1	1	1	0	0	0	0							
	Bit No. 3	0	1	1	1	1	0	0	0	0							
	Bit No. 2	1	0	0	1	1	0	0	1	1							
1	Interval (min.)	91	92	93	94	95	96	97	98	99	0						
	Bit No. 7	1	1	1	1	1	1	1	1	1							
	Bit No. 6	0	0	0	0	0	1	1	1	1							
	Bit No. 5	1	1	1	1	1	0	0	0	0							
	Bit No. 4	1	1	1	1	1	0	0	0	0							
	Bit No. 3	0	1	1	1	1	0	0	0	0							
	Bit No. 2	1	0	0	1	1	0	0	1	1							
Bit No. 1	1	0	1	0	1	0	1	0	1								

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ADJUSTMENT / SETTING

14.3.26 SOFT SWITCH: #24 (Part 3)

Bit No.	Designation	Function	Initial setting										
			Bit	HEX									
7	Re-dial interval	Interval (min.)	Reserved								0	2	
		Bit No. 7	1	1	1	1	1	1	1	1			1
		Bit No. 6	1	1	1	1	1	1	1	1			1
		Bit No. 5	0	0	0	0	0	0	0	0			0
		Bit No. 4	0	0	0	0	1	1	1	1			1
		Bit No. 3	1	1	1	1	0	0	0	0			1
		Bit No. 2	0	0	1	1	0	0	1	1			0
Bit No. 1		0	1	0	1	0	1	0	1	0			
6		Interval (min.)	Reserved								0		
		Bit No. 7	1	1	1	1	1	1	1	1			
		Bit No. 6	1	1	1	1	1	1	1	1			
		Bit No. 5	0	0	1	1	1	1	1	1			
		Bit No. 4	1	1	0	0	0	0	0	0			
		Bit No. 3	1	1	0	0	0	0	1	1			
	Bit No. 2	1	1	0	0	1	1	0	0				
Bit No. 1	0	1	0	1	0	1	0	1					
5	Interval (min.)	Reserved								0			
	Bit No. 7	1	1	1	1	1	1	1	1				
	Bit No. 6	1	1	1	1	1	1	1	1				
	Bit No. 5	0	0	1	1	1	1	1	1				
	Bit No. 4	1	1	0	0	0	0	0	0				
	Bit No. 3	1	1	0	0	0	0	1	1				
	Bit No. 2	1	1	0	0	1	1	0	0				
Bit No. 1	0	1	0	1	0	1	0	1					
4	Interval (min.)	Reserved								0			
	Bit No. 7	1	1	1	1	1	1	1	1				
	Bit No. 6	1	1	1	1	1	1	1	1				
	Bit No. 5	0	0	1	1	1	1	1	1				
	Bit No. 4	1	1	0	0	0	0	0	0				
	Bit No. 3	1	1	0	0	0	0	1	1				
	Bit No. 2	1	1	0	0	1	1	0	0				
Bit No. 1	0	1	0	1	0	1	0	1					
3	Interval (min.)	Reserved								0			
	Bit No. 7	1	1	1	1	1	1	1	1				
	Bit No. 6	1	1	1	1	1	1	1	1				
	Bit No. 5	1	1	1	1	1	1	1	1				
	Bit No. 4	1	1	1	1	1	1	1	1				
	Bit No. 3	0	0	0	0	1	1	1	1				
	Bit No. 2	0	0	1	1	0	0	1	1				
Bit No. 1	0	1	0	1	0	1	0	1					
2	Interval (min.)	Reserved								1			
	Bit No. 7	1	1	1	1	1	1	1	1				
	Bit No. 6	1	1	1	1	1	1	1	1				
	Bit No. 5	1	1	1	1	1	1	1	1				
	Bit No. 4	1	1	1	1	1	1	1	1				
	Bit No. 3	0	0	0	0	1	1	1	1				
	Bit No. 2	0	0	1	1	0	0	1	1				
Bit No. 1	0	1	0	1	0	1	0	1					
1	Interval (min.)	Reserved								0			
	Bit No. 7	1	1	1	1	1	1	1	1				
	Bit No. 6	1	1	1	1	1	1	1	1				
	Bit No. 5	1	1	1	1	1	1	1	1				
	Bit No. 4	1	1	1	1	1	1	1	1				
	Bit No. 3	0	0	0	0	1	1	1	1				
	Bit No. 2	0	0	1	1	0	0	1	1				
Bit No. 1	0	1	0	1	0	1	0	1					

**14.3.27 SOFT SWITCH: #25**

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	Reserved	Reserved	0	0															
7			0																
6	Delay time to catch line after detect ring	<table border="1"> <tr> <td>Delay time (sec.)</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>Bit No. 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Delay time (sec.)		0	1	2	3	Bit No. 6	0	0	1	1	Bit No. 5	0	1	0	1	0
Delay time (sec.)		0	1		2	3													
Bit No. 6		0	0		1	1													
Bit No. 5	0	1	0		1														
5	0																		
4	Flash key time	<table border="1"> <tr> <td>Flash time (ms)</td> <td>100</td> <td>80</td> <td>250</td> <td>600</td> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Flash time (ms)		100	80	250	600	Bit No. 4	0	0	1	1	Bit No. 3	0	1	0	1	0
Flash time (ms)		100	80	250	600														
Bit No. 4		0	0	1	1														
Bit No. 3	0	1	0	1															
3	0																		
2	RX gain adjustment	<table border="1"> <tr> <td></td> <td>No gain</td> <td>Up 0.75 dB</td> <td>Up 1.5 dB</td> <td>Up 2.25 dB</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>		No gain	Up 0.75 dB	Up 1.5 dB	Up 2.25 dB	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	1	
		No gain	Up 0.75 dB	Up 1.5 dB	Up 2.25 dB														
Bit No. 2		0	0	1	1														
Bit No. 1	0	1	0	1															
1	0																		

**14.3.28 SOFT SWITCH: #26**

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	Dial tone detection time before disconnected	<table border="1"> <tr> <td>Time (unit=sec)</td> <td>10</td> <td>15</td> <td>20</td> <td>25</td> </tr> <tr> <td>Bit No. 8</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 7</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Time (unit=sec)	10	15	20	25	Bit No. 8	0	0	1	1	Bit No. 7	0	1	0	1	0	0
Time (unit=sec)		10	15	20	25														
Bit No. 8		0	0	1	1														
Bit No. 7	0	1	0	1															
7	0																		
6	Reserved	Reserved	0																
5			0																
4			0																
3			0																
2			0																
1			0																

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ADJUSTMENT / SETTING



**14.3.29 SOFT SWITCH: #27**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5			0	
4			0	0
3			0	
2			0	
1			0	

**14.3.30 SOFT SWITCH: #28**

Bit No.	Designation	Function	Initial setting																																														
			Bit	HEX																																													
8	Time to dial after dial tone on the line	<table border="1"> <tr><td>Time (ms)</td><td>0</td><td>100</td><td>200</td><td>300</td><td>400</td><td>500</td><td>600</td><td>700</td></tr> <tr><td>Bit No. 8</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 7</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 6</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 5</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Time (ms)	0	100	200	300	400	500	600	700	Bit No. 8	0	0	0	0	0	0	0	0	Bit No. 7	0	0	0	0	1	1	1	1	Bit No. 6	0	0	1	1	0	0	1	1	Bit No. 5	0	1	0	1	0	1	0	1	1	A
Time (ms)		0	100	200	300	400	500	600	700																																								
Bit No. 8		0	0	0	0	0	0	0	0																																								
Bit No. 7		0	0	0	0	1	1	1	1																																								
Bit No. 6		0	0	1	1	0	0	1	1																																								
Bit No. 5		0	1	0	1	0	1	0	1																																								
7		0																																															
6		<table border="1"> <tr><td>Time (ms)</td><td>800</td><td>900</td><td>1000</td><td>1100</td><td>1200</td><td>1300</td><td>1400</td><td>1500</td></tr> <tr><td>Bit No. 8</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 7</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 6</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 5</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Time (ms)	800	900	1000	1100	1200	1300	1400	1500	Bit No. 8	1	1	1	1	1	1	1	1	Bit No. 7	0	0	0	0	1	1	1	1	Bit No. 6	0	0	1	1	0	0	1	1	Bit No. 5	0	1	0	1	0	1	0	1	1	
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Bit No. 8		1	1	1	1	1	1	1	1																																								
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Bit No. 5	0	1	0	1	0	1	0	1																																									
5	0																																																
4	CED duration time within calling period	<table border="1"> <tr><td>Time (ms)</td><td>0</td><td>100</td><td>200</td><td>300</td><td>400</td><td>500</td><td>600</td><td>700</td></tr> <tr><td>Bit No. 4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Time (ms)	0	100	200	300	400	500	600	700	Bit No. 4	0	0	0	0	0	0	0	0	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	0	7
Time (ms)		0	100	200	300	400	500	600	700																																								
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Bit No. 3	0	0	0	0	1	1	1	1																																									
Bit No. 2	0	0	1	1	0	0	1	1																																									
Bit No. 1	0	1	0	1	0	1	0	1																																									
1	1																																																

- Bit 4-1: The CED duration time level for automatic transmission

14.3.31 SOFT SWITCH: #29

Bit No.	Designation	Function	Initial setting																																																																			
			Bit	HEX																																																																		
8	Reserved	Reserved	0	1																																																																		
7			0																																																																			
6			0																																																																			
5	Time to dial after seize the line when dial tone detection (Unit= 200 msec)	<table border="1"> <tr><td>Time (sec)</td><td>0</td><td>0.2</td><td>0.4</td><td>0.6</td><td>0.8</td><td>1.0</td><td>1.2</td><td>1.4</td><td>1.6</td><td>1.8</td></tr> <tr><td>Bit No. 5</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Time (sec)	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	Bit No. 5	0	0	0	0	0	0	0	0	0	0	Bit No. 4	0	0	0	0	0	0	0	0	1	1	Bit No. 3	0	0	0	0	1	1	1	1	0	0	Bit No. 2	0	0	1	1	0	0	1	1	0	0	Bit No. 1	0	1	0	1	0	1	0	1	0	1	1	4
Time (sec)		0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8																																																											
Bit No. 5		0	0	0	0	0	0	0	0	0	0																																																											
Bit No. 4		0	0	0	0	0	0	0	0	1	1																																																											
Bit No. 3		0	0	0	0	1	1	1	1	0	0																																																											
Bit No. 2		0	0	1	1	0	0	1	1	0	0																																																											
Bit No. 1		0	1	0	1	0	1	0	1	0	1																																																											
4		<table border="1"> <tr><td>Time (sec)</td><td>2.0</td><td>2.2</td><td>2.4</td><td>2.6</td><td>2.8</td><td>3.0</td><td>3.2</td><td>3.4</td><td>3.6</td><td>3.8</td></tr> <tr><td>Bit No. 5</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 4</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 3</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 2</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Time (sec)	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	Bit No. 5	0	0	0	0	0	0	1	1	1	1	Bit No. 4	1	1	1	1	1	1	0	0	0	0	Bit No. 3	0	0	1	1	1	1	0	0	0	0	Bit No. 2	1	1	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	0	1	0	
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3		<table border="1"> <tr><td>Time (sec)</td><td>4.0</td><td>4.2</td><td>4.4</td><td>4.6</td><td>4.8</td><td>5.0</td><td>5.2</td><td>5.4</td><td>5.6</td><td>5.8</td></tr> <tr><td>Bit No. 5</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 3</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Time (sec)	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	Bit No. 5	1	1	1	1	1	1	1	1	1	1	Bit No. 4	0	0	0	0	1	1	1	1	1	1	Bit No. 3	1	1	1	1	0	0	0	0	1	1	Bit No. 2	0	0	1	1	0	0	1	1	0	0	Bit No. 1	0	1	0	1	0	1	0	1	0	1	1	
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Bit No. 2	1	1																																																																				
Bit No. 1	0	1																																																																				

d-Color MF2400

ADJUSTMENT / SETTING

**14.3.32 SOFT SWITCH: #30**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Pause delay time within digits Ex. 002Pxxxxxx	Time (sec)   2.0   2.5   3.0   3.5	0	4
7		Bit No. 8   0   0   1   1		
		Bit No. 7   0   1   0   1		
6	Reserved	Reserved	0	0
5			0	
4			0	
3			0	
2			0	
1			0	

**14.3.33 SOFT SWITCH: #31**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	2
7	Min re-dial interval	Interval   1   2   3   4   5   Reserved	0	
6		Bit No. 7   0   0   0   1   1   1   1	1	
5		Bit No. 6   0   1   1   0   0   1   1	0	
4	Max. re-dial attempts	Attempts   1   2   3   4   5   6   7   8   9   10	1	A
3		Bit No. 4   0   0   0   0   0   0   0   1   1   1	0	
		Bit No. 3   0   0   0   1   1   1   1   0   0   0		
		Bit No. 2   0   1   1   0   0   1   1   0   0   1		
2		Attempts   Reserved	1	
		Bit No. 4   1   1   1   1   1	0	
	Bit No. 3   0   1   1   1   1			
1	Bit No. 2   1   0   0   1   1			
	Bit No. 1   1   0   1   0   1			

14.3.34 SOFT SWITCH: #32

Bit No.	Designation	Function	Initial setting																																																																					
			Bit	HEX																																																																				
8	Toner type (PA model only)	0: Normal detects toner type	0	0																																																																				
		1: Can use Olivetti toner and magicolor toner																																																																						
7	USB ID (PA model only)	0: Use PA model define USB ID (Normal)	0	0																																																																				
		1: Use PA magicolor define USB ID																																																																						
6	Phone book sequence	0: List → Search → LDAP Search	0	0																																																																				
		1: LDAP search → List → Search																																																																						
5	N-Scan report	0: Print out network scan report according to SW48 [6,7]	0	0																																																																				
		1: Not print out network scan report																																																																						
4	Adjust V.34 RX connection speed threshold	<table border="1"> <thead> <tr> <th>Speed</th> <th colspan="7">High → Highest</th> </tr> <tr> <th>Value</th> <th>0000H</th> <th>FF00H</th> <th>FE00H</th> <th>FD00H</th> <th>FC00H</th> <th>FB00H</th> <th>FA00H</th> <th>F900H</th> </tr> </thead> <tbody> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> <tr> <td>Descriptions</td> <td>No affect</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							Speed	High → Highest							Value	0000H	FF00H	FE00H	FD00H	FC00H	FB00H	FA00H	F900H	Bit No. 4	0	0	0	0	0	0	0	0	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	Descriptions	No affect								1	D
Speed		High → Highest																																																																						
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Bit No. 4		0	0	0	0	0	0	0	0																																																															
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Bit No. 1	0	1	0	1	0	1	0	1																																																																
Descriptions	No affect																																																																							
1								1																																																																

- Bit 7:
  1. In PA model, operation can change a SW to let the USB ID is PA magicolor model ID.
  2. The softswitch can be R/W ON/OFF by PjL command.
  3. After SRAM clear, the softswitch will be clear. That means it will return to normal USB ID.

d-Color MF2400

ADJUSTMENT / SETTING

**14.3.35 SOFT SWITCH: #33**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Handset detects method in manual dial	0: Set H relay to high	0	4
		1: Set H relay to low during detect handset status		
7	V.17 echo protection tone	0: Off	1	
		1: On		
6	V.29 echo protection tone	0: Off	0	
		1: On		
5	Compromise equalize enable (CEQ) in the transmit path (TCEQ)	0: No	0	
		1: Yes		
4	Compromise equalize enable (CEQ) in the receiver path (RCEQ)	0: No	0	
		1: Yes		
3	Reserved	Reserved	0	0
2			0	
1			0	

- Bit 5-4: V.17, V.29 and V.27 only

**14.3.36 SOFT SWITCH: #34**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5			0	
4			0	0
3			0	
2			0	
1			0	

**14.3.37 SOFT SWITCH: #35**

Bit No.	Designation	Function	Initial setting																								
			Bit	HEX																							
8	Dial tone table switch time	<table border="1"> <tr> <td>Time (sec)</td> <td>1</td> <td>2</td> <td>3</td> <td>4.5</td> </tr> <tr> <td>Bit No. 8</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 7</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Time (sec)	1	2	3	4.5	Bit No. 8	0	0	1	1	Bit No. 7	0	1	0	1	1	A								
Time (sec)		1	2	3	4.5																						
Bit No. 8		0	0	1	1																						
Bit No. 7	0	1	0	1																							
7		0																									
6		1																									
5	Dial tone frequency upper range index	See Bit No. 1 to 3 (This upper range value must be higher than lower range value that defined in bit 1 to 3)	0	0																							
4			0																								
3	Dial tone frequency low range index	<table border="1"> <tr> <td>Frequency range (Hz)</td> <td>210 to 580</td> <td>360 to 690</td> <td>210 to 580</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </table>	Frequency range (Hz)	210 to 580	360 to 690	210 to 580	Bit No. 3	0	0	0	Bit No. 2	0	0	1	Bit No. 1	0	1	0	0	0							
Frequency range (Hz)		210 to 580	360 to 690	210 to 580																							
Bit No. 3		0	0	0																							
Bit No. 2		0	0	1																							
Bit No. 1		0	1	0																							
2			0																								
1		<table border="1"> <tr> <td>Frequency range (Hz)</td> <td>360 to 690</td> <td>210 to 580</td> <td colspan="3">Reserved</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Frequency range (Hz)	360 to 690	210 to 580	Reserved			Bit No. 3	0	1	1	1	1	Bit No. 2	1	0	0	1	1	Bit No. 1	1	0	1	0	1	0
	Frequency range (Hz)	360 to 690	210 to 580	Reserved																							
	Bit No. 3	0	1	1	1	1																					
Bit No. 2	1	0	0	1	1																						
Bit No. 1	1	0	1	0	1																						

d-Color MF2400

ADJUSTMENT / SETTING

**14.3.38 SOFT SWITCH: #36**

Bit No.	Designation	Function	Initial setting																																														
			Bit	HEX																																													
8	Re-dial attempts continue fail counter (Using for detect line problem error)	0: No any limitation	1	8																																													
		1: limit up to bit 1 to 4																																															
		7			0																																												
		6			0																																												
5	Reserved	Reserved	0																																														
4	Re-dial attempts fail limitation counter (Using for detect line problem error)	<table border="1"> <tr><td>Counter</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>Bit No. 4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Counter	0	1	2	3	4	5	6	7	Bit No. 4	0	0	0	0	0	0	0	0	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	1	A
		Counter	0	1	2	3	4	5	6	7																																							
		Bit No. 4	0	0	0	0	0	0	0	0																																							
		Bit No. 3	0	0	0	0	1	1	1	1																																							
		Bit No. 2	0	0	1	1	0	0	1	1																																							
Bit No. 1	0	1	0	1	0	1	0	1																																									
3	0																																																
2	1																																																
1	<table border="1"> <tr><td>Counter</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr> <tr><td>Bit No. 4</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Counter	8	9	10	11	12	13	14	15	Bit No. 4	1	1	1	1	1	1	1	1	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	0		
	Counter	8	9	10	11	12	13	14	15																																								
	Bit No. 4	1	1	1	1	1	1	1	1																																								
Bit No. 3	0	0	0	0	1	1	1	1																																									
Bit No. 2	0	0	1	1	0	0	1	1																																									
Bit No. 1	0	1	0	1	0	1	0	1																																									
0																																																	

**14.3.39 SOFT SWITCH: #37**

Bit No.	Designation	Function	Initial setting																															
			Bit	HEX																														
8	Reserved	Reserved	0	0																														
7	Auto dial learning for V.34 modem	0: Yes - Skip V.34 handshaking with remote side 1: No - Retry from V.8 handshake	0																															
6	RX start symbol rate for V.34 modem	See Bit No. 1 to 3	0																															
5			0																															
4			0																															
3	TX start symbol rate for V.34 modem	<table border="1"> <tr> <td>Symbol rate (sym/s)</td> <td>3429</td> <td>3200</td> <td>3000</td> <td>2800</td> <td>2400</td> </tr> <tr> <td>Max. speed (kbps)</td> <td>33.6</td> <td>31.2</td> <td>28.8</td> <td>26.4</td> <td>21.6</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </table>	Symbol rate (sym/s)	3429	3200	3000	2800	2400	Max. speed (kbps)	33.6	31.2	28.8	26.4	21.6	Bit No. 3	0	0	0	0	1	Bit No. 2	0	0	1	1	0	Bit No. 1	0	1	0	1	0	0	0
Symbol rate (sym/s)		3429	3200	3000	2800	2400																												
Max. speed (kbps)		33.6	31.2	28.8	26.4	21.6																												
Bit No. 3		0	0	0	0	1																												
Bit No. 2		0	0	1	1	0																												
Bit No. 1	0	1	0	1	0																													
2	<table border="1"> <tr> <td>Symbol rate</td> <td colspan="5">Reserved</td> </tr> <tr> <td>Max. speed</td> <td colspan="5">Reserved</td> </tr> <tr> <td>Bit No. 3</td> <td>1</td> <td>1</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>1</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>Bit No. 1</td> <td>1</td> <td>0</td> <td>1</td> <td></td> <td></td> </tr> </table>	Symbol rate	Reserved					Max. speed	Reserved					Bit No. 3	1	1	1			Bit No. 2	0	1	1			Bit No. 1	1	0	1			0		
Symbol rate	Reserved																																	
Max. speed	Reserved																																	
Bit No. 3	1	1	1																															
Bit No. 2	0	1	1																															
Bit No. 1	1	0	1																															
1	<table border="1"> <tr> <td>Symbol rate</td> <td colspan="5">Reserved</td> </tr> <tr> <td>Max. speed</td> <td colspan="5">Reserved</td> </tr> <tr> <td>Bit No. 3</td> <td>1</td> <td>1</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>1</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>Bit No. 1</td> <td>1</td> <td>0</td> <td>1</td> <td></td> <td></td> </tr> </table>	Symbol rate	Reserved					Max. speed	Reserved					Bit No. 3	1	1	1			Bit No. 2	0	1	1			Bit No. 1	1	0	1			0		
Symbol rate	Reserved																																	
Max. speed	Reserved																																	
Bit No. 3	1	1	1																															
Bit No. 2	0	1	1																															
Bit No. 1	1	0	1																															

**14.3.40 SOFT SWITCH: #38**

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	Reserved	Reserved	0	2															
7			0																
6	V.34 flag number between ECM frame	<table border="1"> <tr> <td>Flags number</td> <td>1</td> <td>2</td> <td>3</td> <td>15</td> </tr> <tr> <td>Bit No. 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Flags number		1	2	3	15	Bit No. 6	0	0	1	1	Bit No. 5	0	1	0	1	1
Flags number		1	2		3	15													
Bit No. 6		0	0	1	1														
Bit No. 5	0	1	0	1															
5	0																		
4	Phase 2 guard tone power level (V.34)	0: Normal power level 1: -7 db of normal power level	0	1															
3	Host detects ringing status in low frequency or one cycle	<table border="1"> <tr> <td>Time (ms)</td> <td>16</td> <td>24</td> <td>36</td> <td>48</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Time (ms)		16	24	36	48	Bit No. 3	0	0	1	1	Bit No. 2	0	1	0	1	0
Time (ms)		16	24		36	48													
Bit No. 3		0	0		1	1													
Bit No. 2	0	1	0	1															
2	0																		
1	V.8 /V.34 capability	0: No 1: Yes	1																



**14.3.41 SOFT SWITCH: #39**

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	Disable V.34 TX for V.34 modem	<b>0: No</b>	0	0															
		1: Yes																	
7	Disable V.34 RX for V.34 modem	<b>0: No</b>	0																
		1: Yes																	
6	Flags number in FSK for V.34 modem	<table border="1"> <tr> <td>Flags number</td> <td><b>1</b></td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Bit No. 6</td> <td><b>0</b></td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 5</td> <td><b>0</b></td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Flags number		<b>1</b>	2	3	4	Bit No. 6	<b>0</b>	0	1	1	Bit No. 5	<b>0</b>	1	0	1	0
Flags number		<b>1</b>	2		3	4													
Bit No. 6		<b>0</b>	0		1	1													
Bit No. 5	<b>0</b>	1	0		1														
5			0																
4	Manual TX mode for V.34 modem	<b>0: V.8 - Start handshake from V.8</b>	0																
		1: V.17																	
3	Switch from V.17 to V.34 if DIS Bit 6 set after received DIS	<b>0: Yes - Start V.8 handshaking. but only first time</b>	0																
		1: No - Continue start with V.17																	
2	Delay time in primary channel for V.34 transmit after CFR or MCF signal	<table border="1"> <tr> <td>Delay time (ms)</td> <td>100</td> <td><b>200</b></td> <td>300</td> <td>500</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td><b>0</b></td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td><b>1</b></td> <td>0</td> <td>1</td> </tr> </table>	Delay time (ms)	100	<b>200</b>	300	500	Bit No. 2	0	<b>0</b>	1	1	Bit No. 1	0	<b>1</b>	0	1	0	
Delay time (ms)		100	<b>200</b>	300	500														
Bit No. 2		0	<b>0</b>	1	1														
Bit No. 1	0	<b>1</b>	0	1															
1			1																

14.3.42 SOFT SWITCH: #40

Bit No.	Designation	Function	Initial setting							
			Bit	HEX						
8	V.17 RX start speed select receiving start speed for V.17	Speed (bps)	V.17	V.17	V.17	0	0			
			14400	12000	9600			7200		
		Bit No. 8	0	0	0			0		
		Bit No. 7	0	0	0			0		
7			Bit No. 6	0	0	1		1	0	
			Bit No. 5	0	1	0		1		
6			Speed (bps)	V.29	V.29	V.27		V.27 ter	0	
				9600	7200	4800		2400		
		Bit No. 8	0	0	0	0				
		Bit No. 7	1	1	1	1				
5			Bit No. 6	0	0	1		1	0	
			Bit No. 5	0	1	0		1		
5		Speed	Reserved						0	
	Bit No. 8	1	1	1	1	1	1	1		
	Bit No. 7	0	0	0	0	1	1	1		1
	Bit No. 6	0	0	1	1	0	0	1		1
4	Reserved	Reserved							0	
3	V.34 RX start speed prohibit V.34 mode when upper speed less	Speed (bps)	V.34	V.34	V.34	V.34	0	0		
			33600	31200	28800	26400				
Bit No. 3		0	0	0	0	0				
Bit No. 2		0	0	1	1					
2			Bit No. 1	0	1	0	1		0	
			Speed (bps)	V.34	V.34	V.34	V.34			
1			24000	21600	19200	16800	0			
	Bit No. 3	1	1	1	1					
	Bit No. 2	0	0	1	1					
	Bit No. 1	0	1	0	1					

d-Color MF2400

ADJUSTMENT / SETTING

14.3.43 SOFT SWITCH: #41

Bit No.	Designation	Function	Initial setting										
			Bit	HEX									
8           7	V.17 TX start speed select receiving start speed for V.17	Speed (bps)	V.17 14400	V.17 12000	V.17 9600	V.17 7200	0	0					
		Bit No. 8	0	0	0	0							
		Bit No. 7	0	0	0	0							
		Bit No. 6	0	0	1	1							
		Bit No. 5	0	1	0	1							
		Speed (bps)	V.29 9600	V.29 7200	V.27 4800	V.27 ter 2400							
		Bit No. 8	0	0	0	0							
		Bit No. 7	1	1	1	1							
		Bit No. 6	0	0	1	1							
		Bit No. 5	0	1	0	1							
		6		Speed	Reserved								
				Bit No. 8	1	1			1	1	1	1	1
Bit No. 7	0			0	0	0	1	1	1	1			
Bit No. 6	0			0	1	1	0	0	1	1			
Bit No. 5	0			1	0	1	0	1	0	1			
5		Speed	Reserved										
		Bit No. 8	1	1	1	1	1	1	1				
		Bit No. 7	0	0	0	0	1	1	1	1			
		Bit No. 6	0	0	1	1	0	0	1	1			
4	Reserved	Reserved							0	0			
		3	V.34 TX start speed prohibit V.34 mode when upper speed less	Speed (bps)	V.34 33600	V.34 31200	V.34 28800	V.34 26400	0		0		
				Bit No. 3	0	0	0	0					
				Bit No. 2	0	0	1	1					
Bit No. 1	0			1	0	1							
2		Speed (bps)	V.34 24000	V.34 21600	V.34 19200	V.34 16800	0	0					
		Bit No. 3	1	1	1	1							
		Bit No. 2	0	0	1	1							
		Bit No. 1	0	1	0	1							
1		Speed (bps)	V.34 24000	V.34 21600	V.34 19200	V.34 16800	0	0					
		Bit No. 3	1	1	1	1							
		Bit No. 2	0	0	1	1							
		Bit No. 1	0	1	0	1							

**14.3.44 SOFT SWITCH: #42**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5			0	
4			0	0
3			0	
2			0	
1			0	

**14.3.45 SOFT SWITCH: #43**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5			0	
4			0	0
3			0	
2			0	
1			0	

**14.3.46 SOFT SWITCH: #44**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5			0	
4			0	0
3			0	
2			0	
1			0	

d-Color MF2400

ADJUSTMENT / SETTING

**14.3.47 SOFT SWITCH: #45**

Bit No.	Designation	Function	Initial setting																																																								
			Bit	HEX																																																							
8	Reserved	Reserved	0	0																																																							
7			0																																																								
6			0																																																								
5	Call transfer	0: Off 1: On	0																																																								
4	No. of call transfer	<table border="1"> <tr><td>Value</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>Bit No. 4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Value	0	1	2	3	4	5	6	7	8	9	Bit No. 4	0	0	0	0	0	0	0	0	1	1	Bit No. 3	0	0	0	0	1	1	1	1	0	0	Bit No. 2	0	0	1	1	0	0	1	1	0	0	Bit No. 1	0	1	0	1	0	1	0	1	0	1	0	0
Value			0	1	2	3	4	5	6	7	8	9																																															
Bit No. 4			0	0	0	0	0	0	0	0	1	1																																															
Bit No. 3			0	0	0	0	1	1	1	1	0	0																																															
Bit No. 2			0	0	1	1	0	0	1	1	0	0																																															
Bit No. 1	0	1	0	1	0	1	0	1	0	1																																																	
3	0																																																										
2	0																																																										
1	0																																																										
	0																																																										
		<table border="1"> <tr><td>Value</td><td colspan="6">Reserved</td></tr> <tr><td>Bit No. 4</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 3</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 2</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Value	Reserved						Bit No. 4	1	1	1	1	1	1	Bit No. 3	0	0	1	1	1	1	Bit No. 2	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1																						
Value	Reserved																																																										
Bit No. 4	1	1	1	1	1	1																																																					
Bit No. 3	0	0	1	1	1	1																																																					
Bit No. 2	1	1	0	0	1	1																																																					
Bit No. 1	0	1	0	1	0	1																																																					

**14.3.48 SOFT SWITCH: #46**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Daylight savings timer (Manual)	0: No 1: Yes	0	
6	Reserved	Reserved	0	
5			0	
4	RX print mode	0: RX one page then print one page. (PRINT RX) 1: Start to print after receiving all pages. (MEMORY RX)	1	A
3	Default TX mode	0: Memory TX 1: ADF TX	0	
2	Header for FAX TX	0: Off 1: On - Transmit header at top of each page	1	
1	Print model name on top of TX page If name not register	0: No	0	
		1: Yes		

- Bit 2: Some country such as U.S.A PTT regulation, must be send header at top of each page.
- Bit 1: If machine name not registered, the model name will print at the top of each receiving page. The default is not to print. (base on custom ID)

**14.3.49 SOFT SWITCH: #47**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6	RX mode	0: Auto RX mode	0	
		1: Manual RX mode		
5	Footer	0: Off	0	
		1: On - Print footer information at each of received page		
4	Reserved	Reserved	0	
3			0	
2			0	
1			0	

- Bit 5: The footer shows machine number, receiving time, remote side TSI number, session and page number. The details show on the report specification.

**14.3.50 SOFT SWITCH: #48**

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	Activity report	0: No 1: Yes	1	A															
7	TX result report	<table border="1"> <thead> <tr> <th>Description</th> <th>ON</th> <th>ON (Error)</th> <th>OFF</th> <th>Reserved</th> </tr> </thead> <tbody> <tr> <td>Bit No. 7</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 6</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Description		ON	ON (Error)	OFF	Reserved	Bit No. 7	0	0	1	1	Bit No. 6	0	1	0	1	0
Description		ON	ON (Error)		OFF	Reserved													
Bit No. 7	0	0	1		1														
Bit No. 6	0	1	0		1														
6			1																
5	RX result report	<table border="1"> <thead> <tr> <th>Description</th> <th>ON</th> <th>ON (Error)</th> <th>OFF</th> <th>Reserved</th> </tr> </thead> <tbody> <tr> <td>Bit No. 5</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Description		ON	ON (Error)	OFF	Reserved	Bit No. 5	0	0	1	1	Bit No. 4	0	1	0	1	0
Description		ON	ON (Error)		OFF	Reserved													
Bit No. 5	0	0	1	1															
Bit No. 4	0	1	0	1															
4			1																
3	Reserved	Reserved	0																
2			0																
1			0																

**14.3.51 SOFT SWITCH: #49**

Bit No.	Designation	Function	Initial setting																																														
			Bit	HEX																																													
8	Reserved	Reserved	0	0																																													
7			0																																														
6			0																																														
5	Re-dial method if Comm. Fail	<b>0: Re-dial again</b> 1: Base on re-dial time interval	0																																														
4	No. of rings	<table border="1"> <thead> <tr> <th>No. of rings</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> </thead> <tbody> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	No. of rings	1	2	3	4	5	6	7	8	Bit No. 4	0	0	0	0	0	0	0	0	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	0	1
No. of rings		1	2	3	4	5	6	7	8																																								
Bit No. 4		0	0	0	0	0	0	0	0																																								
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3		<table border="1"> <tbody> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Bit No. 4	0	0	0	0	1	1	1	1	Bit No. 3	0	0	1	1	0	0	1	1	Bit No. 2	0	1	0	1	0	1	0	1	0																			
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2	<table border="1"> <thead> <tr> <th>No. of rings</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> <th>13</th> <th>14</th> <th>15</th> <th>16</th> </tr> </thead> <tbody> <tr> <td>Bit No. 4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	No. of rings	9	10	11	12	13	14	15	16	Bit No. 4	1	1	1	1	1	1	1	1	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	0		
No. of rings	9	10	11	12	13	14	15	16																																									
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Bit No. 2	0	0	1	1	0	0	1	1																																									
Bit No. 1	0	1	0	1	0	1	0	1																																									
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Bit No. 4	1	1	1	1	1	1	1	1																																									
Bit No. 3	0	0	0	0	1	1	1	1																																									
Bit No. 2	0	0	1	1	0	0	1	1																																									
Bit No. 1	0	1	0	1	0	1	0	1																																									

**14.3.52 SOFT SWITCH: #50**

Bit No.	Designation	Function	Initial setting																									
			Bit	HEX																								
8	Transmit or cancel after time out in "Memory TX"	<b>0: Cancel and print out report</b> 1: Transmission	0	0																								
7	Reserved	Reserved	0																									
6	Min. ring on time	<table border="1"> <thead> <tr> <th>Timer</th> <th>100 ms</th> <th>150 ms</th> <th>200 ms</th> <th>300 ms</th> <th>1 s</th> </tr> </thead> <tbody> <tr> <td>Bit No. 6</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit No. 5</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Timer		100 ms	150 ms	200 ms	300 ms	1 s	Bit No. 6	0	0	0	0	1	Bit No. 5	0	0	1	1	0	Bit No. 4	0	1	0	1	0	0
Timer		100 ms	150 ms	200 ms	300 ms	1 s																						
Bit No. 6		0	0	0	0	1																						
Bit No. 5	0	0	1	1	0																							
Bit No. 4	0	1	0	1	0																							
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Bit No. 4	0	1	0	1	0																							
3	Min. ring off time	<table border="1"> <thead> <tr> <th>Timer</th> <th>100 ms</th> <th>200 ms</th> <th>500 ms</th> <th>1 s</th> <th>1.5 s</th> </tr> </thead> <tbody> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Timer	100 ms	200 ms	500 ms	1 s	1.5 s		Bit No. 3	0	0	0	0	1	Bit No. 2	0	0	1	1	0	Bit No. 1	0	1	0	1	0	0
Timer		100 ms	200 ms	500 ms	1 s	1.5 s																						
Bit No. 3		0	0	0	0	1																						
Bit No. 2	0	0	1	1	0																							
Bit No. 1	0	1	0	1	0																							
2	<table border="1"> <tbody> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Bit No. 3	0	0	0	0	1	Bit No. 2	0	0	1	1	0	Bit No. 1	0	1	0	1	0	0								
Bit No. 3	0	0	0	0	1																							
Bit No. 2	0	0	1	1	0																							
Bit No. 1	0	1	0	1	0																							
1	<table border="1"> <tbody> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Bit No. 1	0	1	0	1	0	1																				
Bit No. 1	0	1	0	1	0																							

- Bit 8: Can select cancel this job and print out report or start to send in case of time when memory full condition occurs.

**14.3.53 SOFT SWITCH: #51**

Bit No.	Designation	Function	Initial setting																
			Bit	HEX															
8	Reserved	Reserved	0	0															
7			0																
6	Max pages of T30 monitor report	<table border="1"> <tr> <td>Description</td> <td>1</td> <td>5</td> <td>10</td> <td>No limitation</td> </tr> <tr> <td>Bit No. 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Description		1	5	10	No limitation	Bit No. 6	0	0	1	1	Bit No. 5	0	1	0	1	0
Description		1	5		10	No limitation													
Bit No. 6		0	0		1	1													
Bit No. 5	0	1	0		1														
5	0																		
4	T30 monitor report selection	<table border="1"> <tr> <td>Description</td> <td>Not to print</td> <td>Print report for each transaction</td> <td>Print report while reporting error</td> <td>Not used</td> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Description		Not to print	Print report for each transaction	Print report while reporting error	Not used	Bit No. 4	0	0	1	1	Bit No. 3	0	1	0	1	0
Description		Not to print	Print report for each transaction	Print report while reporting error	Not used														
Bit No. 4		0	0	1	1														
Bit No. 3	0	1	0	1															
3	0																		
2	Send unsend page mode for memory transmission	0: From error page 1: From start page	0																
1	Reserved	Reserved	0																

**14.3.54 SOFT SWITCH: #52**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5			0	
4			0	0
3			0	
2			0	
1			0	

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ADJUSTMENT / SETTING



**14.3.55 SOFT SWITCH: #53**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5			0	
4			0	0
3			0	
2			0	
1			0	

**14.3.56 SOFT SWITCH: #54**

Bit No.	Designation	Function	Initial setting															
			Bit	HEX														
8	Report Date/Time type	0: Digits format 1: Alpha numeric format	1	A														
7	Report Date/Time format	When bit No.8 is "1". <table border="1"> <tr> <td>Date/Time</td> <td>2008. MAR. 25</td> <td>MAR. 25. 2008</td> <td>25. MAR. 2008</td> </tr> <tr> <td>Bit No. 7</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit No. 6</td> <td>0</td> <td>1</td> <td>0</td> </tr> </table>	Date/Time		2008. MAR. 25	MAR. 25. 2008	25. MAR. 2008	Bit No. 7	0	0	1	Bit No. 6	0	1	0	0		
Date/Time		2008. MAR. 25	MAR. 25. 2008		25. MAR. 2008													
Bit No. 7	0	0	1															
Bit No. 6	0	1	0															
6	When bit No.8 is "0". <table border="1"> <tr> <td>Date/Time</td> <td>2008. 11. 25</td> <td>11. 25. 2008</td> <td>25. 11. 2008</td> </tr> <tr> <td>Bit No. 7</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit No. 6</td> <td>0</td> <td>1</td> <td>0</td> </tr> </table>	Date/Time	2008. 11. 25		11. 25. 2008	25. 11. 2008	Bit No. 7	0	0	1	Bit No. 6	0	1	0	1			
Date/Time	2008. 11. 25	11. 25. 2008	25. 11. 2008															
Bit No. 7	0	0	1															
Bit No. 6	0	1	0															
5	Memory near full capacity for Fax and I-Fax scanning	<table border="1"> <tr> <td>Description (KB)</td> <td>256</td> <td>512</td> <td>1024</td> <td>1536</td> </tr> <tr> <td>Bit No. 5</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Description (KB)	256	512	1024	1536	Bit No. 5	0	0	1	1	Bit No. 4	0	1	0	1	0
Description (KB)		256	512	1024	1536													
Bit No. 5	0	0	1	1														
Bit No. 4	0	1	0	1														
4	<table border="1"> <tr> <td>Description (KB)</td> <td>512</td> <td>1024</td> <td>2512</td> <td>5024</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Description (KB)	512	1024	2512	5024	Bit No. 3	0	0	1	1	Bit No. 2	0	1	0	1	1	
Description (KB)	512	1024	2512	5024														
Bit No. 3	0	0	1	1														
Bit No. 2	0	1	0	1														
3	Memory near full capacity for N-Scan scanning	<table border="1"> <tr> <td>Description (KB)</td> <td>512</td> <td>1024</td> <td>2512</td> <td>5024</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Description (KB)	512	1024	2512	5024	Bit No. 3	0	0	1	1	Bit No. 2	0	1	0	1	0
Description (KB)		512	1024	2512	5024													
Bit No. 3	0	0	1	1														
Bit No. 2	0	1	0	1														
2	<table border="1"> <tr> <td>Description (KB)</td> <td>512</td> <td>1024</td> <td>2512</td> <td>5024</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Description (KB)	512	1024	2512	5024	Bit No. 3	0	0	1	1	Bit No. 2	0	1	0	1	0	
Description (KB)	512	1024	2512	5024														
Bit No. 3	0	0	1	1														
Bit No. 2	0	1	0	1														
1	Reserved	Reserved	0	8														

**14.3.57 SOFT SWITCH: #55**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	DC characteristics	Value DC1 DC2 DC3 DC4 DC0_1 DC0_2 DC0_3 DC0_4	0	2
7		Bit No. 8 0 0 0 0 1 1 1 1	0	
6		Bit No. 7 0 0 1 1 0 0 1 1	1	
6		Bit No. 6 0 1 0 1 0 1 0 1	1	
5	Reserved	Reserved	0	1
4			0	
3			0	
2			0	
1	Fast edge pulse dial	0: No 1: Yes	1	

**14.3.58 SOFT SWITCH: #56**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Pulse dial setup (\$74C)	Value (ms) 90 10 20 30 40 50 60 70 80 90	0	0
7		Bit No. 8 0 0 0 0 0 0 0 0 1 1	0	
6		Bit No. 7 0 0 0 0 1 1 1 1 0 0	0	
6		Bit No. 6 0 0 1 1 0 0 1 1 0 0	0	
5		Bit No. 5 0 1 0 1 0 1 0 1 0 1	0	
4	Pulse clear (\$74D)	Value (ms) 0 10 20 30 40 50 60 70 80 90	1	9
3		Bit No. 4 0 0 0 0 0 0 0 0 1 1	0	
2		Bit No. 3 0 0 0 0 1 1 1 1 0 0	0	
2		Bit No. 2 0 0 1 1 0 0 1 1 0 0	0	
1		Bit No. 1 0 1 0 1 0 1 0 1 0 1	1	

d-Color MF2400

ADJUSTMENT / SETTING

**14.3.59 SOFT SWITCH: #57**

Bit No.	Designation	Function	Initial setting									
			Bit	HEX								
8	Reserved	Reserved	0	1								
7			0									
6			0									
5	Compensation for loading from bridge capacitor	0: Loading 1: Not loading	1									
4	Reserved	Reserved	0	0								
3	Resistance for pulse dialing	Value (ohm)	100		200	300	400	500	600	700	800	0
2		Bit No. 3	0		0	0	0	1	1	1	1	0
		Bit No. 2	0		0	1	1	0	0	1	1	0
1		Bit No. 1	0	1	0	1	0	1	0	1	0	

**14.3.60 SOFT SWITCH: #58**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Time out from PSK to FSK delay time	0: 6 sec. 1: 30 sec.	0	0
7	Reserved	Reserved	0	
6			0	
5			0	
4	Reserved	Reserved	0	0
3			0	
2			0	
1			0	

- Bit 8: This is the delay time for PSK signal after sending MCF or PPR command. The timer depends on each country regulation.

14.3.61 SOFT SWITCH: #59 (Part 1)

Bit No.	Designation	Function	Initial setting																																								
			Bit	HEX																																							
8	Reserved	Reserved	0	A																																							
7			0																																								
6	Time Between GMT (Greenwich Mean Time)	<table border="1"> <thead> <tr> <th rowspan="2">Time between mean time</th> <th colspan="4">Greenwich mean time + T</th> </tr> <tr> <th>+00:00</th> <th>+00:30</th> <th>+01:00</th> <th>+01:30</th> </tr> </thead> <tbody> <tr> <td>Bit No. 6</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 5</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit No. 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit No. 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Time between mean time		Greenwich mean time + T				+00:00	+00:30	+01:00	+01:30	Bit No. 6	0	0	0	0	Bit No. 5	0	0	0	0	Bit No. 4	0	0	0	0	Bit No. 3	0	0	0	0	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	1
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Bit No. 2	0	0	1	1																																							
Bit No. 1	0	1	0	1																																							

d-Color MF2400

ADJUSTMENT / SETTING

14.3.62 SOFT SWITCH: #59 (Part 2)

Bit No.	Designation	Function	Initial setting					
			Bit	HEX				
6	Time Between GMT (Greenwich Mean Time)	Time between mean time	Greenwich mean time + T				1	A
			+10:00	+10:30	+11:00	+11:30		
		Bit No. 6	0	0	0	0		
		Bit No. 5	1	1	1	1		
		Bit No. 4	0	0	0	0		
		Bit No. 3	1	1	1	1		
		Bit No. 2	0	0	1	1		
5		Time between mean time	Greenwich mean time + T				0	
			+12:00	-00:30	-01:00	-01:30		
		Bit No. 6	0	1	1	1		
		Bit No. 5	1	0	0	0		
		Bit No. 4	1	0	0	0		
		Bit No. 3	0	0	0	0		
		Bit No. 2	0	0	1	1		
4		Time between mean time	Greenwich mean time + T				1	
			-02:00	-02:30	-03:00	-03:30		
		Bit No. 6	1	1	1	1		
		Bit No. 5	0	0	0	0		
		Bit No. 4	0	0	0	0		
		Bit No. 3	1	1	1	1		
		Bit No. 2	0	0	1	1		
3	Time between mean time	Greenwich mean time + T				0		
		-04:00	-04:30	-05:00	-05:30			
	Bit No. 6	1	1	1	1			
	Bit No. 5	0	0	0	0			
	Bit No. 4	1	1	1	1			
	Bit No. 3	0	0	0	0			
	Bit No. 2	0	0	1	1			
2	Time between mean time	Greenwich mean time + T				1		
		-06:00	-06:30	-07:00	-07:30			
	Bit No. 6	1	1	1	1			
	Bit No. 5	0	0	0	0			
	Bit No. 4	1	1	1	1			
	Bit No. 3	1	1	1	1			
	Bit No. 2	0	0	1	1			
1	Time between mean time	Greenwich mean time + T				0		
		-06:00	-06:30	-07:00	-07:30			
	Bit No. 6	1	1	1	1			
	Bit No. 5	0	0	0	0			
	Bit No. 4	1	1	1	1			
	Bit No. 3	1	1	1	1			
	Bit No. 2	0	0	1	1			
Bit No. 1	0	1	0	1				

**14.3.63 SOFT SWITCH: #59 (Part 3)**

Bit No.	Designation	Function	Initial setting							
			Bit	HEX						
6	Time Between GMT (Greenwich Mean Time)	Time between mean time	Greenwich mean time + T				1	A		
			-08:00	-08:30	-09:00	-09:30				
		Bit No. 6	1	1	1	1				
		5	Bit No. 5	1	1	1			1	0
			Bit No. 4	0	0	0			0	
			Bit No. 3	0	0	0			0	
			Bit No. 2	0	0	1			1	
Bit No. 1			0	1	0	1				
4			Time between mean time	Greenwich mean time + T					1	
		-10:00		-10:30	-11:00	-11:30				
		Bit No. 6	1	1	1	1				
		3	Bit No. 5	1	1	1	1			0
			Bit No. 4	0	0	0	0			
			Bit No. 3	1	1	1	1			
	Bit No. 2		0	0	1	1				
Bit No. 1	0		1	0	1					
2	Time between mean time	Greenwich mean time + T		Reserved				1		
		-12:00								
1	Bit No. 6	1	1	1	1	1	1	1		
	Bit No. 5	1	1	1	1	1	1	1		
	Bit No. 4	1	1	1	1	1	1	1		
	0	Bit No. 3	0	0	0	0	1	1	1	
		Bit No. 2	0	0	1	1	0	0	1	
		Bit No. 1	0	1	0	1	0	1	0	

- Bit 6-1: This value must be entered correctly, or E-mail headers will be wrong. A good reference web site may be found at <http://greenwichmeantime.com> Available ranges are:12 to -12, in half hour increments. The default setting was depend on each PTT.

d-Color MF2400

ADJUSTMENT / SETTING

**14.3.64 SOFT SWITCH: #60**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6	Quick memory TX	0: Ineffective	0	
		1: Effective		
5	Reserved	Reserved	0	
4			0	
3			0	
2	Off hook alarm after communication	0: Alarm	0	0
		1: Not alarm after communication		
1	Display destination selection within TX phase C	0: Local name or telephone number	0	
		1: Remote telephone number		

**14.3.65 SOFT SWITCH: #61**

Bit No.	Designation	Function	Initial setting																																														
			Bit	HEX																																													
8	Reserved	Reserved	0	0																																													
7			0																																														
6			0																																														
5			0																																														
4	Max. No. of ring	<table border="1"> <tr><td>No. of rings</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td>Bit No. 4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit No. 3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	No. of rings	1	2	3	4	5	6	7	8	Bit No. 4	0	0	0	0	0	0	0	0	Bit No. 3	0	0	0	0	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	1	F
No. of rings		1	2	3	4	5	6	7	8																																								
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Bit No. 1	0	1	0	1	0	1	0	1																																									

**14.3.66 SOFT SWITCH: #62**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6			0	
5			0	
4			0	0
3			0	
2			0	
1			0	

**14.3.67 SOFT SWITCH: #63**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	"#" key definition in PBX mode	0: "#" is internal key, machine (PSTN) default is external 1: "#" is external key, machine (PBX) default is internal	1	8
7	Reserved	Reserved	0	
6			0	
5			0	
4			0	0
3	0			
2	Fax TX image adjust	0: Normal 1: Special handle	0	
1	TX result report with image	0: Yes 1: No	0	

- Bit 8: If this bit set to 1, the # key is use to access PSTN line after dial the pre-fix number. If this bit set to 0, the # key is use to access PBX line instead of PSTN line.
- Bit 2: When bit set to "1", the function for "QUALITY" when fax scan with TEXT mode. (Let line more clear.)
- Bit 1: This bit set to "1", the first page image will not append at the bottom of error report or OK report.

d-Color MF2400

ADJUSTMENT / SETTING



**14.3.68 SOFT SWITCH: #64**

Bit No.	Designation	Function	Initial setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7			0	
6	Print RX error report in RX side if no any FAX signal detected	0: No	0	
		1: Yes		
5	10 PPS & 20 PPS selectable by user	0: No	0	
		1: Yes		
4	Reserved	Reserved	0	
3			0	
2			0	
1			0	

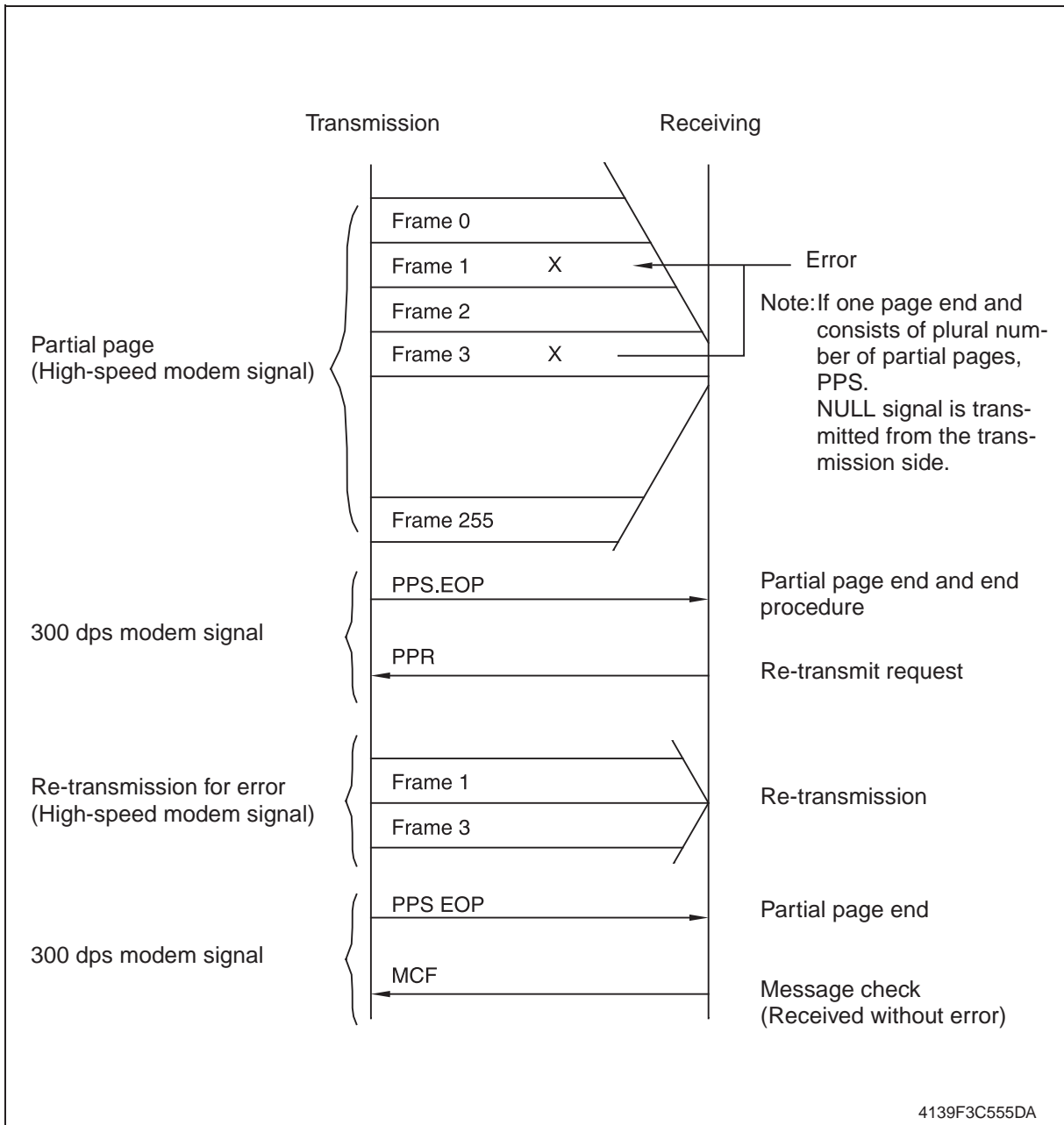
- Bit 6: If this bit set to 1, machine do not print put RX error report if no detect any FAX signal from the other party.
- Bit 5: Can not open by user to change PPS if this bit set to "0".

# 15. FAX PROTOCOLS

## 15.1 G3 ECM (G3 Error Correction Mode)

- G3 ECM is the error correction system newly recommended by consultative committee of International telephone & telegraph of 1988.
- By G3 ECM, documents are divided into blocks (called partial page) for transmission. If any error takes place in any frame (one partial page consists of 256 frames at a maximum) on a partial page, the receiving party generates the retransmit request with erroneous frame numbers.

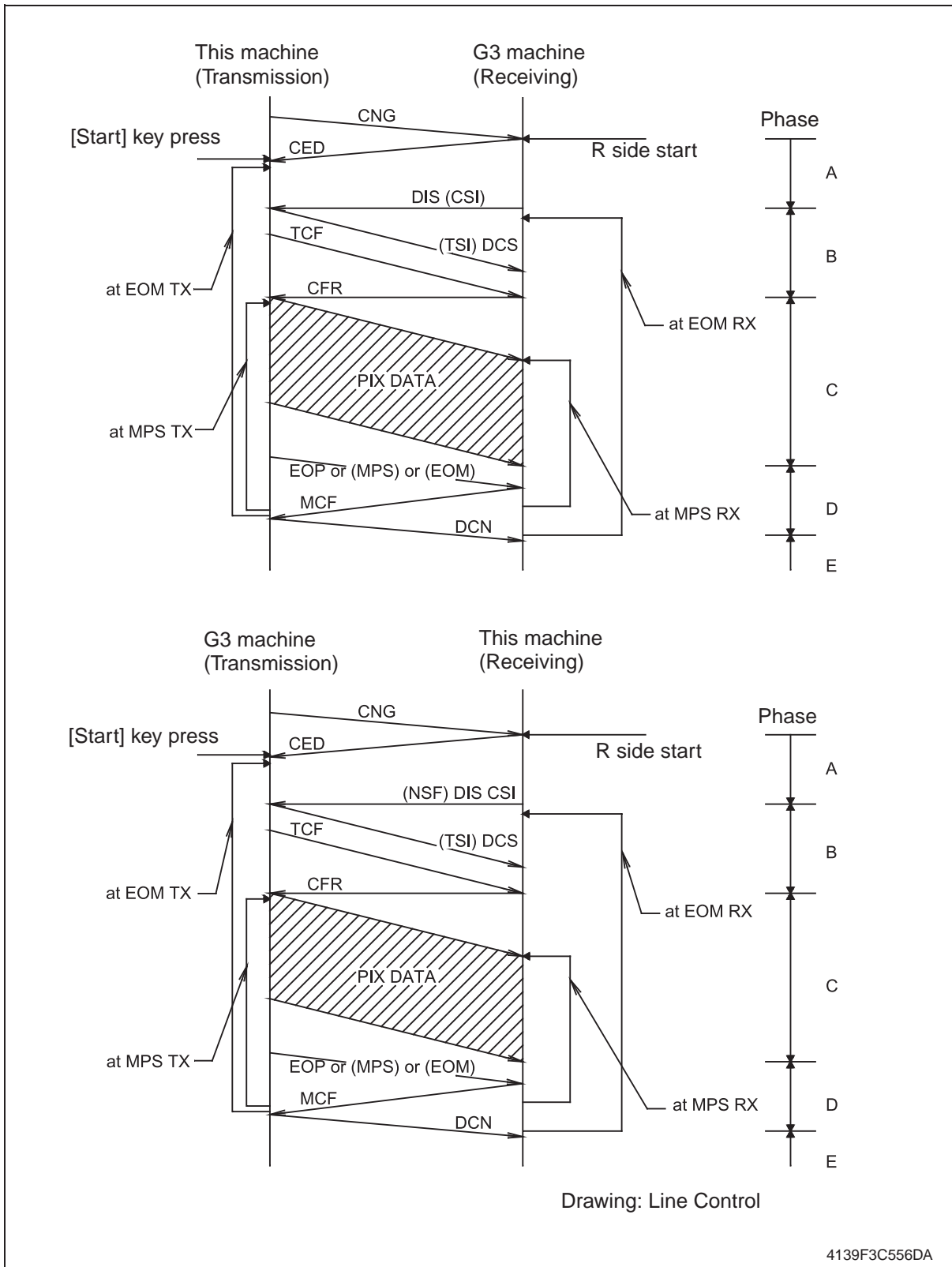
Here is an example where frame 1 and frame 3 are subjected to error:



## 15.2 Line control

### 15.2.1 Procedure of G3 mode communication

- Basic communications diagram of G3 mode.



### 15.3 Table of reference code

Code	Function
CFR	Confirmation to Receive. 1850 Hz or 1650 Hz 3 sec.
CIG	Calling Station Identification.
CRP	Command Repeat.
CSI	Called Subscriber Identification.
DCN	Disconnect.
DCS	Digital Identification Signal.
DIS	Digital Transmit Command.
DTC	Digital Transmit Command.
EOM	End of Message. 1,100 Hz.
EOP	End of Procedure.
FTT	Failure to Train.
MCF	Message Confirmation. 1,650 Hz or 1,850 Hz.
MPS	Multi-Page Signal.
NCS	Non-Standard Facilities Command.
NCF	Non-Standard Facilities.
NSS	Non-Standard Facilities Set-up.
PIN	Procedural Interrupt Negative.
PIP	Procedural Interrupt Positive.
PRI-EOM	Procedure Interrupt-End of Message (COM).
PRI-MPS	Procedure Interrupt-Multi page Signal (MPS).
PRI-EOP	Procedure Interrupt-End of Procedure (EOP).
RTN	Retrain Negative.
RTP	Retrain Positive.
TSI	Transmitting Station Identification.



DIS (DTC) / DCS Bit Allocation Table of FIF (Facsimile Information Field)

Bit No.	Designation	DIS/DTC	DCS																																																																																																																																																																																		
1	"0"= Invalid "1"= Store-and-forward switching Internet fax simple mode																																																																																																																																																																																				
2	Set to "0"																																																																																																																																																																																				
3	"0"= Invalid "1"= Real-time Internet fax																																																																																																																																																																																				
4	Set to "0"																																																																																																																																																																																				
5	Set to "0"																																																																																																																																																																																				
6	"0"= Invalid "1"= V.8 capabilities		Invalid																																																																																																																																																																																		
7	Flame size	"0" = 256 octets preferred "1"= 64 octets preferred	Invalid																																																																																																																																																																																		
8	Set to "0"																																																																																																																																																																																				
9	"0"= Invalid "1"= Ready to transmit a facsimile document (polling)		Set to "0"																																																																																																																																																																																		
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11	Data signalling rate	<table border="1"> <thead> <tr> <th colspan="4">Bit No.</th> <th rowspan="2">Data signalling rate</th> </tr> <tr> <th>14</th> <th>13</th> <th>12</th> <th>11</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>V.27 <i>ter</i> fall-back mode</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>Rec. V.29</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>Rec. V.27 <i>ter</i></td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>Rec. V.27 <i>ter</i> and V.29</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>Not used</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>Not used</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>Reserved</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>Not used</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>Not used</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>Rec. V.27 <i>ter</i>, V.29, V.33 and V.17</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>Not used</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>1</td> <td>Not used</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>Reserved</td> </tr> </tbody> </table>	Bit No.				Data signalling rate	14	13	12	11	0	0	0	0	V.27 <i>ter</i> fall-back mode	0	0	0	1	Rec. V.29	0	0	1	0	Rec. V.27 <i>ter</i>	0	0	1	1	Rec. V.27 <i>ter</i> and V.29	0	1	0	0	Not used	0	1	0	1	Not used	0	1	1	0	Reserved	0	1	1	1	Reserved	1	0	0	0	Not used	1	0	0	1	Not used	1	0	1	0	Reserved	1	0	1	1	Rec. V.27 <i>ter</i> , V.29, V.33 and V.17	1	1	0	0	Not used	1	1	0	1	Not used	1	1	1	0	Reserved	1	1	1	1	Reserved	<table border="1"> <thead> <tr> <th colspan="4">Bit No.</th> <th rowspan="2">Data signalling rate</th> </tr> <tr> <th>14</th> <th>13</th> <th>12</th> <th>11</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>2400 bit/s, rec. V.27 <i>ter</i></td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>9600 bit/s, rec. V.29</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>4800 bit/s, rec. V.27 <i>ter</i></td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>7200 bit/s, rec. V.29</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>Invalid</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>Reserved</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>Invalid</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>14,400 bit/s, rec. V.17</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>9,600 bit/s, rec. V.17</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>12,000 bit/s, rec. V.17</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>7,200 bit/s, rec. V.17</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>1</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>Reserved</td> </tr> </tbody> </table>	Bit No.				Data signalling rate	14	13	12	11	0	0	0	0	2400 bit/s, rec. V.27 <i>ter</i>	0	0	0	1	9600 bit/s, rec. V.29	0	0	1	0	4800 bit/s, rec. V.27 <i>ter</i>	0	0	1	1	7200 bit/s, rec. V.29	0	1	0	0	Invalid	0	1	0	1	Reserved	0	1	1	0	Invalid	0	1	1	1	Reserved	1	0	0	0	14,400 bit/s, rec. V.17	1	0	0	1	9,600 bit/s, rec. V.17	1	0	1	0	12,000 bit/s, rec. V.17	1	0	1	1	7,200 bit/s, rec. V.17	1	1	0	0	Reserved	1	1	0	1	Reserved	1	1	1	0	Reserved	1	1	1	1	Reserved
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15	"0"= Invalid "1"= R8 × 7.7 lines/mm and/or 200 × 200 pels/25.4 mm																																																																																																																																																																																				
16	"0"= Invalid "1"= Two-dimensional coding capability		"0"= Invalid "1"= Two-dimensional coding																																																																																																																																																																																		

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ADJUSTMENT / SETTING

Bit No.	Designation	DIS/DTC				DCS									
17	Recording width capabilities	Bit No.		Data signalling rate	Bit No.		Data signalling rate								
18		18	17		18	17									
		0	0	Scan line length 215 mm ± 1%		0	0	Scan line length 215 mm ± 1%							
		0	1	Scan line length 215 mm ± 1% and scan line length 255 mm ± 1%		0	1	Scan line length 255 mm ± 1%							
		1	0	Scan line length 215 mm ± 1% and scan line length 255 mm ± 1% and scan line length 303 mm ± 1%		1	0	Scan line length 303 mm ± 1%							
1	1	Invalid		1	1	Invalid									
19	Recording length capability	Bit No.		Recording length capability	Bit No.		Recording length capability								
20		20	19		20	19									
		0	0	A4 (297 mm)		0	0	A4 (297 mm)							
		0	1	A4 (297 mm) and B4 (364 mm)		0	1	B4 (364 mm)							
		1	0	Unlimited		1	0	Unlimited							
1	1	Invalid		1	1	Invalid									
21	Minimum scan line time capability at the receive	Bit No.			Minimum scan line time capability at the receive	Bit No.			Minimum scan line time						
22		23	22	21		23	22	21							
23		0	0	0	20 ms at 3.85 1/mm: T 7.7 = T 3.85 20 ms				0	0	0	20 ms			
		0	0	1	5 ms at 3.85 1/mm: T 7.7 = T 3.85				0	0	1	5 ms			
		0	1	0	10 ms at 3.85 1/mm: T 7.7 = T 3.85 10 ms				0	1	0	10 ms			
		0	1	1	20 ms at 3.85 1/mm: T 7.7 = 1/2 T 3.85				1	0	0	40 ms			
		1	0	0	40 ms at 3.85 1/mm: T 7.7 = T 3.85 40 ms				1	1	1	0 ms			
		1	0	1	40 ms at 3.85 1/mm: T 7.7 = 1/2 T 3.85										
		1	1	0	10 ms at 3.85 1/mm: T 7.7 = 1/2 T 3.85										
1	1	1	0 ms at 3.85 1/mm: T 7.7 = T 3.85												
24	Extension field	"0"= Without "1"= With													
25	Reserved														
26	"0"= Invalid "1"= Un-compressed mode														
27	"0"= Invalid "1"= ECM														
28	Set to "0"				Frame size 0: 256 octets Frame size 1: 64 octets										
29	Set to "0"														
30	Set to "0"														
31	"0"= Invalid "1"= T.6 coding capability				"0"= Invalid "1"= T.6 coding enabled										

Bit No.	Designation	DIS/DTC	DCS
32	Extend field	"0"= Without "1"= With	
33	"0"= Invalid "1"= Field not valid capability		
34	"0"= Invalid "1"= Multiple selective polling capability		Set to "0"
35	"0"= Invalid "1"= Polling sub address transmission (DTC) by Polled Sub Address (DIS)/PSA		Set to "0"
36	"0"= Invalid "1"= T.43 coding		
37	"0"= Invalid "1"= Plane interleave		
38	Set to "0"		
39	Set to "0"		
40	Extend field	"0"= Without "1"= With	
41	"0"= Invalid "1"= R8 x 15.4 lines/mm		
42	"0"= Invalid "1"= 300 x 300 pels/25.4 mm		
43	"0"= Invalid "1"= R16 x 15.4 lines/mm and/or 400 x 400 pels/25.4 mm		
44	"0"= Invalid "1"= Inch based resolution preferred		Resolution type selection "0"= metric based resolution "1"= inch based resolution
45	"0"= Invalid "1"= Metric based resolution preferred		Do not care
46	Minimum scan line time capability for higher resolutions.	"0": T 15.4 = T 7.7 "1": T 15.4 = 1/2 T 7.7	Do not care
47	"0"= Invalid "1"= Selective polling (DIS)/ Selective polling transmission (DTC)		Set to "0"
48	Extend field	0: Without 1: With	
49	"0"= Invalid "1"= Sub Addressing capability		"0"= Invalid "1"= Sub Addressing transmission
50	"0"= Invalid "1"= Password/ Sender Identification capability (DIS)/ Password transmission (DTC)		"0"= Invalid "1"= Sender Identification transmission
51	"0"= Invalid "1"= Ready to transmit a data file (polling)		Set to "0"
52	Set to "0"		
53	"0"= Invalid "1"= Binary File Transfer (BFT)		
54	"0"= Invalid "1"= Document Transfer Mode (DTM)		

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Bit No.	Designation	DIS/DTC	DCS
55	"0" = Invalid "1" = EDIFACT Transfer (EDI)		
56	Extend field	0: Without 1: With	
57	"0" = Invalid "1" = Basic Transfer Mode (BTM)		
58	Set to "0"		
59	"0" = Invalid "1" = Ready to transmit a character or mixed mode document (polling)		Set to "0"
60	"0" = Invalid "1" = Character mode		
61	Set to "0"		
62	"0" = Invalid "1" = Mixed mode		
63	Set to "0"		
64	Extend field	"0" = Without "1" = With	
65	"0" = Invalid "1" = Processable mode 26		
66	"0" = Invalid "1" = Digital network capability		
67	Duplex and half duplex capabilities	"0" = Half duplex operation only "1" = Duplex and half duplex operation	"0" = Half duplex operation only "1" = Duplex operation
68	"0" = Invalid "1" = JPEG coding		
69	"0" = Invalid "1" = Full color mode		
70	Set to "0"		"0" = Invalid "1" = Preferred Huffman tables
71	"0" = Invalid "1" = 12 bit/pixel/element		
72	Extend field	"0" = Without "1" = With	
73	"0" = Invalid "1" = No sampling (1:1:1)		
74	"0" = Invalid "1" = Nonstandard radiation light		
75	"0" = Invalid "1" = Nonstandard is mute range		
76	"0" = Invalid "1" = North American Letter (215.9 mm x 279.4 mm) capacity		"0" = Invalid "1" = North American Letter (215.9 mm x 279.4 mm)
77	"0" = Invalid "1" = North American Legal (215.9 mm x 355.6 mm) capacity		"0" = Invalid "1" = North American Legal (215.9 mm x 355.6 mm)

Bit No.	Designation	DIS/DTC	DCS
78	"0"= Invalid "1"= Single layer sequential encoding, basic capacity		"0"= Invalid "1"= Single layer sequential encoding, basic
79	"0"= Invalid "1"= Single layer sequential encoding, optional L0 capacity		"0"= Invalid "1"= Single layer sequential encoding, optional L0
80	Extend field	"0"= Without "1"= With	
81	"0"= Invalid "1"= HKM key management capacity		"0"= Invalid "1"= HKM key management selection
82	"0"= Invalid "1"= RSA key management capacity		"0"= Invalid "1"= RSA key management selection
83	"0"= Invalid "1"= Override mode capacity		"0"= Invalid "1"= Override mode function
84	"0"= Invalid "1"= HFX40 code capacity		"0"= Invalid "1"= HFX40 code selection
85	"0"= Invalid "1"= Alternative code number 2 capacity		"0"= Invalid "1"= Alternative code number 2 selection
86	"0"= Invalid "1"= Alternative code number 3 capacity		"0"= Invalid "1"= Alternative code number 3 selection
87	"0"= Invalid "1"= HFX40-1 hashing capacity		"0"= Invalid "1"= HFX40-1 hashing selection
88	Extend field	"0"= Without "1"= With	
89	"0"= Invalid "1"= Alternative hashing system number 2 capacity		"0"= Invalid "1"= Alternative hashing system number 2 selection
90	"0"= Invalid "1"= Alternative hashing system number 3 capacity		"0"= Invalid "1"= Alternative hashing system number 3 selection
91	Reserved		
92	"0"= Invalid "1"= T.44 (Mixed raster content) mode		
93	"0"= Invalid "1"= T.44 (Mixed raster content) mode		
94	"0"= Invalid "1"= T.44 (Mixed raster content) mode		
95	"0"= Invalid "1"= Page length maximum strip size for T.44 (Mixed raster content)		
96	Extend field	"0"= Without "1"= With	
97	"0"= Invalid "1"= Color/mono-color multi-value 300 pixels x 300 pixels or 400 pixels x 400 pixels / 25.4 mm		
98	"0"= Invalid "1"= R4 x 3.85 lines/mm and/or 100 pixels x 100 pixels / 25.4 mm for color/mono-color multi-value		

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ADJUSTMENT / SETTING

Bit No.	Designation	DIS/DTC	DCS
99	"0"= Invalid "1"= Single phase C BFT negotiation capacity		
100	Set to "0"		
101	Set to "0"		
102	Set to "0"		
103	Set to "0"		
104	Extend field	"0"= Without "1"= With	

# TROUBLESHOOTING

## 16. JAM DISPLAY

- When a paper misfeed occurs, the printer shows the corresponding paper misfeed status by means of the Error indicator on the control panel or LCD display.



### 16.1 List of JAM display

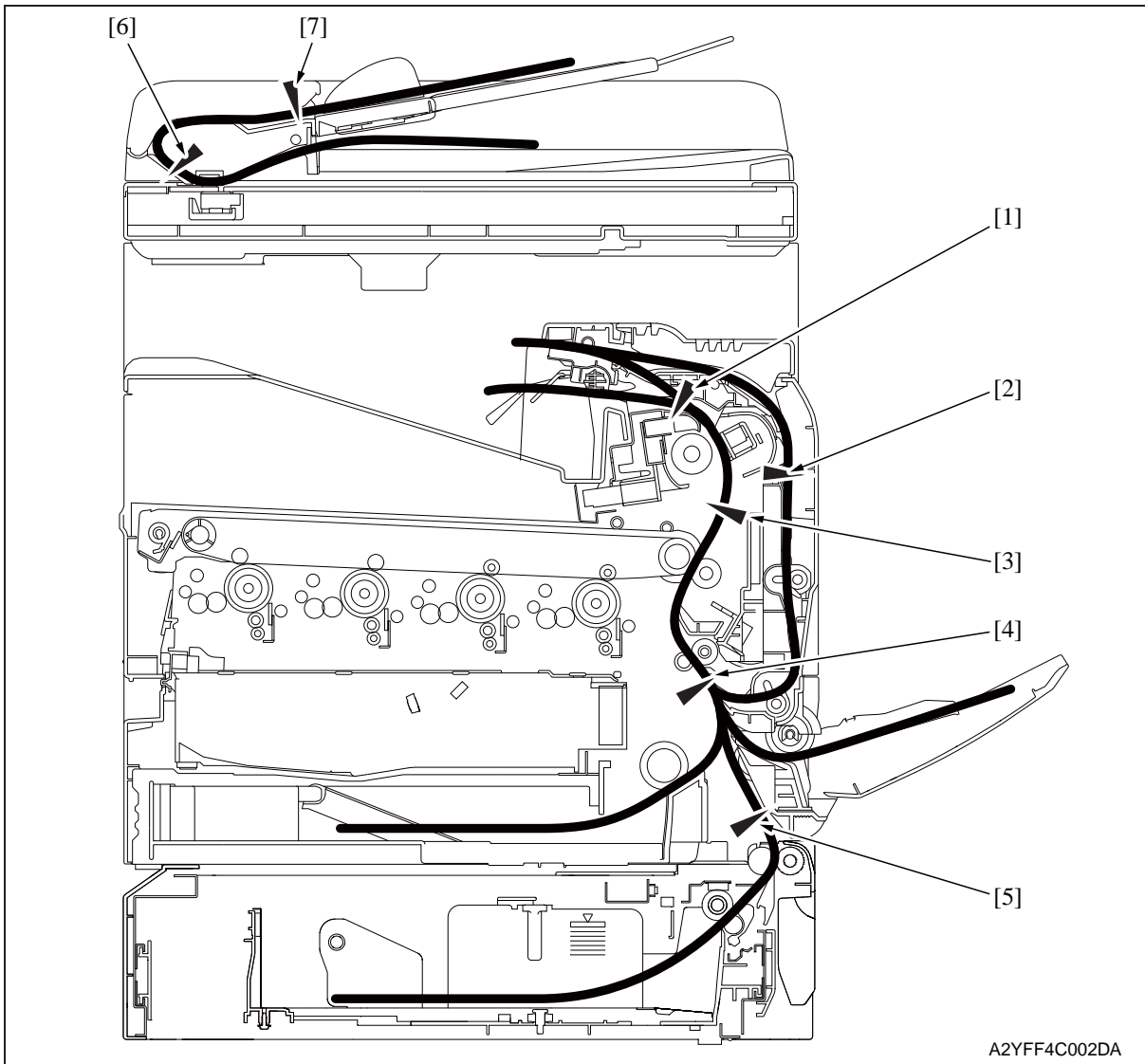
Display	Misfeed Location	Misfeed processing location	Action
PAPER MISFEED OPEN RIGHT DOOR	Tray2 paper feed section	Tray2 right side cover	<a href="#">P.271</a>
PAPER MISFEED OPEN TRANSPORT DOOR	Tray3 paper feed section	Tray3 right side cover	<a href="#">P.272</a>
FUSER JAM OPEN RIGHT DOOR	Fusing section	Right door Fuser unit	<a href="#">P.273</a>
TRANSFER ROLLER JAM OPEN TRANSPORT DOOR	Transfer section	Right door	<a href="#">P.274</a>
VERTICAL TRANS JAM OPEN RIGHT DOOR	Tray3 vertical transport section	Right door	<a href="#">P.275</a>
DUPLEX LOWER JAM OPEN RIGHT DOOR	Duplex paper feed section	Right door	<a href="#">P.276</a>
DUPLEX UPPER JAM OPEN RIGHT DOOR	Duplex paper transport section	Right door	<a href="#">P.277</a>
MP TRAY JAM OPEN RIGHT DOOR	Tray1 paper feed section	Manual feed tray Right door	<a href="#">P.278</a>
OUTPUT JAM OPEN RIGHT DOOR	Exit section	Right door	<a href="#">P.273</a>
ORIGINAL DOC. JAM OPEN DOC. FEED COVER (PRESS START KEY)	Document feeding section	Top cover	<a href="#">P.279</a>
Controller JAM Service Call: F001	Controller JAM	-	<a href="#">P.280</a>

#### 16.1.1 JAM display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.
- Turn OFF the power switch and then ON.

## 16.2 Sensor layout

- When the optional paper feeder unit is installed.



A2YFF4C002DA

- |                                 |                                    |
|---------------------------------|------------------------------------|
| [1] Exit sensor (PS8)           | [2] Duplex conveyance sensor (PS9) |
| [3] Loop detection sensor (PS6) | [4] Registration sensor (PS5)      |
| [5] Media feed sensor (PS3) *1  | [6] Registration sensor (REYB/1)   |
| [7] Media feed sensor (REYB/1)  |                                    |

\*1: Only when the optional paper feeder unit PF-P09 is installed.

### 16.3 Solution

#### 16.3.1 Initial check items

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

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace 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 operating correctly?	Correct or replace the defective actuator.

#### 16.3.2 Misfeed at tray 2 paper feed section

##### A. Detection timing

Type	Description
Detection of misfeed at tray 2 paper feed section	<ul style="list-style-type: none"> <li>The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the tray2 media feed clutch (CL1) is turned ON.</li> </ul>

##### B. Action

Relevant electrical parts	
Registration sensor (PS5) Tray2 media feed clutch (CL1)	Printer control board (PRCB) Main motor (M2)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB PJ23 for proper connection and correct as necessary.	-	-
5	Check the connector between CL1-PRCB PJ16 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB PJ23-3 (ON)	K-8
7	CL1 operation check	PRCB PJ16-2 (REM)	D-2
8	M2 operation check	PRCB PJ11-10 to 13	B-8
9	Change PRCB.	-	-

**16.3.3 Misfeed at tray 3 paper feed section**

**A. Detection timing**

Type	Description
Detection of misfeed at tray 3 paper feed section	<ul style="list-style-type: none"> <li>The paper does not unblock the media feed sensor (PS3) even after the lapse of a given period of time after the media feed clutch (CL1) is turned ON.</li> </ul>
Detection of paper left in tray 3 paper feed section	<ul style="list-style-type: none"> <li>The media feed sensor (PS3) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.</li> </ul>

**B. Action**

Relevant electrical parts	
Media feed sensor (PS3) Media feed clutch (CL1)	Printer control board (PRCB) PC control board (PCCB) Media feed motor (M1)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M1-PCCB PJ3 for proper connection and correct as necessary.	-	-
3	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS3-PCCB PJ5 for proper connection and correct as necessary.	-	-
5	Check the connector between CL1-relay CN16-PCCB PJ16 for proper connection and correct as necessary.	-	-
6	PS3 sensor check	PCCB PJ5-3 (ON)	I-2
7	CL1 operation check	PRCB PJ16-2 (REM)	D-2
8	M1 operation check	PCCB PJ3-4 to 8	K-2
9	Check the connector between PCCB PJ1, PJ2-relay CN53-PRCB PJ25 for proper connection and correct as necessary.	-	-
10	Change PCCB.	-	-
11	Change PRCB.	-	-

### 16.3.4 Misfeed at fusing/paper exit section

#### A. Detection timing

Type	Description
Detection of misfeed at fusing/paper exit section	<ul style="list-style-type: none"> <li>The exit sensor (PS8) is not blocked even after the lapse of a given period of time after the paper has unblocked the exit sensor (PS8).</li> <li>The exit sensor (PS8) is blocked even before the lapse of a given period of time after the paper has unblocked the exit sensor (PS8).</li> </ul>
Detection of paper left in fusing/paper exit section	<ul style="list-style-type: none"> <li>The exit sensor (PS8) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.</li> </ul>

#### B. Action

Relevant electrical parts	
Exit sensor (PS8) Duplex conveyance roller clutch (CL13)	Printer control board (PRCB) Main motor (M2)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS8-PRCB PJ15 for proper connection and correct as necessary.	-	-
5	Check the connector between CL13-relay CN20-PRCB PJ14 for proper connection and correct as necessary.	-	-
6	PS8 sensor check	PRCB PJ15-9 (ON)	H-8
7	CL13 operation check	PRCB PJ14-5 (REM)	F-2
8	M2 operation check	PRCB PJ11-10 to 13	B-8
9	Change PRCB.	-	-



### 16.3.5 Misfeed at transfer section

#### A. Detection timing

Type	Description
Detection of misfeed at transfer section	<ul style="list-style-type: none"> <li>The registration sensor (PS5) is not blocked even after the lapse of a given period of time after the registration roller driving is started.</li> <li>The paper does not unblock the exit sensor (PS8) even after the lapse of a given period of time after the registration roller driving is started.</li> </ul>
Detection of paper left in transfer section	<ul style="list-style-type: none"> <li>The registration sensor (PS5) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.</li> <li>The loop detection sensor (PS6) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.</li> </ul>

#### B. Action

Relevant electrical parts	
Registration sensor (PS5) Exit sensor (PS8) Loop detection sensor (PS6)	Printer control board (PRCB) Main motor (M2) Loop detection clutch (CL8)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB PJ23 for proper connection and correct as necessary.	-	-
5	Check the connector between PS6-PRCB PJ24 for proper connection and correct as necessary.	-	-
6	Check the connector between PS8-PRCB PJ15 for proper connection and correct as necessary.	-	-
7	Check the connector between CL8-relay CN2-PRCB PJ7 for proper connection and correct as necessary.	-	-
8	PS5 sensor check	PRCB PJ23-3 (ON)	K-8
9	PS8 sensor check	PRCB PJ15-9 (ON)	H-8
10	PS6 sensor check	PRCB PJ24-3 (ON)	G-2
11	CL8 operation check	PRCB PJ7-2 (REM)	C-8
12	M2 operation check	PRCB PJ11-10 to 13	B-8
13	Change PRCB.	-	-

### 16.3.6 Misfeed at tray 3 vertical conveyance section

#### A. Detection timing

Type	Description
Detection of misfeed at tray 3 vertical conveyance section	<ul style="list-style-type: none"> <li>The paper does not unblock the registration sensor (PS5) or the upper tray's media feed sensor (PS3) even after the lapse of a given period of time after the paper has unblocked the media feed sensor (PS3).</li> <li>The paper does not block the media feed sensor (PS3) even after the lapse of a given period of time after the paper has unblocked the media feed sensor (PS3).</li> </ul>

#### B. Action

Relevant electrical parts	
Media feed sensor (PS3) Media feed clutch (CL1) Registration sensor (PS5)	Printer control board (PRCB) PC control board (PCCB) Media feed motor (M1)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M1-PCCB PJ3 for proper connection and correct as necessary.	-	-
3	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB PJ23 for proper connection and correct as necessary.	-	-
5	Check the connector between PS3-PCCB PJ5 for proper connection and correct as necessary.	-	-
6	Check the connector between CL1-relay CN57-PCCB PJ5 for proper connection and correct as necessary.	-	-
7	Check the connector between PCCB PJ1, PJ2-relay CN53-PRCB PJ25 for proper connection and correct as necessary.	-	-
8	PS3 sensor check	PCCB PJ5-3 (ON)	I-2
9	PS5 sensor check	PRCB PJ23-3 (ON)	J-2
10	CL1 operation check	PCCB PJ5-2 (REM)	D-2
11	M1 operation check	PCCB PJ3-4 to 8	K-2
12	Change PCCB.	-	-
13	Change PRCB.	-	-

**16.3.7 Misfeed at duplex paper feed section****A. Detection timing**

Type	Description
Detection of misfeed at duplex paper feed section	<ul style="list-style-type: none"> <li>The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the paper feed sequence has been started at the duplex.</li> </ul>

**B. Action**

Relevant Electrical Parts	
Registration sensor (PS5) Duplex conveyance roller clutch (CL13)	Printer control board (PRCB) Main motor (M2)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB PJ23 for proper connection and correct as necessary.	-	-
5	Check the connector between CL13-relay CN20-PRCB PJ14 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB PJ23-3 (ON)	K-8
7	CL13 operation check	PRCB PJ14-5 (REM)	F-2
8	M2 operation check	PRCB PJ11-10 to 13	B-8
9	Change PRCB.	-	-

### 16.3.8 Misfeed at duplex paper transport section

#### A. Detection timing

Type	Description
Detection of misfeed at duplex paper transport section	<ul style="list-style-type: none"> <li>The duplex conveyance sensor (PS9) is not blocked even after the lapse of a given period of time after the paper has unblocked PS9.</li> <li>The duplex conveyance sensor (PS9) is not unblocked even after the lapse of a given period of time after the paper has blocked the exit sensor (PS8).</li> </ul>
Detection of paper left at duplex paper transport section	<ul style="list-style-type: none"> <li>The duplex conveyance sensor (PS9) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.</li> </ul>

#### B. Action

Relevant Electrical Parts	
Exit sensor (PS8) Duplex conveyance sensor (PS9) Duplex conveyance roller clutch (CL13)	Printer control board (PRCB) Main motor (M2)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS8-PRCB PJ15 for proper connection and correct as necessary.	-	-
5	Check the connector between PS9-PRCB PJ14 for proper connection and correct as necessary.	-	-
6	Check the connector between CL13-relay CN20-PRCB PJ14 for proper connection and correct as necessary.	-	-
7	PS8 sensor check	PRCB PJ15-9 (ON)	H-8
8	PS9 sensor check	PRCB PJ14-3 (ON)	F-2
9	CL13 operation check	PRCB PJ14-5 (REM)	F-2
10	M2 operation check	PRCB PJ11-10 to 13	B-8
11	Change PRCB.	-	-

**16.3.9 Misfeed at tray1 paper feed section**

**A. Detection timing**

Type	Description
Detection of tray 1 paper feed section	<ul style="list-style-type: none"> <li>The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the tray1 media feed clutch (CL2) is turned ON.</li> </ul>

**B. Action**

Relevant electrical parts	
Registration sensor (PS5) Tray1 media feed clutch (CL2)	Printer control board (PRCB) Main motor (M2)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB PJ23 for proper connection and correct as necessary.	-	-
5	Check the connector between CL2-PRCB PJ16 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB PJ23-3 (ON)	K-8
7	CL2 operation check	PRCB PJ16-7 (REM)	E-2
8	M2 operation check	PRCB PJ11-10 to 13	B-8
9	Change PRCB.	-	-

**16.3.10 Misfeed at ADF section****A. Detection timing**

Type	Description
Detection of misfeed at ADF section	<ul style="list-style-type: none"> <li>The registration sensor (on REYB/1) is not unblocked even after the lapse of a predetermined period of time after the DF transport motor (M100) has been energized.</li> <li>The registration sensor (on REYB/1) is not blocked even after the lapse of a predetermined period of time after the registration sensor (on REYB/1) has been unblocked.</li> </ul>
Detection of paper left in ADF section	<ul style="list-style-type: none"> <li>The registration sensor (on REYB/1) is unblocked when the power switch is turned ON, the cover is opened and closed, or a misfeed or malfunction is reset.</li> </ul>

**B. Action**

Relevant electrical parts	
Registration sensor (REYB/1)	MFP board/1 (MFPB/1)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connectors on the REYB/1 for proper connection and correct as necessary.	-	-
3	Check the connectors on the MFPB/1 for proper connection and correct as necessary.	-	-
4	Change REYB/1.	-	-
5	Change MFPB/1.	-	-
6	Change ADF.	-	-

**16.3.11 Controller JAM**

**A. Detection timing**

Type	Description
Detection of controller JAM	<ul style="list-style-type: none"> <li>• A duplex print job is sent with the number of pages that goes beyond the maximum number of pages allowed to be in the printer for the selected media type.</li> <li>• When trying to feed duplex media though there is no media to be fed to the duplex print unit.</li> <li>• When printing is directed with the duplex print unit selected as a media source and an exit media set to be fed to the duplex unit.</li> <li>• While two sheets of media are in the printer, printing is directed with normal media feed settings other than a duplex media feed setting.</li> <li>• In duplex printing, a size error occurs.</li> </ul>

**B. Action**

Relevant electrical parts	
Print control board (PRCB)	MFP board/1 (MFPB/1)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check printer driver settings.	-	-
2	Change PRCB.	-	-
3	Change MFPB/1.	-	-

## 17. PROCESS CAUTION INFORMATION

### 17.1 Display procedure

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the process caution information in the report that is output by [Service Mode]→[PS/PCL]→[PRINT MENU]→[MAINTENANCE INFO].  
See P.170

- When receiving the process caution information, user can continue printing. However, as the information indicates that some error has occurred in the image stabilization process, the error must be addressed rapidly.

### 17.2 List

- If an image stabilization fault occurs, the process caution information is provided.

Item	
Temperature/ humidity sensor failure	<ul style="list-style-type: none"> <li>No response is provided from the temperature/ humidity sensor.</li> </ul>
IDC sensor failure	<ul style="list-style-type: none"> <li>IDC sensor output values are out of the specified range.</li> </ul>
Color shift test pattern failure	<ul style="list-style-type: none"> <li>The number of points detected in the main scan direction is more or less than the specified value during main scan direction registration correction.</li> <li>The number of points detected in the sub scan direction is more or less than the specified value during sub scan direction registration correction.</li> </ul>
Color shift adjust failure	<ul style="list-style-type: none"> <li>The color shift amount is greater than the specified range during main scan direction registration correction.</li> <li>The color shift amount is greater than the specified range during sub scan direction registration correction.</li> </ul>

### 17.3 Solution

#### 17.3.1 Temperature/ humidity sensor failure

Relevant parts	
Temperature/ humidity sensor (TEM/HUMS)	Printer control board (PRCB)

Step	Action
1	Check the connector between TEM/HUMS-PRCB PJ20 for proper connection and correct as necessary.
2	Change TEM/HUMS.
3	Change PRCB.



**17.3.2 IDC sensor failure**

Relevant parts	
IDC sensor (IDC) Transfer belt unit	Printer control board (PRCB) High voltage unit (HV)

Step	Action
1	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2	Change the image transfer belt unit if the transfer belt is damaged.
3	Reinstall or reconnect IDC, sensor shutter or connector, if it is installed or connected improperly.
4	Clean IDC if it is dirty.
5	Check the HV connector for proper connection and correct as necessary.
6	Change IDC.
7	Change PRCB.

**17.3.3 Color regist test pattern failure**

Relevant parts	
Transfer belt unit PH unit	Printer control board (PRCB) MFP board/1 (MFPB/1)

Step	Action
1	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2	Change the image transfer belt unit if the transfer belt is damaged.
3	Change PH unit.
4	Change PRCB.
5	Change MFPB/1.

**17.3.4 Color regist adjust failure**

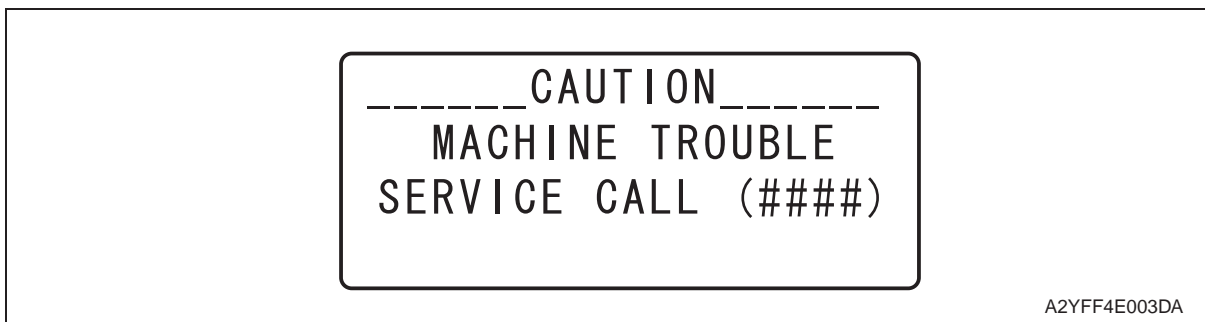
Relevant parts	
IDC sensor (IDC)	Printer control board (PRCB)

Step	Action
1	Slide out the imaging unit and reinstall it in position.
2	Reinstall or reconnect IDC if it is installed or connected improperly.
3	Change IDC.
4	Change PRCB.

## 18. MALFUNCTION CODE

### 18.1 Trouble code (Service Call)

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the control panel.



### 18.2 List

Code	Description	Detection timing
0010	Color PC drum motor malfunction	<ul style="list-style-type: none"> <li>The color PC drum motor does not rotate evenly even after the lapse of a given period of time while it is being started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the color PC drum motor is being rotated.</li> </ul>
0017	Main motor malfunction	<ul style="list-style-type: none"> <li>The main motor does not rotate evenly even after the lapse of a given period of time while it is being started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the main motor is being rotated.</li> </ul>
0018	Developing motor malfunction	<ul style="list-style-type: none"> <li>The developing motor does not rotate evenly even after the lapse of a given period of time while it is being started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the developing motor is being rotated.</li> </ul>
004A	Cooling fan motor malfunction	<ul style="list-style-type: none"> <li>The cooling fan motor does not rotate evenly even after the lapse of a given period of time while it is being started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the cooling fan motor is being rotated.</li> </ul>
004E	DC power supply fan motor malfunction	<ul style="list-style-type: none"> <li>The DC power supply fan motor does not rotate evenly even after the lapse of a given period of time while it is being started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the DC power supply fan motor is being rotated.</li> </ul>
0062	Tray 3 media feed motor malfunction	<ul style="list-style-type: none"> <li>The motor lock signal remains HIGH for a given period of consecutive time while the media feed motor is being rotated.</li> </ul>

Code	Description	Detection timing
0094	2nd image transfer pressure / retraction failure	<ul style="list-style-type: none"> <li>The IDC sensor does not come into the condition where the level detection is available (retracted position = IDC sensor shutter is open) within a given period of time after the 2nd transfer release solenoid has turned ON.</li> <li>The IDC sensor does not come into the condition where the level detection is not available (pressed position = IDC sensor shutter is closed) within a given period of time after the 2nd transfer release solenoid has turned ON.</li> </ul>
0096	1st image transfer pressure / retraction failure	<ul style="list-style-type: none"> <li>The 1st transfer release sensor is not activated (retracted position) within a given period of time after the 1st transfer release solenoid has turned ON.</li> <li>The 1st transfer release sensor is not deactivated (pressed position) within a given period of time after the 1st transfer release solenoid has turned ON.</li> </ul>
0300	Polygon motor malfunction	<ul style="list-style-type: none"> <li>The polygon motor does not rotate evenly even after the lapse of a given period of time after it has been started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the polygon motor is being rotated.</li> </ul>
0310	Laser malfunction	<ul style="list-style-type: none"> <li>The SOS signal is not detected within a given period of time after the output of the laser has been started.</li> </ul>
0500	Heating roller warm-up failure	<ul style="list-style-type: none"> <li>The thermistor /1 does not detect the specified temperature and the warm-up cycle is not completed even after the lapse of a given period of time after the cycle has been started.</li> </ul>
0502	Thermistor open-circuit failure	<ul style="list-style-type: none"> <li>The temperature detected by the thermistor/1 does not reach a predetermined level even after the lapse of a given period time after the warm-up cycle has been started.</li> </ul>
0503	Thermistor resistance failure	<ul style="list-style-type: none"> <li>The difference between the temperature detected by thermistor/1 and that detected by thermistor/2 exceeds a predetermined value.</li> </ul>
0510	Abnormally low heating roller temperature	<ul style="list-style-type: none"> <li>The temperature detected by the thermistor /1 remains lower than the specified value for a given period of time or longer.</li> </ul>
0520	Abnormally high heating roller temperature	<ul style="list-style-type: none"> <li>The temperature detected by the thermistor /1 remains higher than the specified value for a given period of time or longer.</li> <li>The heater lamp remains ON for a given period of time or longer.</li> </ul>
0650	Scanner home sensor abnormalities	<ul style="list-style-type: none"> <li>A low motor lock signal is not detected even after the lapse of a predetermined period of time after the polygon motor has been started.</li> <li>The motor lock signal remains HIGH for a predetermined consecutive period of time while the polygon motor remains energized.</li> </ul>
0F52	Toner level sensor/Y malfunction	<ul style="list-style-type: none"> <li>An error occurs on the toner level sensor for each color.</li> </ul>
0F53	Toner level sensor/M malfunction	
0F54	Toner level sensor/C malfunction	
0F55	Toner level sensor/K malfunction	

Code	Description	Detection timing
1038	Engine connect error	<ul style="list-style-type: none"> <li>Printer control board (PRCB) to MFP board/1 (MFPB/1) connection failure.</li> <li>The copier determines that there is an error if the print control board (PRCB) fails to send an acknowledgement signal to the MFP board/1 (MFPB/1) for a given period of time or more.</li> <li>An error command signal is transmitted from the MFP board/1 (MFPB/1) to printer control board (PRCB).</li> <li>An error status signal is transmitted from the printer control board (PRCB) to MFP board/1 (MFPB/1).</li> </ul>
133C	Modem abnormalities	<ul style="list-style-type: none"> <li>Modem on fax board (FAXB) does not work correctly.</li> </ul>
13DD	Backup data error	<ul style="list-style-type: none"> <li>The engine counter data and the controller counter data are inconsistent.</li> </ul>
13E2	Engine flash ROM write error	<ul style="list-style-type: none"> <li>Flash ROM writing is found faulty during a check.</li> </ul>
13E3	Engine flash ROM device fault	<ul style="list-style-type: none"> <li>An erase error occurs during erasing of data in flash ROM.</li> </ul>
13F0	Engine control failure	<ul style="list-style-type: none"> <li>An undefined malfunction occurs in the engine section (PRCB, etc.).</li> </ul> <p>While the machine is operating, if it detects defective conditions, e.g. the next print is not started after the lapse of a given period of time, it stops operating and the trouble code is displayed.</p>
14A3	IR lamp malfunction	<ul style="list-style-type: none"> <li>The intensity of the light emitted from the exposure lamp of the scanner falls short of the specified value.</li> </ul>
3C00	Trouble related to security	<ul style="list-style-type: none"> <li>Contact the responsible people of Olivetti when not returning in power switch OFF/ON.</li> </ul>
3C10		
3FFF	Flash ROM write error	<ul style="list-style-type: none"> <li>The copier determines that there is an error if writing to the flash ROM fails during upgrading of the firmware.</li> <li>When the power switch is turned ON, the error indicator lights up steadily and a corresponding message appears on the display.</li> <li>If this error message appears, no operations can then be performed. It is not possible to upgrade the firmware from a PC connected through USB connection, either.</li> </ul>
4FFF	Controller connect error	<ul style="list-style-type: none"> <li>MFP board/1 (MFPB/1) to MFP board/2 (MFPB/2) connection failure</li> </ul>
C002	RAM error at startup (standard memory)	<ul style="list-style-type: none"> <li>RAM error at standard memory is detected during printer start-up.</li> </ul>
C003	RAM error at startup (expanded memory)	<ul style="list-style-type: none"> <li>RAM error at expanded memory is detected during printer start-up.</li> </ul>
C013	MAC address error at startup	<ul style="list-style-type: none"> <li>Invalid MAC address is detected during printer start-up.</li> </ul>
C015	Boot ROM error at startup	<ul style="list-style-type: none"> <li>Boot ROM error is detected during printer start-up.</li> </ul>
C025	Controller ROM error (Configuration information error)	<ul style="list-style-type: none"> <li>Lead error of destination setting file is detected during the printer starting.</li> </ul>
C026	Controller ROM error (Access error)	<ul style="list-style-type: none"> <li>Flash ROM access error is detected during the printer starting.</li> </ul>

Code	Description	Detection timing
C027	Controller ROM error (Data error)	<ul style="list-style-type: none"> <li>Final check sum error is detected during the printer starting.</li> </ul>
C050	HDD access error	<ul style="list-style-type: none"> <li>When correct access to the hard disk kit is failed during access.</li> </ul>
C051	HDD full error	<ul style="list-style-type: none"> <li>Range for user space is full during access to the hard disk kit.</li> </ul>
C052	Compact flash access error	<ul style="list-style-type: none"> <li>When correct access to the compact flash card is failed during access.</li> </ul>
C053	Compact flash full error	<ul style="list-style-type: none"> <li>Range for user space is full during access to the compact flash card.</li> </ul>
C060	Firmware update error	<ul style="list-style-type: none"> <li>Firmware update fails to complete correctly during update.</li> </ul>
CF01	BB error	<ul style="list-style-type: none"> <li>Contact the responsible people of Olivetti before taking some countermeasures.</li> </ul>
F001	Controller JAM	<ul style="list-style-type: none"> <li>Controller JAM is occurred.</li> </ul> <a href="#">See P.280</a>
FFFF	Interface communication error	<ul style="list-style-type: none"> <li>Correct communication is failed when receiving/sending the command between PRCB and MFPB/2.</li> </ul>

### 18.3 Trouble resetting procedure

- To reset a malfunction, turn the power switch OFF and then ON again.

## 18.4 Solution

### 18.4.1 0010: Color PC drum motor malfunction

Relevant electrical parts			
Color PC drum motor (M4)		Printer control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M4-PRCB PJ12 for proper connection and correct as necessary.	-	-
2	Check the M4 connector for proper drive coupling and correct as necessary.	-	-
3	M4 operation check	PRCB PJ12-3 to 6	D-8
4	Change M4.	-	-
5	Change PRCB.	-	-

### 18.4.2 0017: Main motor malfunction

Relevant electrical parts			
Main motor (M2)		Printer control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	M2 operation check	PRCB PJ11-10 to 13	B-8
4	Change M2.	-	-
5	Change PRCB.	-	-

**18.4.3 0018: Developing motor malfunction**

Relevant electrical parts			
Developing motor (M1)		Print control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M1-PRCB PJ11 for proper connection and correct as necessary.	-	-
2	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
3	M1 operation check	PRCB PJ11-3 to 6	B-8
4	Change M1.	-	-
5	Change PRCB.	-	-

**18.4.4 004A: Cooling fan motor malfunction**

Relevant electrical parts			
Cooling fan motor (FM11)		Printer control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between FM11-relay CN27-PRCB PJ10 for proper connection and correct as necessary.	-	-
2	Check the fan for possible overload and correct as necessary.	-	-
3	FM11 operation check	PRCB PJ10-5 (REM) PRCB PJ10-7 (LOCK)	I-2
4	Change FM11.	-	-
5	Change PRCB.	-	-

**18.4.5 004E: DC power supply fan motor malfunction**

Relevant electrical parts			
DC power supply fan motor (FM10)		Printer control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between FM10-relay CN43-PRCB PJ3 for proper connection and correct as necessary.	-	-
2	Check the fan for possible overload and correct as necessary.	-	-
3	FM10 operation check	PRCB PJ3-5 (REM) PRCB PJ3-7 (LOCK)	E-7
4	Change FM10.	-	-
5	Change PRCB.	-	-

**18.4.6 0062: Tray 3 media feed motor malfunction**

Relevant electrical parts			
Media feed motor (M1)		Printer control board (PRCB) PC control board (PCCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M1-PCCB PJ3 for proper connection and correct as necessary.	-	-
2	Check the connector between PCCB PJ1, PJ2-relay CN53-PRCB PJ7 for proper connection and correct as necessary.	-	-
3	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
4	M1 operation check	PCCB PJ3-4 to 8	K-2
5	Change M1.	-	-
6	Change PCCB.	-	-
7	Change PRCB.	-	-



**18.4.7 0094: 2nd image transfer pressure/retraction failure**

Relevant electrical parts	
IDC sensor (IDC) 2nd transfer release solenoid (SD2) Main motor (M2)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	Check the connector between IDC-PRCB PJ19 for proper connection and correct as necessary.	-	-
4	Check the connector between SD2-relay CN23-PRCB PJ24 for proper connection and correct as necessary.	-	-
5	IDC sensor check	PRCB PJ19-1 (IDC_D_LEFT) PRCB PJ19-4 (IDC_CTL_LEFT)	J-8
6	SD2 operation check	PRCB PJ24-6 (REM)	H-2
7	M2 operation check	PRCB PJ11-10 to 13	B-8
8	Change SD2.	-	-
9	Change M2.	-	-
10	Change IDC.	-	-
11	Change PRCB.	-	-

**18.4.8 0096: 1st image transfer pressure/retraction failure**

Relevant electrical parts	
1st transfer release sensor (PS17) 1st transfer release solenoid (SD1) Main motor (M2)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	Check the connector between PS17-PRCB PJ26 for proper connection and correct as necessary.	-	-
4	Check the connector between SD1-relay CN25-PRCB PJ13 for proper connection and correct as necessary.	-	-
5	PS17 sensor check	PRCB PJ26-3 (ON)	B-7
6	SD1 operation check	PRCB PJ13-2 (REM)	C-8
7	M2 operation check	PRCB PJ11-10 to 13	B-8
8	Change PS17.	-	-
9	Change SD1.	-	-
10	Change M2.	-	-
11	Change PRCB.	-	-

**18.4.9 0300: Polygon motor malfunction**

Relevant electrical parts	
PH unit	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between PH unit-PRCB PJ18 for proper connection and correct as necessary.	-	-
2	Change PH unit.	-	-
3	Change PRCB.	-	-

**18.4.10 0310: Laser malfunction**

Relevant electrical parts	
PH unit	Printer control board (PRCB) MFP board/2 (MFPB/2)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between PH unit-PRCB PJ18 for proper connection and correct as necessary.	-	-
2	Check the connector between PH unit-MFPB/2 CN15 for proper connection and correct as necessary.	-	-
3	Change PH unit.	-	-
4	Change PRCB.	-	-

**18.4.11 0500: Heating roller warm-up failure****18.4.12 0502: Thermistor open-circuit failure****18.4.13 0503: Thermistor resistance failure****18.4.14 0510: Abnormally low heating roller temperature****18.4.15 0520: Abnormally high heating roller temperature**

Relevant electrical parts	
Fuser unit	Printer control board (PRCB) DC power supply (DCPU)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the fuser unit for correct installation (whether it is secured in position).	-	-
2	Check the connector between fuser unit-PRCB PJ9 for proper connection and correct as necessary.	-	-
3	Check the connector between fuser unit-DCPU CN2 for proper connection and correct as necessary.	-	-
4	Change fuser unit.	-	-
5	Change PRCB.	-	-
6	Change DCPU.	-	-

**18.4.16 0650: Scanner home sensor abnormalities**

Relevant electrical parts			
Scanner motor (M101) Print control board (PRCB)		DC power supply (DCPU)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check to see if the lock lever of the Scanner unit is unlocked and unlock the lock lever if it is locked.	-	-
2	Check the M101 connector for proper connection and correct as necessary.	-	-
3	Check M101 for proper drive coupling and correct as necessary.	-	-
4	Check the PRCB connector for proper connection and correct as necessary.	-	-
5	M101 operation check.	MFPB/1 P106	C-1
6	Change PRCB.	-	-
7	Change DCPU.	-	-

**18.4.17 0F52: Toner level sensor/Y malfunction**

**18.4.18 0F53: Toner level sensor/M malfunction**

**18.4.19 0F54: Toner level sensor/C malfunction**

**18.4.20 0F55: Toner level sensor/K malfunction**

Relevant electrical parts			
Toner level sensor/Y (PS13) Toner level sensor/M (PS14) Toner level sensor/C (PS15) Toner level sensor/K (PS16)		Printer control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between each sensor-PRCB PJ21 for proper connection and correct as necessary.	-	-
2	Replace the toner level sensor of the corresponding color.	-	-
3	Change PRCB.	-	-

**18.4.21 1038: Engine connect error**

Relevant electrical parts			
Print control board (PRCB)		MFP board/1 (MFPB/1)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Turn OFF and ON the power switch.	-	-
2	Check the PRCB connector for proper connection and correct as necessary.	-	-
3	Check the MFPB/1 connector for proper connection and correct as necessary.	-	-
4	Check for proper connection between PRCB and MFPB/1 and correct as necessary.	-	-
5	Change MFPB/1.	-	-
6	Change PRCB.	-	-

**18.4.22 133C: Modem abnormalities**

Relevant electrical parts			
FAX board (FAXB)		MFP board/1 (MFPB/1)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Turn OFF and ON the power switch.	-	-
2	Check the FAXB connector for proper connection and correct as necessary.	-	-
3	Check the MFPB/1 connector for proper connection and correct as necessary.	-	-
4	Check for proper connection between FAXB and MFPB/1 and correct as necessary.	-	-
5	Change FAXB.	-	-
6	Change MFPB/1.	-	-

**18.4.23 13DD: Backup data error**

Relevant electrical parts			
Print control board (PRCB)		MFP board/1 (MFPB/1)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Select [Service Mode] → [BK Clear], and execute the BK Clear function.	-	-
2	Check the connector between MFPB/1 PJ108-PRCB PJ52 for proper connection and correct as necessary.	-	-
3	Change PRCB.	-	-
4	Change MFPB/1.	-	-

**18.4.24 13E2: Engine flash ROM write error**

**18.4.25 13E3: Engine flash ROM device fault**

Relevant electrical parts			
Print control board (PRCB)			
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Rewrite the engine firmware.	-	-
2	Change PRCB.	-	-

**18.4.26 13F0: Engine control failure**

Relevant electrical parts			
Print control board (PRCB)			
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-

**18.4.27 14A3: IR lamp malfunction**

Relevant electrical parts			
Scanner unit		MFP board/1 (MFPB/1)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the exposure lamp for lighting condition when the power switch is turned ON and, if any faulty symptom is evident, correct the scanner unit.	-	-
2	Check the MFPB/1 connector for proper connection and correct as necessary.	-	-
3	Change scanner unit.	-	-
4	Change MFPB/1.	-	-

**18.4.28 3FFF: Flash ROM write error**

Relevant electrical parts			
Print control board (PRCB)		MFP board/1 (MFPB/1)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the cable and connector for proper connection and correct as necessary.	-	-
2	Identify the specific firmware that is responsible for the error.	-	-
3	Rewrite the firmware.	-	-
4	Unplug parameter chip (IC51) from PRCB and then plug it back in.	-	-
5	Change PRCB.	-	-
6	Change MFPB/1.	-	-

**18.4.29 4FFF: Controller connect error**

Relevant electrical parts			
MFP board/1 (MFPB/1)		MFP board/2 (MFPB/2)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Turn OFF and ON the power switch.	-	-
2	Check the MFPB/1 connector for proper connection and correct as necessary.	-	-
3	Check the MFPB/2 connector for proper connection and correct as necessary.	-	-
4	Check for proper connection between MFPB/1 and MFPB/2 and correct as necessary.	-	-
5	Change MFPB/2.	-	-
6	Change MFPB/1.	-	-

**18.4.30 C002: RAM error at startup (standard memory)****18.4.31 C003: RAM error at startup (expanded memory)**

Relevant electrical parts			
MFP board/2 (MFPB/2)		Expanded memory	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check connection state of the expanded memory and correct as necessary.	-	-
3	Check the MFPB/2 connector for proper connection and correct as necessary.	-	-
4	Change the standard/expanded memory.	-	-
5	Change MFPB/2.	-	-



**18.4.32 C013: MAC address error at startup****18.4.33 C015: BOOT ROM error at startup**

Relevant electrical parts			
MFP board/2 (MFPB/2)			
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check the MFPB/1 connector for proper connection and correct as necessary.	-	-
3	Change MFPB/2.	-	-

**18.4.34 C025: Controller ROM error (Configuration information error)****18.4.35 C026: Controller ROM error (Access error)****18.4.36 C027: Controller ROM error (Data error)**

Relevant electrical parts			
MFP board/2 (MFPB/2)			
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check the MFPB/1 connector for proper connection and correct as necessary.	-	-
3	If this error message is displayed after update of firmware, conduct the firmware update procedures again.	-	-
4	Change MFPB/2.	-	-

**18.4.37 C050: HDD access error**

Relevant electrical parts			
MFP board/2 (MFPB/2)		Hard disk kit	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check the HDD connector for proper connection and correct as necessary.	-	-
3	Check the MFPB/1 connector for proper connection and correct as necessary.	-	-
4	Change HDD.	-	-
5	Change MFPB/2.	-	-

**18.4.38 C051: HDD full error**

Relevant electrical parts			
MFP board/2 (MFPB/2)		Hard disk kit	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Delete the job hold in [PS/PCL PRINT] - [PROOF/PRINT MENU] to increase the available range for user space.	-	-
3	Check the HDD connector for proper connection and correct as necessary.	-	-
4	Format HDD with [SYS DEFAULT MENU] - [HDD FORMAT].	-	-
5	Change HDD.	-	-
6	Change MFPB/2.	-	-

**18.4.39 C052: Compact flash access error**

Relevant electrical parts			
MFP board/2 (MFPB/2)		Compact flash card	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check the compact flash for proper connection and correct as necessary.	-	-
3	Check the MFPB/1 connector for proper connection and correct as necessary.	-	-
4	Change compact flash.	-	-
5	Change MFPB/2.	-	-

**18.4.40 C053: Compact flash full error**

Relevant electrical parts			
MFP board/2 (MFPB/2)		Compact flash card	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Delete the job hold in [PS/PCL PRINT] - [PROOF/PRINT MENU] to increase the available range for user space.	-	-
3	Check the compact flash for proper connection and correct as necessary.	-	-
4	Format HDD with [SYS DEFAULT MENU] - [CARD FORMAT].	-	-
5	Change compact flash.	-	-
6	Change MFPB/2.	-	-

**18.4.41 C060: Firmware update error**

Relevant electrical parts			
MFP board/2 (MFPB/2)			
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check the cable that has been used for update of the firmware for proper connection and correct as necessary.	-	-
3	Check the firmware update file and if the file is not the correct one, update the firmware again.	-	-
4	Check the firmware update procedure and if the procedure is not correct, update the firmware again.	-	-
5	Update the firmware again.	-	-
6	Check the MFPB/1 connector for proper connection and correct as necessary.	-	-
7	Change MFPB/2.	-	-

**18.4.42 FFFF: Interface communication error**

Relevant electrical parts			
MFP board/2 (MFPB/2)		Print control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check the MFPB/1 connector for proper connection and correct as necessary	-	-
3	Check the PRCB connector for proper connection and correct as necessary.	-	-
4	Change PRCB.	-	-
5	Change MFPB/2.	-	-

## 19. POWER SUPPLY TROUBLE

### 19.1 Machine is not energized at all (DCPU operation check)

Relevant parts	
Power switch (SW1) Printer control board (PRCB)	DC power supply (DCPU)

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is a power voltage supplied across CN1 on DCPU?	E-6	NO	Check the wiring from the wall outlet to inlet to SW1 to CN1DCPU.
2	Are DC5 V and DC3.4V being output from P102 ON MFPB/1?	E-2	NO	Check the wiring from the CN5, CN9DCPU to P102MFPB/1.
3	Is DC3.3 V being output from PJ1 on PRCB?	D-5	NO	Check the wiring from the CN4DCPU to PJ1PRCB.
4	Is DC24 V being output from P101 on MFPB/1?	E-2	YES	Change MFPB/1.
5	Check the wiring from the Pj108MFPB/1 to PJ52PRCB.	-	YES	Reconnect. Change flat cable.
6	Check the wiring from the PJ1PRCB to CN4DCPU.		YES	Reconnect.
			NO	Change PRCB.

### 19.2 Control panel indicators do not light

Relevant electrical parts	
MFP board/1 (MFPB/1) Control panel	DC power supply (DCPU)

Step	Check item	Location (electrical component)	Result	Action
1	Is a power voltage supplied across CN1 on DCPU?	E-6	NO	Check the wiring from the wall outlet to inlet to SW1 to CN1DCPU.
2	Are the fuses on DCPU conducting?	-	NO	Change DCPU.
3	Is P104 on MFPB/1 properly connected?	F-2	NO	Reconnect.
			YES	Change MFPB/1. Change scanner unit. Change operation panel.

### 19.3 Fusing heaters do not operate

Relevant parts	
Main power switch (SW1) Right door switch (SW3) Fuser unit	DC power supply (DCPU) Printer control board (PRCB)

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is the power source voltage applied across CN1 on DCPU?	E-6	NO	Check the wiring from the wall outlet to inlet to SW1 to CN1DCPU.
2	Is the power source voltage applied across CN2 on DCPU?	C-6	YES	Change fuser unit.
			NO	Check the wiring from the CN3DCPU to PJ3PRCB. Change DCPU. Change PRCB.

## 20. FAX ERROR

### 20.1 When faxing is not performed correctly

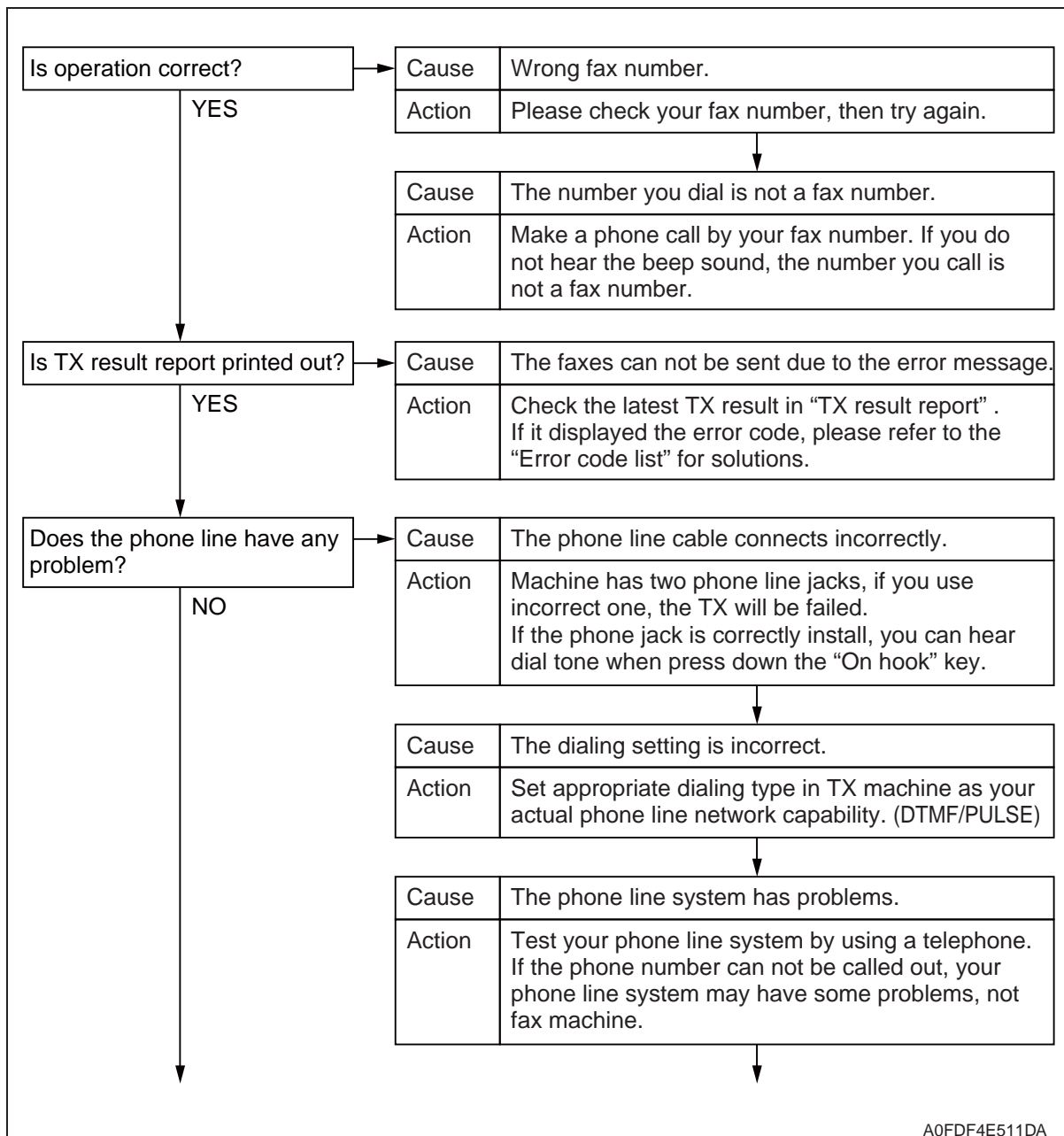
- To explain the solution when faxing is not performed correctly.

**NOTE**

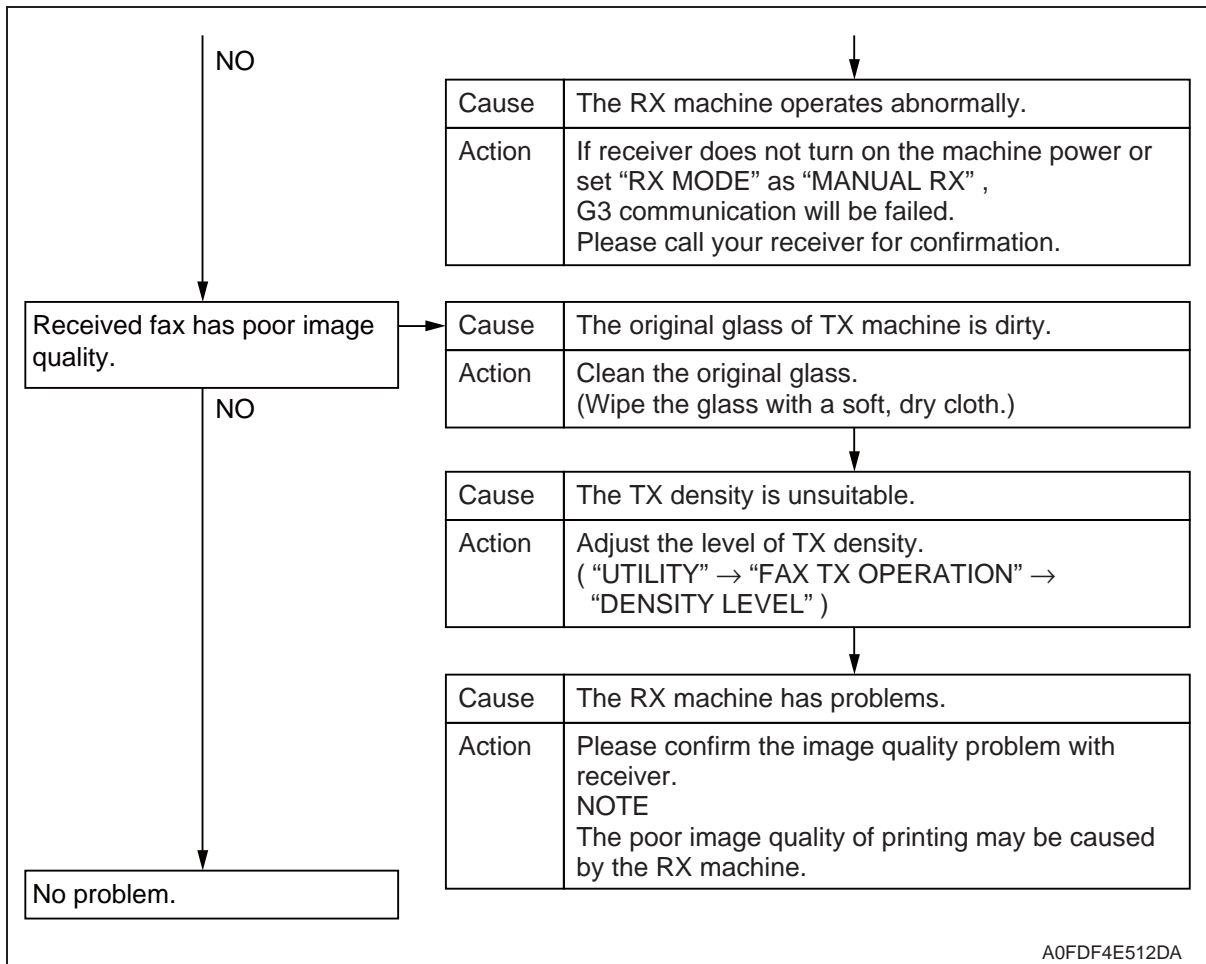
- d-Color MF2400 does not support the “ISDN/DSL/ADSL” line officially, it may cause the fax failed in such user environment.**

#### 20.1.1 Can not send a fax

- To explain the solution when fax can not be sent.



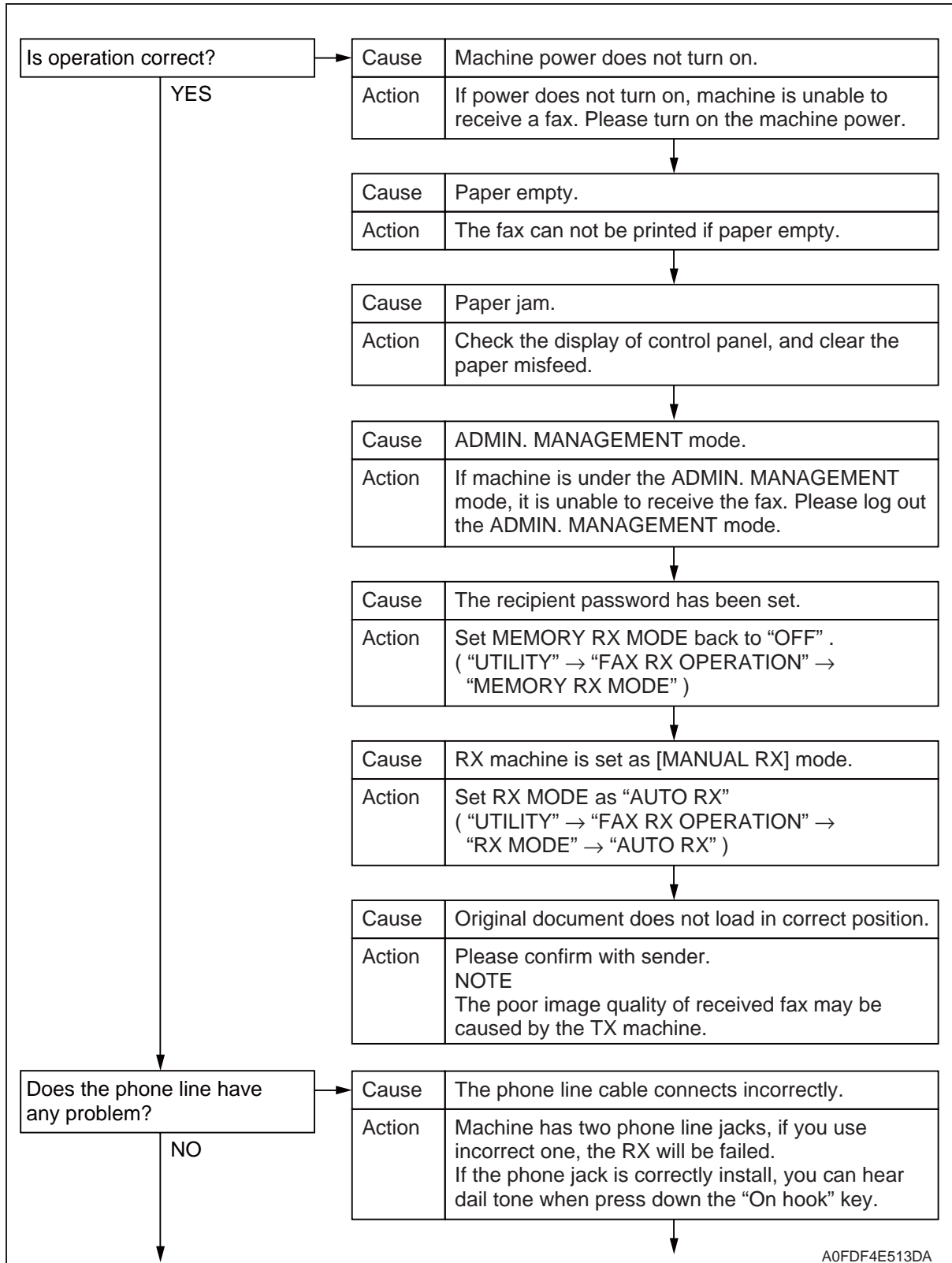
A0FDF4E511DA



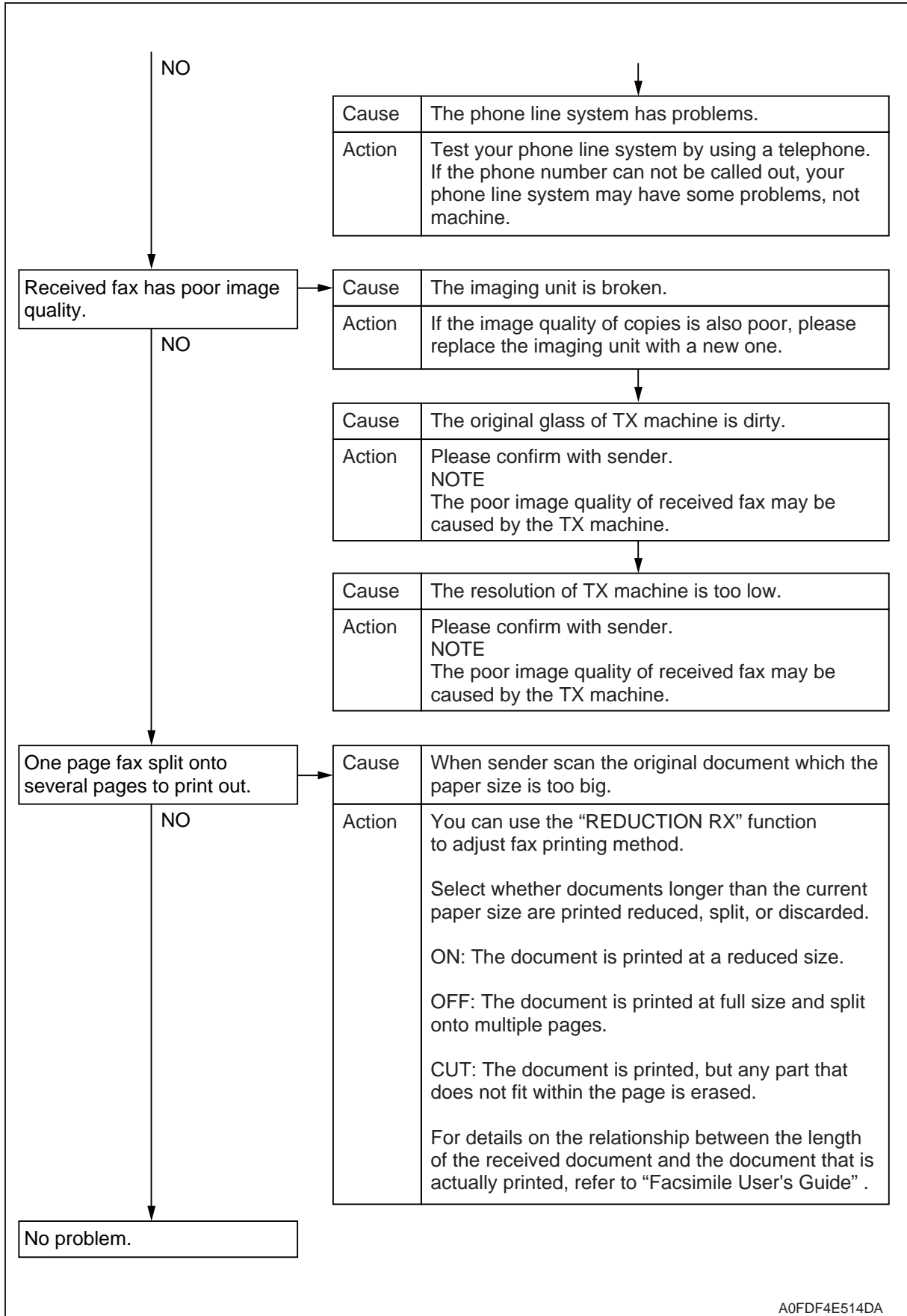


20.1.2 Can not receive a fax

- To explain the solution when fax can not be received.



A0FDF4E513DA



A0FDF4E514DA

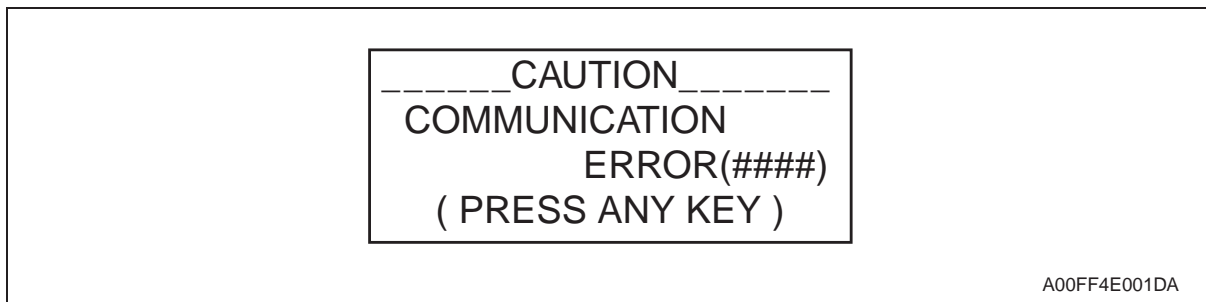
### 20.1.3 Dialing connection problem

- To explain the solution when dialing connection has problems.

Can not hear any voice, when pick up the phone.	Cause	The phone line cable connects incorrectly with machine.
	Action	Make sure the phone line connects to the "TEL" jack of machine.
	Cause	The phone line cable from wall jack to machine connects incorrectly.
	Action	Make sure the phone line cable from wall jack to machine connects to the "LINE" jack of machine.
After dialing, can not hear the ring back tone.	Cause	The telephone network system does not support the selected dialing type.
	Action	Set correct dialing type (DTMF/PULSE) in the machine.
After press down "On hook" key, it is hard to hear the voice from receiver/sender.	Cause	The volume of line monitor is too low.
	Action	Increase the volume of line monitor. ( "UTILITY" → "ADMIN. MANAGEMENT" → "COMM. SETTING" → "LINE MONITOR" )
The ringing volume of phone is too low (loud).	Cause	The ringing volume of the phone is set too low (loud).
	Action	Adjust the ringing volume of connected phone.

A0FDF4E515DA

## 20.2 Communication error



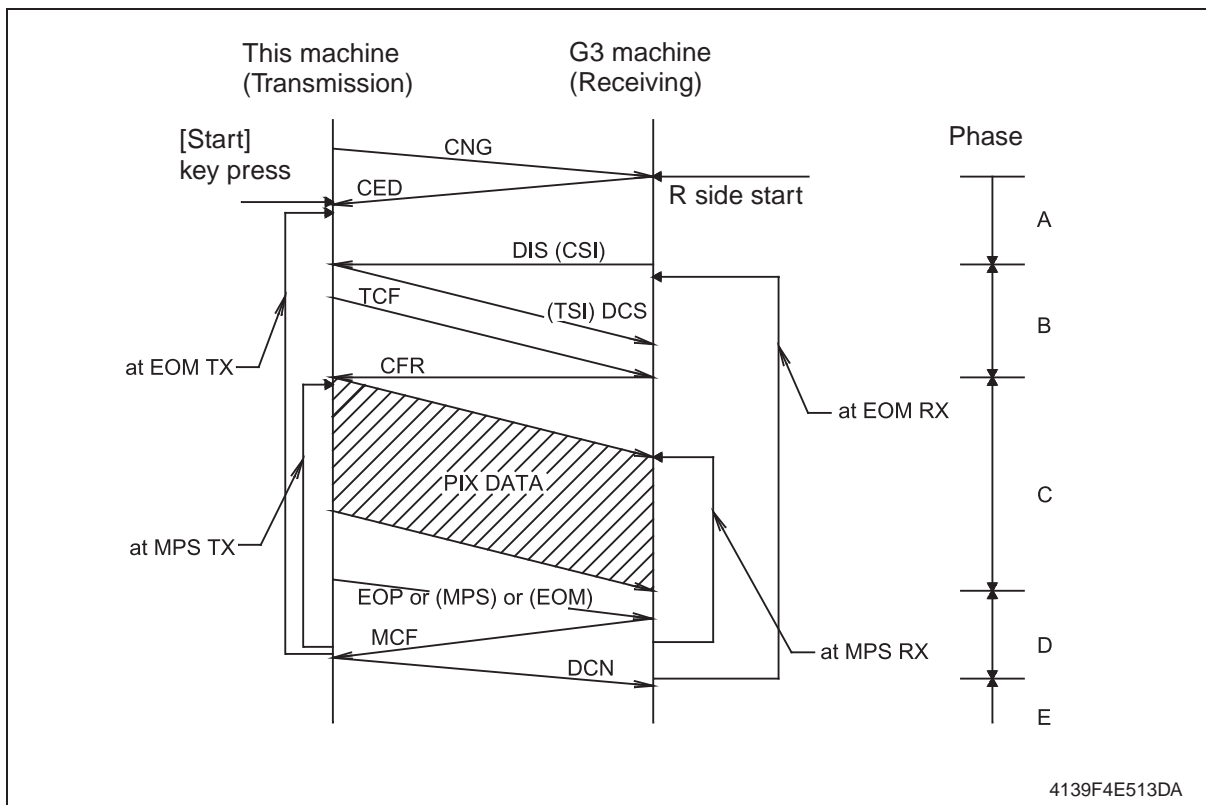
d-Color MF2400

### 20.2.1 Outline

- Error caused by a problem of communication functioning. Five possible causes of errors are:
  1. Communication is discontinued by a machine error.
  2. Communication is discontinued by a machine trouble.
  3. Communication is discontinued by an error occurring at the destination station.
  4. Communication is discontinued by a protocol error.
  5. ADF Error on trouble.
- When communication is discontinued due to item 3 or 4, transmission is retried. In other case, transmission is canceled without retry.

### 20.2.2 Error occurring during transmission

- The transmission error before “Phase-B” performs redial according to the redial interval of each country and the number of times.  
 The transmission error after “Phase-C” performs redial only one time. Transmission is canceled when an error occurs again. (can change in Soft SW)  
 When an error occurs by ADF TX, transmission is canceled without redial.



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### 20.2.3 Error occurring during reception

- Reception is canceled.

## 20.3 Error code list

### 20.3.1 Reception

Code	Possible Causes of Error.
0001	Manual receive mode, nothing G3 signal received within 35 sec.
0003	Received DIS after sending DIS signal.
0004	Received DCN after sending DTC signal.
0006	Detect busy tone within receiving phase B.
0009	Can not receive any signal within 35 sec. in manual polling mode.
0010	Received DCN signal after sending DTC signal in polling RX.
0011	Can not receive any correct response after sending three DTC signal.
0012	Remote side password not match in polling RX/our side no any file to be polling.
0013	Can not receive carrier within 6 sec. after sending CFR in data phase C.
0014	Can not receive T.30 signal after sending FTT signal.
0015	Line polarity change within receiving phase B to D.
0016	Receive DCN signal after sending FTT signal.
0017	Can not receive any response from remote side after sending type of xxx_EOM signal.
0018	Can not detect energy within 6 sec. after sending FTT command.
0019	Received DCN signal after sending CFR signal.
001A	No energy on line over 6 sec. within phase C before any corrected ECM frame.
001D	Detect flag but nothing after CFR.
0020	Can not correct frame within 6 sec. or in no-ECM mode, one decoding line over 6 sec.
0021	File full.
0022	Owing to noise interference on the line, receiving side can not receive correct data within specified time (no ECM).
0023	Received PWD error in RSD or upgrade F/W.
0024	TX and RX machine both are different machine ID in upgrade F/W.
0025	TX and RX machine both are different company ID in upgrade F/W.
0026	Remote monitor level error remote side can not access in upgrade F/W.
002A	Line problem.
0030	Can not receive any signal within 6 sec. at phase D.
0031	Received incorrect signal at phase D (not EOP, MPS, EOM, DCS PPS_Q, PPS_Q, etc.).
0032	Can not receive carrier within 6 sec. after sending MCF or RTP, RTN signal.
0033	Received DCN signal at phase D within pages (not last page).
0039	In non-ECM mode, when machine already received the data but next line data does not receive within 13.1 seconds.
003F	Remote side TSI not define in machine one touch or speed dial directory.
0040	Can not receive carrier within 6 sec. after sending CTR.
0041	Can not receive carrier within 6 sec. after sending PPR.
0042	Can not receive correct signal after sending RNR signal.
0043	Receive incorrect signal at phase D in ECM mode.
0044	Can not receive carrier /FSK signal within 6 sec. after sending MCF in ECM mode.
0045	Can not receive any correct signal after sending RNR response with ERR signal.
0046	Receive incorrect signal when sending RNR which response with ERR signal.

Code	Possible Causes of Error.
0047	Can not receive correct signal after sending ERR signal.
0048	Can not receive correct signal after receive PPS_PRI_Q or PRI_Q, EOR_PRI_Q.
0049	Can not receive correct signal after sending PIP/PIN signal within 13 sec.
004A	Line energy over threshold last 60 sec. after MCF, and can not detect FSK or carrier signal in ECM mode.
004B	Can not detect correct FSK signal even through detected FSK tone within 6 sec.
004C	Handshake fail during re-train or between page in V.34 RX.
004E	Receive DCN signal after sending DIS in V.34.
004F	Remote side disconnected after sending ANSam in V.8 phase.
0050	Can not receive any correct signal after sending CJ signal in V.8 phase.
0051	Can not receive phase 3 signal after phase 2 within 20 seconds in V.34.
0052	Can not receive phase 4 signal after phase 3 within 20 seconds in V.34.
0053	Modem disconnect after phase 4 in V.34.
0054	Remote side disconnected after phase 4 in V.8.
0055	Receive incorrect signal after sending DIS signal in V.34.
0056	Modem disconnect after sending CFR in V.34.
0057	Can not detect image signal within 6 seconds after sending CFR.
0058	Can not detect image signal within 6 seconds after modem enter to primary phase in V.34.
005A	Modem can not detect any correct ECM frame within 3 minutes in phase C.
005B	Can not detect phase 5 signal after primary channel within 6 seconds.
005C	Detect busy tone within control channel after phase C.
005D	Modem can not detect any correct ECM frame within 12 sec. in phase C.
005E	Can not detect control channel signal after received RCP frame within 6 seconds.
005F	Can not detect silence after sending JM signal for polling TX function.
0060	There are no bulletin files to be polled in V.34.
0061	Machine can not detect V.21 or V.8 signal within 35 seconds.
0062	Modem disconnect in phase D after our side sending out flags sequence in control channel.
0063	Can not receive any flag sequence in control channel within 6 seconds in phase D.
0064	Can not detect any control channel signal in phase D within 60 seconds even through energy still on the line.
0065	Can not detect any control channel signal within 60 seconds after detect silence in phase D.
0066	Can not receive T.30 signal or carrier after sending CFR in V.34.
0070	User press stop key within receiving.
0071	Memory full within receiving.
0072	Received EOR_Q Signal.

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**20.3.2 Transmission**

Code	Possible Causes of Error.
0080	Can not detect any G3 signal within 35 sec. specified by ITU-T in phase B.
0081	Received DTC signal in transmission phase.
0082	Transmitting unit receives a signal other than DIS or DTC and DCN in phase B.
0083	Detected FSK signal, but can not receive any signal within 35 seconds.
0084	Detect DCN signal in phase B.
0085	Transmitting unit sending DCS 3 times consecutively, but each time responds with DIS/DTC.
0086	Detected responds signal other than DTC, DIS, FTT, DCN or CFR after sending DCS.
0087	Training attempt has failed because speed unit can not adjust to lower speed.
0088	Received DCN signal after sending out DCS signal.
008B	Receiver's protocol of DIS is received, but it is not compatible with our machine.
008D	Receiver's protocol of DIS is received, but remote side can not receive document temporary, may be cause by run out of paper or other reason.
008E	Remote side CSI number not defined in machine one touch or speed dial directory.
008F	Modem not ready to received V.34 data within 6 seconds after received CFR signal.
0090	Called side document not ready for our polling.
0091	Sending out DCS+TCF signal 3 times consecutively but no signal in response from receiver.
0092	Remote side disconnected within transmitting phase.
0093	Received DCN signal after sending out DCS signal for V.34.
0094	Time out during transmit ECM frame or RCP command.
0095	Wrong ID number when Polling RX.
0099	Remote side disconnect after primary channel.
009A	Can not detect any signal after sending CI signal.
009C	Received DCN after sending DTC in V.34 polling RX.
009D	Remote side hang up before V.34 modem enter phase 2 state in V.34 polling RX.
009F	Can not received any response from other side after sending PPS_EOM signal.
00A0	User stop or cancel transmission job.
00A1	Document JAM within transmission.
00AE	Can not finished V.8 procedure or detect V.21 signal after CM signal within 30 seconds.
00AF	Modem can not enter into control channel after TX side sending out RCP signal for V.34.
00B0	Can not received any command after our side retry there DCS signal in V.34 TX.
00B1	Can not finish V.8 procedure or detect V.21 signal after ANSam signal within 35 seconds.
00B2	Can not detect phase 2 signal after our side sending CJ signal within 30 seconds.
00B3	Can not detect correct V.21 or JM signal after sending CM signal.
00B4	Can not detect correct phase 2 signal within 25 second after CM/JM signal exchange.
00B5	Can not detect phase 3 signal after phase 2 within 25 seconds.
00B6	Can not detect phase 4 signal within 25 seconds after CM/JM exchange.
00B7	Can not detect phase 5 signal after phase 4 within 30 seconds.
00B8	Remote side disconnect after our side sending DCS signal in V.34.
00B9	Receive T.30 signal other than DIS, DCS, CFR after sending DCS signal in V.34.
00BA	Can not received correct signal after our side sending DTC signal in V.34.
00BB	Every time our side received DIS signal after sending DTC in V.34.

Code	Possible Causes of Error.
00BC	Modem can not ready within 10 seconds after entering primary channel in V.34.
00BD	Can not detect correct V.21 or JM signal after detected FSK frequency.
00BE	Remote side no document to be polled after V8 handshaking.
00BF	Capability no match.
00C0	Remote side disconnect before entering primary channel in V.34.
00C1	At phase D, transmitting units out EOP 3 times consecutively, but receive no answer from receiving unit.
00C2	Remote side disconnect after sending out V.8 CM signal.
00C4	After sending MPS signal, the received is not one of MCF, RTN, PIP, PIN, RTP, DCN.
00C5	Received DCN signal after sending MPS signal.
00C9	At phase D, sending MPS 3 times consecutively, but no answer from receiving unit.
00CA	After sending EOP signal, the received is not one of MCF, RTN, PIP, PIN, PRI-EOP, DCN.
00CB	After sending EOP signal, the received is DCN signal.
00CC	After sending EOM signal, the received is not one of MCF, RTN, PIP, PIN, RTP, DCN.
00CD	At phase D, transmitting units out EOM 3 times consecutively, but receive no answer.
00CE	At phase D, transmitting units out EOM, but receive DCN.
00CF	Received incorrect signal after sending DTC signal for V.34 polling.
00D0	Received ERR signal after sending EOR_NULL.
00D1	Received incorrect response after sending PPS_EOP signal in V.34.
00D2	Received DCN after sending PPS_EOP signal.
00D3	Received DCN after sending PPS_NULL signal.
00D4	Received DCN after sending PPS_EOM signal.
00D5	T5 timeout.
00D8	Can not detect correct phase 3 signal for polling within 25 seconds.
00D9	Can not detect correct phase 3 signal after detect silence after phase 2.
00DA	Can not detect phase 4 signal within 30 seconds or remote side hang up over 6 seconds.
00DB	Can not received any T.30 signal within 15 seconds within phase 4.
00DC	Received T.30 signal in phase 4 other than DCS, DIS or DTC.
00DE	Remote side no SUB capability in V.34.
00E0	At phase D, transmitting units out PPS_NULL 3 times consecutively but receive not answer.
00E1	Received incorrect response after sending PPS_NULL.
00E2	Can not receive any response in RR response procedure after sending PPS_NULL.
00E3	Can not speed down to lower speed in non ECM mode.
00E4	At phase D, transmitting units out PPS_MPS 3 times consecutively but receive no answer.
00E5	Received incorrect response after sending PPS_MPS.
00E6	Can not receive any response in RR response procedure after sending PPS_MPS.
00E7	Received DCN after sending PPS_MPS.
00E8	At phase D, transmitting units out PPS_EOP 3 times consecutively but receive no answer.
00E9	Receive PIN signal after sent last page three times.
00EA	Can not receive any response in RR response procedure after sending PPS_EOP.
00EB	At phase D, transmitting units out PPS_EOM 3 times consecutively but receive no answer.
00EC	Received incorrect response after sending PPS_EOM.



Code	Possible Causes of Error.
00ED	Can not receive any response in RR response procedure after sent out PPS_EOM.
00EE	At phase D, transmitting units out EOR_NULL 3 times consecutively but receive no answer.
00EF	Received incorrect response after sending EOR_NULL.
00F0	Can not receive any response procedure after sending EOR_NULL.
00F1	At phase D, transmitting units out EOR_MPS 3 times consecutively but receive no answer.
00F2	Received incorrect response after sending EOR_MPS.
00F3	Received ERR signal after sending EOR_MPS.
00F4	Can not receive any response in RR response procedure after sending EOR_MPS.
00F5	At phase D, transmitting units out EOR_EOP 3 times consecutively but receive no answer.
00F6	Received incorrect response after sending EOR_EOP.
00F7	After Received ERR, our side can not received response after sending EOR_EOP command.
00F8	At phase D, transmitting units out EOR_EOM 3 times consecutively but receive no answer.
00F9	Received incorrect response after sending EOR_EOM.
00FA	Received ERR signal after sending EOR_EOM.
00FB	Can not receive any response in RR response procedure after sending EOR_EOM.
00FC	Can not receive any response after sending CTC.
00FD	Can not speed down to lower speed in ECM mode.
00FE	Memory full for transmission.
00FF	Redial all fail.

## 20.4 Error codes and corresponding solution

- The following tables contain the fax error codes. An error code can have more than one definition (cause), and more than one solution.

### NOTE

- <\*1>: Please enter service mode to boost TX level of d-Color MF2400. (SERVICE MODE → TX LEVEL)**

### 20.4.1 Reception error code (0001-0072)

#### (1) Error code: 0001

Definition	Manual receive mode, nothing G3 signal received within 35 sec.
Solution	<ol style="list-style-type: none"> <li>1. Check whether the sender is the FAX machine or not.</li> <li>2. Check whether the telephone line is connect correctly or not.</li> <li>3. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>4. Boost the TX level of sender's machine.</li> <li>5. Boost the machine TX level. &lt;*1&gt;</li> <li>6. Set SOFT SW21 [3] to "1" (DIS signal length = 4 bytes).</li> </ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>The default setting is "0" (DIS signal length = 8 bytes).</li> </ul>

#### (2) Error code: 0003

Definition	Received DIS after sending DIS signal.
Solution	<ol style="list-style-type: none"> <li>1. The cause is the sender does not place the original document correctly for faxing. Ask sender put the original document correctly and resend the FAX again.</li> </ol>

#### (3) Error code: 0013

Definition	Can not receive carrier within 6 sec. after sending CFR in data phase C.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Boost the machine TX level. &lt;*1&gt;</li> </ol>

#### (4) Error code: 0014

Definition	Can not receive T.30 signal after sending FTT signal.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> </ol>

#### (5) Error code: 0016

Definition	Receive DCN signal after sending FTT signal.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(6) Error code: 0017**

Definition	Can not receive any response from remote side after sending type of xxx_EOM signal.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> </ol>

**(7) Error code: 0018**

Definition	Can not detect energy within 6 sec. after sending FTT command.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> </ol>

**(8) Error code: 0019**

Definition	Received DCN signal after sending CFR signal.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(9) Error code: 001A**

Definition	No energy on line over 6 sec. within phase C before any corrected ECM frame.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Change the machine setting to ECM OFF, and then resend again.</li> <li>4. Boost the TX level of sender's machine.</li> </ol>

**(10) Error code: 001D**

Definition	Detect flag but nothing after CFR.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(11) Error code: 0020**

Definition	Can not correct frame within 6 sec. or in no-ECM mode, one decoding line over 6 sec.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(12) Error code: 0021**

Definition	File full.
Solution	<ol style="list-style-type: none"> <li>1. Print out the receiving data which was stored in the FAX memory or delete the unnecessary data.</li> <li>2. Execute MEMORY CLEAR.</li> <li>3. Reboot the machine.</li> </ol>

**(13) Error code: 0022**

Definition	Owing to noise interference on the line, receiving side can not receive correct data within specified time (no ECM).
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> </ol>

**(14) Error code: 002A**

Definition	Line problem.
Solution	<ol style="list-style-type: none"> <li>1. Check whether the telephone line is connect correctly or not.</li> <li>2. Check the dialing number whether is correct or not.</li> <li>3. Check the machine setting whether the dial type setting (DTMF/PLUSE) is applicable on the telephone network system.</li> <li>4. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>5. Adjust the SOFT SW07 [8] to "0", and disable the dial tone detect before dial.</li> </ol>

**(15) Error code: 0030**

Definition	Can not receive any signal within 6 sec. at phase D.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> </ol>

**(16) Error code: 0031**

Definition	Received incorrect signal at phase D (not EOP, MPS, EOM, DCS PPS_Q, PPS_Q, etc.).
Solution	<ol style="list-style-type: none"> <li>1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(17) Error code: 0032**

Definition	Can not receive carrier within 6 sec. after sending MCF or RTP, RTN signal.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(18) Error code: 0033**

Definition	Received DCN signal at phase D within pages (not last page).
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(19) Error code: 0039**

Definition	In non-ECM mode, when machine already received the data but next line data does not receive within 13.1 seconds.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(20) Error code: 003F**

Definition	Remote side TSI not define in machine one touch or speed dial directory.
Solution	<ol style="list-style-type: none"> <li>1. Register the remote side telephone number in GROUP DIAL or SPEED DIAL of machine.</li> <li>2. Print out the GROUP DIAL and SPEED DIAL to confirm that the registered telephone number is the same as the coming sender's number.</li> </ol>

**(21) Error code: 0040**

Definition	Can not receive carrier within 6 sec. after sending CTR.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(22) Error code: 0041**

Definition	Can not receive carrier within 6 sec. after sending PPR.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(23) Error code: 0042**

Definition	Can not receive correct signal after sending RNR signal.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(24) Error code: 0043**

Definition	Receive incorrect signal at phase D in ECM mode.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine setting to ECM OFF, and then ask sender resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(25) Error code: 0044**

Definition	Can not receive carrier /FSK signal within 6 sec. after sending MCF in ECM mode.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, and then ask sender resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(26) Error code: 0045**

Definition	Can not receive any correct signal after sending RNR response with ERR signal.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(27) Error code: 0046**

Definition	Receive incorrect signal when sending RNR which response with ERR signal.
Solution	<ol style="list-style-type: none"> <li>1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(28) Error code: 0047**

Definition	Can not receive correct signal after sending ERR signal.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(29) Error code: 0048**

Definition	Can not receive correct signal after receive PPS_PRI_Q or PRI_Q, EOR_PRI_Q.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(30) Error code: 0049**

Definition	Can not receive correct signal after sending PIP/PIN signal within 13 sec.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(31) Error code: 004A**

Definition	Line energy over threshold last 60 sec. after MCF, and can not detect FSK or carrier signal in ECM mode.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, and then ask sender resend again.</li> <li>3. Reduce the TX level of sender's machine.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(32) Error code: 004B**

Definition	Can not detect correct FSK signal even through detected FSK tone within 6 sec.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> <li>3. Boost the TX level of sender's machine.</li> </ol>

**(33) Error code: 004C**

Definition	Handshake fail during re-train or between page in V.34 RX.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, and then ask sender resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(34) Error code: 004E**

Definition	Receive DCN signal after sending DIS in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(35) Error code: 004F**

Definition	Remote side disconnected after sending ANSam in V.8 phase.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, and then ask sender resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(36) Error code: 0050**

Definition	Can not receive any correct signal after sending CJ signal in V.8 phase.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine RX speed to V.17, and then ask sender resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(37) Error code: 0051**

Definition	Can not receive phase 3 signal after phase 2 within 20 seconds in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, and then ask sender resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(38) Error code: 0052**

Definition	Can not receive phase 4 signal after phase 3 within 20 seconds in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine TX speed to V.17, and then ask sender resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(39) Error code: 0053**

Definition	Modem disconnect after phase 4 in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine RX speed to V.17, and then ask sender resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(40) Error code: 0054**

Definition	Remote side disconnected after phase 4 in V.8.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine RX speed to V.17, and then ask sender resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(41) Error code: 0055**

Definition	Receive incorrect signal after sending DIS signal in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine RX speed to V.17, and then ask sender resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(42) Error code: 0056**

Definition	Modem disconnect after sending CFR in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine RX speed to V.17, and then ask sender resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>



**(43) Error code: 0057**

Definition	Can not detect image signal within 6 seconds after sending CFR.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, and then ask sender resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(44) Error code: 0058**

Definition	Can not detect image signal within 6 seconds after modem enter to primary phase in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine RX speed to V.17, and then ask sender resend again.</li> <li>3. Change the machine setting to ECM OFF, and then ask sender resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(45) Error code: 005A**

Definition	Modem can not detect any correct ECM frame within 3 minutes in phase C.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, and then ask sender resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(46) Error code: 005B**

Definition	Can not detect phase 5 signal after primary channel within 6 seconds.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(47) Error code: 005C**

Definition	Detect busy tone within control channel after phase C.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(48) Error code: 005D**

Definition	Modem can not detect any correct ECM frame within 12 sec. in phase C.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Change the machine setting to ECM OFF, and then ask sender resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(49) Error code: 005E**

Definition	Can not detect control channel signal after received RCP frame within 6 seconds.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(50) Error code: 0060**

Definition	There are no bulletin files to be polled in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Polling TX is not available.</li> </ol>

**(51) Error code: 0061**

Definition	Machine can not detect V.21 or V.8 signal within 35 seconds.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(52) Error code: 0062**

Definition	Modem disconnect in phase D after our side sending out flags sequence in control channel.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(53) Error code: 0063**

Definition	Can not receive any flag sequence in control channel within 6 seconds in phase D.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(54) Error code: 0064**

Definition	Can not detect any control channel signal in phase D within 60 seconds even through energy still on the line.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(55) Error code: 0065**

Definition	Can not detect any control channel signal within 60 seconds after detect silence in phase D.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(56) Error code: 0066**

Definition	Can not receive T.30 signal or carrier after sending CFR in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Change the machine RX speed to V.17, and then ask sender resend again.</li> <li>4. Boost the TX level of sender's machine.</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(57) Error code: 0070**

Definition	User press stop key within receiving.
Solution	<ol style="list-style-type: none"> <li>1. Ask sender resend the FAX again.</li> </ol>

**(58) Error code: 0071**

Definition	Memory full within receiving.
Solution	<ol style="list-style-type: none"> <li>1. Split the document into several copies at sender, and send them by several different times.</li> <li>2. Print out the receiving data which was stored in the FAX memory or delete the unnecessary data.</li> <li>3. Reboot the machine.</li> <li>4. Execute MEMORY CLEAR.</li> </ol>

**(59) Error code: 0072**

Definition	Received EOR_Q signal.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Reduce the TX level of sender's machine.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**20.4.2 Transmission error code (0080-00FF)**

**(1) Error code: 0080**

Definition	Can not detect any G3 signal within 35 sec. specified by ITU-T in phase B.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(2) Error code: 0081**

Definition	Received DTC signal in transmission phase.
Solution	<ol style="list-style-type: none"> <li>1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(3) Error code: 0082**

Definition	Transmitting unit receives a signal other than DIS or DTC and DCN in phase B.
Solution	<ol style="list-style-type: none"> <li>1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(4) Error code: 0083**

Definition	Detected FSK signal, but can not receive any signal within 35 seconds.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(5) Error code: 0084**

Definition	Detect DCN signal in phase B.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(6) Error code: 0085**

Definition	Transmitting unit sending DCS 3 times consecutively, but each time responds with DIS/DTC.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> </ol>

**(7) Error code: 0086**

Definition	Detected responds signal other than DTC, DIS, FTT, DCN or CFR after sending DCS.
Solution	<ol style="list-style-type: none"> <li>1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(8) Error code: 0087**

Definition	Training attempt has failed because speed unit can not adjust to lower speed.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Adjust the SOFT SW12 [6-7] to "11", while receiving 4 PPR, the speed will down.</li> <li>4. Change the machine TX speed to V.17, then resend again.</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(9) Error code: 0088**

Definition	Received DCN signal after sending out DCS signal.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Register the telephone number in machine.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(10) Error code: 008B**

Definition	Receiver's protocol of DIS is received, but it is not compatible with our machine.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine TX speed to V.33.6, then resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(11) Error code: 008D**

Definition	Receiver's protocol of DIS is received, but remote side can not receive document temporary, may be cause by run out of paper or other reason.
Solution	<ol style="list-style-type: none"> <li>1. Contact with recipient, ask for refilling machine with paper.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(12) Error code: 008F**

Definition	Modem not ready to received V.34 data within 6 seconds after received CFR signal.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine TX speed to V.17, then resend again.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(13) Error code: 0091**

Definition	Sending out DCS+TCF signal 3 times consecutively but no signal in response from receiver.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(14) Error code: 0093**

Definition	Received DCN signal after sending out DCS signal for V.34.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Register the telephone number in machine.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(15) Error code: 0094**

Definition	Time out during transmit ECM frame or RCP command.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine setting to ECM OFF, then resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(16) Error code: 009A**

Definition	Can not detect any signal after sending CI signal.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(17) Error code: 009F**

Definition	Can not received any response from other side after sending PPS_EOM signal.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the machine TX level. &lt;*1&gt;</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(18) Error code: 00A0**

Definition	User stop or cancel transmission job.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> </ol>

**(19) Error code: 00A1**

Definition	Document JAM within transmission.
Solution	<ol style="list-style-type: none"> <li>1. Clear JAM ERROR, then resend the FAX again.</li> </ol>

**(20) Error code: 00AE**

Definition	Can not finished V.8 procedure or detect V.21 signal after CM signal within 30 seconds.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(21) Error code: 00AF**

Definition	Modem can not enter into control channel after TX side sending out RCP signal for V.34.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(22) Error code: 00B1**

Definition	Can not finish V.8 procedure or detect V.21 signal after ANSam signal within 35 seconds.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(23) Error code: 00B2**

Definition	Can not detect phase 2 signal after our side sending CJ signal within 30 seconds.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(24) Error code: 00B3**

Definition	Can not detect correct V.21 or JM signal after sending CM signal.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(25) Error code: 00B4**

Definition	Can not detect correct phase 2 signal within 25 second after CM/JM signal exchange.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(26) Error code: 00B5**

Definition	Can not detect phase 3 signal after phase 2 within 25 seconds.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(27) Error code: 00B6**

Definition	Can not detect phase 4 signal within 25 seconds after CM/JM exchange.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(28) Error code: 00B7**

Definition	Can not detect phase 5 signal after phase 4 within 30 seconds.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(29) Error code: 00B8**

Definition	Remote side disconnect after our side sending DCS signal in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(30) Error code: 00B9**

Definition	Receive T.30 signal other than DIS, DCS, CFR after sending DCS signal in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine TX speed to V.17, then resend again.</li> <li>2. Print out the protocol report, and search for technical support.</li> </ol>

**(31) Error code: 00BC**

Definition	Modem can not ready within 10 seconds after entering primary channel in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>



**(32) Error code: 00BD**

Definition	Can not detect correct V.21 or JM signal after detected FSK frequency.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(33) Error code: 00BF**

Definition	Capability no match.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine TX speed to V.17, then resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(34) Error code: 00C0**

Definition	Remote side disconnect before entering primary channel in V.34.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Resend the FAX again.</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(35) Error code: 00C1**

Definition	At phase D, transmitting units out EOP 3 times consecutively, but receive no answer from receiving unit.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Set SOFT SW21 [5] to "1" (T4 timer = 4.5 sec.)</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(36) Error code: 00C2**

Definition	Remote side disconnect after sending out V.8 CM signal.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Resend the FAX again.</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(37) Error code: 00C4**

Definition	After sending MPS signal, the received is not one of MCF, RTN, PIP, PIN, RTP, DCN.
Solution	<ol style="list-style-type: none"> <li>1. Set SOFT SW21 [5] to "1" (T4 timer = 4.5 sec.)</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(38) Error code: 00C5**

Definition	Received DCN signal after sending MPS signal.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(39) Error code: 00C9**

Definition	At phase D, sending MPS 3 times consecutively, but no answer from receiving unit.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Adjust the SOFT SW02 [7-8] to "01" or "10" or "11", then resend it again.</li> <li>5. Set SOFT SW21 [5] to "1" (T4 timer = 4.5 sec.)</li> <li>6. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(40) Error code: 00CA**

Definition	After sending EOP signal, the received is not one of MCF, RTN, PIP, PIN, PRI-EOP, DCN.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(41) Error code: 00CB**

Definition	After sending EOP signal, the received is DCN signal.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(42) Error code: 00CC**

Definition	After sending EOM signal, the received is not one of MCF, RTN, PIP, PIN, RTP, DCN.
Solution	<ol style="list-style-type: none"> <li>1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(43) Error code: 00CD**

Definition	At phase D, transmitting units out EOM 3 times consecutively, but receive no answer.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Adjust the SOFT SW02 [7-8] to "01" or "10" or "11", then resend it again.</li> <li>5. Set SOFT SW21 [5] to "1" (T4 timer = 4.5 sec.)</li> <li>6. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(44) Error code: 00CE**

Definition	At phase D, transmitting units out EOM, but receive DCN.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(45) Error code: 00D0**

Definition	Received ERR signal after sending EOR_NULL.
Solution	1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.

**(46) Error code: 00D1**

Definition	Received incorrect response after sending PPS_EOP signal in V.34.
Solution	1. Change the machine TX speed to V.17, then resend again. 2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.

**(47) Error code: 00D2**

Definition	Received DCN after sending PPS_EOP signal.
Solution	1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.

**(48) Error code: 00D3**

Definition	Received DCN after sending PPS_NULL signal.
Solution	1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.

**(49) Error code: 00D4**

Definition	Received DCN after sending PPS_EOM signal.
Solution	1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.

**(50) Error code: 00D9**

Definition	Can not detect correct phase 3 signal after detect silence after phase 2.
Solution	1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider. 2. Boost the machine TX level. <*1> 3. Change the machine TX speed to V.17, then resend again. 4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.

**(51) Error code: 00DA**

Definition	Can not detect phase 4 signal within 30 seconds or remote side hang up over 6 seconds.
Solution	1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider. 2. Boost the machine TX level. <*1> 3. Change the machine TX speed to V.17, then resend again. 4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.

**(52) Error code: 00DB**

Definition	Can not received any T.30 signal within 15 seconds within phase 4.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the machine TX level. &lt;*1&gt;</li> <li>3. Change the machine TX speed to V.17, then resend again.</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(53) Error code: 00DC**

Definition	Received T.30 signal in phase 4 other than DCS, DIS or DTC.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine TX speed to V.17, then resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(54) Error code: 00E0**

Definition	At phase D, transmitting units out PPS_NULL 3 times consecutively but receive not answer.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Boost the machine TX level. &lt;*1&gt;</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(55) Error code: 00E1**

Definition	Received incorrect response after sending PPS_NULL.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(56) Error code: 00E2**

Definition	Can not receive any response in RR response procedure after sending PPS_NULL.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Boost the machine TX level. &lt;*1&gt;</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(57) Error code: 00E3**

Definition	Can not speed down to lower speed in non ECM mode.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Boost the machine TX level. &lt;*1&gt;</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(58) Error code: 00E4**

Definition	At phase D, transmitting units out PPS_MPS 3 times consecutively but receive no answer.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Boost the machine TX level. &lt;*1&gt;</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(59) Error code: 00E5**

Definition	Received incorrect response after sending PPS_MPS.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(60) Error code: 00E6**

Definition	Can not receive any response in RR response procedure after sending PPS_MPS.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Boost the machine TX level. &lt;*1&gt;</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(61) Error code: 00E7**

Definition	Received DCN after sending PPS_MPS.
Solution	<ol style="list-style-type: none"> <li>1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(62) Error code: 00E8**

Definition	At phase D, transmitting units out PPS_EOP 3 times consecutively but receive no answer.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Boost the machine TX level. &lt;*1&gt;</li> <li>4. Set SOFT SW21 [5] to "1" (T4 timer = 4.5 sec.)</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(63) Error code: 00E9**

Definition	Receive PIN signal after sent last page three times.
Solution	<ol style="list-style-type: none"> <li>1. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(64) Error code: 00EA**

Definition	Can not receive any response in RR response procedure after sending PPS_EOP.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Boost the TX level of sender's machine.</li> <li>3. Boost the machine TX level. &lt;*1&gt;</li> <li>4. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(65) Error code: 00EB**

Definition	At phase D, transmitting units out PPS_EOM 3 times consecutively but receive no answer.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Set SOFT SW21 [5] to "1" (T4 timer = 4.5 sec.)</li> <li>6. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(66) Error code: 00EC**

Definition	Received incorrect response after sending PPS_EOM.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine setting to ECM OFF, then resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(67) Error code: 00ED**

Definition	Can not receive any response in RR response procedure after sent out PPS_EOM.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(68) Error code: 00EE**

Definition	At phase D, transmitting units out EOR_NULL 3 times consecutively but receive no answer.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(69) Error code: 00EF**

Definition	Received incorrect response after sending EOR_NULL.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine setting to ECM OFF, then resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(70) Error code: 00F0**

Definition	Can not receive any response procedure after sending EOR_NULL.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(71) Error code: 00F1**

Definition	At phase D, transmitting units out EOR_MPS 3 times consecutively but receive no answer.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(72) Error code: 00F2**

Definition	Received incorrect response after sending EOR_MPS.
Solution	<ol style="list-style-type: none"> <li>1. Resend the FAX again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(73) Error code: 00F3**

Definition	Received ERR signal after sending EOR_MPS.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine setting to ECM OFF, then resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(74) Error code: 00F4**

Definition	Can not receive any response in RR response procedure after sending EOR_MPS.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(75) Error code: 00F5**

Definition	At phase D, transmitting units out EOR_EOP 3 times consecutively but receive no answer.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(76) Error code: 00F6**

Definition	Received incorrect response after sending EOR_EOP.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine setting to ECM OFF, then resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(77) Error code: 00F7**

Definition	After received ERR, our side can not received response after sending EOR_EOP command.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(78) Error code: 00F8**

Definition	At phase D, transmitting units out EOR_EOM 3 times consecutively but receive no answer.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(79) Error code: 00F9**

Definition	Received incorrect response after sending EOR_EOM.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine setting to ECM OFF, then resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(80) Error code: 00FA**

Definition	Received ERR signal after sending EOR_EOM.
Solution	<ol style="list-style-type: none"> <li>1. Change the machine setting to ECM OFF, then resend again.</li> <li>2. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(81) Error code: 00FB**

Definition	Can not receive any response in RR response procedure after sending EOR_EOM.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>



**(82) Error code: 00FC**

Definition	Can not receive any response after sending CTC.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(83) Error code: 00FD**

Definition	Can not speed down to lower speed in ECM mode.
Solution	<ol style="list-style-type: none"> <li>1. Check the line condition whether is too noisy, if necessary, please replace a new telephone line or contact your telecom service provider.</li> <li>2. Change the machine setting to ECM OFF, then resend again.</li> <li>3. Boost the TX level of sender's machine.</li> <li>4. Boost the machine TX level. &lt;*1&gt;</li> <li>5. Adjust the SOFT SW12 [6-7] to "11", while receiving 4 PPR, the speed will down.</li> <li>6. Print out the protocol report, and provide it to technical center, ask for analyzing the information.</li> </ol>

**(84) Error code: 00FE**

Definition	Memory full for transmission.
Solution	<ol style="list-style-type: none"> <li>1. Split the document into several copies, and send them by several different times.</li> <li>2. Print out the receiving data which was stored in the FAX memory or delete the unnecessary data.</li> <li>3. Reboot the machine.</li> <li>4. Execute MEMORY CLEAR.</li> </ol>

**(85) Error code: 00FF**

Definition	Redial all fail.
Solution	<ol style="list-style-type: none"> <li>1. Check whether the dialing number is correct or not.</li> <li>2. Check whether the telephone line is connect correctly or not.</li> <li>3. Faxing by Manual TX.</li> <li>4. Check the machine setting whether is according with the switchboard.</li> <li>5. Adjust the SOFT SW07 [8] to "0", disable the dial tone detect before dial.</li> <li>6. Adjust the SOFT SW21 [1-2] to "11", increase T1 time.</li> <li>7. Adjust the SOFT SW55 [6-8] to "000" or "010" or "100" or "110", change to accord with the switchboard environment.</li> </ol>

## 20.5 FAX can sent but not receive

- Review the following information to determine why faxes are not being received.

### A. Troubleshooting procedure

Relevant electrical parts			
FAX board (FAXB)			
Step	Check item	Result	Action
1	Turn OFF and ON the power switch.	NO	Go to step 2.
2	Is the telephone line connect correctly?	YES	Go to step 3.
		NO	Connect it correctly.
3	Is there a paper jam?	YES	Clear the paper jam.
		NO	Go to step 4.
4	Is the machine set to receive faxes manually?	YES	Set the machine to automatic reception.
		NO	Go to step 5.
5	Is it able to detect the local ring?	YES	Go to step 6.
		NO	Enter the SERVICE MODE => SOFT SWITCH => Change the SW# 50 bit (1-3) from (1,0,0) to (0,0,0)
6	Check the fax board for correct installation.	YES	Go to step 7.
		NO	Reinstall the fax board.
7	Does the error still occur when faxing?	YES	Change the fax board.
		NO	Complete.

## 20.6 FAX line says talking

- Review the following information to determine why fax line says talking.

### A. Troubleshooting procedure

Relevant electrical parts	
FAX board (FAXB)	

Step	Check item	Result	Action
1	Turn OFF and ON the power switch.	NO	Go to step 2.
2	Is the telephone line connect correctly?	YES	Go to step 3.
		NO	Connect it correctly.
3	Is the handset lifted?	YES	Place the handset to on hook.
		NO	Go to step 4.
4	Check the fax board for correct installation.	YES	Go to step 5.
		NO	Reinstall the fax board.
5	Does the error still occur when faxing?	YES	Change the fax board.
		NO	Complete.

## 20.7 Pick up the phone, but the machine does not go into Off-Hook state

- Review the following information to determine why machine can not go into Off-Hook state.

### A. Troubleshooting procedure

Relevant electrical parts	
FAX board (FAXB)	

Step	Check item	Result	Action
1	Turn OFF and ON the power switch.	NO	Go to step 2.
2	Is the handset broken?	YES	Change the handset on the hook.
		NO	Go to step 3.
3	Is the input current from PBX not enough?	YES	Increase the input current from PBX.
		NO	Go to step 4.
4	Check the Soft SW16 [6-8] according with the switchboard environment.	YES	Go to step 5.
		NO	Adjust Soft SW16 [6-8] = "000" or "001" or "010" or "101"
5	Check the fax board for correct installation.	YES	Go to step 6.
		NO	Reinstall the fax board.
6	Does the error still occur when faxing?	YES	Change the fax board.
		NO	Complete.

## 20.8 In VoIP system environment, the machine can not fax properly

- Review the following information to determine why machine can not fax properly in VoIP system environment.

### A. Troubleshooting procedure

Step	Check item	Result	Action
1	Check the setting of Soft SW21 [5] = "1"	YES	Complete.
		NO	Adjust Soft SW21 [5] = "1"

## 21. SCAN ERROR

Code	Display	Content
0100	CANNOT CONNECT SMTP Server	<ul style="list-style-type: none"> <li>While the scanned document was being sent in Scan mode, a connection with the specified server could not be established.</li> </ul>
0101	CANNOT CONNECT POP3 Server	
0102	CANNOT CONNECT DNS Server	
0103	CANNOT CONNECT FTP Proxy Server	
0104	CANNOT CONNECT SMB Server	
0106	FTP SERVER ERROR	<ul style="list-style-type: none"> <li>The file cannot be saved on the indicated server.</li> </ul>
0107	SMB SERVER ERROR	
0108	WRONG PASSWORD FTP Server	<ul style="list-style-type: none"> <li>The password is incorrect, so the indicated server could not be accessed.</li> </ul>
0109	WRONG PASSWORD SMB Server	
010A	WRONG PASSWORD SMTP Server	
010B	WRONG PASSWORD POP3 Server	
010D	SERVER MEMORY FULL SMTP Server	<ul style="list-style-type: none"> <li>The memory of the SMTP server has become full.</li> </ul>
010F	CANNOT GET IP SMTP Server	<ul style="list-style-type: none"> <li>The IP address of the SMTP server could not be obtained from the DNS server.</li> </ul>
0110	CANNOT GET IP POP3 Server	
0111	CANNOT GET IP FTP Server	
0113	COMMUNICATION ERROR SMTP Server	<ul style="list-style-type: none"> <li>While data was being sent in Scan mode, the connection to the server was interrupted.</li> </ul>
0114	COMMUNICATION ERROR FTP Server	
0115	COMMUNICATION ERROR SMB Server	
0118	DISCONNECT SMTP Server	<ul style="list-style-type: none"> <li>The connection to the server was interrupted.</li> </ul>
0119	DISCONNECT POP3 Server	
011B	DISCONNECT FTP Proxy Server	
011C	DISCONNECT SMB Server	

## 22. IMAGE QUALITY PROBLEM

### 22.1 How to identify problematic part

- This chapter is divided into two parts: “Initial check items” and “Troubleshooting procedure by a particular image quality problem.”
- When an image quality problem occurs, first go through the “Initial check items” and, if the cause is yet to be identified, go to “Troubleshooting procedure by a particular image quality problem.”

#### 22.1.1 Initial check items

##### A. Initial check items 1

- Let the machine produce a test print and determine whether the image problem is attributable to the scanner or printer system.
- Evaluation procedure

Action	Result	Cause	Next step
From [SERVICE MODE], select [PS/PCL] → [PRINT MENU] → [GRADATION], and produce a test print. Is image problem evident?	YES	Printer	Initial check items 2
	NO	Scanner	<a href="#">P.345</a>

##### B. Initial check items 3

- If the printer is responsible for the image problem, let the machine produce a test print and determine whether the image problem occurs in a specific single color or four colors
- Evaluation procedure

Action	Result	Cause	Next step
From [SERVICE MODE], select [PS/PCL] → [PRINT MENU] → [GRADATION], and produce a test print. Is image problem evident in each of all four colors?	YES	Printer, 4 colors	<a href="#">P.368</a>
	NO	Printer, single color	<a href="#">P.356</a>

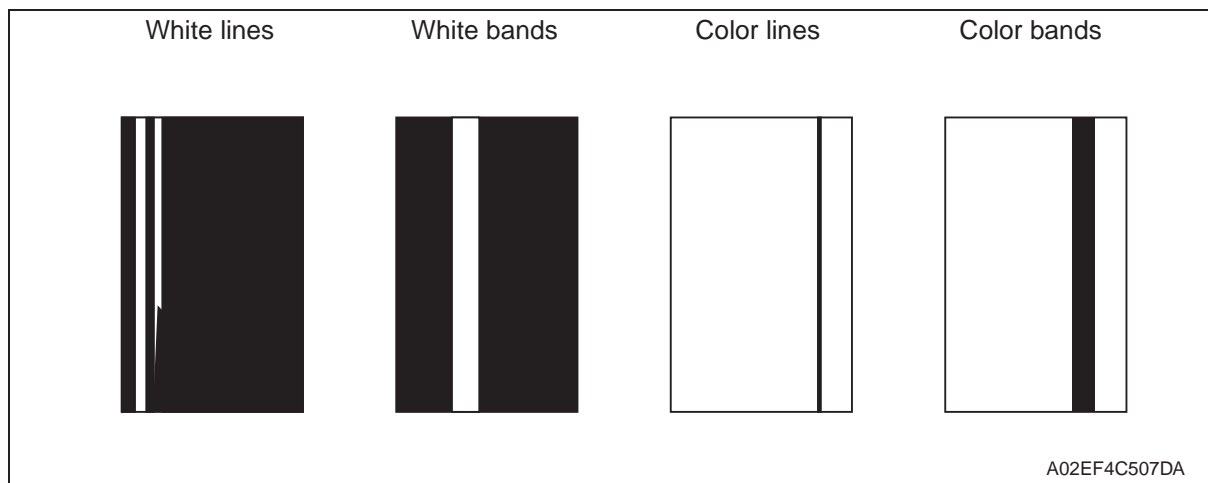
## 22.2 Solution

### NOTE

- Typical faulty image samples shown in the following are all printed with A4S setting.

### 22.2.1 Scanner system: white lines, white bands, colored lines and colored bands in sub scan direction

#### A. Typical faulty images



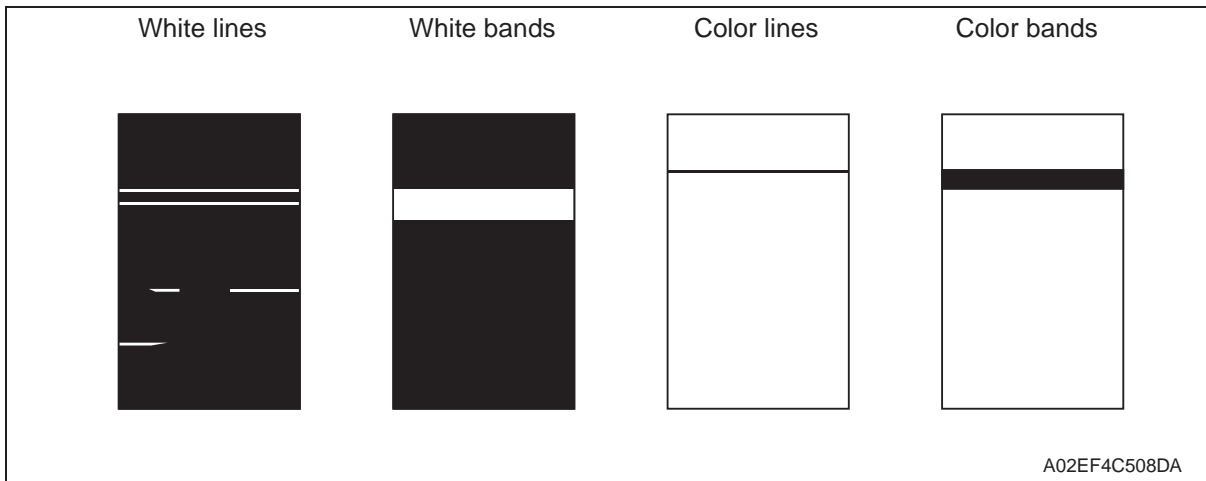
#### B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	SERVICE MODE → ADJUST → CIS SUB REGIST or ADF SUB REGIST	The adjustment value for [CIS SUB REGIST] or [ADF SUB REGIST] falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change scanner unit.



## 22.2.2 Scanner system: white lines, white bands, colored lines and colored bands in main scan direction

### A. Typical faulty images

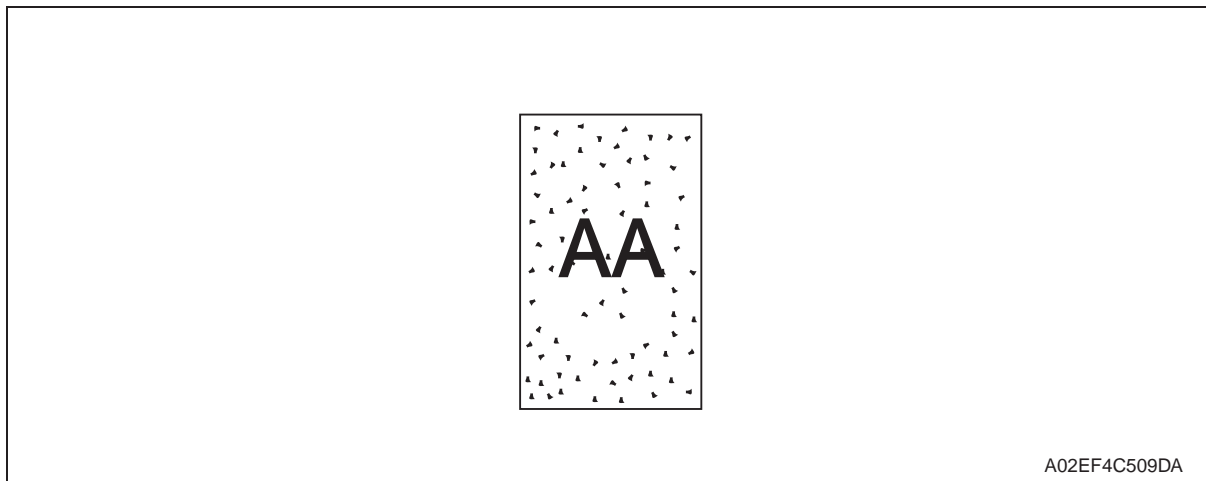


### B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	SERVICE MODE → ADJUST → CIS MAIN REG- IST or ADF MAIN REGIST	The adjustment value for [CIS MAIN REGIST] or [ADF MAIN REGIST] falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change scanner unit.

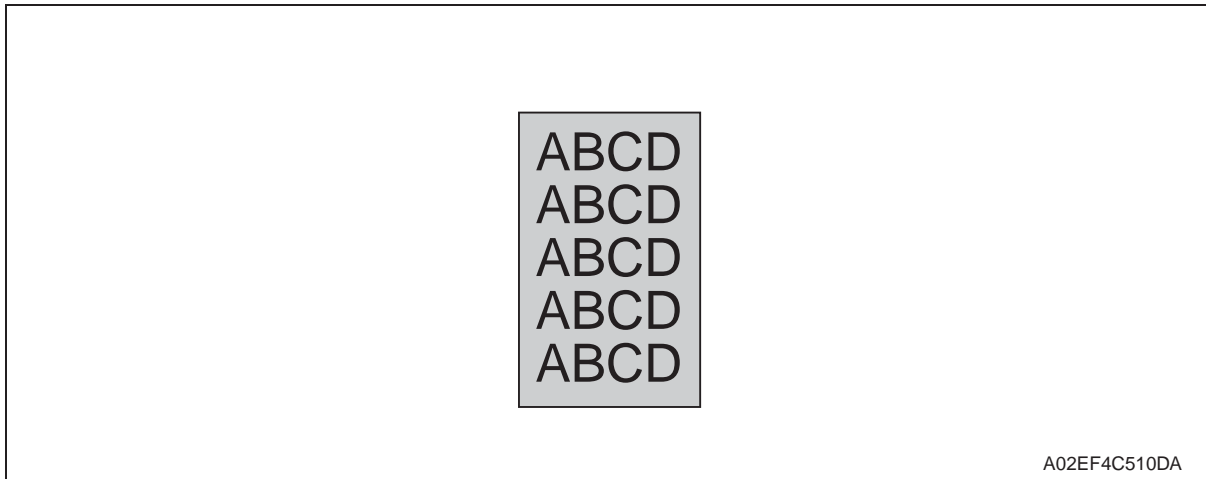
**22.2.3 Scanner system: color spots**

**A. Typical faulty images**

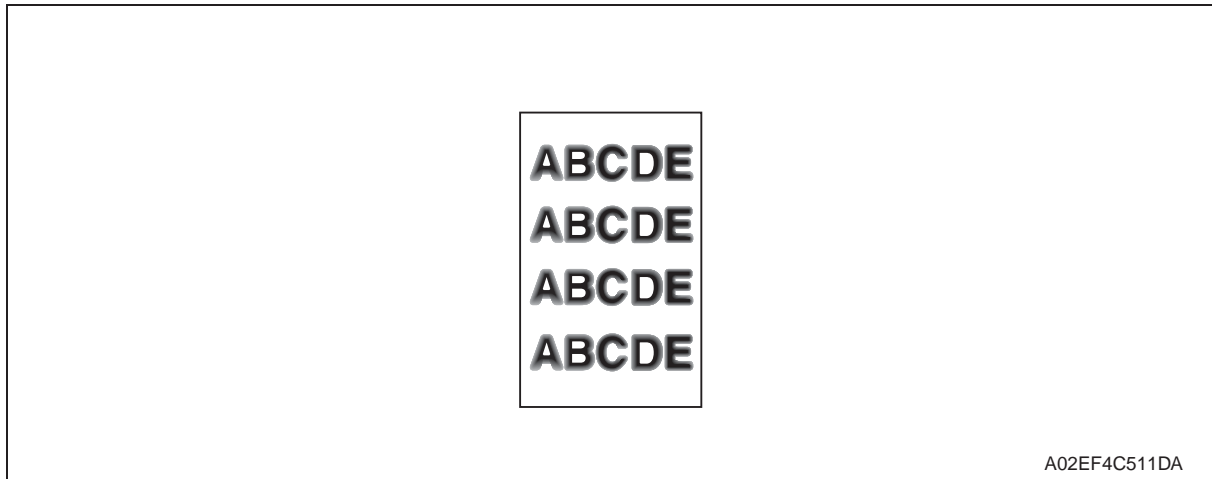


**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change scanner unit. Change MFPB/1.

**22.2.4 Scanner system: fog****A. Typical faulty images****B. Troubleshooting procedure**

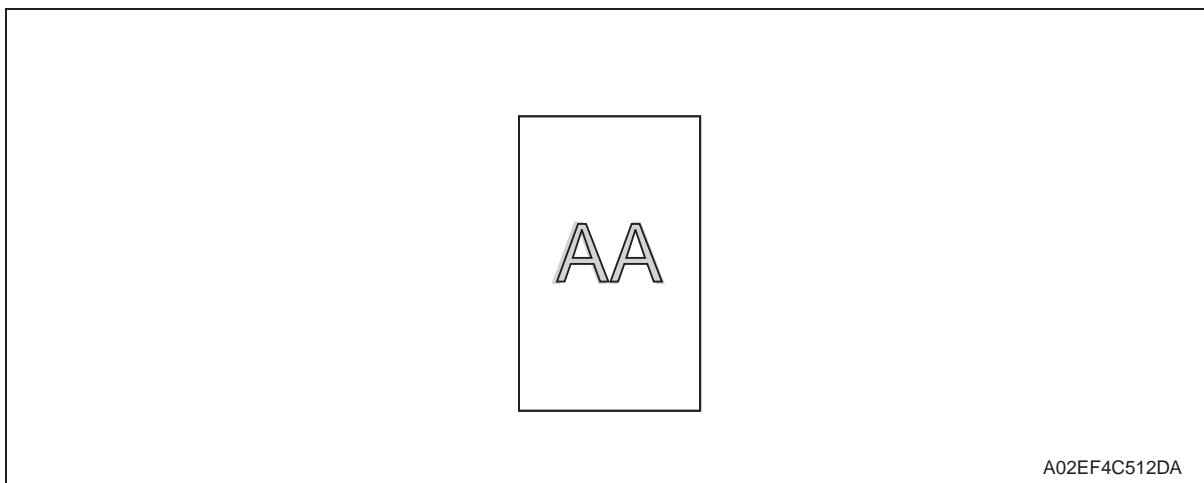
Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	Original pad is dirty.	YES	Clean.
3		ADF does not lie flat.	YES	Change ADF if it is deformed or hinges are broken.
4	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Basic screen QUALITY/ DENSITY	The problem is eliminated when the image is produced in the manual exposure setting.	NO	Try another exposure level in manual.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change scanner unit. Change MFPB/1.

**22.2.5 Scanner system: blurred image, blotchy image****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	ADF	ADF does not lie flat.	YES	Change ADF if it is deformed or hinges are broken.
3	Original glass	Original glass tilts.	YES	Position original glass correctly. Check original loading position.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change scanner unit.

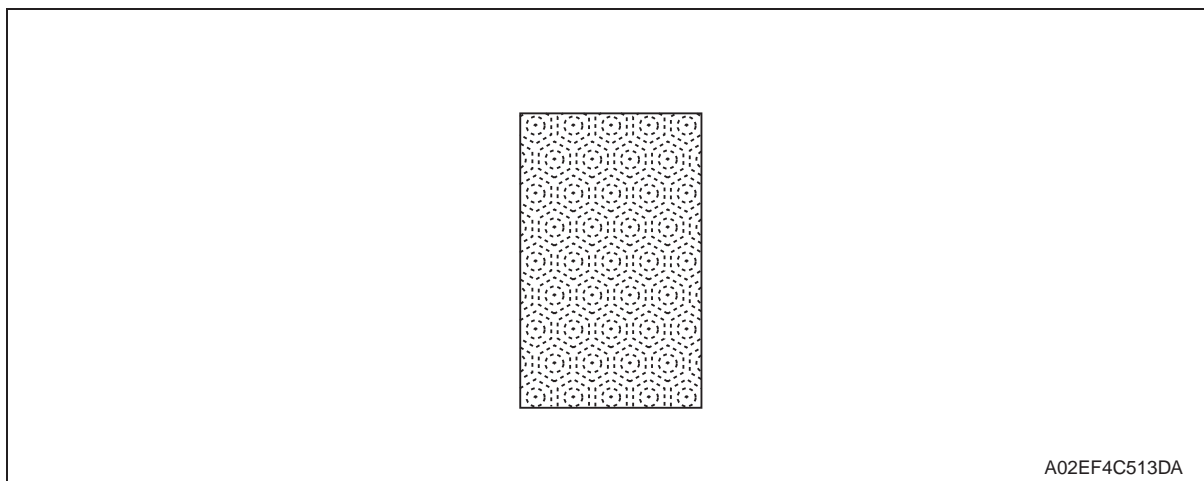
**22.2.6 Scanner system: incorrect color image registration, sync shift  
(lines in main scan direction)**

**A. Typical faulty images**

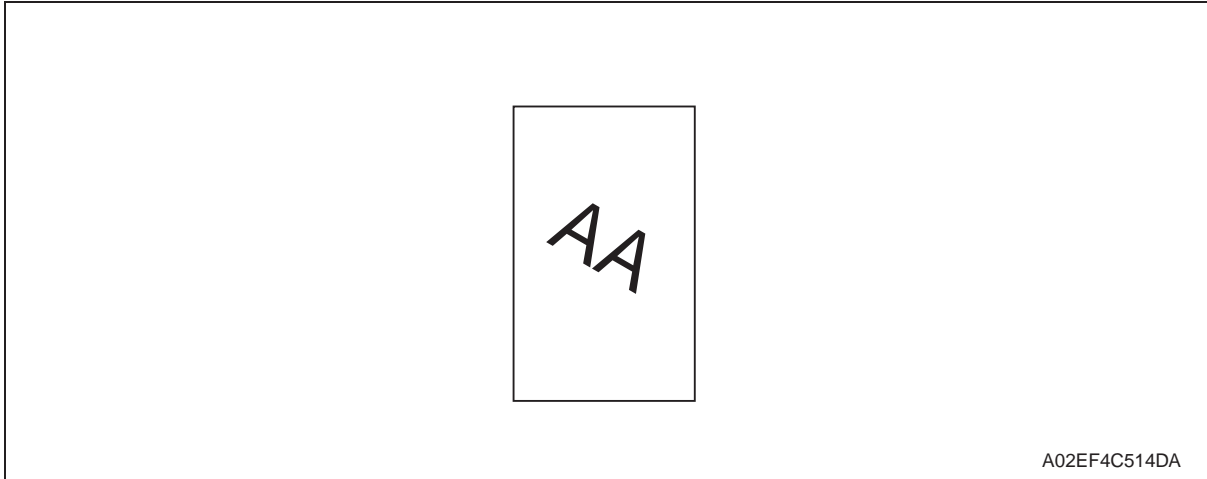


**B. Troubleshooting procedure**

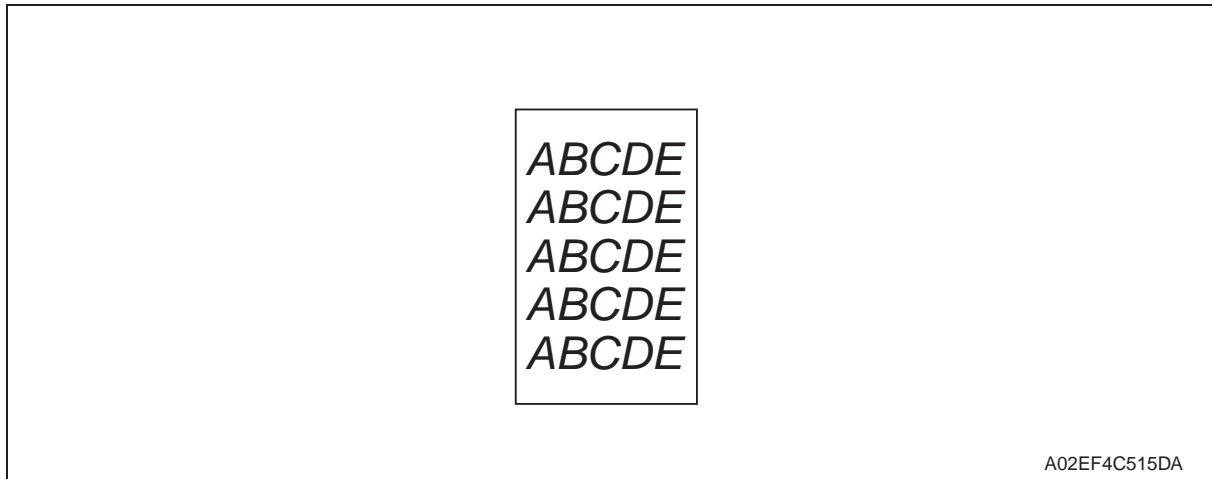
Step	Section	Check item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	ADF	ADF does not lie flat.	YES	Change ADF if it is deformed or hinges are broken.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change scanner unit.

**22.2.7 Scanner system: moire****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Original	Moire distortions recur even after the orientation of original has been changed.	NO	Change the original orientation.
2	Basic screen QUALITY/MODE	Moire distortions recur even after the original mode has been changed.	YES	Select "TEXT" or "PHOTO".
3	Basic screen ZOOM	The problem has been eliminated through the checks of steps up to 2.	NO	Change the zoom ratio.

**22.2.8 Scanner system: skewed image****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Original	Original is skew.	YES	Reposition original.
2	Original glass	Original glass is in positive contact with the flat spring without being tilt.	NO	Reinstall the glass. Check the original loading position.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change scanner unit.

**22.2.9 Scanner system: distorted image****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Installation	Machine is installed on a level surface.	NO	Reinstall.
2		The problem has been eliminated through the checks of steps up to 1.	NO	Change scanner unit.



**22.2.10 Scanner system: low image density, rough image**

**A. Typical faulty images**

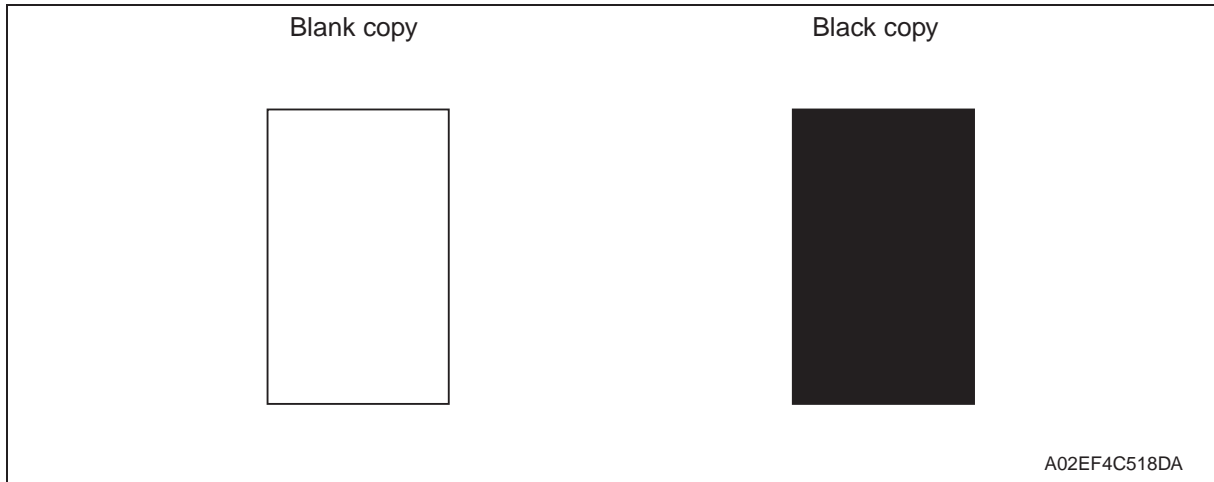


**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Original glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
2		The problem has been eliminated through the checks of steps up to 1.	NO	Change scanner unit. Change MFPB/1.

**22.2.11 Scanner system: blank copy, black copy**

**A. Typical faulty images**

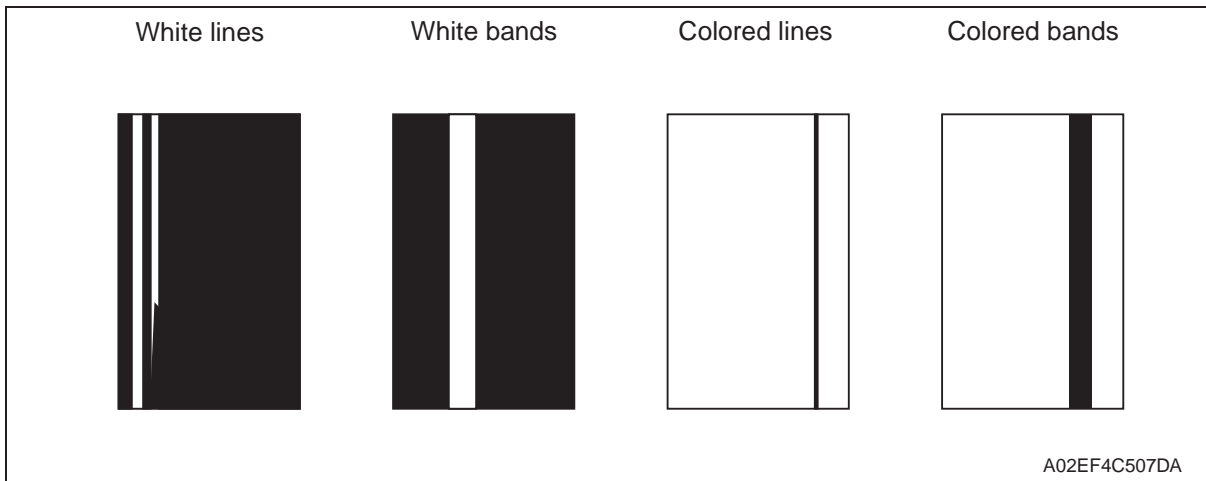


**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Cable connecting scanner and printer	Connector P103 on MFPB/1 are connected properly with no pins bent.	NO	Reconnect.
2	MFP board/1 (MFPB/1)	The problem is eliminated after the I/F connection cable has been changed.	NO	Change MFPB/1. Change scanner unit.

## 22.2.12 Printer monochrome: white lines, white bands, colored lines and colored bands in sub scan direction

### A. Typical faulty images

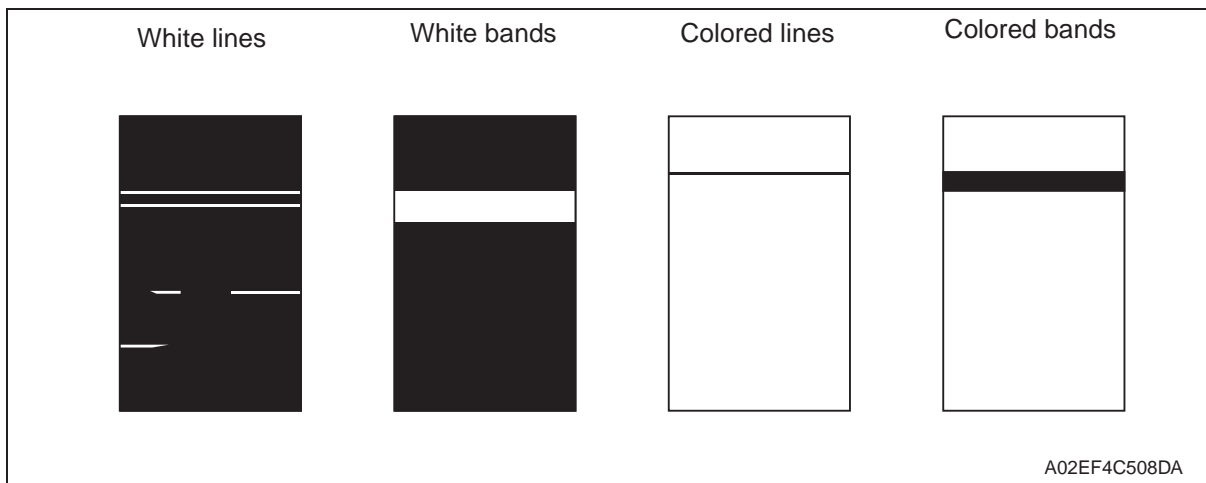


### B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A white line or black line in sub scan direction is sharp.	YES	Clean the electrostatic charger wire.
2		When printing thick paper, black lines appear.	YES	Select [SERVICE MODE] → [ADJUST] → [THICK MODE] and set [QUALITY MODE].
3	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
4		Dirty on the outside.	YES	Clean.
5		Contact terminals make good connection between each imaging unit and machine.	NO	Clean contact terminals.
6		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
7	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change transfer belt unit. Change PH unit.

**22.2.13 Printer monochrome: white lines, white bands, colored lines and colored bands in main scan direction**

**A. Typical faulty images**

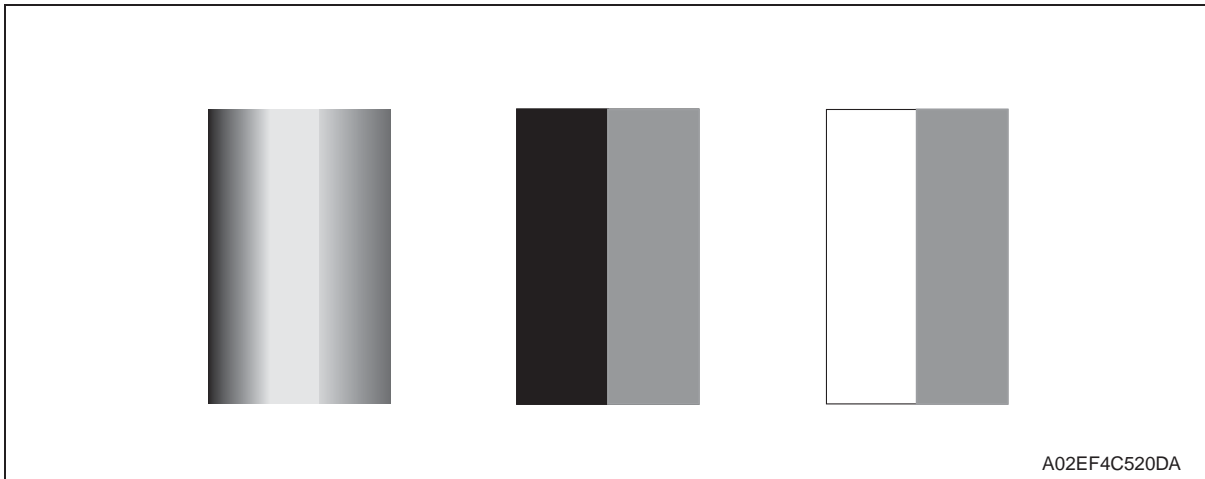


**B. Troubleshooting procedure**

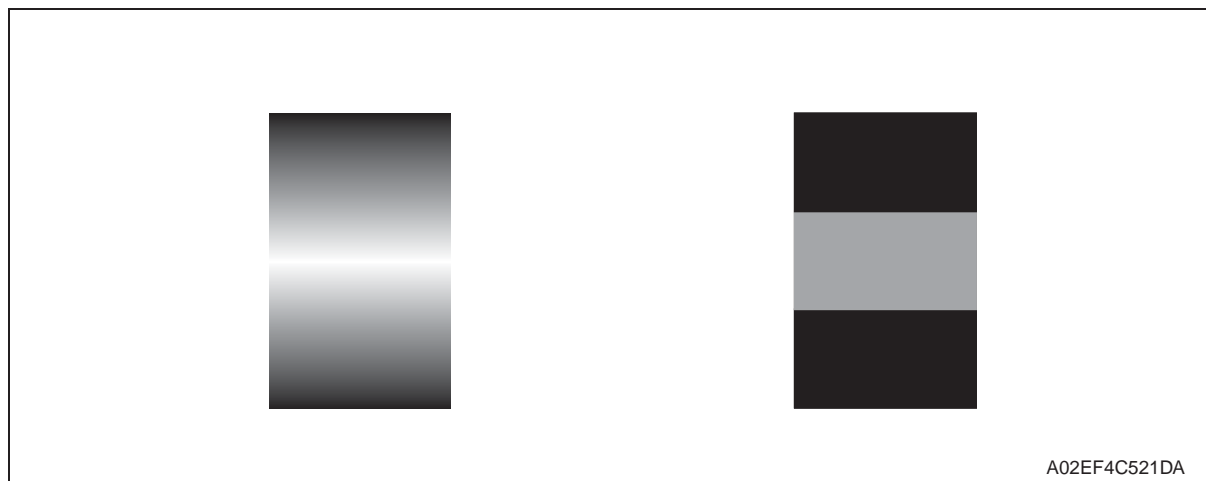
Step	Section	Check item	Result	Action
1	Image check	A white line or black line in main scan direction is sharp.	NO	Clean the electrostatic charger wire.
2	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
3		Dirty on the outside.	YES	Clean.
4		Contact terminals make good connection between each imaging unit and machine.	NO	Clean contact terminals.
5		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
6	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change transfer belt unit. Change PH unit.

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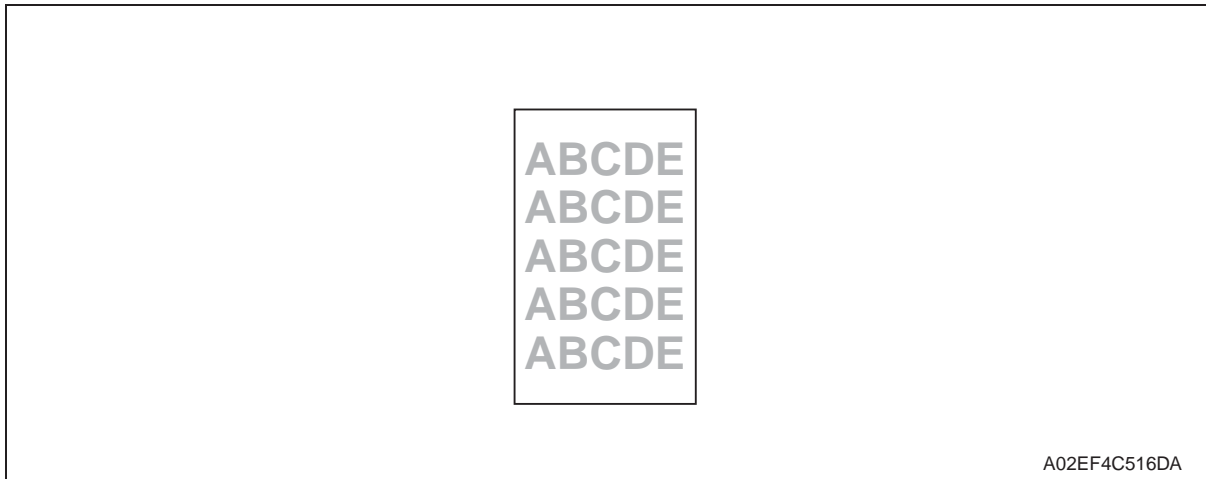
TROUBLESHOOTING

**22.2.14 Printer monochrome: uneven density in sub scan direction****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
2		Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
5		Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6	Transfer belt unit	Is abnormality found in the cam gear?	YES	Change transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change PH unit. Change High voltage unit. Printer control board.

**22.2.15 Printer monochrome: uneven density in main scan direction****A. Typical faulty images****B. Troubleshooting procedure**

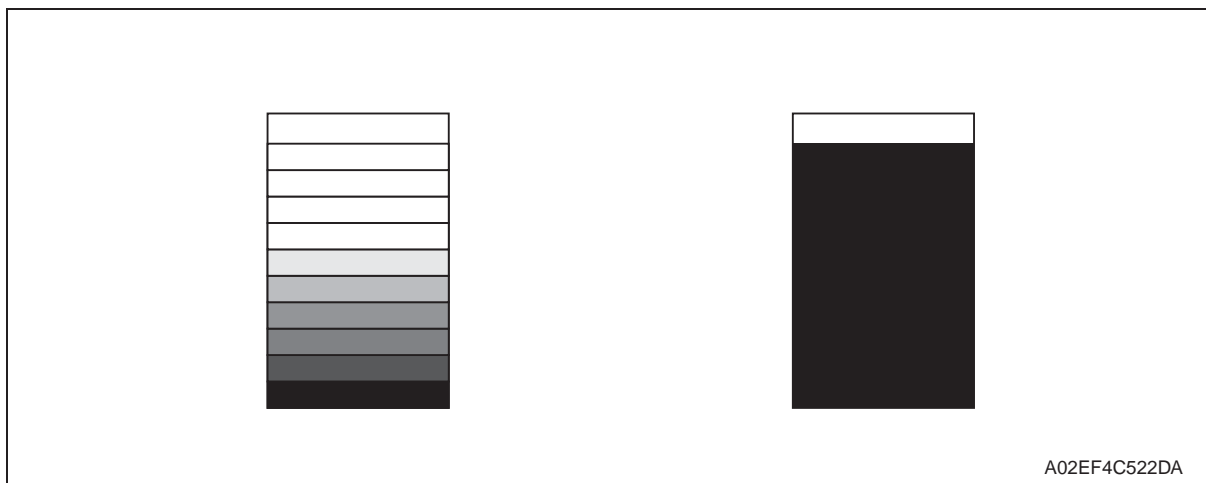
Step	Section	Check item	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
2		Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Transfer roller	Check that the spring does not come off during the pressure operation of the transfer roller.	NO	Correct. Change transfer roller unit.
5	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
6		Is abnormality found in the cam gear?	YES	Change transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change PH unit. Change high voltage unit.

**22.2.16 Printer monochrome: low image density****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	IDC sensor	The surface of the IDC sensor is dirty.	YES	Clean.
2	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
3	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
4		Is abnormality found in the cam gear?	YES	Change transfer belt unit.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change imaging unit. → Change IDC sensor. → Change printer control board. → Change PH unit. → Change high voltage unit.

**22.2.17 Printer monochrome: gradation reproduction failure**

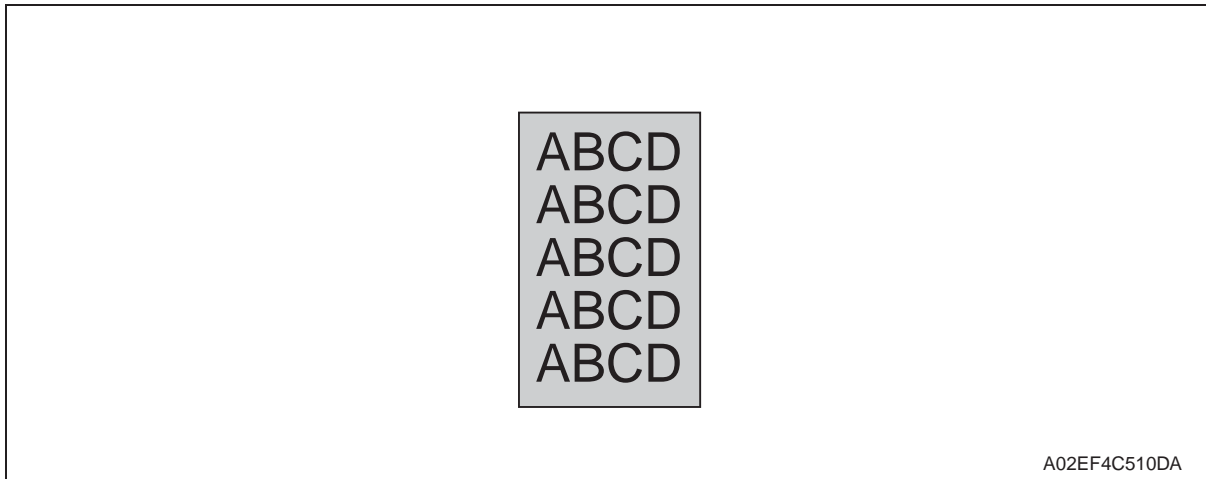
**A. Typical faulty images**



**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Photo/density	Original type and screen pattern are selected properly.	NO	Change screen pattern.
2	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
3	IDC sensor	The surface of the IDC sensor is dirty.	YES	Clean.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change imaging unit. → Change printer control board → Change PH unit. → Change high voltage unit.

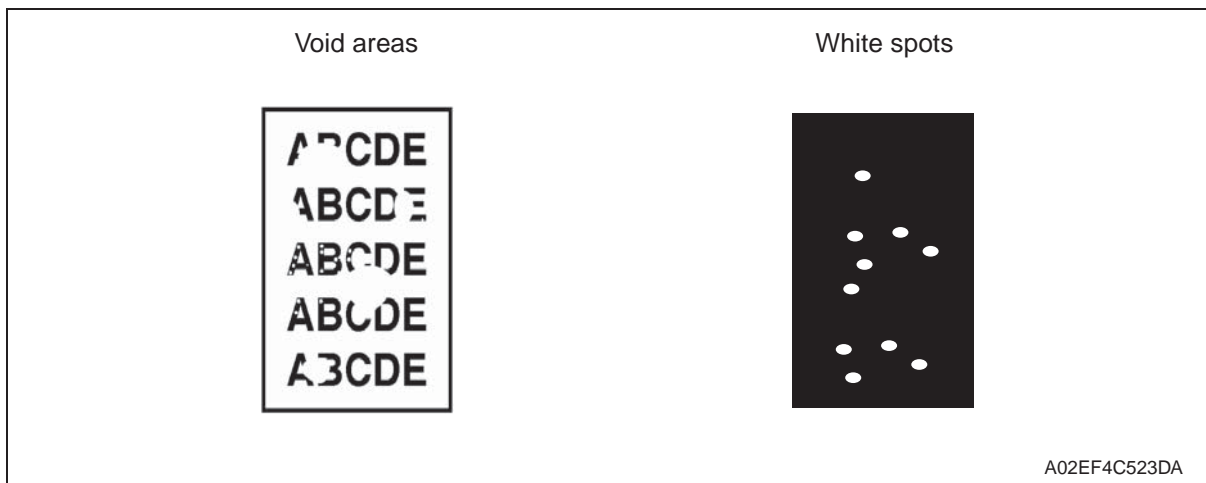


**22.2.18 Printer monochrome: foggy background****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	IDC sensor	The surface of the IDC sensor is dirty.	YES	Clean.
2	Imaging unit	Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Printer control board (PRCB)	Check the connection of connectors, harness, and flat cables between PRCB and PH unit, and correct if necessary.	NO	Change printer control board.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change imaging unit. → Change PH unit. → Change high voltage unit.

**22.2.19 Printer monochrome: void areas, white spots**

**A. Typical faulty images**

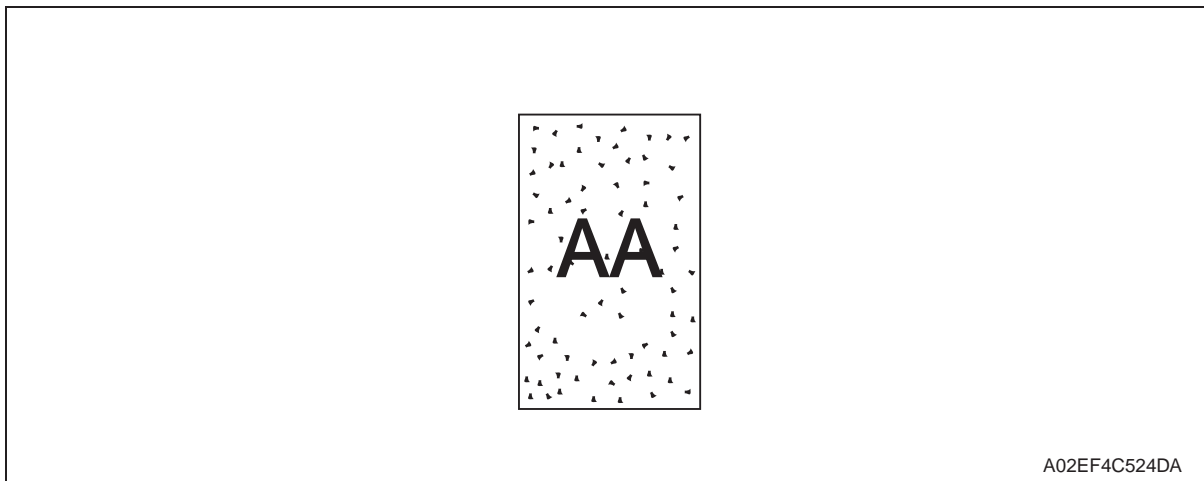


**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	<a href="#">See P.360</a>
2		There is void area at the rear side section.	YES	Perform [TRANSFER POWER] of [ADJUST] under SERVICE MODE.
3	Imaging unit	The surface of the PC drum is scratched.	YES	Change drum unit.
4	Toner cartridge	Foreign matter or caked toner in the toner cartridge.	YES	Remove foreign matter.
5	Installation environment	Is the atmospheric pressure at the installation site low?	YES	Make the following adjustment: [SERVICE MODE] → [ADJUST] → [IMAGE ADJ PARAM].

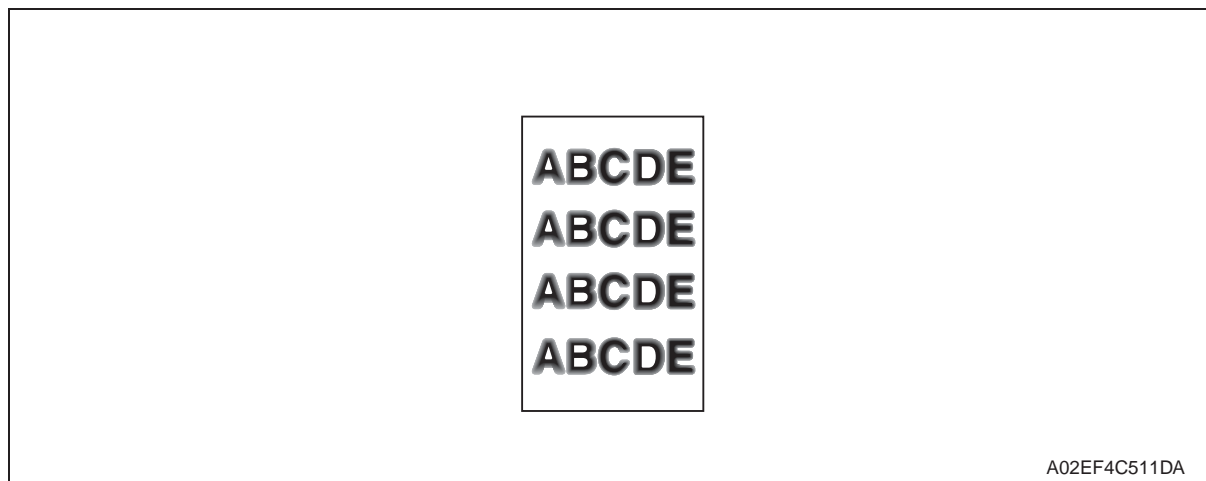
**22.2.20 Printer monochrome: colored spots**

**A. Typical faulty images**

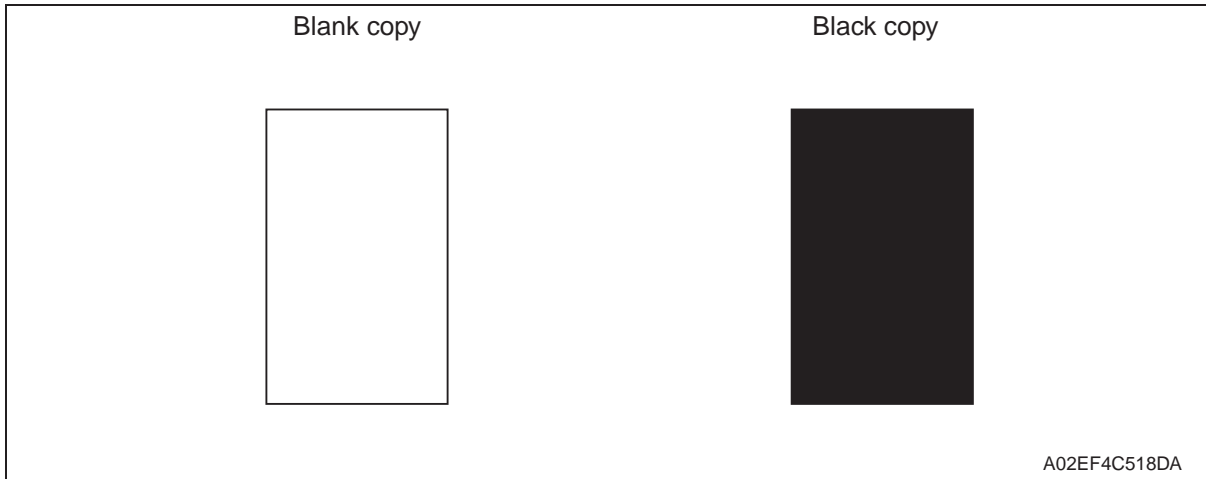


**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Imaging unit	Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
2		The surface of the PC drum is scratched.	YES	Change imaging unit.
3		Dirty on the outside.	YES	Clean.

**22.2.21 Printer monochrome: blurred image****A. Typical faulty images****B. Troubleshooting procedure**

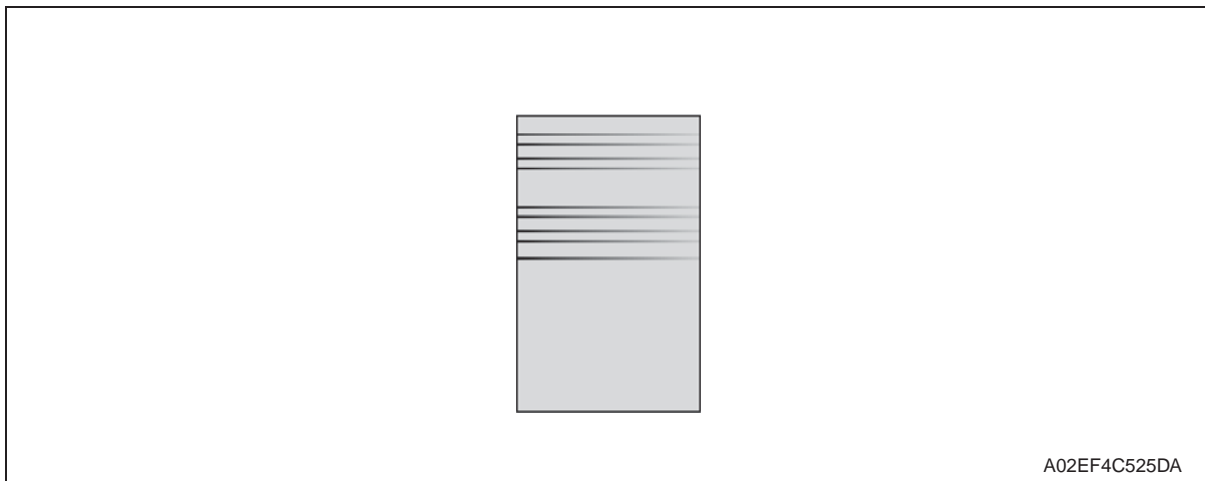
Step	Section	Check item	Result	Action
1	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
2	Imaging unit	Dirty on the outside.	YES	Clean.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change imaging unit. → Change PH unit.

**22.2.22 Printer monochrome: blank copy, black copy****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Image check	A blank copy occurs.	YES	Check PH unit connector for proper connection.
2	Imaging unit	Coupling of drum unit drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change imaging unit.
3		The PC drum charge corona voltage contact or PC drum ground contact of the imaging unit is connected properly.	NO	Check, clean, or correct the contact.
4	High voltage unit	Connector is connected properly.	NO	Reconnect.
5		The problem has been eliminated through the check of step 4.	NO	Change high voltage unit. → Change printer control board → Change PH unit. → Change MFP board/1.

**22.2.23 Printer monochrome: uneven image**

**A. Typical faulty images**

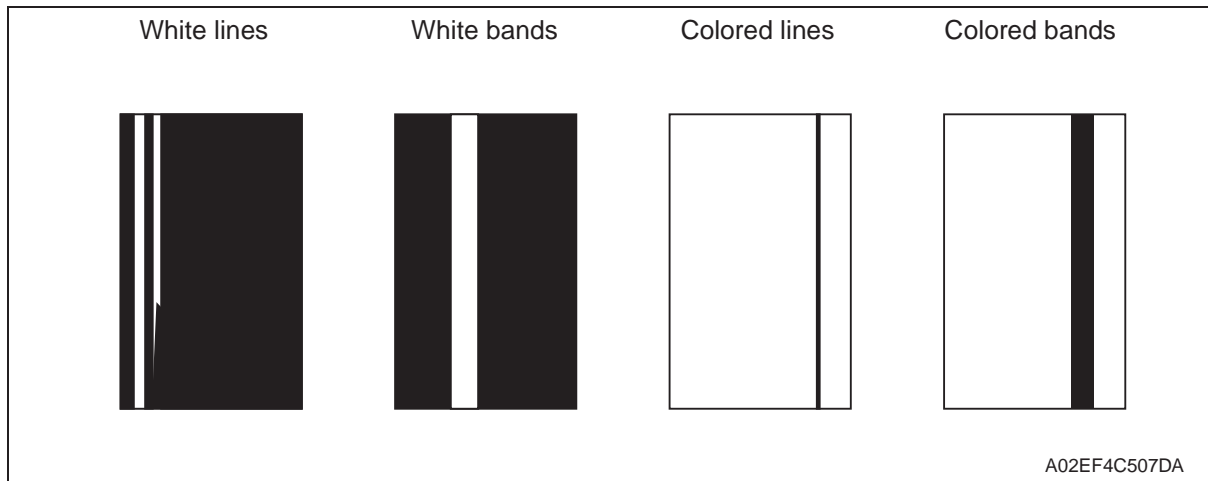


**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Toner cartridge	The toner cartridge of every color is surely installed.	NO	Re-install it.
2	PH unit	The PH unit is surely installed.	NO	Re-install it.
3	Toner cartridge	There is any stain or breakage on the drive section of the toner cartridge.	YES	Clean/replace the toner cartridge.
4	Imaging unit	There is any stain, damage or abrasion on the PC drum.	YES	Change the imaging unit.
5	Transfer roller	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Change the transfer roller.
6	Fuser unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fuser unit.	YES	Change the fuser unit.
7		The problem has been eliminated through the check of step 6.	NO	Change the transfer belt unit.

## 22.2.24 Printer 4-color: white lines, white bands, colored lines and colored bands in sub scan direction

### A. Typical faulty images

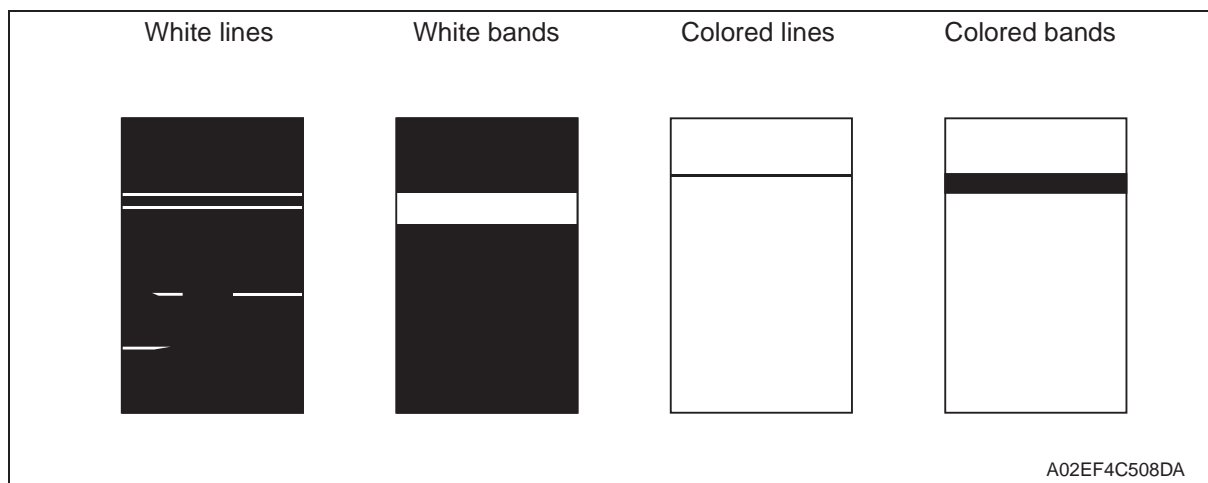


### B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A white line or colored line in sub scan direction.	YES	Clean the comb electrode.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
4		Cleaning blade is not effective in removing toner completely.	YES	Change transfer belt unit.
5	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
7		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
8	Fuser unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean. Change fuser unit.
9		Fusing paper separator fingers are dirty.	YES	Clean.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change printer control board

**22.2.25 Printer 4-color: white lines, white bands, colored lines and colored bands in main scan direction**

**A. Typical faulty images**



**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
4	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
5		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
6	Fuser unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean. Change fuser unit.
7		Fusing paper separator fingers are dirty.	YES	Clean.
8	Neutralizing brush	The resistance values between the neutralizing brush and the ground terminal is not ∞.	NO	Check the contact. Change neutralizing brush.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change printer control board

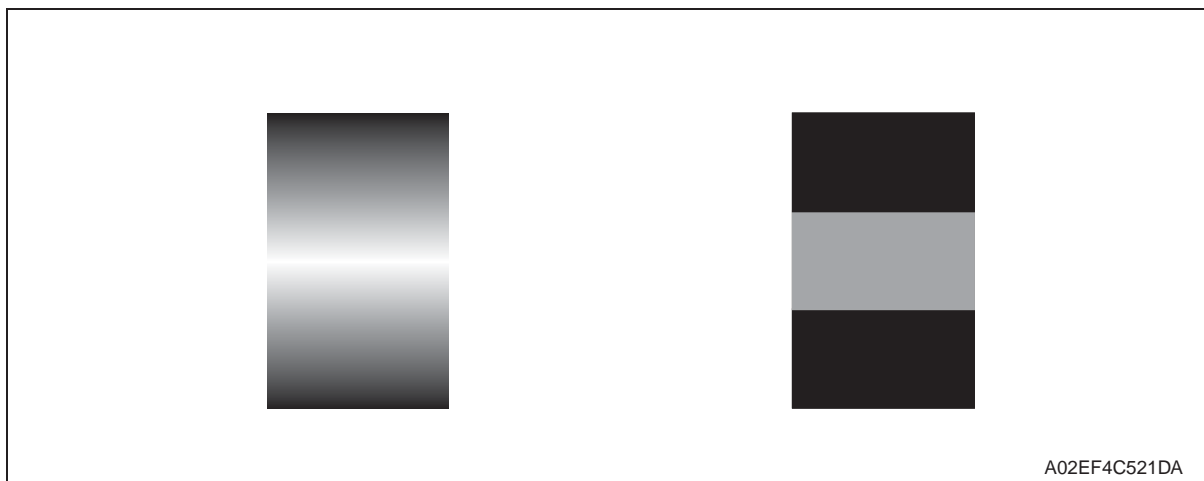


**22.2.26 Printer 4-color: uneven density in sub scan direction****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
5		Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit.

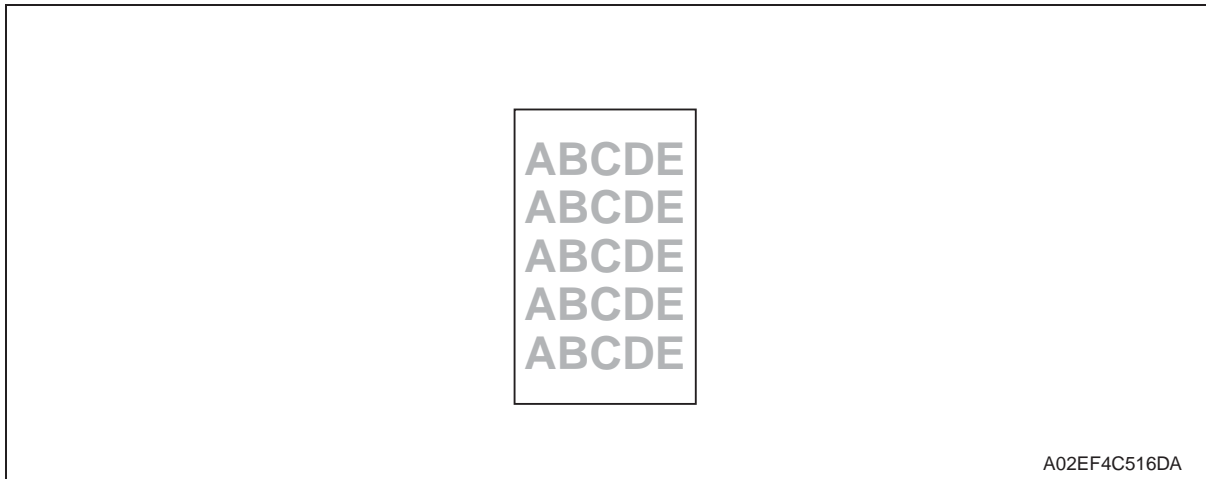
**22.2.27 Printer 4-color: uneven density in main scan direction**

**A. Typical faulty images**

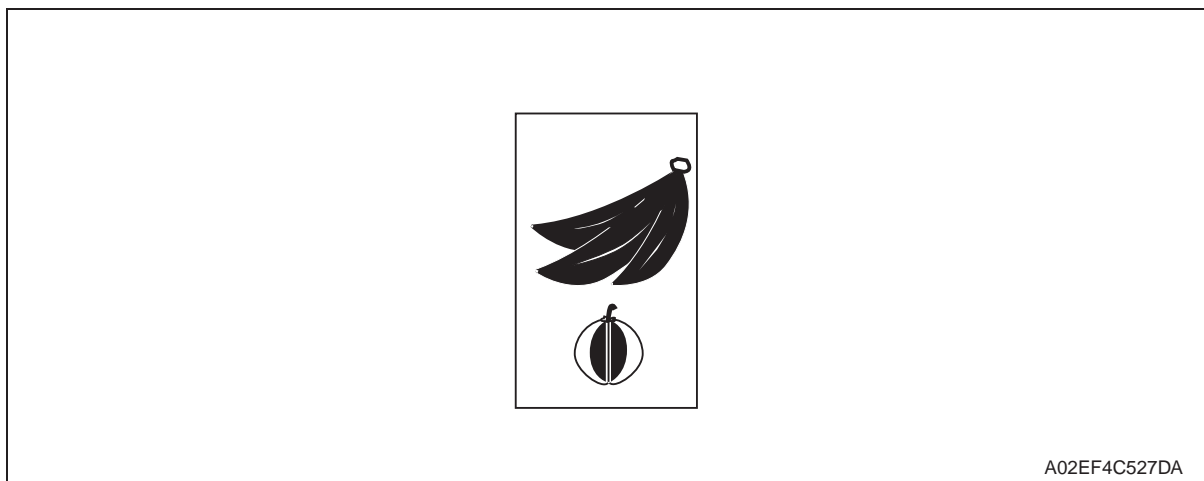


**B. Troubleshooting procedure**

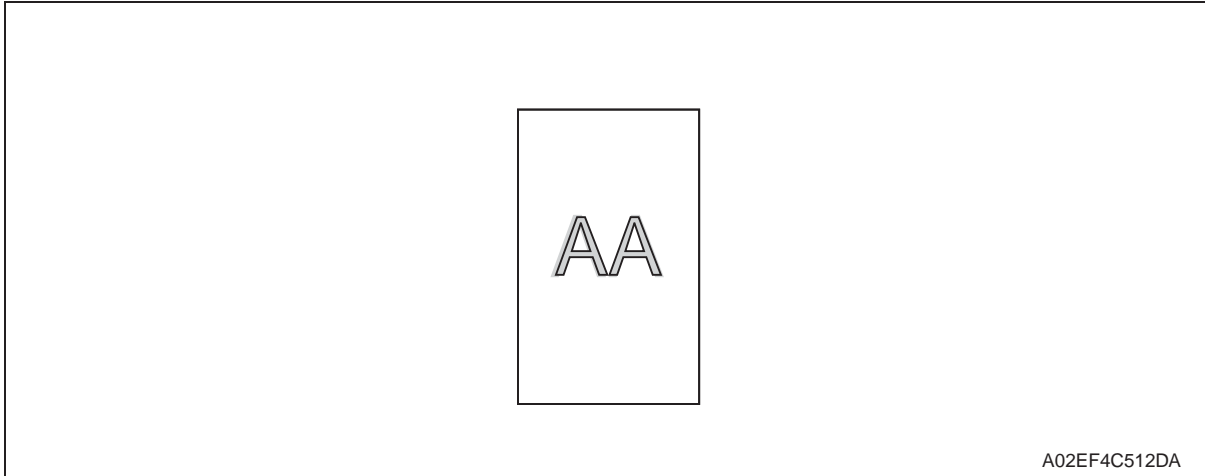
Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
5		Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit. → Change high voltage unit.

**22.2.28 Printer 4-color: low image density****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Transfer belt unit	Terminal is dirty.	YES	Clean.
3	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
4		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
5	IDC sensor	Sensor is dirty.	YES	Clean IDC sensor and execute the calibration.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit. → Change IDC sensor. → Change printer control board. → Change high voltage unit.

**22.2.29 Printer 4-color: poor color reproduction****A. Typical faulty images****B. Troubleshooting procedure**

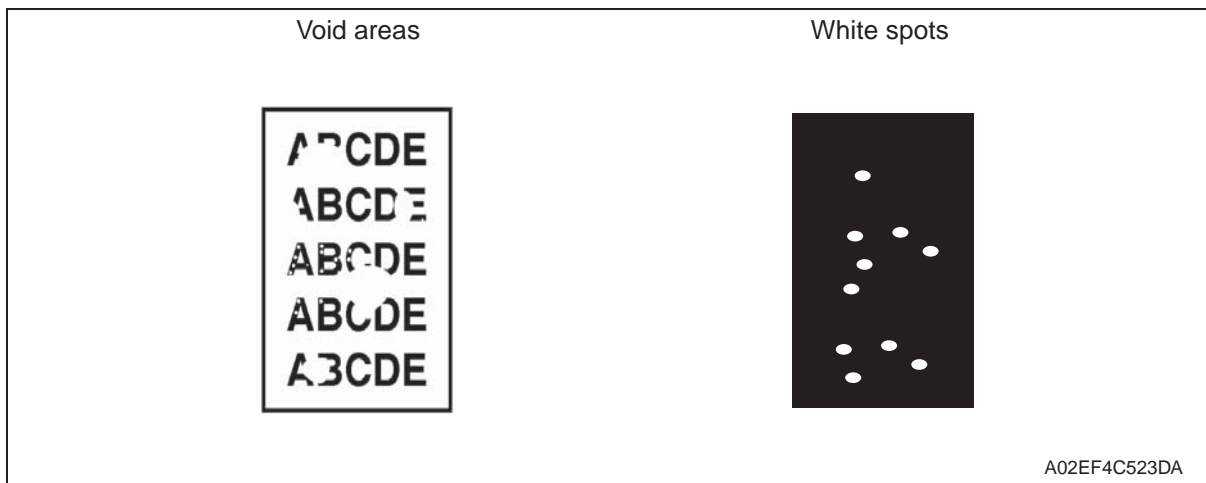
Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Transfer belt unit	Terminal is dirty.	YES	Clean.
3	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
4		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
5	IDC sensor	Sensor is dirty.	YES	Clean IDC sensor and execute the calibration.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit. → Change printer control board. → Change high voltage unit. → Change MFP board/2.

**22.2.30 Printer 4-color: incorrect color image registration****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Machine condition	Vibration is given to the machine after main power switch has been turned ON.	YES	Turn off the main power switch and turn it on again more than 10 seconds after.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
3		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
4		Drive coupling to the machine is dirty.	YES	Clean.
5	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
6	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
7		Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change transfer belt unit. Change printer control board. Change MFP board/2.

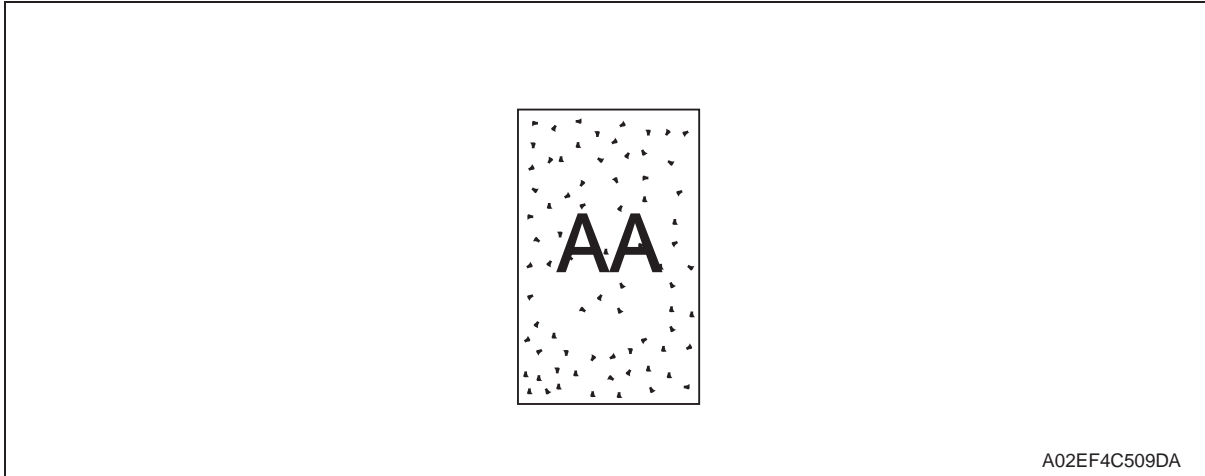
**22.2.31 Printer 4-color: void areas, white spots**

**A. Typical faulty images**



**B. Troubleshooting procedure**

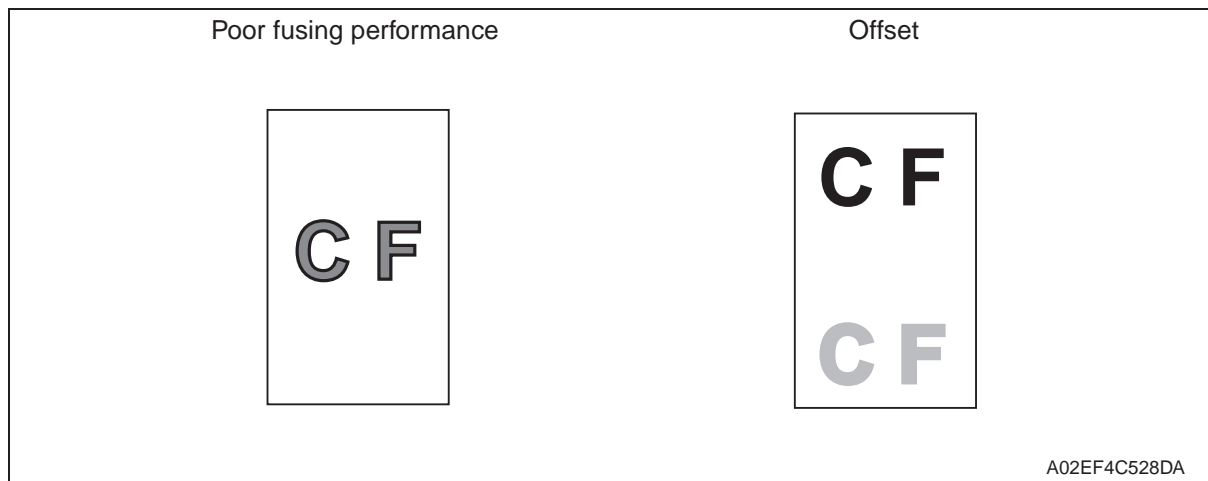
Step	Section	Check item	Result	Action
1	Image check	There are void areas at the front side or high density section.	YES	<a href="#">See P.373</a>
2		There are void areas in the trailing edge.	YES	Perform [TRANSFER POWER] of [ADJUST] under SERVICE MODE.
3	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
4		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
5	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
7	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
8		Pre-image transfer guide plate is damaged or dirty.	YES	Clean or change.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change transfer belt unit.

**22.2.32 Printer 4-color: colored spots****A. Typical faulty images****B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
3		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
4	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6	Fuser unit	Fusing belt is dirty or scratched.	YES	Change fuser unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change transfer belt unit.

**22.2.33 Printer 4-color: poor fusing performance, offset**

**A. Typical faulty images**



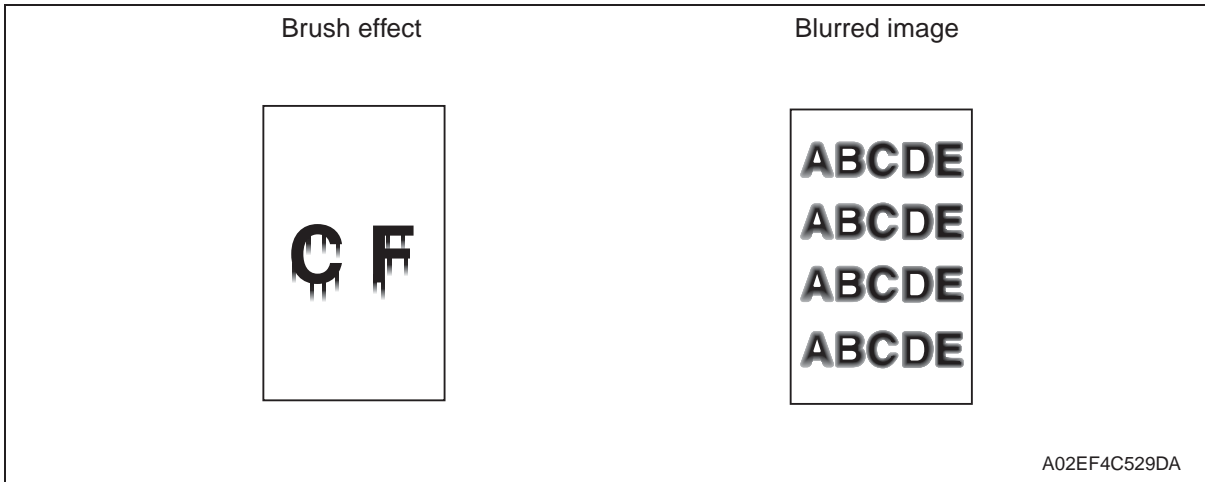
**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Paper	Paper type does not match.	YES	Change the setting.
2	ADJUST→ TEMPERATURE (SERVICE MODE)	Changing fusing temperature eliminates the problem of poor fusing performance and offset.	YES	Readjust fusing temperature.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change fuser unit.



**22.2.34 Printer 4-color: brush effect, blurred image**

**A. Typical faulty images**

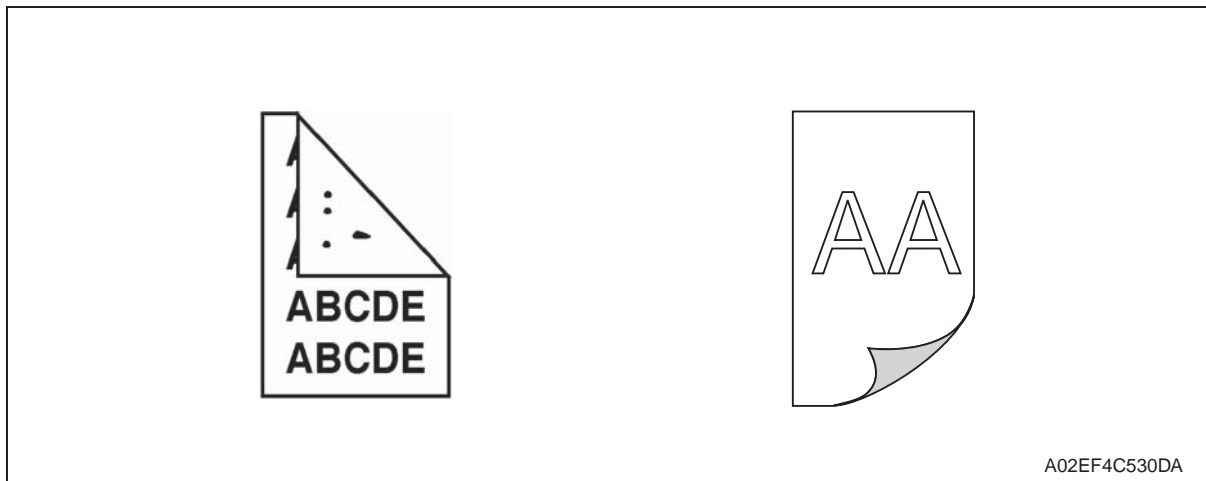


**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2		Paper type does not match.	YES	Change the setting.
3	Fuser unit	Fuser unit is installed properly.	NO	Reinstall.
4		Fusing entrance guide plate is dirty.	YES	Clean.
5		Fusing belt is dirty or scratched.	YES	Change fuser unit.

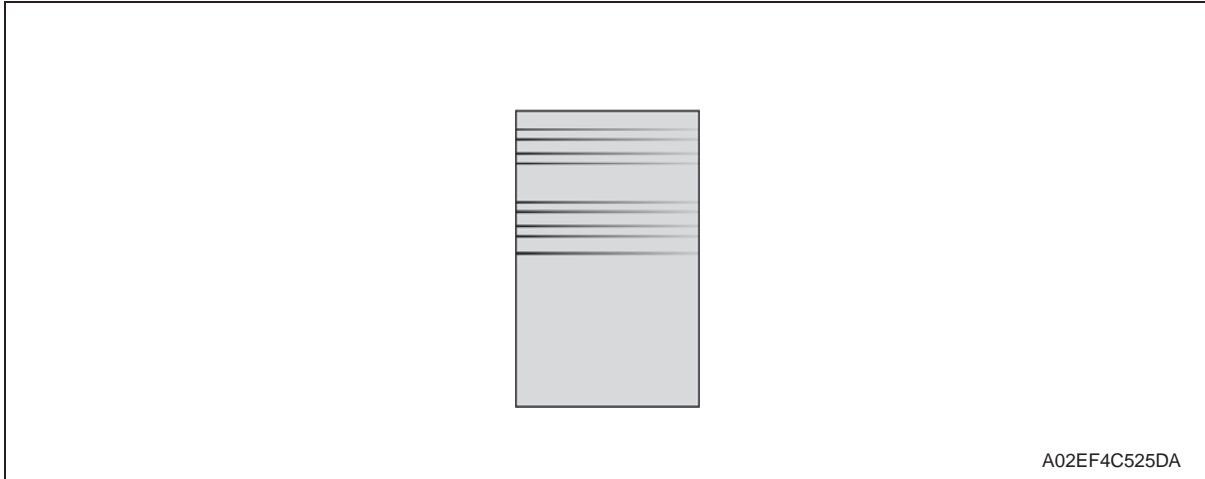
**22.2.35 Printer 4-color: back marking**

**A. Typical faulty images**



**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Transfer roller unit	Transfer roller is scratched or dirty.	YES	Change transfer roller unit.
2	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
3	Fuser unit	Fusing entrance guide plate is scratched or dirty.	YES	Clean or change.
4		Lower fusing roller is scratched or dirty.	YES	Change fuser unit.
5	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit. → Change high voltage unit.

**22.2.36 Printer 4-color: uneven image****A. Typical faulty images**

A02EF4C525DA

**B. Troubleshooting procedure**

Step	Section	Check item	Result	Action
1	Toner cartridge	The toner cartridge of every color is surely installed.	NO	Re-install it.
2	PH unit	The PH unit is surely installed.	NO	Re-install it.
3	Toner cartridge	There is any stain or breakage on the drive section of the toner cartridge.	YES	Clean/replace the toner cartridge.
4	Imaging unit	There is any stain, damage or abrasion on the PC drum.	YES	Change the imaging unit.
5	Transfer roller unit	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Change the transfer roller unit.
6	Fuser unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fuser unit.	YES	Change the fuser unit.
7		The problem has been eliminated through the check of step 6.	NO	Change the transfer belt unit.

## 23. IC protector

### 23.1 Outline

- To increase product safety, this MFP has an IC protector (ICP) installed in each board. ICP is a component that protects IC. If the amount of the current supplied to the electrical parts such as motor exceeds the set level, ICP trips to protect IC from over current. The following list contains ICP installed in each board, related devices, and symptoms that occur when ICP trips.

### 23.2 IC protector list

#### 23.2.1 Main body

##### A. Printer control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1	-	SOS sensor	No function	0310
	-	Laser diode		
F2	CL1	Media feed clutch	No function	Misfeed at tray 3 *1
	CL2	Conveyance clutch		
	M1	Media feed motor		
ICP1	FM10	DC power supply fan motor	No function	0045 *1
	FM11	Cooling fan motor		
ICP2	CL1	Tray 2 media feed clutch	No function	0094 *1 0096 *1
	CL2	Tray 1 media feed clutch		
	CL3	Registration clutch		
	CL4	Toner supply clutch/Y		
	CL5	Toner supply clutch/M		
	CL6	Toner supply clutch/C		
	CL7	Toner supply clutch/K		
	CL8	Loop detection clutch		
	CL11	Switchback roller feed clutch		
	CL12	Switchback roller reverse clutch		
	CL13	Duplex conveyance roller clutch		
	SD1	1st transfer release solenoid		
	SD2	2nd transfer release solenoid		
TCT	Total counter			
ICP3	HV	High voltage unit	No function	Process caution *1
ICP4	M5	Polygon motor	No function	0300
ICP5	-	On-board components	No function	Regardless of whether the door is open or closed, Door Open error is displayed.

\*1: This is an error that occurs when the power switch is turned ON. If the IC protector trips after the power switch is turned ON, another error may occur.

**B. DC power supply**

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
FU101	-	DC power supply circuit	DC power supply does not supply power.	Power switch is not turned ON.
FU191	-	Heater circuit	The heater does not turn ON.	0500 *1

\*1: This is an error that occurs when the power switch is turned ON. If the IC protector trips after the power switch is turned ON, another error may occur.

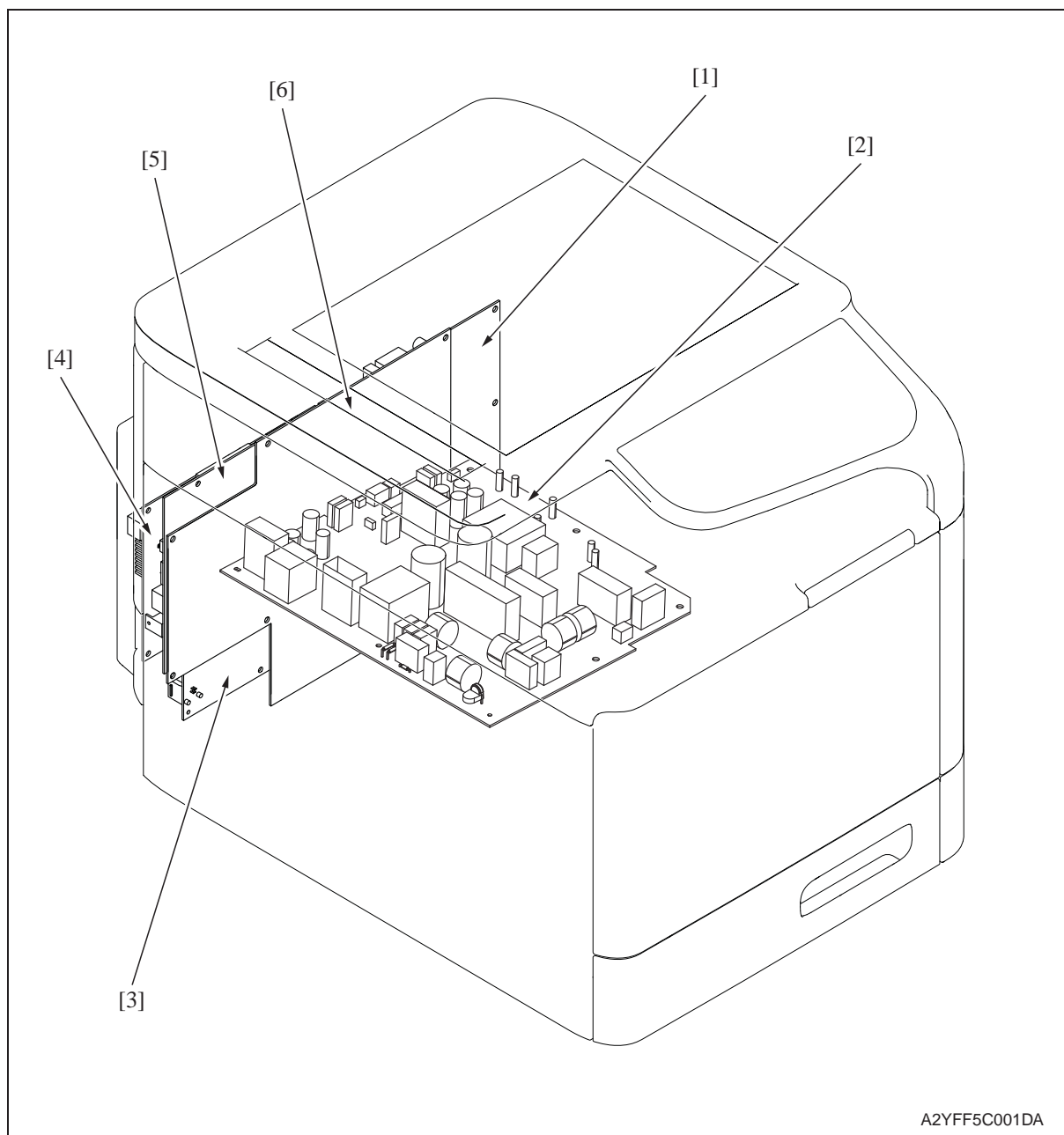
**23.2.2 Lower feeder unit PF-P09****A. PC control board**

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	CL1	Media feed clutch	No function	Misfeed at tray 3 paper feed section
ICP2	CL2	Conveyance clutch	No function	Misfeed at tray 3 vertical conveyance section

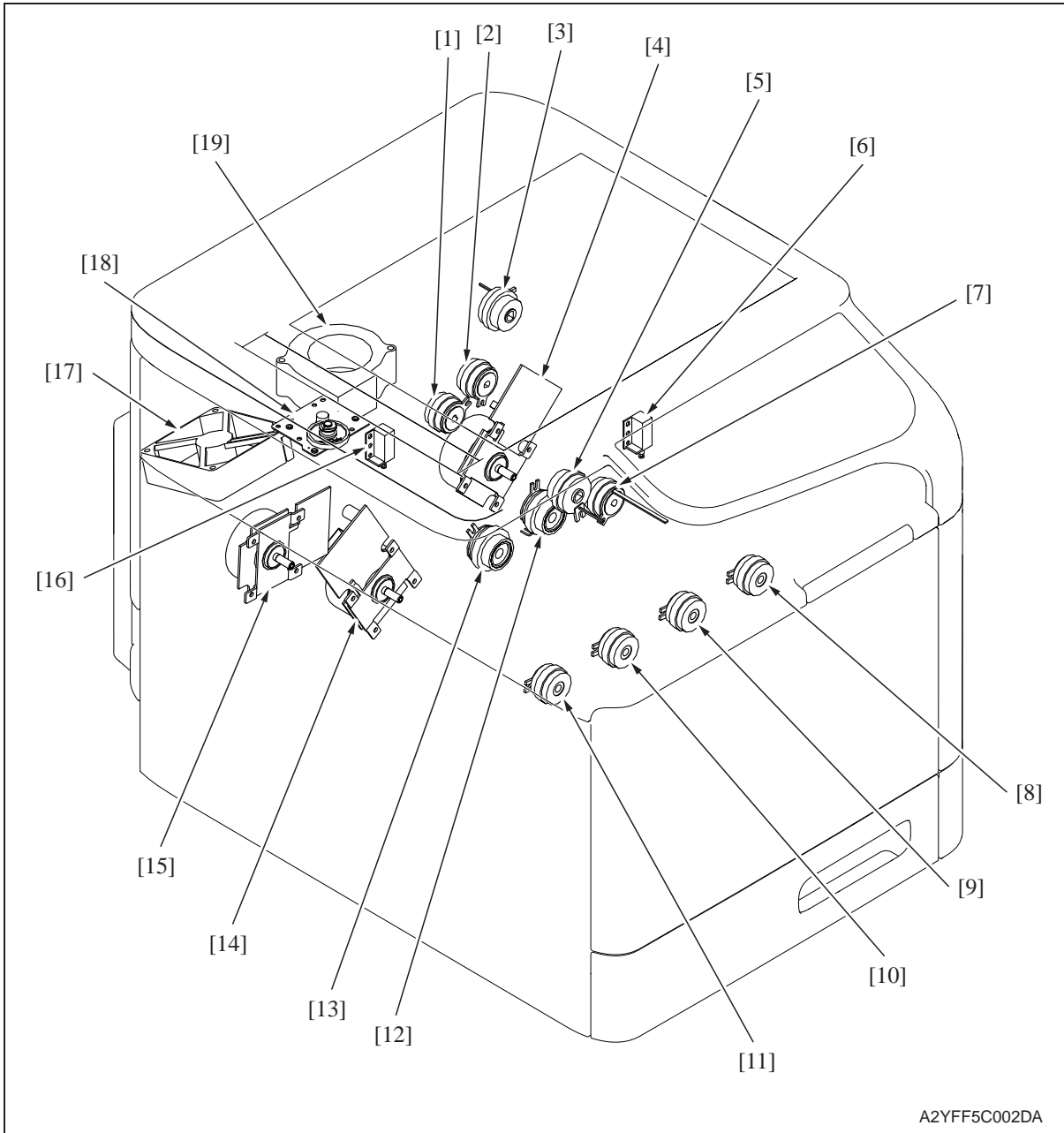
# APPENDIX

## 24. PARTS LAYOUT DRAWING

### 24.1 Main body

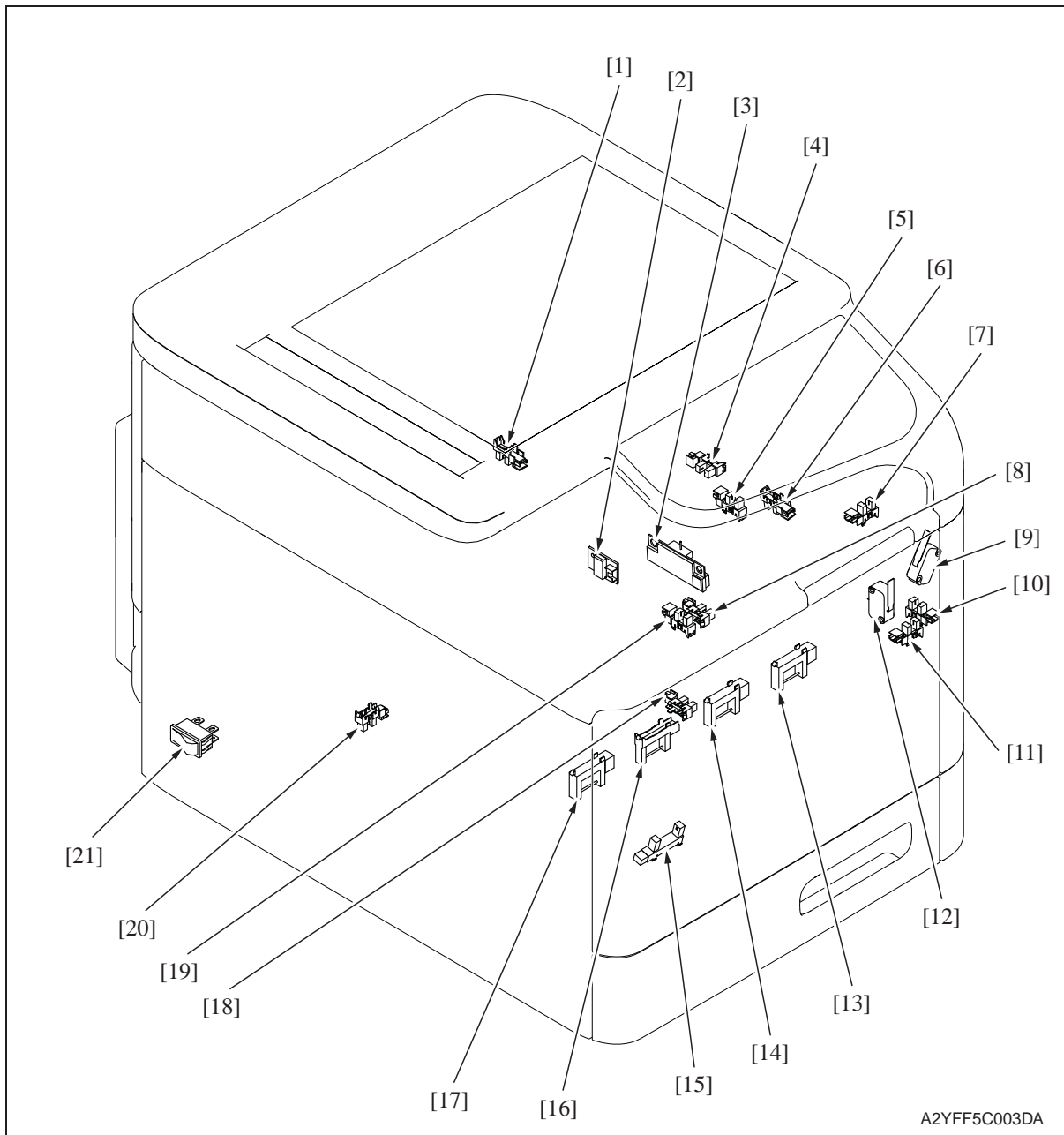


- |                                  |                             |
|----------------------------------|-----------------------------|
| [1] Printer control board (PRCB) | [4] MFP board/2 (MFPB/2)    |
| [2] DC power supply (DCPU)       | [5] MFP board/1 (MFPB/1)    |
| [3] FAX board (FAXB)             | [6] High voltage unit (HV1) |



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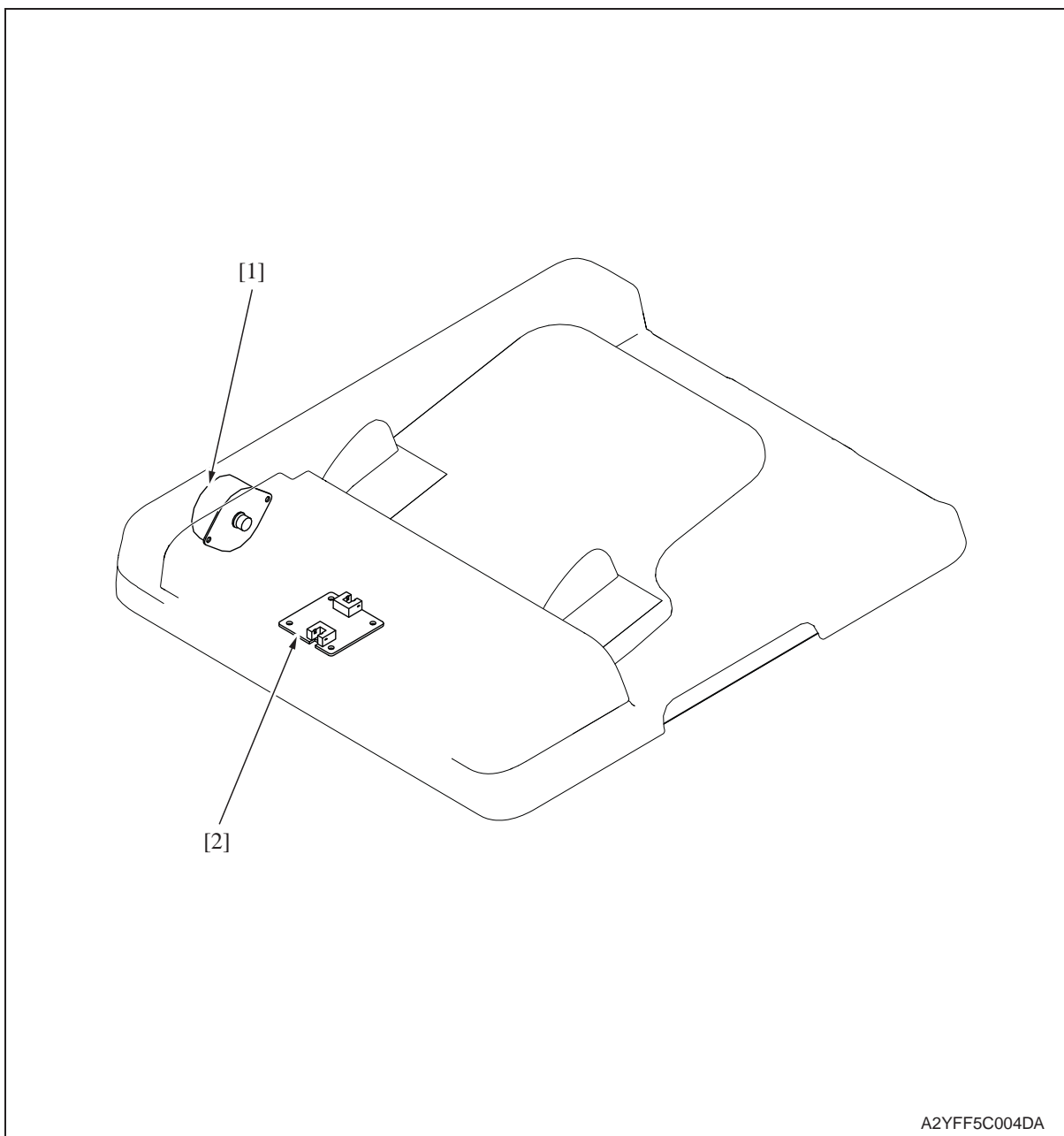
- |   |  |
|---|--|
| [1] Switchback roller reverse clutch (CL12) | [11] Toner supply clutch/Y (CL4)         |
| [2] Switchback roller feed clutch (CL11)    | [12] Tray 1 media feed clutch (CL2)      |
| [3] Loop detection clutch (CL8)             | [13] Tray 2 media feed clutch (CL1)      |
| [4] Main motor (M2)                         | [14] Developing motor (M1)               |
| [5] Registration clutch (CL3)               | [15] Color PC drum motor (M4)            |
| [6] 2nd transfer release solenoid (SD2)     | [16] 1st transfer release solenoid (SD1) |
| [7] Duplex conveyance roller clutch (CL13)  | [17] DC power supply fan motor (FM10)    |
| [8] Toner supply clutch/K (CL7)             | [18] Scanner motor (M101)                |
| [9] Toner supply clutch/C (CL6)             | [19] Cooling fan motor (FM11)            |
| [10] Toner supply clutch/M (CL5)            |  |



- |   |  |
|---|--|
| [1] 1st transfer release sensor (PS17)      | [12] Front door switch (SW2)             |
| [2] Temperature/ humidity sensor (TEM/HUMS) | [13] Toner level sensor/K (PS16)         |
| [3] IDC sensor (IDC)                        | [14] Toner level sensor/C (PS15)         |
| [4] Loop detection sensor (PS6)             | [15] Waste toner near full sensor (PS12) |
| [5] Duplex conveyance sensor (PS9)          | [16] Toner level sensor/M (PS14)         |
| [6] Media full sensor (PS7)                 | [17] Toner level sensor/Y (PS13)         |
| [7] Exit sensor (PS8)                       | [18] Tray2 media empty sensor (PS2)      |
| [8] Tray1 media empty sensor (PS3)          | [19] Registration sensor (PS5)           |
| [9] Right door switch (SW3)                 | [20] Tray2 set sensor (PS1)              |
| [10] Right door sensor (PS11)               | [21] Power switch (SW1)                  |
| [11] Front door sensor (PS10)               |  |



### 24.2 ADF

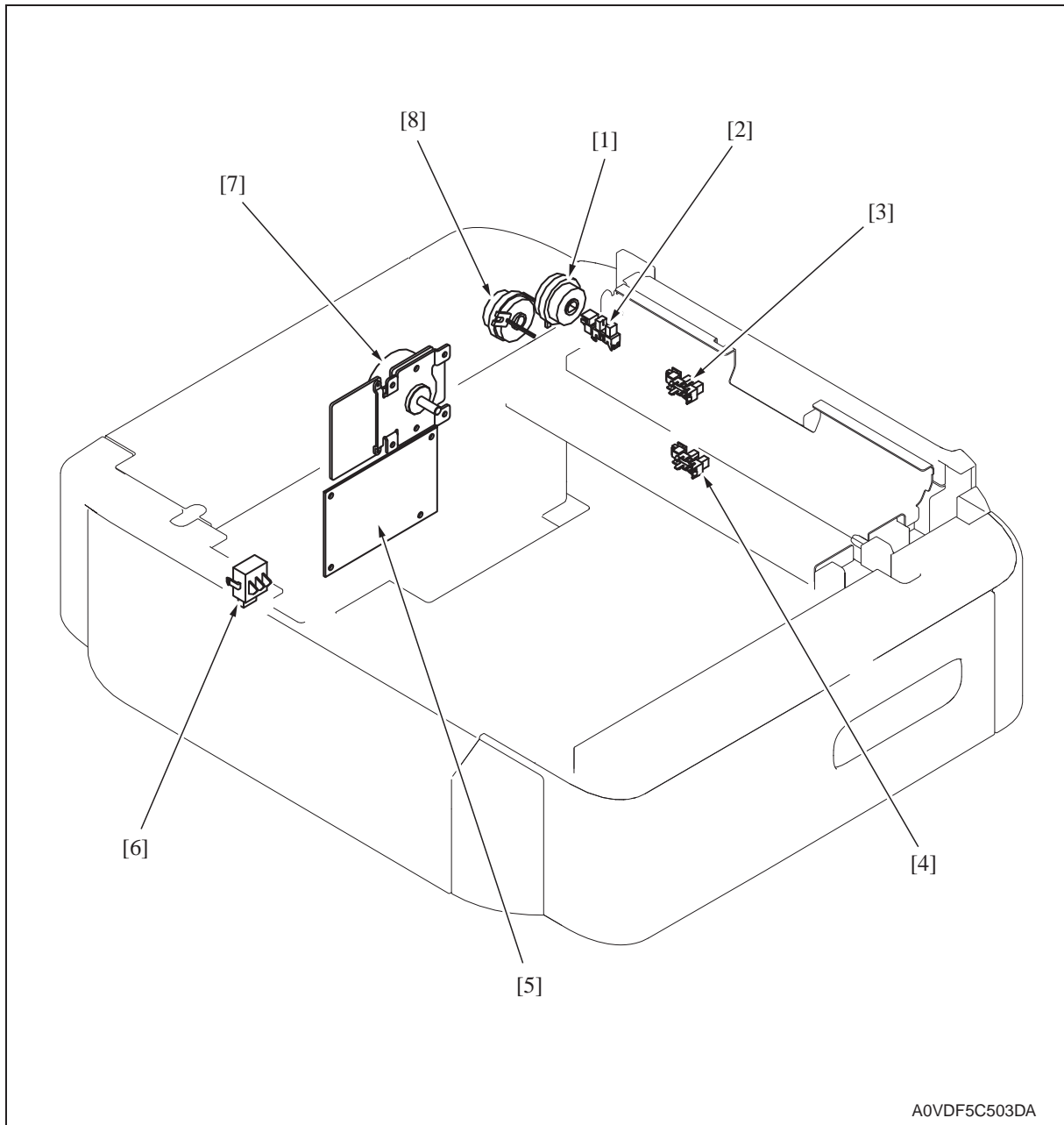


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[1] DF transport motor (M100)

[2] Relay board/1 (REYB/1)

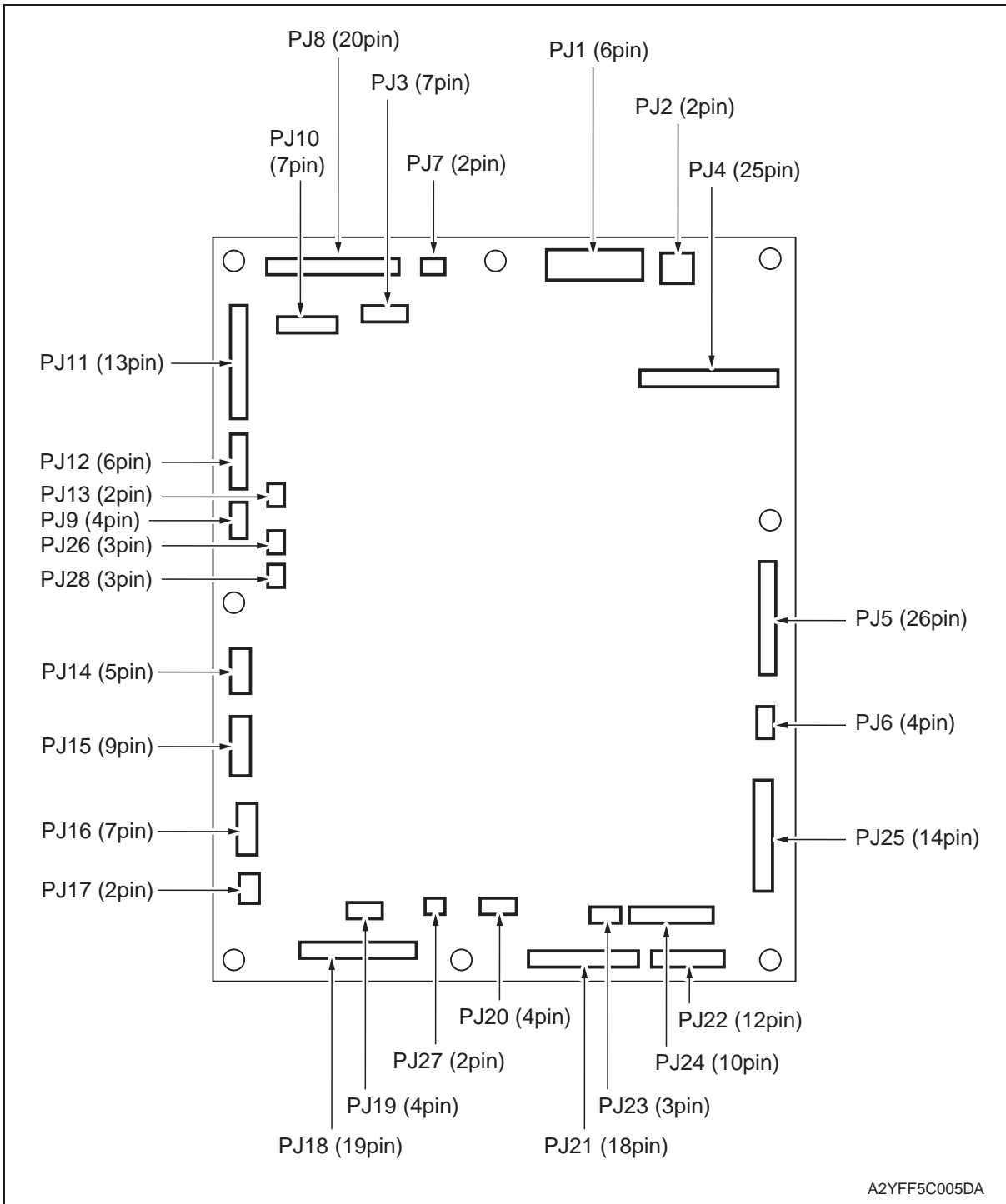
### 24.3 Lower feeder unit (option)



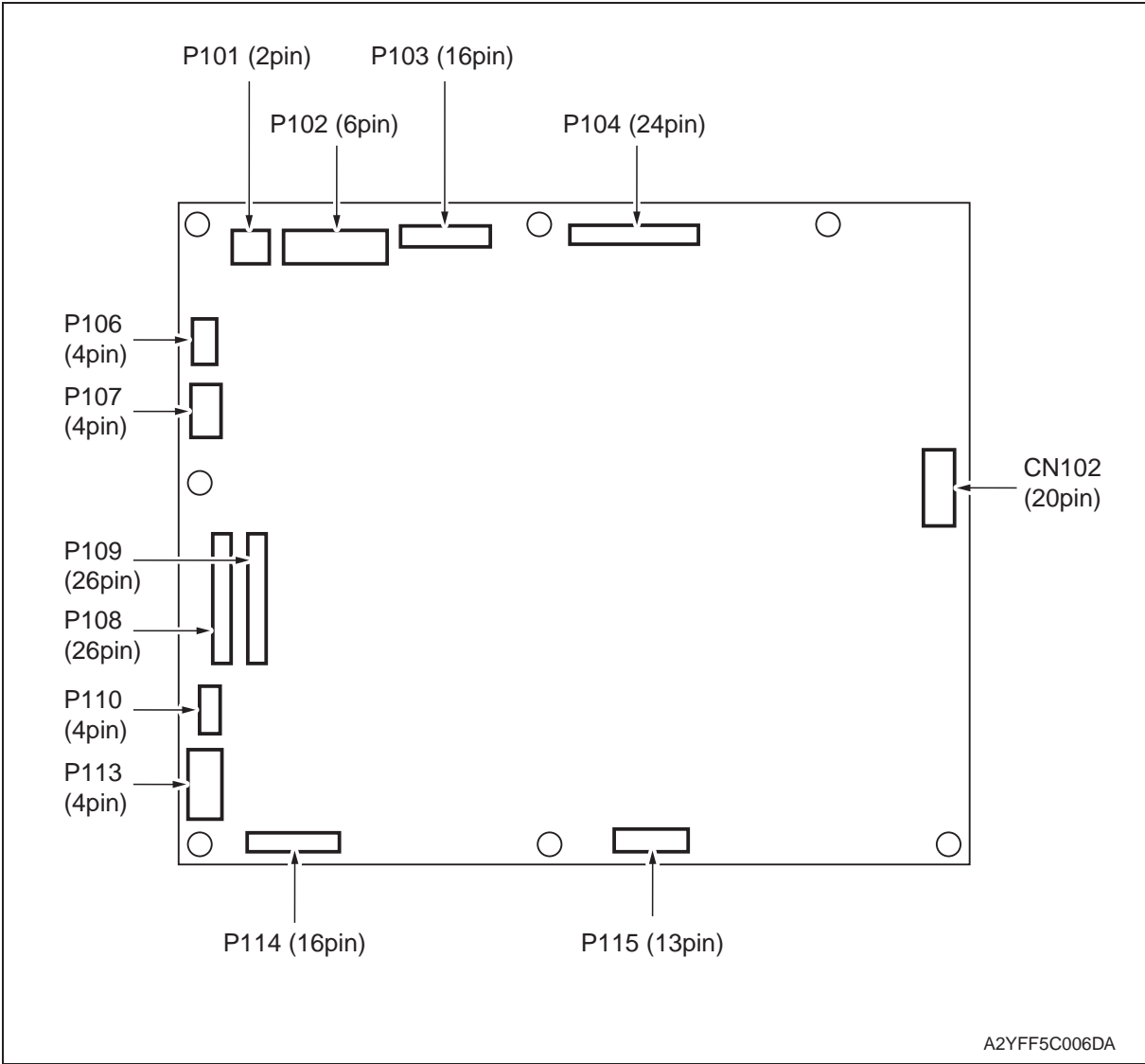
- |                              |                             |
|------------------------------|-----------------------------|
| [1] Conveyance clutch (CL2)  | [5] PC control board (PCCB) |
| [2] Right door sensor (PS5)  | [6] Media size switch (SW1) |
| [3] Media feed sensor (PS3)  | [7] Media feed motor (M1)   |
| [4] Media empty sensor (PS1) | [8] Media feed clutch (CL1) |

# 25. CONNECTOR LAYOUT DRAWING

## 25.1 Printer control board (PRCB)



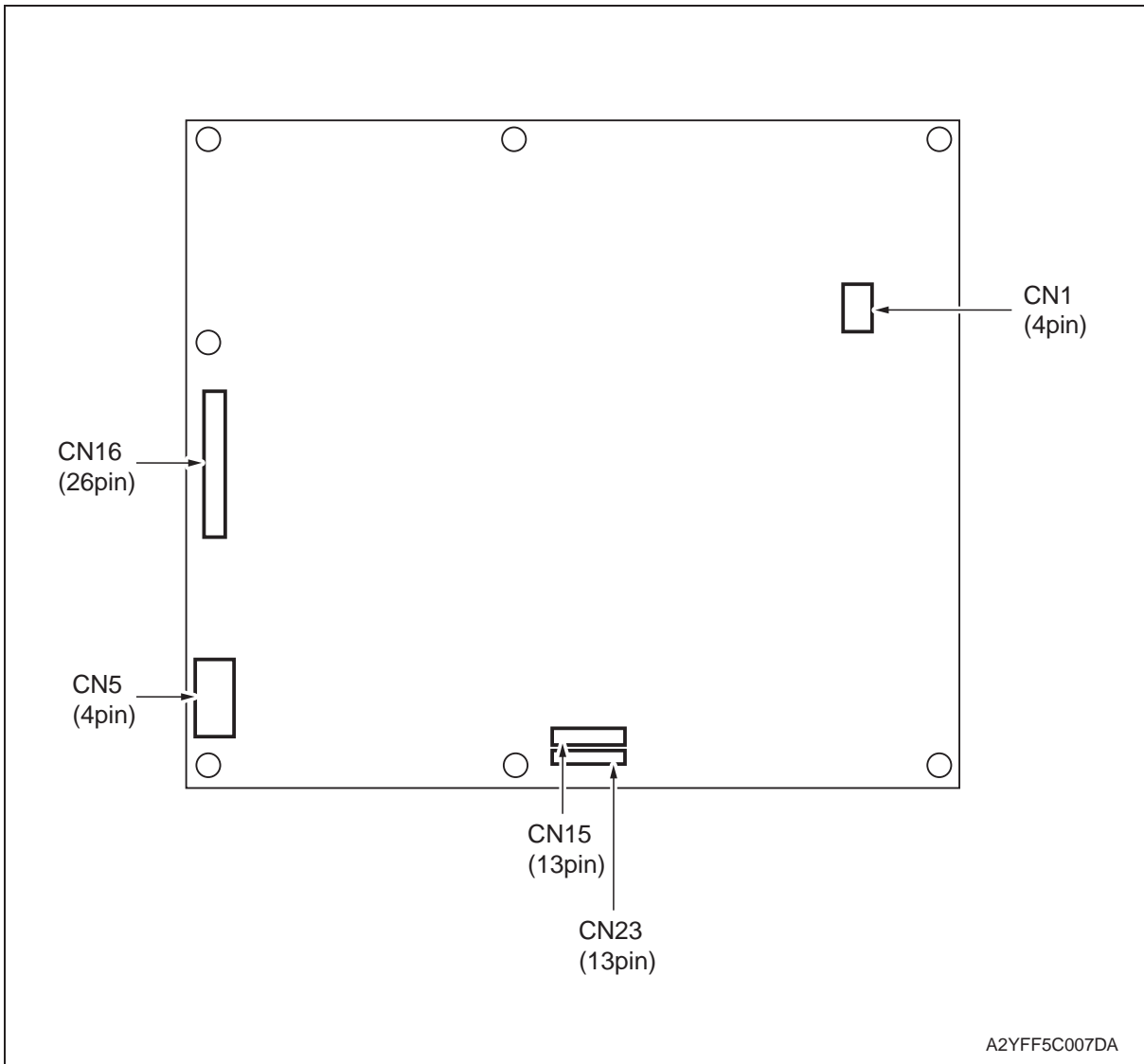
### 25.2 MFP board/1 (MFPB/1)



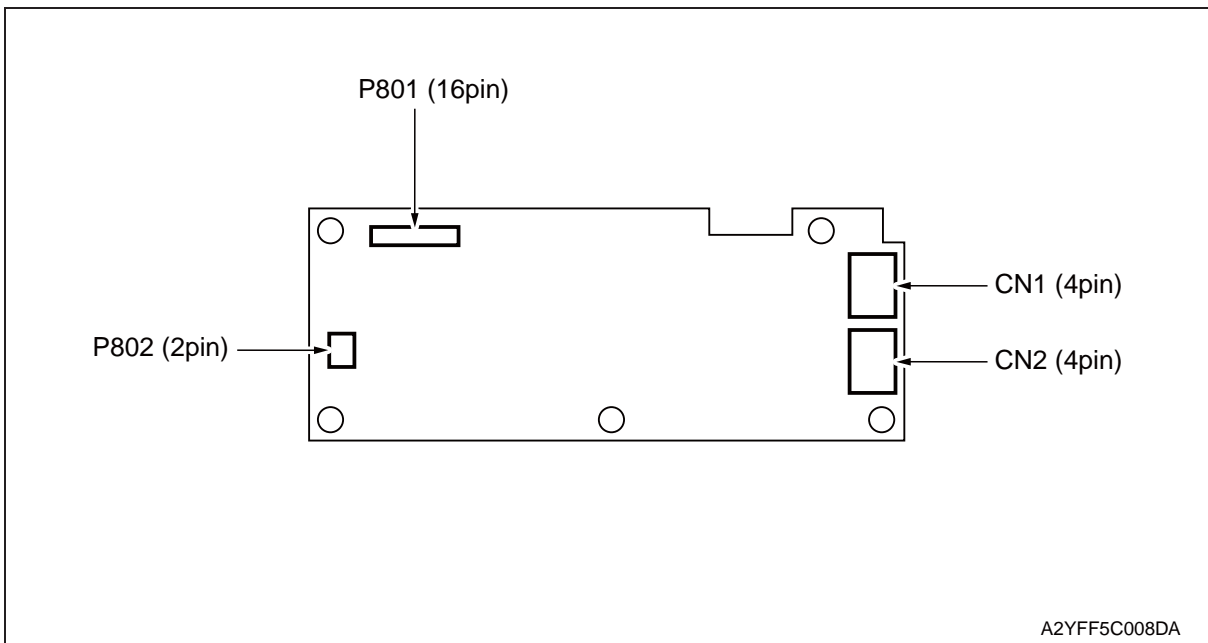
d-Color MF2400

APPENDIX

### 25.3 MFP board/2 (MFPB/2)



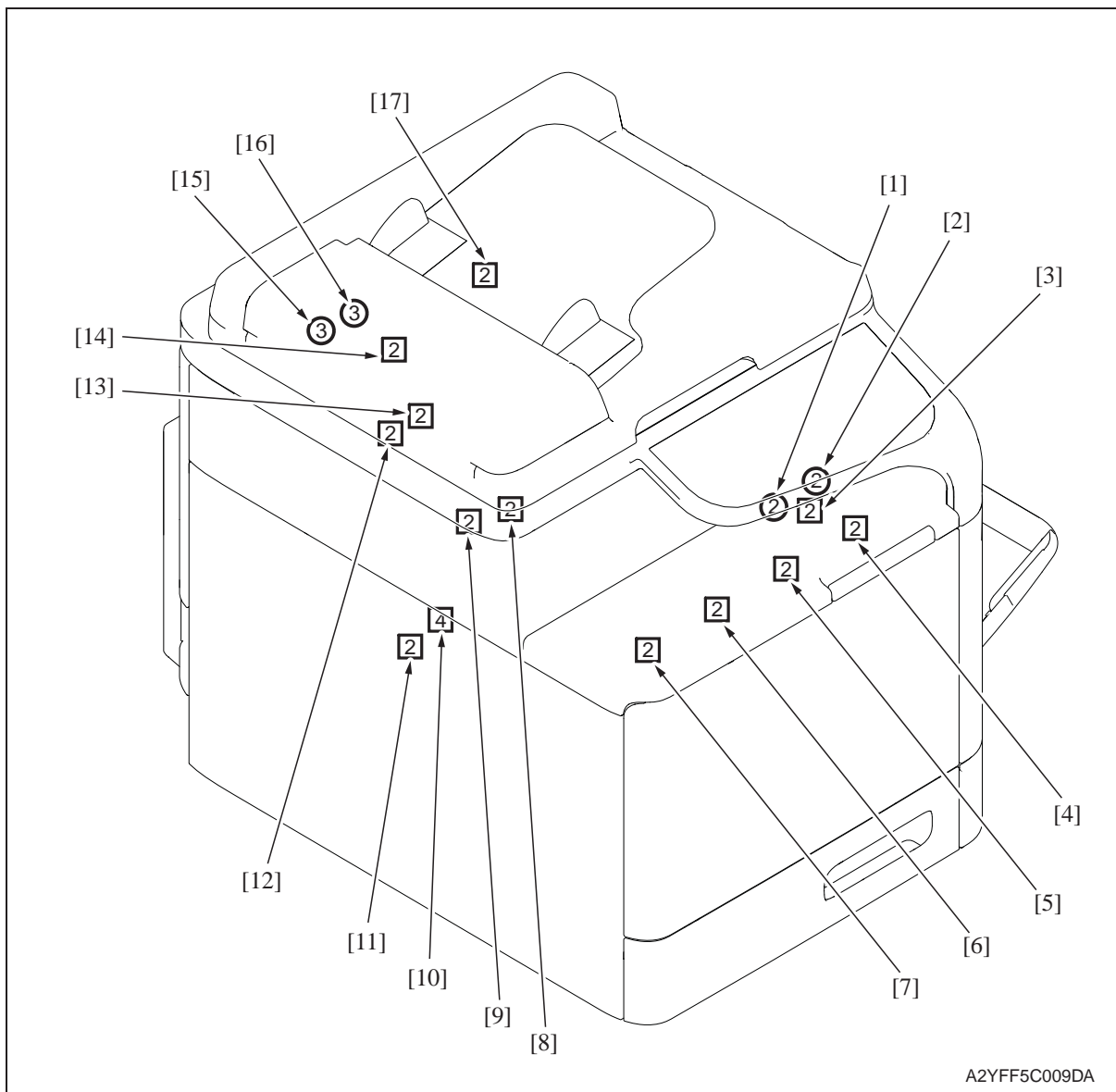
### 25.4 FAX board (FAXB)



# 26. CONNECTOR LAYOUT DRAWING

**Description**

Number of Pin → ① Possible to confirm by removing external cover.  
 → 1 Not possible to confirm by removing external cover.



A2YFF5C009DA

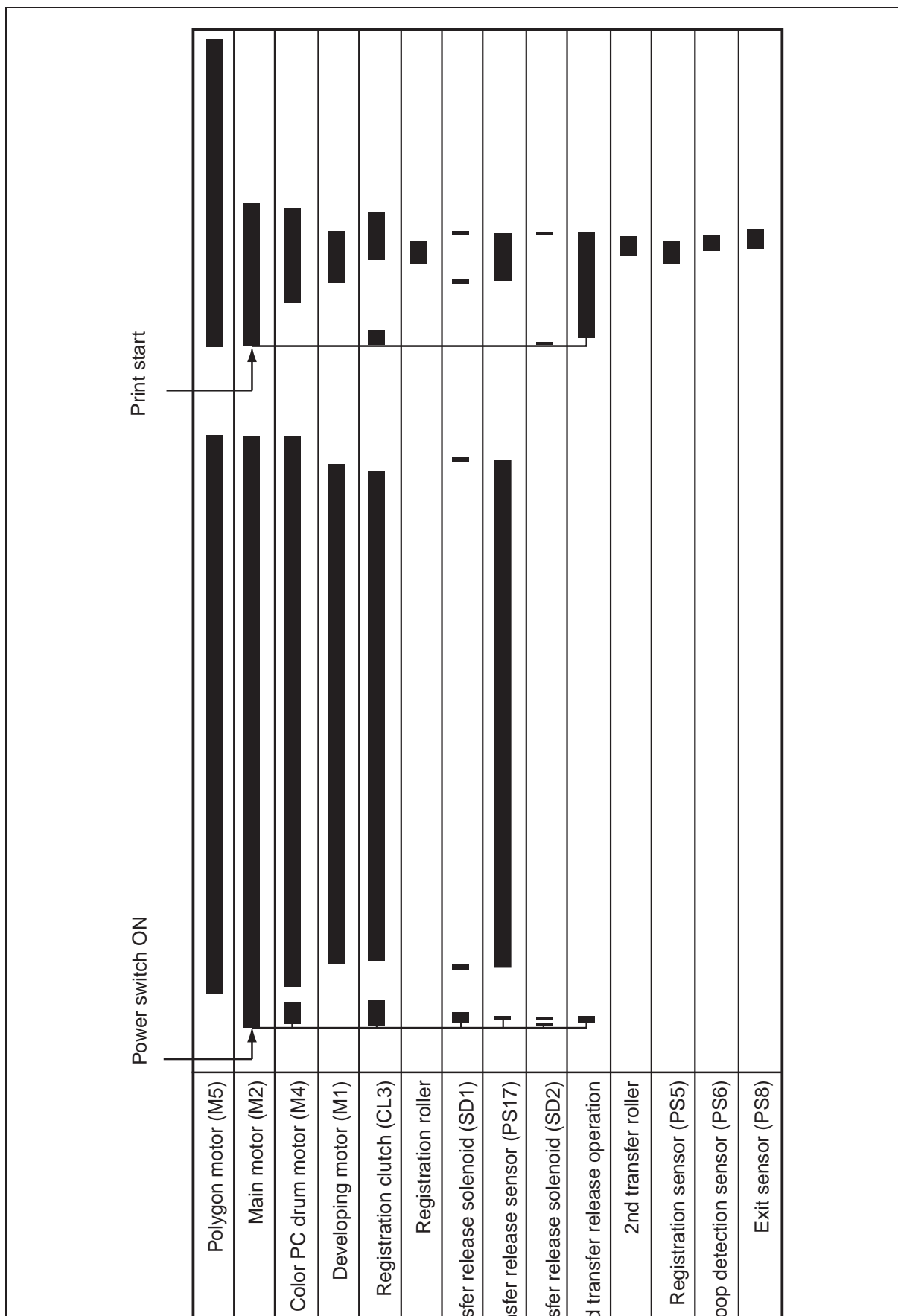
No.	CN No.	Location	No.	CN No.	Location
[1]	CN22	G-3	[10]	CN101	G-5
[2]	CN20	F-3	[11]	CN62	G-5
[3]	CN23	H-3	[12]	CN28	I-3
[4]	CN35	G-7	[13]	CN27	I-3
[5]	CN34	G-7	[14]	CN25	C-7
[6]	CN33	F-7	[15]	CN43	E-6
[7]	CN32	F-7	[16]	CN29	I-3
[8]	CN18	E-3	[17]	CN2	C-7
[9]	CN16	D-3			

# 27. TIMING CHART

## A. Operating conditions

- Color, A4S or 8 1/2 x 11S

## B. Timing chart





**Color Printer**

**PF-P09**

**SERVICE MANUAL**

Code: Y113750-1



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# Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.

Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show  to the left of the revised section.  
A number within  represents the number of times the revision has been made.
- To indicate clearly a section revised, show  in the lower outside section of the corresponding page.  
A number within  represents the number of times the revision has been made.

## NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:  
The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:  
The revision marks for Ver. 2.0 are left as they are.

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Lower Feeder Unit  
PF-P09

OUTLINE

MAINTENANCE

ADJUSTMENT / SETTING

Lower Feeder Unit  
PF-P09

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# OUTLINE

## 1. PRODUCT SPECIFICATIONS

### A. Type

Name	Add-on 500-sheet media feed cassette
Type	Front-loading type
Installation	Desk type
Media feeding system	Media separation by a small-diameter roller with torque limiter
Document alignment	Center

### B. Media type

Media size	B5S(JIS)/Executive/LetterS/A4S/Letter Plus/G-Legal/Legal
Media type	<ul style="list-style-type: none"> <li>• Plain paper: 60 to 90 g/m<sup>2</sup> (16 to 24 lb)</li> <li>• Recycled paper: 60 to 90 g/m<sup>2</sup> (16 to 24 lb)</li> </ul>
Capacity	500 sheets

### C. Machine specifications

Power Requirements	DC 24 V $\pm$ 10% (supplied from the main body)
	DC 3.3 V $\pm$ 5%
Max. Power Consumption	16 W or less
Dimensions	444 mm (W) $\times$ 528.3 mm (D) $\times$ 117 mm (H)
	17.5 inch (W) $\times$ 20.8 inch (D) $\times$ 4.6 inch (H)



### D. Operating environment



Temperature	10° to 30° C/50° to 86° F (with a fluctuation of 10° C/h (18° F/h))
Humidity	15% to 85% (with a fluctuation of 20%/h)

### NOTE

These specifications are subject to change without notice.



Lower Feeder Unit  
PF-P09

OUTLINE

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# MAINTENANCE

## 2. PERIODICAL MAINTENANCE PROCEDURE

### 2.1 Feed section

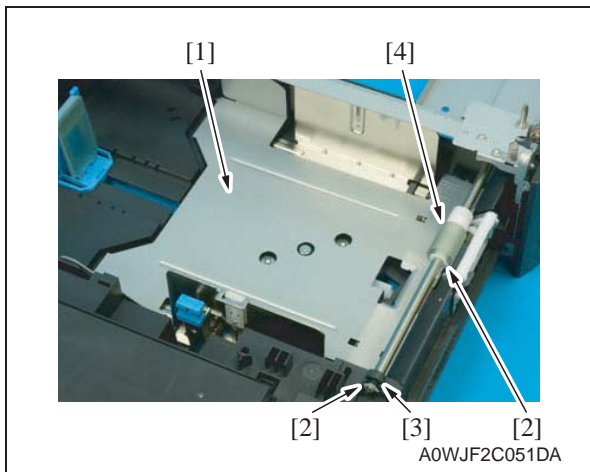
#### 2.1.1 Replacing the tray3 feed roller

##### A. Periodically replaced parts/cycle

- Tray3 feed roller: Every 300,000 counts

##### B. Procedure

1. Slide out tray3.



2. Lock the media lifting metal plate [1].
3. Remove two C-rings [2] and the bearing [3] at the front, and remove the tray3 feed roller [4].

## 3. OTHER MAINTENANCE ITEM

### 3.1 Items not allowed to be disassembled and adjusted

#### A. Paint-locked screws

##### NOTE

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

#### B. Red-painted screws

##### NOTE

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

#### C. Variable resistors on board

##### NOTE

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

#### D. Removal of PWBs

##### CAUTION

- 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.

#### E. Precautions for disassembly

- When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs of the frame and parts.  
They may injure your hands or fingers.
- If it is absolutely necessary to service the machine with the door open or external covers removed, always be attentive to the motion of the internal parts.  
A normally protected part may cause unexpected hazards.
- When removing a part that secures a motor, gear, or other moving part, disassembling a unit, or reinstalling any of such parts and units, be careful about moving parts and use care not to drop any part or unit. During the service procedure, give sufficient support for any heavy unit.  
You may be injured by a falling part or unit.



**F. Precautions during setup or transportation**

- **Whenever mounting an option on the machine, be attentive to the motion of the fellow worker of the joint work.**  
The fellow worker may be injured with his or her finger or hand pinched between the machine and the option.
- **When mounting an option on the machine, be careful about the clearance between the machine and the option.**  
You may be injured with your finger or hand pinched between the machine and the option.
- **Do not leave the machine unattended during transportation, installation, and inspection of the machine. If it is to be unavoidably left unattended, face protrusions toward the wall or take other necessary risk reducing action.**  
The user may stumble over a protrusion of the machine or be caught by a cable, falling to the floor or being injured.

### 3.2 Disassembly/reassembly parts list

Section	Part name	Ref. page
Exterior parts	Rear cover	P.6
	Rear right cover	P.7
Unit	Lower feeder unit	P.7
Board and etc	PC control board (PCCB)	P.8
Others	Media feed motor (M1)	P.8
	Media feed clutch (CL1)	P.9
	Conveyance clutch (CL2)	P.11

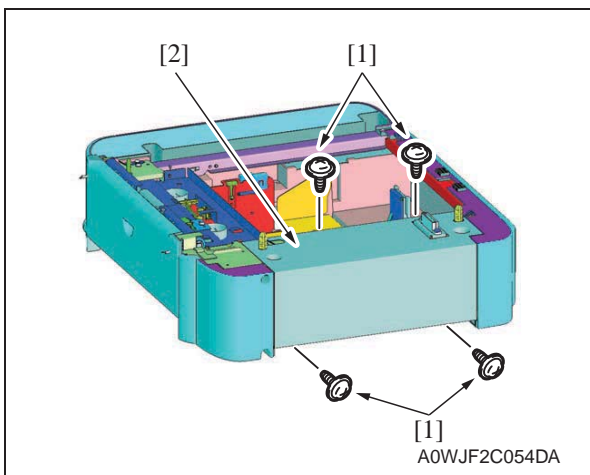
### 3.3 Cleaning parts list

Section	Part name	Ref. page
Rollers	Tray3 feed roller	P.13
	Conveyance roller	P.13

### 3.4 Disassembly/reassembly procedure

#### 3.4.1 Rear cover

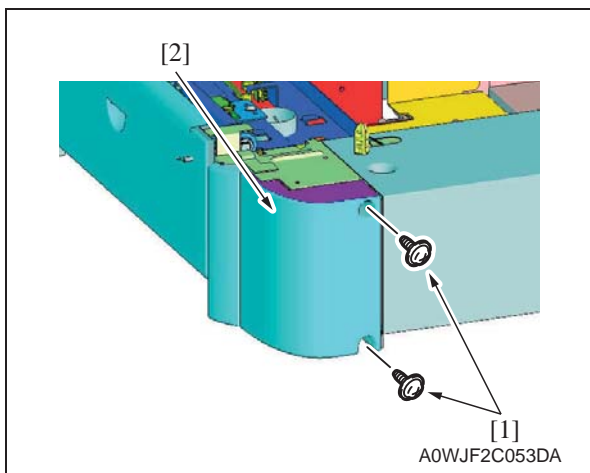
1. Remove the lower feeder unit from the machine.  
See P.7



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

### 3.4.2 Rear right cover

1. Remove the lower feeder unit from the machine.  
See P.7

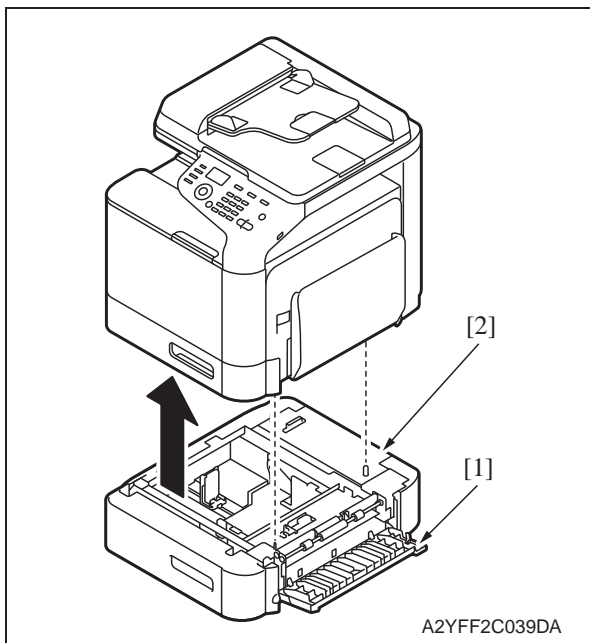


2. Remove two screws [1], and remove the rear right cover [2].

### 3.4.3 Lower feeder unit

#### NOTE

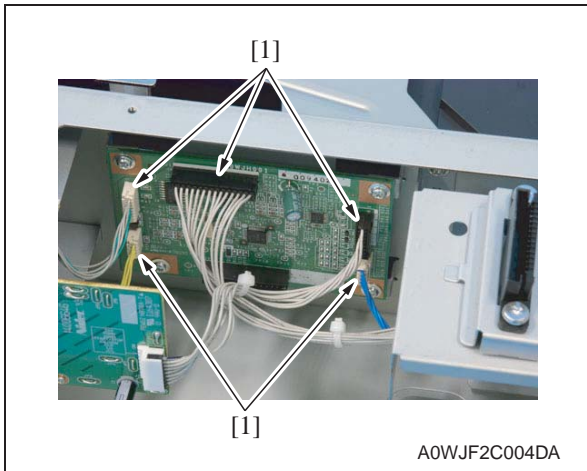
- Whenever removing or reinstalling the Lower Feeder Unit, be sure first to unplug the power cord of the printer from the power outlet.



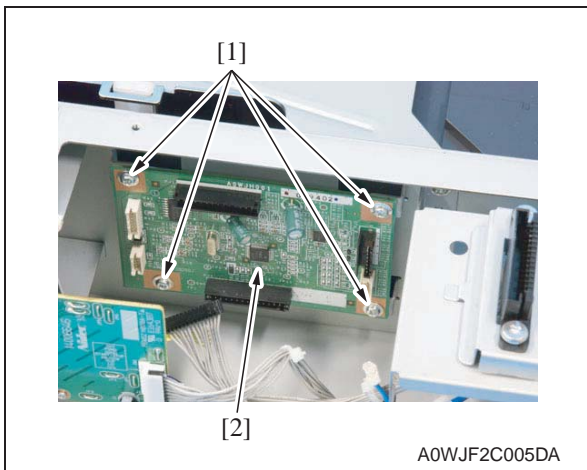
1. Open the right door [1].
2. Lift the printer main body and then remove the Lower Feeder Unit [2] from the printer.

**3.4.4 PC control board (PCCB)**

1. Remove the lower feeder unit from the machine.  
[See P.7](#)
2. Remove the rear cover.  
[See P.6](#)



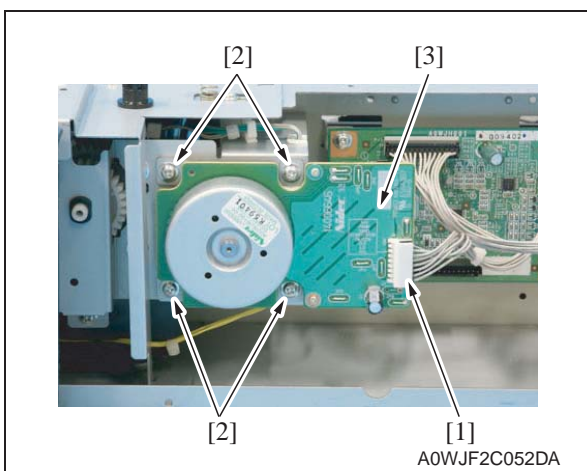
3. Disconnect five connectors [1] from the PC control board.



4. Remove four screws [1], and remove the PC control board [2].

**3.4.5 Media feed motor (M1)**

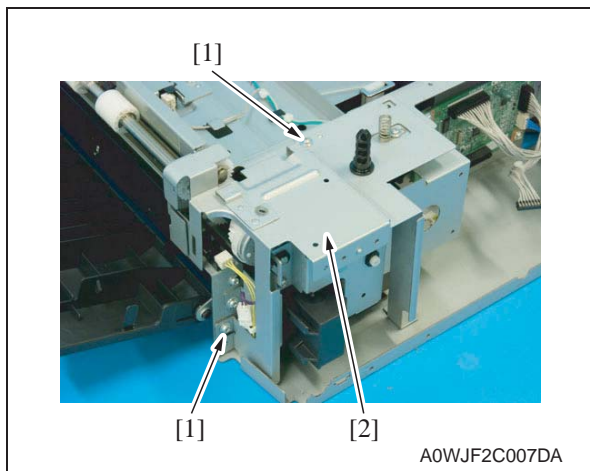
1. Remove the rear cover.  
[See P.6](#)



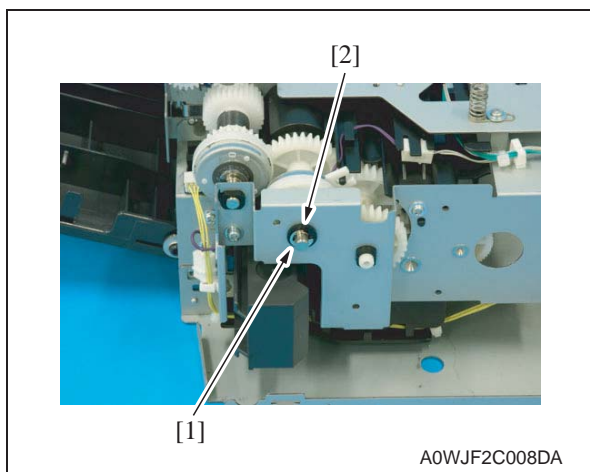
2. Disconnect the connector [1].
3. Remove four screws [2], and remove the media feed motor [3].

### 3.4.6 Media feed clutch (CL1)

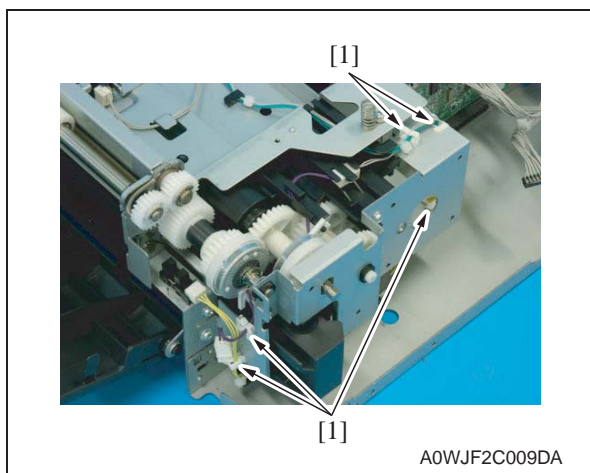
1. Remove the lower feeder unit from the machine.  
[See P.7](#)
2. Remove the rear cover.  
[See P.6](#)
3. Remove the rear right cover.  
[See P.7](#)
4. Remove the media feed motor.  
[See P.8](#)
5. Open the right door.



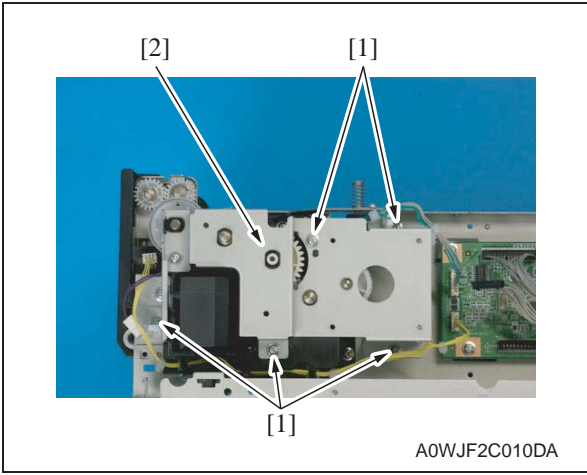
6. Remove two screws [1], and remove the protect metal plate [2].



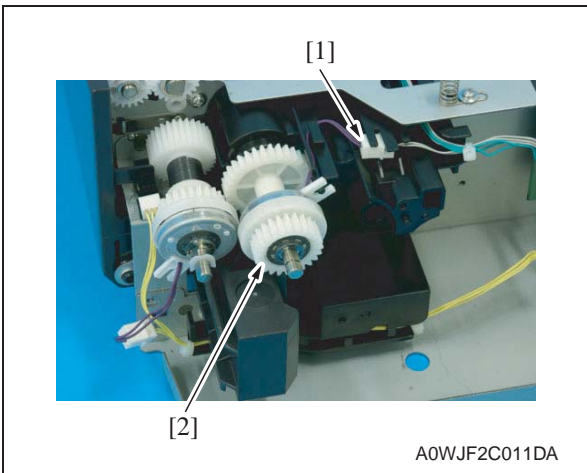
7. Remove the E-ring [1] and bushing [2].



8. Remove the harness from five edge covers [1].



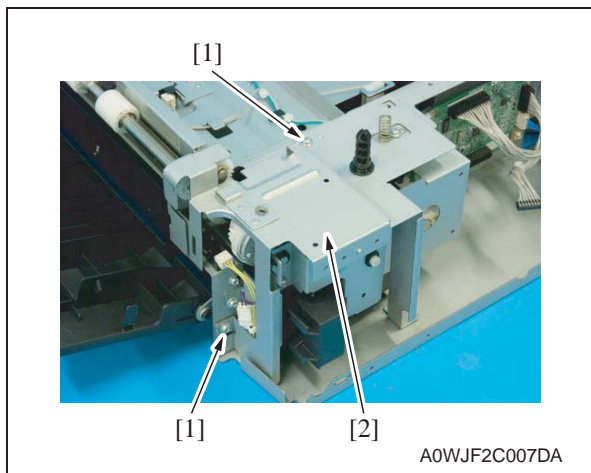
9. Remove five screws [1], and remove the gear fixing metal plate [2].



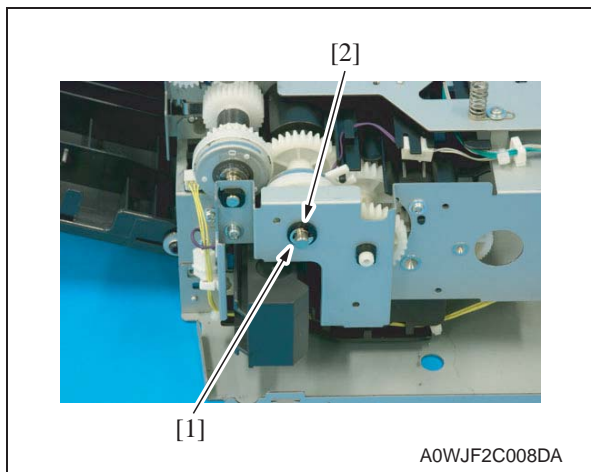
10. Disconnect the connector [1], and remove the media feed clutch [2].

### 3.4.7 Conveyance clutch (CL2)

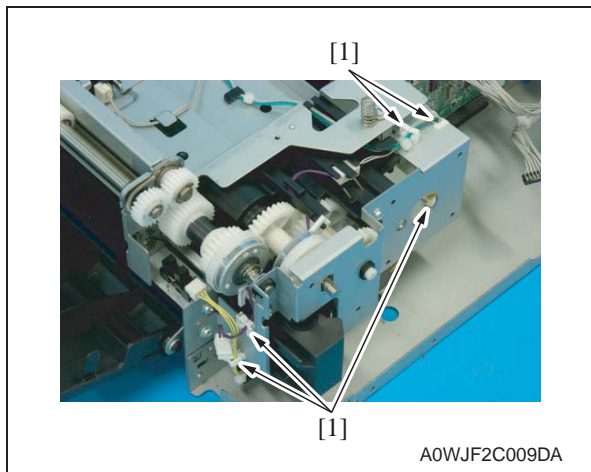
1. Remove the lower feeder unit from the machine.  
[See P.7](#)
2. Remove the rear cover.  
[See P.6](#)
3. Remove the rear right cover.  
[See P.7](#)
4. Remove the media feed motor.  
[See P.8](#)
5. Open the right door.



6. Remove two screws [1], and remove the protect metal plate [2].



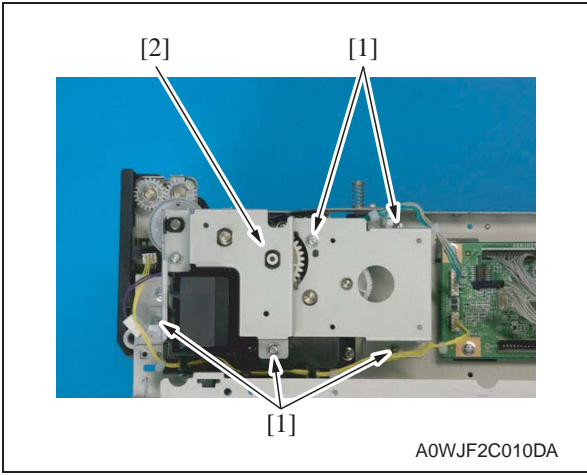
7. Remove the E-ring [1] and bushing [2].



8. Remove the harness [1] from five edge covers [1].

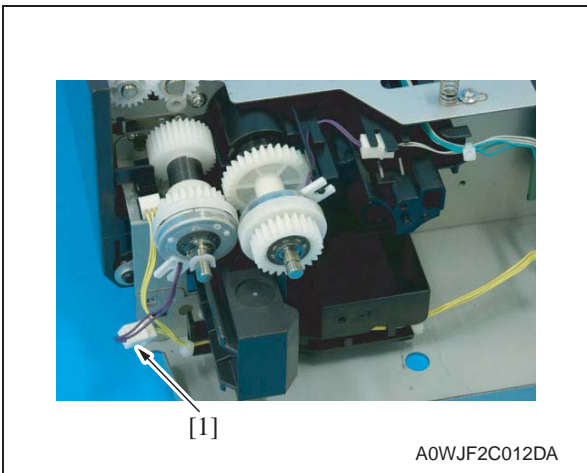


Lower Feeder Unit  
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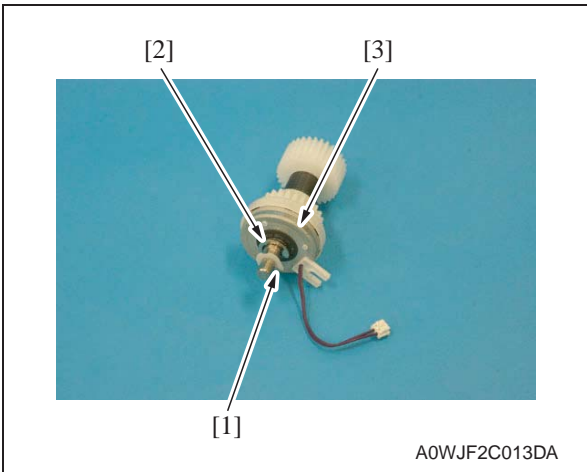


9. Remove five screws [1], and remove the gear fixing metal plate [2].

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10. Disconnect the connector [1].



11. Remove the C-ring [1] and the E-ring [2], and remove the conveyance clutch [3].



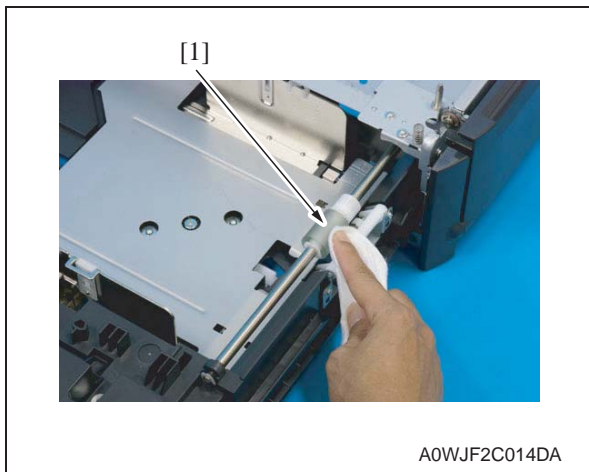
### 3.5 Cleaning point

#### NOTE

- The alcohol described in the cleaning procedure is isopropyl alcohol.

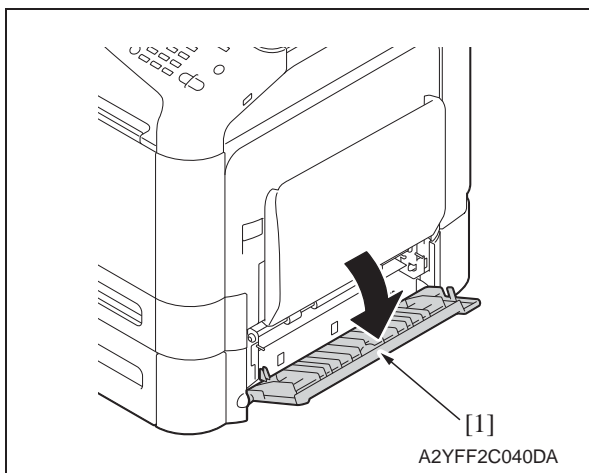
#### 3.5.1 Tray3 media feed rollers

1. Slide out tray3.

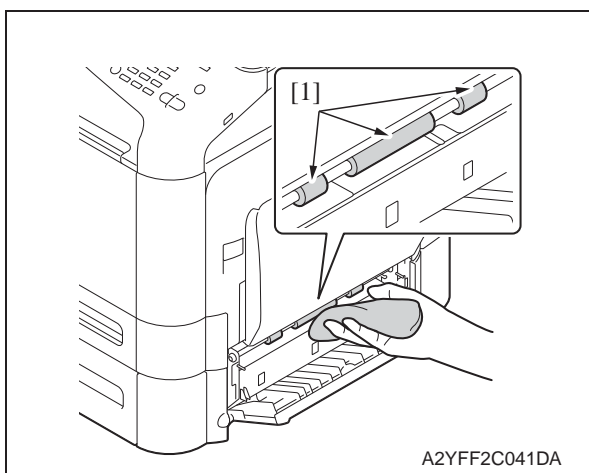


2. Wipe the tray3 media feed roller [1] clean of dirt using a cleaning pad dampened with alcohol.

#### 3.5.2 Conveyance roller



1. Open the right door [1].



2. Wipe the conveyance roller [1] clean of dirt using a cleaning pad dampened with alcohol.

Lower Feeder Unit  
PF-P09

MAINTENANCE

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# ADJUSTMENT/SETTING

## 4. HOW TO USE THE ADJUSTMENT SECTION

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

### Advance checks

Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

### CAUTION

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fuser unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

## 5. MECHANICAL ADJUSTMENT

### 5.1 Registration adjustment

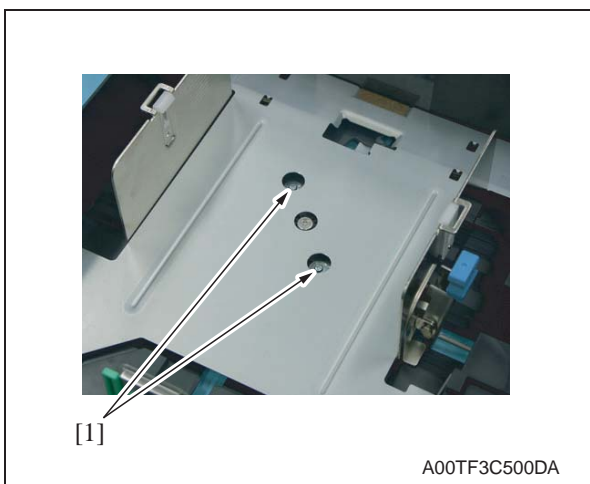
This adjustment must be made if:

- The printed image deviates in the main scan direction, and the following setting does not resolve a problem.

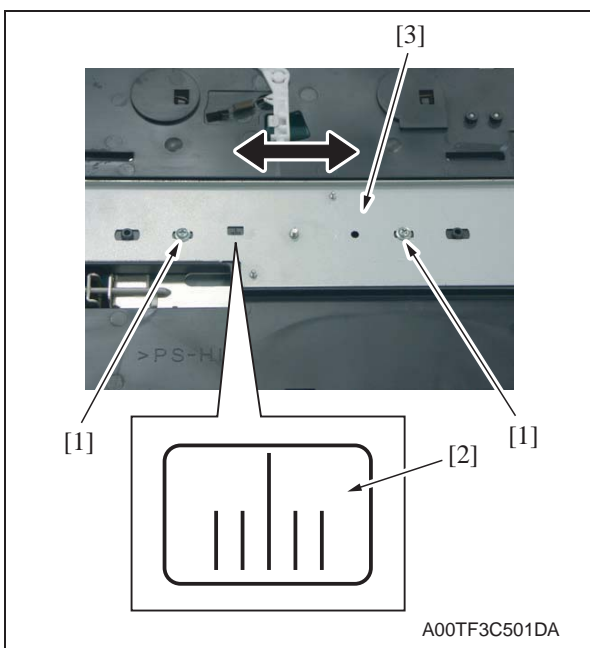
[SERVICE MODE] → [ADJUST] → [LEFT ADJUST]

1. Remove the tray.

See P.7



2. Loosen two screws [1].



3. Loosen two screws [1].
4. Watching the graduations [2] on the adjusting plate, move the edge guide plate [3] as necessary.

**Adjustment range: ± 2.0 mm**

5. Tighten the four screws that have been loosened and mount the tray.

